THE

NGLISH ENCYCLOPÆDIA:

BEING

A COLLECTION OF TREATISES,

AND

A DICTIONARY OF TERMS,

ILLUSTRATIVE OF THE

ARTS AND SCIENCES.

COMPILED FROM MODERN AUTHORS OF THE FIRST EMINENCE IN THE DIFFERENT BRANCHES OF SCIENCE.

IN TEN VOLUMES.

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THE ENGLISH ENCYCLOPÆDIA.

TREACLE. See MELASSES.

TREACLE-*Beer*. See SPRUCE.

TREACLE-*Muſtard*. See CLYPEOLA.

TREASON, a general appellation, made uſe of by the law, to denote not only offences againſt the king and government, but alſo that accumulation of guilt which ariſes whenever a ſuperior repoſes a confidence in a ſubject or inferior, between whom and himſelf there ſubſiſts a natural, a civil, or even a ſpiritual relation; and the inferior ſo abuſes that confidence, ſo forgets the obligations of duty, ſubjection and allegiance, as to deſtroy the life of any ſuch ſuperior or lord. Hence treaſon is of two kinds, *high* and *petty*.

High-Treaſon, or *Treaſon Paramount* (which is equivalent to the *crimen læſæ majeſtatis* of the Romans, as Glanvil denominates it alſo in our Engliſh law), is an offence committed againſt the ſecurity of the king or kingdom, whether by imagination, word, or deed. In order to prevent the inconveniences which aroſe in England from a multitude of conſtructive treaſons, the ſtatute 25 Edw. III. c. 2. was made; which defines what offences only for the future ſhould be held to be treaſon; and this ſtatute comprehends all kinds of high-treaſon under ſeven diſtinct branches.

"1. When a man doth compaſs or imagine the death of our lord the king, of our lady his queen, or of their eldeſt ſon and heir." Under this deſcription it is held that a queen-regnant (ſuch as Queen Elizabeth and Queen Anne) is within the words of the act, being inveſted with royal power, and intitled to the allegiance of her ſubject: but the huſband of ſuch a queen is not compriſed within theſe words; and therefore no treaſon can be committed againſt him.

Let us next ſee what is a *compaſſing* or *imagining* the death of the king, &c. Theſe are ſynonymous terms: the word *compaſs* ſignifying the purpoſe or deſign of the mind or will; and not, as in common ſpeech, the carrying ſuch deſign to effect. And therefore an accidental ſtroke, which may mortally wound the ſovereign, *per infortuniam*, without any traitorous intent, is no treaſon: as was the caſe of Sir Walter Tyrrel, who, by the command of King William Rufus, ſhooting at a hart, the arrow glanced againſt a tree, and killed the king upon the ſpot. But as this compaſſing or imagination is an act of the mind, it cannot poſſibly fall under any judicial cognizance, unleſs it be demonſtrated by ſome open or overt act. The ſtatute expreſsly requires, that the accuſed "be thereof upon ſufficient proof attainted of ſome open act by men of his own condition." Thus, to provide weapons or ammunition for the purpoſe of killing the king, is held to be a palpable overt act of treaſon in imagining his death. To conſpire to impriſon the king by force, and move towards it by aſſembling company, is an overt act of compaſſing the king's death; for all force, uſed to the perſon of the king, in its conſequence may tend to his death, and is a ſtrong preſumption of ſomething worſe intended than the preſent force, by ſuch as have ſo far thrown off their bounden duty to their ſovereign: it being an old obſervation, that there is generally but a ſhort interval between the priſons and the graves of princes. It ſeems clearly to be agreed, that by the common law and the ſtatute of Edw. III. words ſpoken amount only to a high miſdemeanor, and no treaſon. For they may be ſpoken in heat, without any intention; or be miſtaken, perverted, or miſremembered by the hearers; their meaning depends always on their connection with other words and things; they may ſignify differently even according to the tone of voice with which they are delivered; and ſometimes ſilence itſelf is more expreſſive than any diſcourſe. As therefore there can be nothing more equivocal and ambiguous than words, it would indeed be unreaſonable to make them amount to high treaſon. And accordingly, in 4 Car. I. on a reference to all the judges, concerning ſome very atrocious words ſpoken by one Pyne, they certified to the king, "that though the words were as wicked as might be, yet they were no treaſon; for unleſs it be by ſome particular ſtatute, no words will be treaſon." If the words be ſet down in writing, it argues more deliberate intention; and it has been held, that writing is an overt act of treaſon; for *ſcribere eſt agere*. But even in this caſe the bare words are not the treaſon, but the deliberate act of writing them.

2. The ſecond ſpecies of treaſon is, "if a man do violate the king's companion, or the king's eldeſt daughter unmarried, or the wife of the king's eldeſt ſon and heir." By the king's companion is meant his wife; and by violation is underſtood carnal knowledge, as well without force as with it; and this is high treaſon in both parties if both be conſenting; as ſome of the wives of Henry VIII. by fatal experience evinced.

3. The third ſpecies of treaſon is, "if a man do levy war againſt our lord the king in his realm." And this may be done

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by taking arms, not only to dethrone the king, but under pretence to reform religion, or the laws, or to remove evil counſellors, or other grievances whether real or pretended. For the law does not, neither can it, permit any private man, or ſet of men, to interfere forcibly in matters of ſuch importance; eſpecially as it has eſtabliſhed a ſufficient power for theſe purpoſes in the high court of parliament: neither does the conſtitution juſtify any private or particular reſiſtance for private or particular grievances; though, in caſes of national oppreſſion, the nation has very juſtifiably riſen as one man, to vindicate the original contract ſubſiſting between the king and his people.

4. "If a man be adherent to the king's enemies in his realm, giving to them aid and comfort in the realm or elſewhere," he is alſo declared guilty of high-treaſon. This muſt likewiſe be proved by ſome overt act; as by giving them intelligence, by ſending them proviſions, by ſelling them arms, by treacherouſly ſurrendering a fortreſs, or the like.

5. "If a man counterfeit the king's great or privy ſeal," this is alſo high-treaſon. But if a man takes wax bearing the impreſſion of the great ſeal off from one patent and fixes it to another, this is held to be only an abuſe of the ſeal, and not a counterfeiting of it: as was the caſe of a certain chaplain, who in ſuch a manner framed a diſpenſation for non-reſidence. But the knaviſh artifice of a lawyer much exceeded this of the divine. One of the clerks in chancery glued together two pieces of parchment; on the uppermoſt of which he wrote a patent, to which he regularly obtained the great ſeal, the label going through both the ſkins. He then diſſolved the cement, and taking off the written patent, on the blank ſkin, wrote a freſh patent of a different import from the former, and publiſhed it as true. This was held no counterfeiting of the great ſeal, but only a great miſpriſion; and Sir Edward Coke mentions it with ſome indignation that the party was living at that day.

6. The ſixth ſpecies of treaſon under this ſtatute is, "if a man counterfeit the king's money; and if a man bring falſe money into the realm counterfeit to the money of England, knowing the money to be falſe, to merchandiſe and make payment withal." As to the firſt branch, counterfeiting the king's money; this is treaſon, whether the falſe money be uttered in payment or not. Alſo if the king's own minters alter the ſtandard or alloy eſtabliſhed by law, it is treaſon. But gold and ſilver money are only held to be within this ſtatute. With regard likewiſe to the ſecond branch, importing foreign counterfeit money in order to utter it here; it is held that uttering it, without importing it, is not within the ſtatute.

7. The laſt ſpecies of treaſon aſcertained by this ſtatute is, "if a man ſlay the chancellor, treaſurer, or the king's juſtices of the one bench or the other, juſtices in eyre, or juſtices of aſſize, and all other juſtices aſſigned to hear and determine, being in their places doing their offices." Theſe high magiſtrates, as they repreſent the king's majeſty during the execution of their offices, are therefore for the time equally regarded by the law. But this ſtatute extends only to the actual killing of them; and not to wounding, or a bare attempt to kill them. It extends alſo only to the officers therein ſpecified; and therefore the barons of the exchequer, as ſuch, are not within the protection of this act; but the lord keeper or commiſſioners of the great ſeal now ſeem to be within it, by virtue of the ſtatutes 5 Eliz. c. 18. and 1 Will. and M. c. 21.

The new treaſons, created ſince the ſtatute 1 M. c. 1. and not comprehended under the deſcription of ſtatute 25 Edw. III. may be compriſed under three heads. The firſt ſpecies relates to Papiſts; the ſecond to falſifying the coin or other royal ſignatures, as falſely forging the ſign manual, privy ſignet, or privy ſeal, which ſhall be deemed high-treaſon (1. M. ſtat. ii. c. 6.) The third new ſpecies of high-treaſon is ſuch as was created for the ſecurity of the Proteſtant ſucceſſion in the houſe of Hanover. For this purpoſe, after the act of ſettlement was made, it was enacted by ſtatute 13 and 14 W. III. c. 3. that the pretended prince of Wales, aſſuming the title of King James III. ſhould be attainted of high-treaſon; and it was made high-treaſon for any of the king's ſubjects to hold correſpondence with him or any perſon employed by him, or to remit money for his uſe. And by 17 Geo. II. c. 39. it is enacted, that if any of the ſons of the Pretender ſhall land or attempt to land in this kingdom, or be found in the kingdom or any of its dominions, he ſhall be adjudged attainted of high-treaſon; and correſponding with them, or remitting money to their uſe, is made high-treaſon. By 1 Ann. ſtat. 2. c. 17. the offence of hindering the next in ſucceſſion from ſucceeding to the crown is high-treaſon: and by 6 Ann. c. 7. if any perſon ſhall maliciouſly, adviſedly, and directly, by writing or printing, maintain, that any other perſon hath any right to the crown of this realm, otherwiſe than according to the act of ſettlement, or that the kings of this realm with the authority of parliament are not able to make laws to bind the crown and its deſcent; ſuch perſon ſhall be guilty of high-treaſon.

The puniſhment of high-treaſon in general is very ſolemn and terrible. 1. That the offender be drawn to the gallows, and not be carried or walk; though uſually (by connivance, at length ripened by humanity into law) a ſledge or hurdle is allowed, to preſerve the offender from the extreme torment of being dragged on the ground or pavement. 2. That he be hanged by the neck, and then cut down alive. 3. That his entrails be taken out, and burned while he is yet alive. 4. That his head be cut off. 5. That his body be divided into four parts. 6. That his head and quarters be at the king's diſpoſal.

The king may, and often doth, diſcharge all the puniſhment except beheading, eſpecially where any of noble blood are attainted. For beheading being part of the judgment, that may be executed, though all the reſt be omitted by the king's command. But where beheading is no part of the judgment, as in murder or other felonies, it hath been ſaid that the king cannot change the judgment, although at the requeſt of the party, from one ſpecies of death to another.

In the caſe of coining, which is a treaſon of a different complexion from the reſt, the puniſhment is milder for male offenders; being only to be drawn and hanged by the neck till dead. But in treaſons of every kind the puniſhment of women is the ſame, and different from that of men. For as the natural modeſty of the ſex forbids the expoſing and publicly mangling their bodies, their ſentence (which is to the full as terrible to ſenſe as the other) is to be drawn to the gallows, and there to be burned alive.

For the conſequences of this judgment, ſee ATTAINDER, FORFEITURE, and CORRUPTION *of Blood*.

Petty or *Petit Treaſon*, according to the ſtatute 25 Edward III. c. 2. may happen three ways: by a ſervant killing his maſter, a wife her huſband, or an eccleſiaſtical perſon (either ſecular or regular) his ſuperior, to whom he owes faith and obedience. A ſervant who kills his maſter whom he has left, upon a grudge conceived againſt him during his ſervice, is guilty of petty treaſon: for the traiterous intention was hatched while the relation ſubſiſted between them, and this is only an execution of that intention. So if a wife be divorced *a menſe et thoro*, ſtill the *vinculum matrimonii* ſubſiſts; and if ſhe kills ſuch divorced huſband, ſhe is a traitreſs. And a clergyman is underſtood to owe canonical obedience to the

biſhop who ordained him, to him in whoſe dioceſe he is beneficed, and alſo to the metropolitan of ſuch ſuffragan or dioceſan biſhop; and therefore to kill any of theſe is petit treaſon. As to the reſt, whatever has been ſaid with reſpect to wilful MURDER, is alſo applicable to the crime of petit treaſon, which is no other than murder in its moſt odious degree; except that the trial ſhall be as in caſes of high treaſon, before the improvements therein made by the ſtatutes of William III. But a perſon indicted of petit treaſon may be acquitted thereof, and found guilty of manſlaughter or murder: and in ſuch caſe it ſhould ſeem that two witneſſes are not neceſſary, as in caſes of petit treaſon they are. Which crime is alſo diſtinguiſhed from murder in its puniſhment.

The puniſhment of petit treaſon in a man, is to be drawn and hanged, and in a woman to be drawn and burned: the idea of which latter puniſhment ſeems to have been handed down to us from the laws of the ancient Druids, which condemned a woman to be burned for murdering her huſband; and it is now the uſual puniſhment for all ſorts of treaſons committed by thoſe of the female ſex. Perſons guilty of petit treaſon were firſt debarred the benefit of clergy by ſtatute 12 Henry VII. c. 7. which has ſince been extended to their aiders, abettors, and counſellors, by ſtatutes 23 Henry VIII. c. 1. and 4 & 5 P. and M. c. 4.

TREASURE, in general, denotes a ſtore or ſtock of money in reſerve.

TREASURE-*Trove*, in law, derived from the French word *trover*, "to find," called in Latin *theſaurus inventus*, is where any money or coin, gold, ſilver, plate, or bullion, is found hidden in the earth or other private place, the owner thereof being unknown; in which caſe the treaſure belongs to the king: but if he that hid it be known, or afterwards found out, the owner and not the king is intitled to it.

TREASURER, an officer to whom the treaſure of a prince or corporation is committed to be kept and duly diſpoſed of, in payment of officers and other expences. See TREASURY. Of theſe there is a great variety. His majeſty of Great Britain, in quality of elector of Brunſwick, is arch-treaſurer of the Roman empire. In England, the principal officers under this denomination are, the lord high-treaſurer, the treaſurer of the houſehold, treaſurer of the navy, of the king's chamber, &c.

The lord high-treaſurer of Great Britain, or firſt commiſſioner of the treaſury, when in commiſſion, has under his charge and government all the king's revenue which is kept in the exchequer. He holds his place during the king's pleaſure; being inſtituted by the delivery of a white ſtaff to him. He has the check of all the officers employed in collecting the cuſtoms and royal revenues: and in his gift and diſpoſition are all the offices of the cuſtoms in the ſeveral ports of the kingdom; eſcheators in every county are nominated by him; he alſo makes leaſes of the lands belonging to the crown.

The office of lord-treaſurer is now in commiſſion. The number of lords commiſſioners is five; one of whom is the firſt lord, whoſe annual ſalary was formerly 3831. but is now 4000l.; and who, unleſs he be a peer, is alſo chancellor of the exchequer, and prime miniſter in the government of this country; the other lords commiſſioners have an annual ſalary of 1600l. each.

TREASURER *of the Houſehold*, is an officer who, in the abſence of the lord-ſteward, has power, with the comptroller and other officers of the Green-Cloth and the ſteward of the Marſhalſea, to hear and determine treaſons, felonies, and other crimes committed within the king's palace. See HOUSEHOLD. There is alſo a treaſurer belonging to the eſtabliſhment of her majeſty's houſehold, &c.

TREASURER *of the Navy*, is an officer who receives money out of the exchequer, by warrant from the lord high-treaſurer, or the lords commiſſioners executing that place; and pays all charges of the navy, by warrant from the principal officers of the navy.

TREASURER *of the County*, he that keeps the county ſtock. There are two of them in each county, choſen by the major part of the juſtices of the peace, &c. at their general quarter ſeſſion; under previous ſecurity given for the money entruſted with them, and the faithful execution of the truſts repoſed in them.

TREASURY, the place wherein the revenues of a prince are received, preſerved, and diſburſed. In England the treaſury is a part of the exchequer; by ſome called the *lower exchequer*. The officers of his majeſty's treaſury, or the lower exchequer, are the lords commiſſioners, one of whom is chancellor, two joint ſecretaries, private ſecretary to the firſt lord, two chamberlains, an auditor, four tellers, a clerk of the pells, uſhers of the receipt, a tally-cutter, &c. See each officer under his proper article, CHANCELLOR, TELLER, TALLY, &c.

Lords of the TREASURY. In lieu of one ſingle director and adminiſtrator of his majeſty's revenues under the title of *lord high-treaſurer*, it is at preſent thought proper to put that office in commiſſion, *i. e.* to appoint ſeveral perſons to diſcharge it with equal authority, under the title of *lords commiſſioners of the treaſury*.

TREBLE, in muſic, the higheſt or moſt acute of the four parts in ſymphony, or that which is heard the cleareſt and ſhrilleſt in a concert.

TREBUCHET, TREBUCKET, *Tribuch (Terbichetum)*, a tumbrel or cucking-ſtool. Alſo a great engine to caſt ſtones to batter walls.

TREE, a large vegetable riſing with one woody ſtem to a conſiderable height. Trees may be divided into two claſſes, *timber* and *fruit trees*; the firſt including all thoſe trees which are uſed in machinery, ſhip-building, &c. or, in general, for purpoſes of utility; and the ſecond comprehending thoſe trees valued only, or chiefly, for their fruit. It is not neceſſary to form a third claſs to include trees uſed for fuel, as timber is uſed for this purpoſe where it is abundant; and where it is not abundant, the branches of the timber trees, or ſuch of them as are dwarfiſh, unhealthy, or too ſmall for mechanical purpoſes, are uſed as fuel.

The anatomy and phyſiology of trees have already been given under the generic name PLANT and SAP. For an account of their natural hiſtory, ſee NATURAL HISTORY.

Certain trees, it is well known, are natives of particular diſtricts; but many of them have been tranſplanted from their native ſoil, and now flouriſh luxuriantly in diſtant countries, ſo that it becomes a matter of very conſiderable difficulty to aſcertain their original ſoil. The following rules are given for this purpoſe by the Honourable Daines Barrington.

1. They muſt grow in large maſſes, and cover conſiderable tracts of ground, the woods not ending abruptly, by a change to other trees, except the ſituation and ſtrata become totally different. 2. They muſt grow kindly in copſes, and ſhoot from the ſtool, ſo as to continue for ever, if not very carefully grubbed up. 3. The ſeed muſt ripen kindly; nature never plants, but where a ſucceſſion in the greateſt profuſion will continue. Laſtly, trees that give names to many places are probably indigenous.

The growth of trees is a curious and intereſting ſubject; yet few experiments have been made to determine what the additions are which a tree receives annually in different periods of its age. The only obſervations which we have ſeen

on this ſubject worth repeating were made by the ingenious Mr. Barker, to whom the Philoſophical Tranſactions are much indebted for papers containing an accurate regiſter of the weather, which he has kept for many years. He has drawn up a table to point out the growth of three kinds of trees, oaks, aſhes, and elms; which may be ſeen in the Philoſophical Tranſactions for 1788. We ſhall give his concluſions.

"I find (ſays he) the growth of oak and aſh to be nearly the ſame. I have ſome of both ſorts planted at the ſame time, and in the ſame hedges, of which the oaks are the largeſt; but there is no certain rule as to that. The common growth of an oak or an aſh is about an inch in girth in a year; ſome thriving ones will grow an inch and a half; the unthriving ones not ſo much. Great trees grow more timber in a year than ſmall ones; for if the annual growth be an inch, a coat of one-ſixth of an inch is laid on all round, and the timber added to the body every year is its length multiplied into the thickneſs of the coat, and into the girth, and therefore the thicker the tree is, the more timber is added."

We will preſent our readers with a table, ſhowing the growth of ſeventeen kinds of trees for two years. The trees grew at Cavenham in Suffolk.

N°		July 1785. F.	In.	July 1786. F.	In.	July 1787. F.	In.
1	Oak	0	10½	— 0	11½	— 1	0½
2	Larch	1	0½	— 1	3	— 1	4
3	Scotch fir	1	3½	— 1	5½	— 1	7¼
4	Spruce fir	0	5¾	— 0	6½	— 0	7¼
5	Spaniſh cheſnut	0	7¼	— 0	7½	— 0	8
6	Elm	2	7½	— 2	9	— 2	11
7	Pinaſter	2	3½	— 2	4½	— 2	7
8	Larch	1	5¼	— 1	6	— 1	7
9	Weymouth pine	0	5	— 0	6	— 0	7¼
10	Acacia	1	2¾	— 1	5¾	— 1	6¼
11	Beech	0	6¼	— 0	6½	— 0	7¼
12	Plane occidental	0	6½	— 0	7¾	— 0	8
13	Lombardy poplar	1	8	— 2	0	— 2	3¼
14	Black poplar	1	2¼	— 1	4½	— 1	5¾
15	Willow	2	9½	— 3	2	— 3	3
16	Silver fir	0	7¾	— 0	8¾	— 0	9¼
17	Lime	1	8½	— 1	10¾	— 2	0

Trees ſometimes attain a very great ſize: this muſt depend in a great meaſure on the richneſs of ſoil, but no leſs on the degree of heat. Indeed heat is ſo eſſential to the growth of trees, that as we go from the place within the polar circles where vegetation begins, and advance to the equator, we find the trees increaſe in ſize. Greenland, Iceland, and other places in the ſame latitude, yield no trees at all; and the ſhrubs which they produce are dwarfiſh; whereas, in warm climates, they often grow to an immenſe ſize. Mr. Marſham ſaw ſpruce and ſilver firs in the dock-yard in Venice above forty yards long, and one of thirty-nine yards was eighteen inches diameter at the ſmall end. He was informed that they came from Switzerland.

The largeſt tree in Europe, mentioned by travellers, is the cheſnut tree on mount Etna, already deſcribed under the article ETNA. It is a certain fact that trees aquire a very great ſize in volcanic countries. Beſide the multitude of fine groves in the neighbourhood of Albano in Italy, there are many detached oaks twenty feet in circumference, and many elms of the ſame ſize, eſpecially in the romantic way to Eaſtello, called the *Galleria*. In travelling by the ſide of the lake of Boſena, the road leads us through an immenſe number of oaks, ſpread upon beautiful hills. Where the lava has been ſufficiently ſoftened, they are clean and ſtraight, and of a conſiderable ſize; but where the lava has not been converted into ſoil proper for ſtrong vegetation, they are round-headed, and of leſs bigneſs; however, taken all together, they make a magnificent appearance; and the ſpot itſelf ought to be ranked among the fine parts of Italy. The ſame may be obſerved of the ſmall lake of Vico, encompaſſed with gentle riſings, that are all clothed with foreſt trees.

Some yews have been found in Britain ſixty feet round. Palms in Jamaica attain the height of 200 feet; and ſome of the pines in Norfolk Iſland are 280 feet high.

Of all the different kinds known in Europe, oak is beſt for building; and even when it lies expoſed to air and water, there is none equal to it. Fir-timber is the next in degree of goodneſs for building, eſpecially in England, where they build upon leaſes. It differs from oak in this, that it requires not much ſeaſoning, and therefore no great ſtock is required before hand. Fir is uſed for flooring, wainſcoting, and the ornamental parts of building within doors. Elm is the next in uſe, eſpecially in England and France: it is very tough and pliable, and therefore eaſily worked: it does not readily ſplit; and it bears driving of bolts and nails better than any other wood; for which reaſon it is chiefly uſed by wheelwrights and coach-makers, for ſhafts, naves, &c. Beech is alſo uſed for many purpoſes; it is very tough and white when young, and of great ſtrength; but liable to warp very much when expoſed to the weather, and to be worm-eaten when uſed within doors; its greateſt uſe is for planks, bedſteads, chairs, and other houſehold goods. Aſh is likewiſe a very uſeful wood, but very ſcarce in moſt parts of Europe; it ſerves in buildings, or for any other uſe, when ſcreened from the weather; handſpikes and oars are chiefly made of it. Wild cheſnut timber is by many eſteemed to be as good as oak, and ſeems to have been much uſed in old buildings; but whether theſe trees are more ſcarce at preſent than formerly, or have been found not to anſwer ſo well as was imagined, it is certain that this timber is now but little uſed. Walnut-tree is excellent for the joiner's uſe, it being of a more curious brown colour than beech, and not ſo ſubject to the worms. The poplar, abel, and aſpin trees, which are very little different from each other, are much uſed inſtead of fir; they look well, and are tougher and harder. See QUERCUS, OAK, PINUS, ULMUS, PLATANUS, POPULUS, &c.

The goodneſs of timber not only depends on the ſoil and ſituation in which it ſtands, but likewiſe on the ſeaſon wherein it is felled. In this people diſagree very much; ſome are for having it felled as ſoon as its fruit is ripe, others in the ſpring, and many in the autumn. But as the ſap and moiſture of timber is certainly the cauſe that it periſhes much ſooner than it otherwiſe would do, it ſeems evident, that timber ſhould be felled when there is the leaſt ſap in it, *viz.* from the time that the leaves begin to fall till the trees begin to bud. This work uſually commences about the end of April in England, becauſe the bark then riſes moſt freely; for where a quantity of timber is to be felled, the ſtatute requires it to be done then, for the advantage of tanning. The ancients chiefly regarded the age of the moon in felling their timber; their rule was to fell it in the wane, or four days after the new moon, or ſometimes in the laſt quarter. Pliny adviſes it to be in the very inſtant of the change; which happening to be in the laſt day of the winter ſolſtice, the timber, ſays he, will be incorruptible.

Timber ſhould likewiſe be cut when of a proper age; for when it is either too young or too old, it will not be ſo durable as when cut at a proper age. It is ſaid that oak ſhould not be cut under ſixty years old, nor above 200. Timber, however, ſhould be cut in its prime, when almoſt fully grown, and before it begins to decay; and this will be ſooner or later, according to the dryneſs and moiſtneſs of the ſoil where the

timber grows, as alſo according to the bigneſs of the trees; for there are no fixed rules in felling of timber, experience and judgment muſt direct here as in moſt other caſes.

Great attention is neceſſary in the ſeaſoning of timber. Some adviſe the planks of timber to be laid for a few days in ſome pool or running ſtream, in order to extract the ſap, and afterwards to dry them in the ſun or air. By this means, it is ſaid, they will be prevented from either chopping, caſting, or cleaving; but againſt ſhrinking there is no remedy. Some again are for burying them in the earth, others in a heat; and ſome for ſcorching and ſeaſoning them in fire, eſpecially piles, poſts, &c. which are to ſtand in water or earth. The Venetians firſt found out the method of ſeaſoning by fire; which is done after this manner: they put the piece to be ſeaſoned into a ſtrong and violent flame; in this they continually turn it round by means of an engine, and take it out when it is every-where covered with a black coaly cruſt; the internal part of the wood is thereby ſo hardened, that neither earth nor water can damage it for a long time afterwards.

Dr. Plott ſays, it is found by long experience, that the trunk or body of the trees, when barked in the ſpring, and left ſtanding naked all the ſummer expoſed to the ſun and wind, are ſo dried and hardened, that the ſappy part in a manner becomes as firm and durable as the heart itſelf. This is confirmed by M. Buffon, who, in 1738, preſented to the Royal Academy of Sciences at Paris a memoir, intitled, "An eaſy method of increaſing the ſolidity, ſtrength, and duration of timber;" for which purpoſe he obſerves, "nothing more is neceſſary than to ſtrip the tree entirely of its bark during the ſeaſon of the riſing of the ſap, and to leave it to dry completely before it to be cut down."

By many experiments, particularly deſcribed in that eſſay, it appears, that the tree ſhould not be felled till the third year after it has been ſtripped of the bark; that it is then perfectly dry, and the ſap become almoſt as ſtrong as the reſt of the timber, and ſtronger than the heart of any other oak tree which has not been ſo ſtripped; and the whole of the timber ſtronger, heavier, and harder; from which he thinks it fair to conclude, that it is alſo more durable. "It would no longer (he adds) be neceſſary, if this method were practiſed, to cut off the ſap; the whole of the tree might be uſed as timber; one of forty years' growth would ſerve all the purpoſes for which one of ſixty years is now required; and this practice would have the double advantage of increaſing the quantity, as well as the ſtrength and ſolidity, of the timber."

The navy board, in anſwer to the inquiries of the commiſſioners of the land revenue, in May 1789, informed them, they had then ſtanding ſome trees ſtripped of their bark two years before, in order to try the experiment of building one half of a ſloop of war with that timber, and the other half with timber felled and ſtripped in the common way. This very judicious mode of making the experiment, if it be properly executed, will undoubtedly go far to aſcertain the effects of this practice. We are ſorry that we are not able to inform our readers what was the reſult of the experiment.

After the planks of timber have been well ſeaſoned and fixed in their places, care is to be taken to defend or preſerve them; to which the ſmearing them with linſeed oil, tar, or the like oleaginous matter, contributes much. The ancients, particularly Heſiod and Virgil, adviſe the ſmoke-drying of all inſtruments made of wood, by hanging them up in the chimneys where wood-fires are uſed. The Dutch preſerve their gates, portcullices, drawbridges, ſluices, &c. by coating them over with a mixture of pitch and tar, whereon they ſtrew ſmall pieces of cockle and other ſhells, beaten almoſt to powder, and mixed with ſea-ſand, which incruſts and arms them wonderfully againſt all aſſaults of wind and weather. When timber is felled before the ſap is perfectly at reſt, it is very ſubject to worms; but to prevent and cure this, Mr. Evelyn recommends the following remedy as the moſt approved: put common ſulphur into a cucurbit, with as much aquafortis as will cover it three fingers deep; diſtil it to dryneſs, which is performed by two or three rectifications. Lay the ſulphur that remains at bottom, being of a blackiſh or ſand-red colour, on a marble, or put it in a glaſs, and it will diſſolve into an oil; with this oil anoint the timber which is infected with worms. This, he ſays, will not only prevent worms, but preſerve all kinds of woods, and many other things, as ropes, nets, and maſts, from putrefaction, either in water, air, or ſnow.

An experiment to determine the comparative durability of different kinds of timber, when expoſed to the weather, was made by a nobleman in Norfolk; of which an account is given by Sir Thomas Beevor in the *Annals of Agriculture*, vol. vi. This nobleman, in the year 1774, ordered three poſts, forming two ſides of a quadrangle, to be fixed in the earth on a riſing ground in his park. Into theſe poſts were mortiſed planks, an inch and an half thick, cut out of trees from thirty to forty-five years growth. Theſe, after ſtanding ten years, were examined, and found in the following ſtate and condition.

The cedar was perfectly ſound; larch, the heart ſound, but the ſap quite decayed; ſpruce fir, ſound; ſilver fir, in decay; Scotch fir, much decayed; pinaſter, quite rotten; cheſnut, perfectly ſound; abele, ſound; beech, ſound; walnut, in decay; ſycamore, much decayed; birch, quite rotten. Sir Thomas Beevor juſtly remarks, that the trees ought to have been of the ſame age; and Mr. ArthurYoung adds, they ought to have been cut out of the ſame plantation.

The immenſe quantity of timber conſumed of late years in ſhip-building and other purpoſes has diminiſhed in a very great degree the quantity produced in this country. On this account, many gentlemen who wiſh well to their country, alarmed with the fear of a ſcarcity, have ſtrongly recommended it to government to pay ſome attention to the cultivation and preſervation of timber.

It has been propoſed to appropriate ſuch part of the crown-lands as are fit for the purpoſe ſolely for producing timber for the navy. This appears a very proper ſcheme in ſpeculation; but it has been objected, that for government to attempt the farming of foreſts would be really to eſtabliſh groups of officers to pocket ſalaries for doing what, it is well known, will never be done at all. But to this objection we reply, that ſuch an agreement might be made with the inſpectors of foreſts, as to make it their own intereſt to cultivate trees with as much care as poſſible. Their ſalary might be fixed very low, and raiſed in proportion to the number of trees which they could furniſh of ſuch a ſize in a certain number of years. After all, we muſt acknowledge, that we muſt depend greatly on Ruſſia, Sweden, Norway, and America, for ſupplying us with timber; and while theſe countries take our manufactures in exchange, we have no reaſon to complain. Still, however, we ought ſurely not to neglect the cultivation of what is of ſo much importance to our exiſtence as a nation, for it may often be impoſſible in time of war to obtain timber from foreign countries.

The following is the method propoſed by Mr. William Forſyth for curing injuries and defects in trees; for which a reward was given to him by his majeſty, on condition that he ſhould make it public. It is equally applicable to foreſt as to fruit-trees.

Take one buſhel of freſh cow-dung, half a buſhel of lime rubbiſh of old buildings (that from the ceilings of rooms is

preferable); half a buſhel of wood-aſhes; and a ſixteenth part of a buſhel of pit or river ſand. The three laſt articles are to be ſifted fine before they are mixed; then work them well together with a ſpade, and afterwards with a wooden beater, until the ſtuff is very ſmooth, like fine plaſter uſed for the ceilings of rooms. The compoſition being thus made, eare muſt be taken to prepare the tree properly for its application by cutting away all the dead, decayed, and injured parts, till you come to the freſh ſound wood, leaving the ſurface of the wood very ſmooth, and rounding off the edges of the bark with a draw-knife, or other inſtrument perfectly ſmooth, which muſt be particularly attended to. Then lay on the plaſter about one-eighth of an inch thick all over the part where the wood or bark has been ſo cut away, finiſhing off the edges as thin as poſſible Then take a quantity of dry powder of wood-aſhes, mixed with a ſixth part of the ſame quantity of the aſhes of burnt bones; put it into a tin box, with holes in the top, and ſhake the powder on the ſurface of the plaſter, till the whole is covered over with it, letting it remain for half an hour to abſorb the moiſture; then apply more powder, rubbing it on gently with the hand, and repeating the application of the power, till the whole plaſter becomes a dry ſmooth ſurface.

All trees cut down near the ground ſhould have the ſurface made quite ſmooth, rounding it off in a ſmall degree, as before mentioned; and the dry powder directed to be uſed afterwards ſhould have an equal quantity of powder of alabaſter mixed with it, in order the better to reſiſt the dripping of trees and heavy rains. If any of the compoſition be left for a future occaſion, it ſhould be kept in a tub or other veſſel, and urine of any kind poured on it, ſo as to cover the ſurface; otherwiſe the atmoſphere will greatly hurt the efficacy of the applieation. Where lime-rubbiſh or old buildings cannot be eaſily got, take powdered chalk, or common lime, after having been ſlaked a month at leaſt. As the growth of the tree will gradually affect the plaſter, by raiſing up its edges next the bark, care ſhould be taken, where that happens, to rub it over with the finger when occaſion may require (which is beſt done when moiſtened by rain), that the plaſter may be kept whole, to prevent the air and wet from penetrating into the wound.

By this proceſs, ſome old worn-out pear trees, that bore only a few ſmall, hard fruit, of a kernelly texture, were made to produce pears of the beſt quality and fineſt flavour the ſecond ſummer after the operation; and in four or five years they bore ſueh plenteous crops, as a young healthy tree would not have produced in four times that period.

By this proceſs, too, ſome large ancient elms, in a moſt decayed ſtate, having all their upper parts broken, and a ſmall portion only of the bark remaining, ſhot out ſtems from their tops, above thirty feet in length, in ſix or ſeven years from the firſt application of the eompoſition.

Thus may valuable fruits be renovated; and foreſt trees, whieh are uſeful or ornamental from their particular ſituation, be preſerved in a flouriſhing ſtate. But what is far more intereſting, a perfect cure has been made, and ſound timber produeed, in oak trees, which had received very conſiderable damage from blows, bruiſes, eutting of deep letters, the rubbing off the bark by the ends of rollers, or wheels of earts, or from the breaking of branches by ſtorms.

TREFOIL, in botany. See TRIFOLIUM.

TREMELLA, in botany: a genus of plants belonging to the claſs of *cryptogamia*, and natural order of *algæ*. It is a gelatinous membranous ſubſtanee; the parts of the fructification ſcarcely viſible. There are 11 ſpecies; of which five are indigenous; the noſtoc, lichenoides, verrucoſa, hemiſpherica, and purpurea. 1. The *noſtoc*, or jelly rain tremella, is found in paſtures and by the ſides of gravel-walks in gardens after rains; not uncommon in ſpring, ſummer, and autumn. It is a membranaceous, pellucid, and gelatinous ſubſtance, without any viſible root; of a yellowiſh dull green eolour; aſſuming various forms, either round, angular, plaited or folded together irregularly, like the inteſtines, or a pocket-handkerchief, an inch or two or more in diameter: ſoft to the touch when moiſt; but thin, membranaceous, and brittle, when dry; and of a black fuſcous colour.—The ancient alchemiſts called this vegetable *the flowers of heaven*, and imagined that from it they would procure the univerſal menſtruum: but all their reſearches ended in diſcovering that by diſtillation it yielded ſome phlegm, volatile ſalt, and empyreumatic oil. It has been extolled in wounds, ulcers, &c. but no regard is ever paid to it by judicious practitioners. Dr. Darwin ſays, he has been well informed that this tremella is a mucilage voided by herons after they have eaten frogs!! 2. The *lichenoides*, or tranſparent tremella, is erect, plane, margin curled, lacinulated, and brown. It grows on heaths and in woods, &c. 3. *Verrucoſa*, or warty tremella, is tubercular, ſolid, wrinkled, roundiſh, and reſembling a bladder; it is of a blackiſh yellow. It grows on ſtones in rivulets. 4. *Hemiſpherica*, or ſea tremella, is ſcattered among confervæ, fuci, &c. 5. *Purpurea*, or purple tremella, is globular, ſeſſile, ſolitary, and ſmooth. It grows on ditch-banks about London.

TREMELLIUS (Emmanuel), a Jew by birth, was born at Ferrara in the year 1510. He was ſo carefully educated as to become a great maſter of the Hebrew tongue: he was converted to Chriſtianity by the celebrated Peter Martyr. After travelling to Germany and England, he was made profeſſor of Hebrew, firſt at Heidelberg, and then at Sedan, where he died in 1580. He tranſlated the Hebrew Bible and Syriac Teſtament into Latin; in the former he was aſſiſted by Junius, who afterwards corrected the ſecond edition in 1587. This work was received by the Proteſtant churches with great approbation.

TREMOR, an involuntary ſhaking, chiefly of the hands and head, ſometimes of the feet, and ſometimes of the tongue and heart.—Tremors ariſing from a too free uſe of ſpirituous liquors require the ſame treatment as palſies.

TRENCHES, in fortification, are ditches eut by the beſiegers, that they may approach the more ſecurely to the place attacked; whence they are alſo called *lines of approach*.

TRENT, biſhopric of, a province of Germany, in the circle of Auſtria, near the frontiers of Italy, is bounded on the north by Tirol; on the eaſt, by the Feltrino and Belluneſe; on the ſouth by Vicentino, the Veroneſe, Breſciano, and the lake de Garda; and on the weſt, by the Breſciano and the lake de Garda. The ſoil is ſaid to be pretty fruitful, and to abound in wine and oil.

TRENT, a city of Germany, and capital of the biſhoprie of that name, is a very ancient place, and ſtands in a fertile and pleaſant plain, in the midſt of the high mountains of the Alps. The river Adige waſhes its walls, and creeping for ſome time among the hills, runs ſwiftly into Italy. Trent has three conſiderable churches, the principal of which is the cathedral: this is a very regular piece of architecture. The chureh of St. Maria Major is all of red and white marble; and is remarkable for being the place where the famous council of Trent was held, whoſe deciſions are now the ſtanding rule of the Romiſh church. E. Long. 11. 5. N. Lat. 46. 10.

TRENT, one of the largeſt rivers in England, which riſes in the Moorland of Staffordſhire, and runs ſouth-weſt by Newcaſtle-under-Line; and afterwards dividing the county in two parts, runs to Burton, then to Nottingham and Newark; and ſo continuing its courſe due north to Gainſborough on the

confines of Lincolnſhire, it joins ſeveral rivers, and falls into the Humber.

TRENT (council of), in eccleſiaſtical hiſtory, denotes the council aſſembled by Paul III. in 1545, and continued by twenty-five ſeſſions till the year 1563, under Julius III. and Pius IV. in order to correct, illuſtrate, and fix with perſpicuity, the doctrine of the church, to reſtore the vigour of its diſcipline and to reform the lives of its miniſters. The decrees of this council, together with the creed of Pope Pius IV. contain a ſummary of the doctrines of the Roman-catholics. Theſe decrees were ſubſcribed by 255 clergy, conſiſting of four legates, two other cardinals, three patriarchs, twenty-five archbiſhops, 168 biſhops, beſides inferior clergy. Of theſe 150 came from Italy; of courſe the council was entirely under the influence of the pope. For a more particular account of the council of Trent, ſee *Moſheim's Church Hiſtory*, the *Modern Univerſal Hiſtory*, Vol. XXIII. and *Father Paul's Hiſtory of the Council of Trent*.

TRENTON. See *New* JERSEY.

TREPANNING. See SURGERY.

TRES TABERNÆ (anc geog.), a place in Latium, lying on the Via Appia, on the left or ſouth ſide of the river Aſtura, to the north of the Paludes Pomptinæ. Its ruins are now ſeen near Ciſterna, a village in the Campagna di Roma, twenty-one miles from Rome, whence the Chriſtians went out to meet St. Paul.

TRESPASS, in law, ſignifies any tranſgreſſion of the law, under treaſon, felony, or miſpriſion of either: but it is commonly uſed for any wrong or damage that is done by any one private perſon to another, or to the king in his foreſt.

TRESSLE-TREES, in ſhip-building, two ſtrong bars of timber fixed horizontally on the oppoſite ſides of the lower maſt-head, to ſupport the frame of the top and the weight of the top-maſt.

TRESSURE, in heraldry, a diminutive of an orle, uſually held to be half the breadth thereof.

TRET, in commerce, an allowance made for the waſte or the dirt that may be mixed with any commodity; which is commonly four pounds in every 104 pounds weight.

TREVERI, or TREVIRI (anc. geog.), an ancient and a powerful people both in horſe and foot, according to Cæſar; extending far and wide between the Meuſe and the Rhine. Their chief town was called *Treveris*. Now *Triers* or *Treves*.

TREVES, or TRIERS (in Latin *Trevere, Trevers, Treviris*, or *Auguſta Trevirorum)*, the capital of a German archbiſhopric of the ſame name, ſtands ſixty miles weſt of Mentz, fifty-two ſouth of Cologne, and eighty-two north of Straſburg. This city vies with moſt in Europe for antiquity, having been a large and noted town before Auguſtus ſettled a colony in it. It was free and imperial till the year 1560, when it was ſurpriſed and ſubjected by its archbiſhop James III. It ſtands on the Moſelle, over which it has a fair ſtone bridge. The cathedral is a large building: and near it ſtands the elector's palace, which not long ago was rebuilt. Here are three collegiate and five pariſh churches, three colleges of Jeſuits, thirteen monaſteries and nunneries, an univerſity founded in 1472, a houſe of the Teutonic order, and another of that of Malta, with ſome remains of the ancient Roman theatre. Roman coins and medals are often found in the ruins of the old city. In the cathedral they pretend to have our Saviour's coat and St. Peter's ſtaff, to which they aſcribe miracles. The private houſes here are mean; and the city is neither well fortified nor inhabited. E. Long. 6. 41. N. Lat. 49. 45.

TRIAL, in law, the examination of a cauſe according to the laws of the land before a proper judge; or it is the manner and order obſerved in the hearing and determining of cauſes.—Trials are either *civil* or *criminal*.

I. *Civil* TRIALS. The ſpecies of trials in civil caſes are ſeven: by *record;* by *inſpection*, or examination; by *certificate;* by *witneſſes;* by wager of *battel;* by wager of *law;* and by *jury*. The firſt ſix are only had in certain ſpecial or eccentrical caſes, where the trial by jury would not be ſo proper or effectual: (ſee them explained under their reſpective titles). The nature of the laſt, that principal criterion of truth in the law of England, ſhall be explained in this article.

As trial by jury is eſteemed one of the moſt important privileges which members of ſociety can enjoy, and the bulwark of the Britiſh conſtitution, every man of reflection muſt be ſtimulated by the deſire of inquiring into its origin and hiſtory, as well as to be acquainted with the forms and advantages by which it is accompanied. We will therefore begin with tracing it to its origin. Its inſtitution has been aſcribed to our Saxon anceſtors by Sir William Blackſtone.

"Some authors (ſays that illuſtrious lawyer) have endeavoured to trace the original of juries up as high as the Britons themſelves, the firſt inhabitants of our iſland; but certain it is, that they were in uſe among the earlieſt Saxon colonies, their inſtitution being aſcribed by Biſhop Nicholſon to Woden himſelf, their great legiſlator and captain. Hence it is, that we may find traces of juries in the laws of all thoſe nations which adopted the feodal ſyſtem, as in Germany, France, and Italy; who had all of them a tribunal compoſed of twelve good men and true, *boni homines*, uſually the vaſſals or tenants of the lord, being the equals or peers of the parties litigant: and, as the lord's vaſſals judged each other in the lord's courts, ſo the king's vaſſals, or the lords themſelves, judged each other in the king's court. In England we find actual mention of them ſo early as the laws of King Ethelred, and that not as a new invention. Stiernhook aſcribes the invention of the jury, which in the Teutonic language is denominated *nemda*, to Regner king of Sweden and Denmark, who was contemporary with our king Egbert. Juſt as we are apt to impute the invention of this, and ſome other pieces of juridical polity, to the ſuperior genius of Alfred the Great; to whom, on account of his having done much, it is uſual to attribute every thing: and as the tradition of ancient Greece placed to the account of their own Hercules whatever achievement was performed ſuperior to the ordinary proweſs of mankind. Whereas the truth ſeems to be, that this tribunal was univerſally eſtabliſhed among all the northern nations, and ſo interwoven in their very conſtitution, that the earlieſt accounts of the one give us alſo ſome traces of the other."

This opinion has been controverted with much learning and ingenuity by Dr. Pettingal in his Enquiry into the Uſe and Practice of Juries among the Greeks and Romans, who deduces the origin of juries from theſe ancient nations.

He begins with determining the meaning of the word δικασαι in the Greek, and *judices* in the Roman writers. "The common acceptation of theſe words (ſays he), and the idea generally annexed to them, is that of *preſidents of courts*, or, as we call them, *judges*; as ſuch they are underſtood by commentators, and rendered by critics. Dr. Middleton, in his life of Cicero, expreſsly calls the judices, *judges of the bench:* and Archbiſhop Potter, and in ſhort all modern writers upon the Greek or Roman orators, or authors in general, expreſs δικασαι and *judices* by ſuch terms as convey the idea of *preſidents in courts of juſtice*. The propriety of this is doubted of, and hath given occaſion for this inquiry; in which is ſhown, from the beſt Greek and Roman authorities, that neither the δικασαι of the Greeks, or the *judices* of the Romans, ever ſignified *preſidents in courts of judicature*, or *judges of the bench;* but, on the contrary, they were diſtinguiſhed from each other,

and the difference of their duty and function was carefully and clearly pointed out by the orators in their pleadings, who were the beſt authorities in thoſe caſes, where the queſtion related to forms of law, and methods of proceeding in judicial affairs and criminal proceſs.

The preſidents of the courts in criminal trials at Athens were the nine archons, or chief magiſtrates, of which whoever preſided was called ηγεμων δικαστηριυ, or preſident of the court. Theſe nine preſided in different cauſes peculiar to each juriſdiction. The archon, properly ſo called, had belonging to his department, all pupillary and heritable caſes; the βασιγευς or *rex ſacrorum*, the chief prieſt, all caſes where religion was concerned; the polemarchus, or general, the affairs of the army and all military matters; and the ſix, the ſmothetæ, the other ordinary ſuits.

Wherever then the ανδρες δικαται, or judicial men, are addreſſed by the Greek orators in their ſpeeches, they are not to be underſtood to be the preſiding magiſtrates, but another claſs of men, who were to enquire into the ſtate of the cauſe before them, by witneſſes and other methods of coming at truth; and after inquiry made and witneſſes heard, to report their opinion and verdict to the preſident, who was to declare it.

The ſeveral ſteps and circumſtances attending this judicial proceeding are ſo ſimilar to the forms obſerved by our jury, that the learned reader, for ſuch I muſt ſuppoſe him, cannot doubt but that the nature, intent, and proceedings of the δικαστηριον among the Greeks were the ſame with the Engliſh jury; namely, for the protection of the lower people from the power and oppreſſion of the great, by adminiſtering equal law and juſtice to all ranks; and therefore when the Greek orators directed their ſpeeches to the ανδρες δικαται, as we ſee in Demoſthenes, Æſchines, and Lyſias, we are to underſtand it in the ſame ſenſe as when our lawyers at the bar ſay, *Gentleman of the jury*.

So likewiſe among the Romans, the *judices*, in their pleadings at the bar, never ſignified judges of the bench, or preſidents of the court, but a body or order of men, whoſe office in the courts of judicature was diſtinct from that of the prætor or *judex queſtionis*, which anſwered to our judge of the bench, and was the ſame with the archon, or ηγεμων δικαστηριυ, of the Greeks: whereas the duty of the judices conſiſted in being impannelled, as we call it, challenged, and ſwore to try uprightly the caſe before them; and when they had agreed upon their opinion or verdict, to deliver it to the preſident who was to pronounce it. This kind of judicial proceſs was firſt introduced into the Athenian polity by Solon, and thence copied into the Roman republic, as probable means of procuring juſt judgment, and protecting the lower people from the oppreſſion or arbitrary deciſions of their ſuperiors.

When the Romans were ſettled in Britain as a province, they carried with them their *jura* and *inſtituta*, their laws and cuſtoms, which was a practice eſſential to all colonies; hence the Britons, and other countries of Germany and Gaul, learned from them the Roman laws and cuſtoms; and upon the irruption of the northern nations into the ſouthern kingdoms of Europe, the laws and inſtitutions of the Romans remained, when the power that introduced them was withdrawn; and Monteſquieu tells us, that under the firſt race of kings in France, about the fifth century, the Romans that remained, and the Burgundians their new maſters, lived together under the ſame Roman laws and police, and particularly the ſame forms of judicature. How reaſonable then is it to conclude, that in the Roman courts of judicature continued among the Burgundians, the form of a jury remained in the ſame ſtate it was uſed at Rome. It is certain, Monteſquieu, ſpeaking of thoſe times, mentions the *pairs* or *hommes de fief*, homagers or peers, which in the ſame chapter he calls *juges*, *judges* or *jurymen*; ſo that we hence ſee how at that time the *hommes de fief*, or "men of the fief," were called *peers*, and thoſe peers were *juges* or jurymen. Theſe were the ſame as are called in the laws of the confeſſor *pers de la tenure*, the "peers of the tenures, or homagers," out of whom the jury of peers were choſen, to try a matter in diſpute between the lord and his tenant, or any other point of controverſy in the manor. So likewiſe in all other parts of Europe, where the Roman colonies had been, the Goths ſucceeding them, continued to make uſe of the ſame laws and inſtitutions, which they found to be eſtabliſhed there by the firſt conquerors. This is a much more natural way of accounting for the origin of a jury in Europe, than having recourſe to the fabulous ſtory of Woden and his ſavage Scythian companions, as the firſt introducers of ſo humane and beneficent an inſtitution.

Trials by jury in civil cauſes are of two kinds; *extraordinary* and *ordinary*.

2. The firſt ſpecies of *extraordinary* trial by jury is that of the grand aſſiſe, which was inſtituted by King Henry II. in parliament, by way of alternative offered to the choice of the tenant or defendant in a writ of right, inſtead of the barbarous and unchriſtian cuſtom of duelling. For this purpoſe a writ *de magna aſſiſa eligenda* is directed to the ſheriff, to return four knights, who are to elect and chooſe twelve others to be joined with them; and theſe all together form the grand aſſiſe, or great jury, which is to try the matter of right, and muſt now conſiſt of ſixteen jurors. Another ſpecies of extraordinary juries is the jury to try an attaint: which is a proceſs commenced againſt a former jury for bringing a falſe verdict. See the article ATTAINT.

2. With regard to the *ordinary* trial by jury in civil caſes, the moſt clear and perſpicuous way of treating it will be by following the order and courſe of the proceedings themſelves.

When therefore an iſſue is joined by theſe words, "And this the ſaid A prays may be inquired of by the country;" or, "And of this he puts himſelf upon the country; and the ſaid B. does the like;" the court awards a writ of *venire facias* upon the roll or record, commanding the ſheriff "that he cauſe to come here, on ſuch a day, twelve free and lawful men, *liberes et legales homines*, of the body of his county, by whom the truth of the matter may be better known, and who are neither of kin to the aforeſaid A nor the aforeſaid B, to recognize the truth of the iſſue between the ſaid parties." And ſuch writ is accordingly iſſued to the ſheriff. It is made returnable on the laſt return of the ſame term wherein iſſue is joined, *viz.* hilary or trinity terms; which, from the making up of the iſſues therein, are uſually called *iſſuable terms*. And he returns the names of the jurors in a panel (a little pane or oblong piece of parchment) annexed to the writ. This jury is not ſummoned, and therefore not appearing at the day muſt unavoidably make default. For which reaſon a compulſive proceſs is now awarded againſt the jurors, called in the common pleas a writ of *habeas corpora juratorum*, and in the King's Bench *diſtringas*, commanding the ſheriff to have their bodies, or to diſtrain them by their lands and goods, that they may appear upon the day appointed. The entry therefore on the roll of record is, "that the jury is reſpited, through defect of the jurors, till the firſt day of the next term, then to appear at Weſtminſter; unleſs before that time, *viz.* on Wedneſday the fourth of March, the juſtices of our lord the king appointed to take aſſizes in that county ſhall have come to Oxford, that is, to the place aſſigned for holding the aſſizes. Therefore the ſheriff is commanded to have their bodies at Weſtminſter on the ſaid firſt day of next term, or before the ſaid juſtices of aſſize, if before that time they come to Oxford, *viz.* on the fourth of March aforeſaid." And as the judges are ſure to come and open the circuit-commiſſions

on the day mentioned in the writ, the ſheriff returns and ſummons this jury to appear at the aſſizes; and there the trial is had before the juſtices of aſſize and *niſi prius*: among whom (as hath been ſaid under the article ASSIZE) are uſually two of the judges of the courts at Weſtminſter, the whole kingdom being divided into ſix circuits for this purpoſe. And thus we may obſerve, that the trial of common iſſues, at *niſi prius*, was in its original only a collateral incident to the original buſineſs of the juſtices of aſſize; though now, by the various revolutions of practice, it is become their principal civil employment; hardly any thing remaining in uſe of the real aſſizes but the name.

If the ſheriff be not an indifferent perſon, as if he be a party in the ſuit, or be related by either blood or affinity to either of the parties, he is not then truſted to return the jury; but the *venire* ſhall be directed to the coroners, who in this, as in many other inſtances, are the ſubſtitutes of the ſheriff to execute proceſs when he is deemed an improper perſon. If any exception lies to the coroners, the *venire* ſhall be directed to two clerks of the court, or two perſons of the county named by the court, and ſworn. And theſe two, who are called *eliſors*, or electors, ſhall indifferently name the jury, and their return is final; no challenge being allowed to their array.

Let us now pauſe a while, and obſerve (with Sir Matthew Hale, Hiſt. C. L. c. 12), in theſe firſt preparatory ſtages of the trial, how admirably this conſtitution is adapted and framed for the inveſtigation of truth beyond any other method of trial in the world. For, firſt, the perſon returning the jurors is a man of ſome fortune and conſequence; that ſo he may be not only the leſs tempted to commit wilful errors, but likewiſe be reſponſible for the faults of either himſelf or his officers: and he is alſo bound by the obligation of an oath faithfully to execute his duty. Next, as to the time of their return: the panel is returned to the court upon the original *venire*, and the jurors are to be ſummoned and brought in many weeks afterwards to the trial, whereby the parties may have notice of the jurors, and of their ſufficiency or inſufficiency, characters, connections, and relations, that ſo they may be challenged upon juſt cauſe; while, at the ſame time, by means of the compulſory proceſs (of *diſtringas*, or *habeas corpora*) the cauſe is not like to be retarded through defect of jurors. Thirdly, as to the place of their appearance: which in cauſes of weight and conſequence is at the bar of the court; but in ordinary caſes at the aſſizes, held in the county where the cauſe of action ariſes, and the witneſſes and jurors live: a proviſion moſt excellently calculated for the ſaving of expence to the parties. For though the preparation of the cauſes in point of pleading is tranſacted at Weſtminſter, whereby the order and uniformity of proceeding is preſerved throughout the kingdom, and multiplicity of forms is prevented; yet this is no great charge or trouble, one attorney being able to tranſact the buſineſs of forty clients. But the troubleſome and moſt expenſive attendance is that of jurors and witneſſes at the trial; which therefore is brought home to them, in the county where moſt of them inhabit. Fourthly, the perſons before whom they are to appear, and before whom the trial is to be held, are the judges of the ſuperior court, if it be a trial at bar; or the judges of aſſize, delegated from the courts at Weſtminſter by the king, if the trial be held in the country: perſons, whoſe learning and dignity ſecure their juriſdiction from contempt, and the novelty and very parade of whoſe appearance have no ſmall influence upon the multitude. The very point of their being ſtrangers in the county is of infinite ſervice, in preventing thoſe factions and parties which would intrude in every cauſe of moment, were it tried only before perſons reſident on the ſpot, as juſtices of the peace, and the like. And the better to remove all ſuſpicion of partiality, it was wiſely provided by the ſtatutes 4 Edw. III. c. 2. 8 Ric. II. c. 2. and 33 Hen. VIII. c. 24. that no judge of aſſize ſhould hold pleas in any county wherein he was born or inhabits. And as this conſtitution prevents party and faction from intermingling in the trial of right, ſo it keeps both the rule and the adminiſtration of the laws uniform. Theſe juſtices, though thus varied and ſhifted at every aſſizes, are all ſworn to the ſame laws, have had the ſame education, have purſued the ſame ſtudies, converſe and conſult together, communicate their deciſions and reſolutions, and preſide in thoſe courts which are mutually connected, and their judgments blended together, as they are interchangeably courts of appeal or advice to each other. And hence their adminiſtration of juſtice, and conduct of trials, are conſonant and uniform; whereby that confuſion and contrariety are avoided, which would naturally ariſe from a variety of uncommunicating judges, or from any provincial eſtabliſhment. But let us now return to the aſſizes.

When the general day of trial is fixed, the plaintiff or his attorney muſt bring down the record to the aſſizes, and enter it with the proper officer, in order to its being called on in courſe.

Theſe ſteps being taken, and the cauſe called on in court, the record is then handed to the judge, to peruſe and obſerve the pleadings, and what iſſues the parties are to maintain and prove, while the jury is called and ſworn. To this end the ſheriff returns his compulſive proceſs, the writ of *habeas corpora*, or *diſtringas*, with the panel of jurors annexed, to the judge's officer in court.

The jurors contained in the panel are either ſpecial or common jurors. Special juries were originally introduced in trials at bar, when the cauſes were of too great nicety for the diſcuſſion of ordinary freeholders; or where the ſheriff was ſuſpected of partiality, though not upon ſuch apparent cauſe as to warrant an exception to him. He is in ſuch caſes, upon motion in court, and a rule granted thereupon, to attend the prothonotary or other proper officer with his freeholder's book; and the officer is to take indifferently forty-eight of the principal freeholders, in the preſence of the attorneys on both ſides: who are each of them to ſtrike off twelve, and the remaining twenty-four are returned upon the panel. By the ſtatute 3 Geo. II. c. 25. either party is entitled upon motion to have a ſpecial jury ſtruck upon the trial of any iſſue, as well at the aſſizes as at bar, he paying the extraordinary expence, unleſs the judge will certify (in purſuance of the ſtatute 24 Geo. II. c. 18.) that the cauſe required ſuch ſpecial jury.

A common jury is one returned by the ſheriff according to the directions of the ſtatute 3 Geo. II. c. 25. which appoints, that the ſheriff or officer ſhall not return a ſeparate panel for every ſeparate cauſe, as formerly; but one and the ſame panel for every cauſe to be tried at the ſame aſſizes, containing not leſs than forty-eight, nor more than ſeventy-two, jurors: and that their names being written on tickets, ſhall be put into a box of glaſs; and when each cauſe is called, twelve of theſe perſons, whoſe names ſhall be firſt drawn out of the box, ſhall be ſworn upon the jury, unleſs abſent, challenged, or excuſed; or unleſs a previous view of the meſſuages, lands, or place in queſtion, ſhall have been thought neceſſary by the court; in which caſe, ſix or more of the jurors returned, to be agreed on by the parties, or named by a judge or other proper officer of the court, ſhall be appointed by ſpecial writ of *habeas corpora* or *diſtringas*, to have the matters in queſtion ſhown to them by two perſons named in the writ; and then ſuch of the jury as have had the view, or ſo many of them as appear, ſhall be ſworn on the inqueſt previous to any other jurors. Theſe

acts are well calculated to reſtrain any ſuſpicion of partiality in the ſheriff, or any tampering with the jurors when returned.

As the jurors appear when called, they ſhall be ſworn, unleſs challenged by either party. See the article CHALLENGE.

If by means of challenges or other cauſe, a ſufficient number of unexceptionable jurors doth not appear at the trial, either party may pray a *tales*.

A *tales* is a ſupply of ſuch men as are ſummoned upon the firſt panel, in order to make up the deficiency. For this purpoſe a writ of *decem tales*, *octo tales*, and the like, was wont to be iſſued to the ſheriff at common law, and muſt be ſtill ſo done at a trial at bar, if the jurors make default. But at the aſſizes, or *niſi prius*, by virtue of the ſtatute 35 Hen. VIII. c. 6. and other ſubſequent ſtatutes, the judge is empowered at the prayer of either party to award a *tales de circumſtantibus* of perſons preſent in court, to be joined to the other jurors to try the cauſe; who are liable, however, to the ſame challenges as the principal jurors. This is uſually done till the legal number of twelve be completed; in which patriarchal and apoſtolical number Sir Edward Coke hath diſcovered abundance of myſtery.

When a ſufficient number of perſons impanelled, or talesmen appear, they are then ſeparately ſworn, well and truly to try the iſſue between the parties, and a true verdict to give according to the evidence; and hence they are denominated "the jury," *jurata*, and "jurors," *ſc. juratores*.

The jury are now ready to hear the merits; and to fix their attention the cloſer to the facts which they are impanelled and ſworn to try, the pleadings are opened to them by counſel on that ſide which holds the affirmative of the queſtion in iſſue. For the iſſue is ſaid to lie, and proof is always firſt required upon that ſide which affirms the matter in queſtion: in which our law agrees with the civil, *ei incumbit probatio qui dicit, non qui negat; cum per rerum naturam factum-negantis probatio nulla ſit*. The opening counſel briefly informs them what has been tranſacted in the court above; the parties, the nature of the action, the declaration, the plea, replication, and other proceedings; and laſtly, upon what point the iſſue is joined, which is there ſent down to be determined. Inſtead of which, formerly the whole record and proceſs of the pleadings were read to them in Engliſh by the court, and the matter of iſſue clearly explained to their capacities. The nature of the caſe, and the evidence intended to be produced, are next laid before them by counſel alſo on the ſame ſide; and when their evidence is gone through, the advocate on the other ſide opens the adverſe caſe, and ſupports it by evidence; and then the party which began is heard by way of reply. See PLEADINGS.

Evidence in the trial by jury is of two kinds; either that which is given in proof, or that which the jury may receive by their own private knowledge. The former, or *proofs* (to which in common ſpeech the name of evidence is uſually confined), are either written or parol, that is, by word of mouth. Written proofs, or evidence, are, 1. Records; and 2. Ancient deeds of thirty years' ſtanding, which prove themſelves; but, 3. Modern deeds; and, 4. Other writings, muſt be atteſted and verified by parol evidence of witneſſes. With regard to parol evidence or witneſſes; it muſt firſt be remembered, that there is a proceſs to bring them in by writ of *ſubpœna ad teſtificandum*; which commands them, laying aſide all pretences and excuſes, to appear at the trial on pain of 100 l. to be forfeited to the king; to which the ſtatute 5 Eliz. c. 9. has added a penalty of 10 l. to the party aggrieved, and damages equivalent to the loſs ſuſtained by want of his evidence. But no witneſs, unleſs his reaſonable expences be tendered him, is bound to appear at all; nor, if he appears, is he bound to give evidence till ſuch charges are actually paid him; except he reſides within the bills of mortality, and is ſummoned to give evidence within the ſame. This compulſory proceſs, to bring in unwilling witneſſes, and the additional terrors of an attachment in caſe of diſobedience, are of excellent uſe in the thorough inveſtigation of truth: and, upon the ſame principle, in the Athenian courts, the witneſſes who were ſummoned to attend the trial had their choice of three things: either to ſwear to the truth of the fact in queſtion, to deny or abjure it, or elſe to pay a fine of 1000 drachmas.

All witneſſes, of whatever religion or country, that have the uſe of their reaſon, are to be received and examined, except ſuch as are infamous, or ſuch as are intereſted in the event of the cauſe. All others are competent witneſſes; though the jury from other circumſtances will judge of their credibility. Infamous perſons are ſuch as may be challenged as jurors, *propter delictum*: and therefore never ſhall be admitted to give evidence to inform that jury, with whom they were too ſcandalous to aſſociate. Intereſted witneſſes may be examined upon a *voire dire*, if ſuſpected to be ſecretly concerned in the event; or their intereſt may be proved in court. Which laſt is the only method of ſupporting an objection to the former claſs; for no man is to be examined to prove his own infamy. And no counſel, attorney, or other perſon, intruſted with the ſecrets of the cauſe by the party himſelf, ſhall be compelled, or perhaps allowed, to give evidence of ſuch converſation or matters of privacy as came to his knowledge by virtue of ſuch truſt and confidence: but he may be examined as to mere matters of fact, as the execution of a deed or the like, which might have come to his knowledge without being intruſted in the cauſe.

One witneſs (if credible) is ſufficient evidence to a jury of any ſingle fact: though undoubtedly the concurrence of two or more corroborates the proof. Yet our law conſiders that there are many tranſactions to which only one perſon is privy; and therefore does not always demand the teſtimony of two. Poſitive proof is always required, where, from the nature of the caſe, it appears it might poſſibly have been had. But, next to poſitive proof, circumſtantial evidence, or the doctrine of preſumptions, muſt take place: for when the fact itſelf cannot be demonſtratively evinced, that which comes neareſt to the proof of the fact is the proof of ſuch circumſtances which either neceſſarily or uſually attend ſuch facts; and theſe are called *preſumptions*, which are only to be relied upon till the contrary be actually proved.

The oath adminiſtered to the witneſs is not only that what he depoſes ſhall be true, but that he ſhall alſo depoſe the whole truth: ſo that he is not to conceal any part of what he knows, whether interrogated particularly to that point or not. And all this evidence is to be given in open court, in the preſence of the parties, their attorneys, the counſel, and all byſtanders; and before the judge and jury: each party having liberty to except to its competency, which exceptions are publicly ſtated, and by the judge are openly and publicly allowed or diſallowed, in the face of the country: which muſt curb any ſecret bias or partiality that might ariſe in his own breaſt.

When the evidence is gone through on both ſides, the judge, in the preſence of the parties, the counſel, and all others, ſums up the whole to the jury; omitting all ſuperfluous circumſtances, obſerving wherein the main queſtion and principal iſſue lies, ſtating what evidence has been given to ſupport it, with ſuch remarks as he thinks neceſſary for their direction, and giving them his opinion in matters of law ariſing upon that evidence.

The jury, after the proofs are ſummed up, unleſs the caſe

be very clear, withdraw from the bar to conſider of their verdict; and in order to avoid intemperance and cauſeleſs delay, are to be kept without meat, drink, fire, or candle, unleſs by permiſſion of the judge, till they are unanimouſly agreed. A method of accelerating unanimity not wholly unknown in other conſtitutions of Europe, and in matters of greater concern. For by the golden bull of the empire, if, after the congreſs is opened, the electors delay the election of a king of the Romans for thirty days, they ſhall be fed only with bread and water till the ſame is accompliſhed. But if our juries eat or drink at all, or have any eatables about them, without conſent of the court, and before verdict, it is fineable; and if they do ſo at his charge for whom they afterwards find, it will ſet aſide the verdict. Alſo, if they ſpeak with either of the parties or their agents after they are gone from the bar, or if they receive any freſh evidence in private, or if, to prevent diſputes, they caſt lots for whom they ſhall find, any of theſe circumſtances will entirely vitiate the verdict. And it has been held, that if the jurors do not agree in their verdict before the judges are about to leave the town, though they are not to be threatened or impriſoned, the judges are not bound to wait for them, but may carry them round the circuit from town to town in a cart. This neceſſity of a total unanimity ſeems to be peculiar to our own conſtitution; or at leaſt, in the *nembda* or jury of the ancient Goths, there was required (even in criminal caſes) only the conſent of the major part; and in caſe of an equality, the defendant was held to be acquitted.

When they are all unanimouſly agreed, the jury return back to the bar; and before they deliver their verdict, the plaintiff is bound to appear in court, by himſelf, attorney, or counſel, in order to anſwer the amercement to which by the old law he is liable, in caſe he fails in his ſuit, as a puniſhment for his falſe claim. To be amerced, or *a mercie*, is to be at the king's mercy with regard to the fine to be impoſed; *in miſericordia domini regis pro falſo clamore ſuo.* The amercement is diſuſed, but the form ſtill continues; and if the plaintiff does not appear, no verdict can be given; but the plaintiff is ſaid to be nonſuit, *non ſequitur clamorem ſuum.* Therefore it is uſual for a plaintiff, when he or his counſel perceives that he has not given evidence ſufficient to maintain his iſſue, to be voluntarily nonſuited, or withdraw himſelf: whereupon the crier is ordered to call the plaintiff; and if neither he, nor any body for him, appears, he is nonſuited, the jurors are diſcharged, the action is at an end, and the defendant ſhall recover his coſts. The reaſon of this practice is, that a nonſuit is more eligible for the plaintiff than a verdict againſt him: for after a nonſuit, which is only a default, he may commence the ſame ſuit again for the ſame cauſe of action; but after a verdict had, and judgment conſequent thereupon, he is for ever barred from attacking the defendant upon the ſame ground of complaint. But in caſe the plaintiff appears, the jury by their foreman deliver in their verdict.

A verdict, *vere dictum*, is either privy or public. A privy verdict is when the judge hath left or adjourned the court: and the jury, being agreed, in order to be delivered from their confinement, obtain leave to give their verdict privily to the judge out of court: which privy verdict is of no force, unleſs afterwards affirmed by a public verdict given openly in court; wherein the jury may, if they pleaſe, vary from their privy verdict. So that the privy verdict is indeed a mere nullity; and yet it is a dangerous practice, allowing time for the parties to tamper with the jury, and therefore very ſeldom indulged. But the only effectual and legal verdict is the public verdict: in which they openly declare to have found the iſſue for the plaintiff, or for the defendant; and if for the plaintiff, they aſſeſs the damages alſo ſuſtained by the plaintiff, in conſequence of the injury upon which the action is brought.

When the jury have delivered in their verdict, and it is recorded in court, they are then diſcharged; and ſo ends the trial by jury: a trial which ever has been, and it is hoped ever will be, looked upon as the glory of the Engliſh law. It is certainly the moſt tranſcendant privilege which any ſubject can enjoy or wiſh for, that he cannot be affected either in his property, his liberty, or his perſon, but by the unanimous conſent of twelve of his neighbours and equals. A conſtitution that we may venture to affirm has, under Providence, ſecured the juſt liberties of this nation for a long ſucceſſion of ages. And therefore a celebrated French writer, who concludes, that becauſe Rome, Sparta, and Carthage, have loſt their liberties, therefore thoſe of England in time muſt periſh, ſhould have recollected, that Rome, Sparta, and Carthage, at the time when their liberties were loſt, were ſtrangers to the trial by jury.

Great as this eulogium may ſeem, it is no more than this admirable conſtitution, when traced to its principles, will be found in ſober reaſon to deſerve.

The impartial adminiſtration of juſtice, which ſecures both our perſons and our properties, is the great end of civil ſociety. But if that be entirely entruſted to the magiſtracy, a ſelect body of men, and thoſe generally ſelected by the prince or ſuch as enjoy the higheſt offices in the ſtate, their deciſions, in ſpite of their own natural integrity, will have frequently an involuntary bias towards thoſe of their own rank and dignity: it is not to be expected from human nature, that the few ſhould be always attentive to the intereſts and good of the many. On the other hand, if the power of judicature were placed at random in the hands of the multitude, their deciſions would be wild and capricious, and a new rule of action would be every day eſtabliſhed in our courts. It is wiſely therefore ordered, that the principles and axioms of law, which are general propoſitions flowing from abſtracted reaſon, and not accommodated to times or to men, ſhould be depoſited in the breaſts of the judges, to be occaſionally applied to ſuch facts as come properly aſcertained before them. For here partiality can have little ſcope; the law is well known, and is the ſame for all ranks and degrees: it follows as a regular concluſion from the premiſſes of fact pre-eſtabliſhed. But in ſettling and adjuſting a queſtion of fact, when intruſted to any ſingle magiſtrate, partiality and injuſtice have an ample field to range in, either by boldly aſſerting that to be proved which is not ſo, or more artfully by ſuppreſſing ſome circumſtances, ſtretching and warping others, and diſtinguiſhing away the remainder. Here therefore a competent number of ſenſible and upright jurymen, choſen by lot from among thoſe of the middle rank, will be found the beſt inveſtigators of truth, and the ſureſt guardians of public juſtice. For the moſt powerful individual in the ſtate will be cautious of committing any flagrant invaſion of another's right, when he knows that the fact of his oppreſſion muſt be examined and decided by twelve indifferent men not appointed till the hour of trial; and that when once the fact is aſcertained, the law muſt of courſe redreſs it. This therefore preſerves in the hands of the people that ſhare which they ought to have in the adminiſtration of public juſtice, and prevents the encroachments of the more powerful and wealthy citizens.

Criminal TRIALS. The regular and ordinary method of proceeding in the courts of criminal juriſdiction may be diſtributed under twelve general heads, following each other in a progreſſive order: viz. 1. Arreſt; 2. Commitment and bail; 3. Proſecution; 4. Proceſs; 5. Arraignment, and its incidents; 6. Plea, and iſſue; 7. Trial, and conviction; 8. Clergy; 9. Judgment, and its conſequences; 10. Reverſal of Judg-

ment; 11. Reprieve, or pardon; 12. Execution. See ARREST, COMMITMENT, PEESENTMENT, INDICTMENT, INFORMATION, APPEAL, PROCESS *upon an Indictment*, ARRAIGNMENT, and PLEA; in which articles all the forms which precede the trial are deſcribed, and are here enumerated in the proper order.

The ſeveral methods of trial and conviction of offenders, eſtabliſhed by the laws of England, were formerly more numerous than at preſent, through the ſuperſtition of our Saxon anceſtors; who, like other northern nations, were extremely addicted to divination; a character which Tacitus obſerves of the ancient Germans. They therefore invented a conſiderable number of methods of purgation or trial, to preſerve innocence from the danger of falſe witneſſes, and in conſequence of a notion that God would always interpoſe miraculouſly to vindicate the guiltleſs; as, 1. By ORDEAL; 2. By CORSNED; 3. By BATTEL. See thoſe articles.

4. A fourth method is that by the *peers of Great Britain*, in the *Court of* PARLIAMENT; or the *Court of the Lord High* STEWARD, when a peer is capitally indicted; for in caſe of an appeal, a peer ſhall be tried by jury. This differs little from the trial *per patriam*, or by jury; except that the peers need not all agree in their verdict; and except alſo, that no ſpecial verdict can be given in the trial of a peer; becauſe the lords of parliament, or the lord high ſteward (if the trial be had in his court), are judges ſufficiently competent of the law that may ariſe from the fact; but the greater number, conſiſting of twelve at the leaſt, will conclude and bind the minority.

The trial by jury, or the country, *per patriam*, is alſo that trial by the peers of every Briton, which, as the great bulwark of his liberties, is ſecured to him by the great charter: *nullus liber homo capitatur, vel impriſonetur, aut exulet, aut aliquo alio modo deſtruatur, niſi per legale judicium parium ſuorum, vel per legem terre.*

When therefore a priſoner on his ARRAIGNMENT has pleaded not guilty, and for his trial hath put himſelf upon the country, which country the jury are, the ſheriff of the county muſt return a panel of jurors, *liberos et legales homines, de viceneto*; that is, freeholders without juſt exception, and of the *viſne* or neighbourhood; which is interpreted to be of the county where the fact is committed. If the proceedings are before the court of king's bench, there is time allowed between the arraignment and the trial, for a jury to be impanelled by writ of *venire facias* to the ſheriff, as in civil cauſes; and the trial in caſe of a miſdemeanor is had at *niſi prius*, unleſs it be of ſuch conſequence as to merit a trial at bar; which is always invariably had when the priſoner is tried for any capital offence. But, before commiſſioners of oyer and terminer and gaol-delivery, the ſheriff, by virtue of a general precept directed to him beforehand, returns to the court a panel of forty-eight jurors, to try all felons that may be called upon their trial at that ſeſſion; and therefore it is there uſual to try all felons immediately or ſoon after their arraignment. But it is not cuſtomary, nor agreeable to the general courſe of proceedings, unleſs by conſent of parties, to try perſons indicted of ſmaller miſdemeanors at the ſame court in which they have pleaded not guilty, or traverſed the indictment. But they uſually give ſecurity to the court to appear at the next aſſizes or ſeſſion, and then and there to try the traverſe, giving notice to the proſecutor of the ſame.

In caſes of high-treaſon, whereby corruption of blood may enſue (except treaſon in counterfeiting the king's coin or ſeals), or miſpriſion of ſuch treaſon, it is enacted by ſtatute 7 W. III. c. 3. firſt, that no perſon ſhall be tried for any ſuch treaſon, except an attempt to aſſaſſinate the king, unleſs the indictment be found within three years after the offence committed: next, that the priſoner ſhall have a copy of the indictment (which includes the caption), but not the names of the witneſſes, five days at leaſt before the trial, that is, upon the true conſtruction of the act, before his arraignment; for then is his time to take any exceptions thereto, by way of plea or demurrer: thirdly, that he ſhall alſo have a copy of the panel of jurors two days before his trial: and, laſtly, that he ſhall have the ſame compulſive proceſs to bring in his witneſſes for him, as was uſual to compel their appearance againſt him. And by ſtatute 7 Ann. c. 21. (which did not take place till after the deceaſe of the late Pretender) all perſons indicted for high-treaſon, or miſpriſions thereof, ſhall have not only a copy of the indictment, but a liſt of all the witneſſes to be produced, and of the jurors impanelled, with their profeſſions and places of abode, delivered to him ten days before the trial, and in the preſence of two witneſſes, the better to prepare him to make his challenges and defence. And no perſon indicted for felony is, or (as the law ſtands) ever can be, entitled to ſuch copies before the time of his trial.

When the trial is called on, the jurors are to be ſworn as they appear, to the number of twelve, unleſs they are challenged by the party.

Challenges may here be made, either on the part of the king, or on that of the priſoner; and either to the whole array, or to the ſeparate polls, for the very ſame reaſons that they may be made in civil cauſes. But in criminal caſes, or at leaſt in capital ones, there is, *in favorem vitæ*, allowed to the priſoner an arbitrary and capricious ſpecies of challenge, to a certain number of jurors, without ſhowing any cauſe at all; which is called a *peremptory* challenge; a proviſion full of that tenderneſs and humanity to priſoners for which our Engliſh laws are juſtly famous. This is grounded on two reaſons. 1. As every one muſt be ſenſible what ſudden impreſſions and unaccountable prejudices we are apt to conceive upon the bare looks and geſtures of another; and how neceſſary it is that a priſoner (when put to defend his life) ſhould have a good opinion of his jury, the want of which might totally diſconcert him; the law wills not that he ſhould be tried by any one man againſt whom he has conceived a prejudice, even without being able to aſſign a reaſon for ſuch his diſlike. 2. Becauſe, upon challenges for cauſe ſhown, if the reaſon aſſigned prove inſufficient to ſet aſide the juror, perhaps the bare queſtioning his indifference may ſometimes provoke a reſentment; to prevent all ill conſequences from which, the priſoner is ſtill at liberty, if he pleaſes, peremptorily to ſet him aſide.

The peremptory challenges of the priſoner muſt, however, have ſome reaſonable boundary; otherwiſe he might never be tried. This reaſonable boundary is ſettled by the common law to be the number of thirty-five; that is, one under the number of three full juries.

If by reaſon of challenges or the default of the jurors, a ſufficient number cannot be had of the original panel, a tales may be awarded as in civil cauſes, till the number of twelve is ſworn, "well and truly to try, and true deliverance make, between our ſovereign lord the king and the priſoner whom they have in charge; and a true verdict to give, according to their evidence."

When the jury is ſworn, if it be a cauſe of any conſequence, the INDICTMENT is uſually opened, and the evidence marſhalled, examined, and enforced by the counſel for the crown or proſecution. But it is a ſettled rule at common law, that no counſel ſhall be allowed a priſoner upon his trial upon the general iſſue, in any capital crime, unleſs ſome point of law ſhall ariſe proper to be debated. A rule which (however it may be palliated under cover of that noble declaration of the law, when rightly underſtood, that the judge ſhall be counſel for the priſoner; that is, ſhall ſee that the proceedings againſt him are legal and ſtrictly regular) ſeems to be not at

all of a piece with the reſt of the humane treatment of priſoners by the Engliſh law. For upon what face of reaſon can that aſſiſtance be denied to ſave the life of a man, which yet is allowed him in proſecutions for every petty treſpaſs? Nor indeed is it, ſtrictly ſpeaking, a part of our ancient law; for the Mirrour, having obſerved the neceſſity of counſel in civil ſuits, "who know how to forward and defend the cauſe by the rules of law, and cuſtoms of the realm," immediately afterwards ſubjoins, "and more neceſſary are they for defence upon indictments and appeals of felony, than upon other venial cauſes." And, to ſay the truth, the judges themſelves are ſo ſenſible of this defect in our modern practice, that they ſeldom ſcruple to allow a priſoner counſel to ſtand by him at the bar, and to inſtruct him what queſtions to aſk, or even to aſk queſtions for him, with regard to matters of fact; for as to matters of law ariſing on the trial, they are entitled to the aſſiſtance of counſel. But ſtill this is a matter of too much importance to be left to the good pleaſure of any judge, and is worthy the interpoſition of the legiſlature; which has ſhown its inclination to indulge priſoners with this reaſonable aſſiſtance, by enacting, in ſtatute 7 W. III. c. 3. that perſons indicted for ſuch high-treaſon as works a corruption of the blood or miſpriſion thereof (except treaſon in counterfeiting the king's coins or ſeals), may make their full defence by counſel, not exceeding two, to be named by the priſoner, and aſſigned by the court or judge; and this indulgence, by ſtatute 20 Geo. II. c. 30. is extended to parliamentary impeachments for high-treaſon, which were excepted in the former act.

When the evidence on both ſides is cloſed, the jury cannot be diſcharged (unleſs in caſes of evident neceſſity) till they have given in their VERDICT. If they find the priſoner not guilty, he is then for ever quit and diſcharged of the accuſation, except he be appealed of felony within the time limited by law. And upon ſuch his acquittal, or diſcharge for want of proſecution, he ſhall be immediately ſet at large without payment of any fee to the goaler. But if the jury find him guilty, he is then ſaid to be convicted of the crime whereof he ſtands indicted. See the article CONVICTION; and, ſubſequent thereto, the articles JUDGMENT, ATTAINDER, FORFEITURE, EXECUTION; alſo *Benefit of* CLERGY, REPRIEVE, PARDON.

TRIANDRIA (from τρεις "three," and ανηρ "a man or huſband"), the name of the third claſs in Linnæus's ſexual ſyſtem, conſiſting of plants with hermaphrodite flowers, which have three ſtamina or male organs.

TRIANGLE, in geometry, a figure of three ſides and three angles.

TRIBE, in antiquity, a certain quantity or number of perſons, when a diviſion was made of a city or people into quarters or diſtricts.

TRIBRACHYS, in ancient poetry, a foot conſiſting of three ſyllables, and theſe all ſhort; as, *melius*.

TRIBUNAL, in general, denotes the ſeat of a judge, called in our courts *bench*.

TRIBUNE, among the ancient Romans, a magiſtrate choſen out of the commons, to protect them againſt the oppreſſions of the great, and to defend the liberty of the people againſt the attempts of the ſenate and conſuls. The tribunes of the people were firſt eſtabliſhed in the year of Rome 259. The firſt deſign of their creation was to ſhelter the people from the cruelty of uſurers, and to engage them to quit the Aventine mount, whither they had retired in diſpleaſure. Their number at firſt was but two; but the next year, under the conſulate of A. Poſthumius Aruncius, and Caſſius Viſcellinus, there were three more added; and this number of five was afterwards increaſed by L. Trebonius to ten.

Military TRIBUNE, an officer in the Roman army, commander in chief over a body of forces, particularly the diviſion of a legion; much the ſame with our colonel, or the French maitre de camp.

TRIBUTARY, one who pays tribute to another, in order to live in peace with him or ſhare in his protection.

TRIBUTE, a tax or impoſt which one prince or ſtate is obliged to pay to another as a token of dependence, or in virtue of a treaty, and as a purchaſe of peace.

TRICEPS, in anatomy. See ANATOMY, *Table of the* MUSCLES.

TRICHECUS, WALRUS; a genus of aquatic animals belonging to the claſs of *mammalia*, and order of *bruta*. This genus has no fore-teeth, when full grown: has two great tuſks in the upper jaw, which point downwards: has grinders on each ſide in both jaws, which are compoſed of furrowed bones. The body is oblong; the lips are doubled; and the hind legs are ſtretched backwards, and, as it were, bound together, forming a kind of tail fitted for ſwimming. There are three ſpecies; the roſmarus, dugon, and manatus.

1. The *roſmarus*, morſe, or ſea-horſe, has a round head; ſmall mouth; very thick lips, covered above and below with pellucid briſtles as thick as a ſtraw; ſmall fiery eyes; two ſmall orifices inſtead of ears; ſhort neck; body thick in the middle, tapering towards the tail; ſkin thick, wrinkled, with ſhort browniſh hairs thinly diſperſed; legs ſhort, five toes on each, all connected by webs, and ſmall nails on each: the hind feet are very broad; each leg looſely articulated; the hind legs generally extended on a line with the body: the tail is very ſhort; penis long: length of the animal from noſe to tail ſometimes 18 feet, and 10 or 12 round in the thickeſt part: the teeth have been ſometimes found of the weight of 30lb. each. Teeth of this ſize are only found on the coaſt of the Icy Sea, where the animals are ſeldom moleſted, and have time to attain their full growth. See Plate 2.

They inhabit the coaſt of Spitzbergen, Nova Zembla, Hudſon's Bay, and the gulph of St. Lawrence; and the Icy Sea, as far as Cape Tſchuktſchi. They are gregarious; in ſome places appearing in herds of hundreds. They are ſhy animals, and avoid places which are much haunted by mankind; but are very fierce. If wounded in the water, they attempt to ſink the boat, either by riſing under it, or by ſtriking their great teeth into the ſides; they roar very loud, and will follow the boat till it gets out of ſight. Numbers of them are often ſeen ſleeping on an iſland of ice; if awaked, they fling themſelves with great impetuoſity into the ſea; at which time it is dangerous to approach the ice, leſt they ſhould tumble into the boat and overſet it. They do not go upon land till the coaſt is clear of ice. At particular times they land in amazing numbers: the moment the firſt gets on ſhore, ſo as to lie dry, it will not ſtir till another comes and forces it forward by beating it with its great teeth; this is ſerved in the ſame manner by the next; and ſo in ſucceſſion till the whole is landed; continuing tumbling over one another, and forcing the foremoſt, for the ſake of quiet, to remove farther up.

They are killed for the ſake of their oil, one walrus producing about half a tun. The knowledge of this chace is of great antiquity; Oether the Norwegian, about the year 890, made a report of it to King Alfred, having, as he ſays, made the voyage beyond Norway, for *the more commoditie of fiſhing of horſe-whales, which have in their teeth bones of great price and excellency, whereof he brought ſome at his return unto the king*. In fact, it was in the northern world, in early times, the ſubſtitute to ivory, being very white and very hard. Their ſkins, Oether ſays, were good to cut into cables. M. de Buffon ſays, he has ſeen braces for coaches made of the ſkin, which were both ſtrong and elaſtic.

They bring one, or at moſt two, young at a time: they feed on ſea herbs and fiſh; alſo on ſhells, which they dig out of the ſand with their teeth: they are ſaid alſo to make uſe of their teeth to aſcend rocks or pieces of ice, faſtening them to the cracks, and drawing their bodies up by that means. Beſides mankind, they ſeem to have no other enemy than the white bear, with whom they have terrible combats; but generally come off victorious, by means of their great teeth.

In Captain Cook's Voyages we have the following affecting account of their parental attachment to their young. "On the approach of the boats towards the ice, they took their young ones under their fins, and attempted to eſcape with them into the ſea. Some, whoſe cubs were killed or wounded, and left floating upon the ſurface of the water, roſe again, and carried them down, ſometimes juſt as our men were on the point of taking them into the boat; and could be traced bearing them to a conſiderable diſtance through the water, which was ſtained with their blood. They were afterwards obſerved bringing them, at intervals, above the ſurface, as if for air, and again plunging under it, with a horrid bellowing. The female, in particular, whoſe young one had been killed, and taken into the boat, became ſo furious, that ſhe even ſtruck her two tuſks through the bottom of the cutter."

2. The *dugon*, or Indian walrus, is diſtinguiſhed by the tuſks which extend out of the mouth from the upper jaw being placed near each other. It inhabits the ſeas lying between the Cape of Good Hope and the Philippine iſlands. This animal, ſo far as can be known, reſembles the morſe very much: the head is, however, more lengthened and narrower; the noſtrils are large, and placed higher; like the former ſpecies, there are no tuſks in the under jaw, but thoſe in the upper jaw, as has been already obſerved, are placed near each other, bent outwards, and reſemble cutting teeth, only that they are near ſix inches long; there are four grinders on each ſide in the upper jaw, and three in the lower; theſe laſt are diſtant from the tuſks, and are broader than thoſe of the morſe: the female has two teats on the breaſt: the chin has a briſtly beard; the ears are ſhort; the feet broad; and the legs ſo ſhort that the belly trails on the ground. When full grown, the animal is ſix ells in length; the male being rather larger than the female, which has breaſts like a woman: it feeds on a green ſea moſs or weed, which grows near the ſhore. The figure, manners, and hiſtory, of this animal, are very imperfectly known; but we are informed that its fleſh eats like beef.

3. *Manatus*, fiſh-tailed walrus, or ſea-cow, has no tuſks, and no hind feet. Of this ſpecies there are two varieties; the auſtralis or lamantin, and the borealis or whale-tailed manati. The lamantin inhabits the African and American ſeas, particularly near the mouths of rivers, which they frequently enter, ſeldom going far from the ſhore. The lamantin varies in ſize from eight to ſeventeen feet long, is ſix or ſeven in circumference, and from 500 to 800 pounds weight: the ſkin is of a dark or black aſh colour; there are nine ſquare-ſhaped grinders on each ſide in each jaw, which are covered with a glaſſy cruſt of enamel; the back bone has 50 joints or vertebræ: it is a thick clumſy animal, having no properly diſtinct neck, as the body continues almoſt of an equal thickneſs to the head. The female has two teats placed near the arm-pits. This animal never comes on ſhore, but frequents the mouths of large rivers, brouzing on the graſs which grows cloſe to the water. There ſeems to be two varieties, differing conſiderably in ſize. The larger frequents the ſeas near the mouths of large rivers; and the ſmaller is found higher up the ſame rivers, and in inland freſh water lakes, but never goes to the ſea.

We are told that this animal is often tamed by the native inhabitants of America, and that it delights in muſic; hence, according to ſome authors, it is probably the delphinus or dolphin of the ancients: and ſome believe, that what has been written concerning mermaids and ſirens muſt be referred to this animal. It has a voracious appetite, and is perpetually eating: it is monogamious, or lives in families of one male, one female, a half grown and a very ſmall young one; copulates in the ſpring, the female at firſt flying in various playful circles, and then throwing herſelf on her back to receive the male: when paſturing on the aquatic plants, the back is often above water: and, as the ſkin is full of a ſpecies of louſe, numbers of ſea fowls perch on them, to pick out the inſects. They bellow like bulls: their ſight is very weak, but their hearing extremely acute; the fore-feet are palmated and fin-ſhaped, almoſt like thoſe of a ſea-turtle; and inſtead of hind-feet they have a horizontal tail; they have no external ears; the noſtrils are diſtinct, and at a diſtance from each other; the females have two teats about the breaſt; the upper lip is full of ſharp, prickly, rigid briſtles. This animal has great affinity to the whale and ſeal tribes. The fleſh is very good eating.

The whale-tailed manati inhabits the north-weſt coaſt of America, the north-eaſt of Aſia, and the iſlands which lie between theſe two coaſts. This animal very often enters the mouths of the rivers; is ſometimes 23 feet long, and weighs 8000 pounds; the ſkin, while wet, is of a brown colour, but becomes black when dry. Inſtead of grinders, this ſpecies has, on each ſide of each jaw, a large rugged bone. The backbone has 60 vertebræ or joints: the body is very clumſy, and much deformed; its circumference at the ſhoulders is 12 feet, at the belly 20, and near the tail only four; the neck is near ſeven feet round, and the head only 31 inches.

They live perpetually in the water, and frequent the edges of the ſhores; and in calm weather ſwim in droves near the mouths of rivers: in the time of flood they come ſo near the land, that a perſon may ſtroke them with his hand: if hurt, they ſwim out to ſea; but preſently return again. The females oblige the young to ſwim before them, while the other old ones ſurround, and as it were guard them on all ſides. The affection between the male and female is very great: for if ſhe is attacked, he will defend her to the utmoſt; and if ſhe is killed, will follow her corpſe to the very ſhore, and ſwim for ſome days near the place it has been landed at. They copulate in the ſpring, in the ſame manner as the human kind, eſpecially in calm weather, towards the evening. The female ſwims gently about; the male purſues; till, tired with wantoning, ſhe flings herſelf on her back, and admits his embraces. Steller thinks they go with young about a year; it is certain that they bring but one young one at a time, which they ſuckle by two teats placed between the breaſt. They are vaſtly voracious and gluttonous; and feed not only on the fuci that grow in the ſea, but ſuch as are flung on the edges of the ſhore. When they are filled, they fall aſleep on their backs. During their meals, they are ſo intent on their food, that any one may go among them and chooſe which he likes beſt. Peter Martyr gives an inſtance of one that lived in a lake of Hiſpaniola for 25 years, and was ſo tame as to come to the edge of the ſhore on being called; and would even perform the part of a ferry, and carry ſeveral people at a time on its back to the oppoſite ſhore.—Their back and their ſides are generally above water.

They continue in the Kamtſchatkan and American ſeas the whole year; but in winter are very lean, ſo that you may count their ribs. They are taken by harpoons faſtened to a ſtrong cord; and after they are ſtruck, it requires the united force of 30 men to draw them on ſhore. Sometimes when they are transfixed, they will lay hold of the rocks with their paws, and ſtick ſo faſt as to leave the ſkin behind before they

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can be forced off. When a manati is ſtruck, its companions ſwim to its aſſiſtance; ſome will attempt to overturn the boat, by getting under it; others will preſs down the rope, in order to break it; and others will ſtrike at the harpoons with their tails, with a view of getting it out, in which they often ſucceed. They have not any voice; but make a noiſe by hard breathing like the ſnorting of a horſe.

The ſkin is very thick, black, and full of inequalities, like the bark of oak, and ſo hard as ſcarce to be cut with an axe, and has no hair on it: beneath the hair is a thick blubber, which taſtes like oil of almonds. The fleſh is coarſer than beef, and will not ſoon putrify. The young ones taſte like veal. The ſkin is uſed for ſhoes, and for covering the ſides of boats.

TRICHOMANES, in botany: a genus of plants belonging to the claſs of *cryptogamia*, and order of *filices*. The parts of fructification are ſolitary, and terminated by a ſtyle like a briſtle, on the very edge of the leaf. There are thirteen ſpecies; of which two are natives of Britain, the pixidiferum and tunbrigenſe. 1. *Pixidiferum*, or cup-trichomanes, has ſubbipinnated leaves, the pinnæ being alternate, cloſe-lobed, and linear. It is found among ſtones in wet grounds in England. 2. *Tunbrigenſe*, or Tunbridge trichomanes, has pinnated leaves, the pinnæ being oblong, dichotomous, decurrent, and dentated. It is found in the fiſſures of moiſt rocks in Wales, and in many rocky places in Scotland.

TRICOCCEÆ (τρεις "three," and κοκκος "a grain"), the name of the 38th order in Linnæus's Fragments of a Natural Method, conſiſting of plants with a ſingle three-cornered capſule, having three cells, or internal diviſions, each containing a ſingle ſeed. See BOTANY.

TRICOSANTHES, in botany: a genus of plants belonging to the claſs of *monœcia*, and order of *ſyngeneſia*; and in the natural ſyſtem ranging under the 34th order, *Cucurbitaceæ*. There are four ſpecies; only one of which is cultivated in the Britiſh gardens, the *anguina* or ſnake-gourd, which is a native of China, an annual, and of the cucumber tribe.

TRIDENT, an attribute of Neptune, being a kind of ſceptre which the painters and poets put into the hands of that god, in form of a ſpear or fork with three teeth; whence the word.

TRIENNIAL, an epithet applied chiefly to officers or employments which laſt for three years.

TRIENS, in antiquity, a copper money of the value of one third of an *as*, which on one ſide bore a Janus's head, and on the other a water rat.

TRIENTALIS, CHICKWEED WINTER-GREEN, in botany: a genus of plants belonging to the claſs of *heptandria*, and order of *monogynia*; and in the natural ſyſtem ranging under the 20th order, *Rotaceæ*. The calyx is heptaphyllous; the corolla is equal and plane, and is divided into ſeven ſegments; the berry is unilocular and dry. There is only one ſpecies, the *europæa*; which is indigenous, and the only genus of heptandria that is ſo. The ſtalk is ſingle, five or ſix inches high, terminated with five, ſix, or ſeven, oval pointed leaves; from the centre of which ariſe on long footſtalks commonly two white ſtarry flowers, each generally conſiſting of ſeven oval and equal petals, ſucceeded by a globular dry berry, covered with a thin white rind, having one cell, and containing ſeveral angular ſeeds.

TRIERS, or TREVES. See TREVES.

TRIFOLIUM, TREFOIL, or *Clover*, in botany: a genus of plants belonging to the claſs of *diadelphia*, and order of *decandria*; and in the natural ſyſtem ranging under the 32d order, *Papilionaceæ*. The flowers are generally in round heads; the pod is ſcarcely longer than the calyx, univalve, not opening, deciduous. The leaves are three together. According to Murray's edition of Linnæus, there are 46 ſpecies; of which 17 are natives of Britain. We ſhall deſcribe ſome of the moſt remarkable of theſe:

1. *Meliloti officinalis*, or melilot, has naked racemous pods, diſpermous, wrinkly, and acute, with an erect ſtalk. It grows in corn-fields and by the way-ſides, but not common. The ſtalk is erect, firm, ſtriated, branched, and two or three feet high: the leaves ternate, ſmooth, obtuſely oval, and ſerrated: the flowers are ſmall, yellow, pendulous, and grow in long cloſe ſpikes at the tops of the branches: the pod is very ſhort, turgid, tranſverſely wrinkled, pendulous, and contains either one or two ſeeds. The plant has a very peculiar ſtrong ſcent, and diſagreeable, bitter, acrid taſte, but ſuch, however, as is not diſagreeable to cattle. The flowers are ſweet-ſcented. It has generally been eſteemed emollient and digeſtive, and been uſed in fomentations and cataplaſms, particularly in the plaſter employed in dreſſing bliſters; but is now laid aſide, as its quality is found to be rather acrid and irritating than emollient or reſolvent. It communicates a moſt loathſome flavour to wheat and other grain, ſo as to render it unfit for making bread. It grows in corn-fields.

2. *Trifolium repens*, white creeping trefoil, or Dutch clover, has a creeping ſtalk, its flower gathered into an umbellar head, and its pods tetraſpermous. It is very common in fields and paſtures. It is well known to be excellent fodder for cattle; and the leaves are a good ruſtic hygrometer, as they are always relaxed and flaccid in dry weather, but erect in moiſt or rainy.

3. *Trifolium pratenſe*, purple or red clover, is diſtinguiſhed by denſe ſpikes, unequal corollas, by bearded ſtipulas, aſcending ſtalks, and by the calyx having four equal teeth. This is the botanical deſcription of this ſpecies given by Mr. Afzelius, who, in a paper of the firſt volume of the Linnæan Tranſactions, has been at much pains to remove three ſpecies of the trifolium from the confuſion in which they have been long involved; namely, the pratenſe, medium, and alpeſtre. The red clover is common in meadows and paſtures, and is the ſpecies which is generally cultivated as food for cattle. It abounds in every part of Europe, in North America, and even in Siberia. It delights moſt in rich, moiſt, and ſunny places; yet flouriſhes in dry, barren, and ſhady places. For an account of the mode of cultivating it, ſee HUSBANDRY.

4. *Alpeſtre*, long-leaved purple trefoil, or mountain clover, is thus characteriſed by Mr. Afzelius. The ſpikes are denſe; the corollas ſomewhat equal; the ſtipulas are briſtly and divergent; the leaflets lanceolated; the ſtalks ſtiff, ſtraight, and very ſimple. It grows in dry, mountainous, woody places, in Hungary, Auſtria, and Bohemia, &c.; but is not ſaid by Mr. Afzelius to be a native of Britain.

5. The *medium*, according to Mr. Afzelius, has alſo been confounded with the two ſpecies laſt mentioned; but it is to be diſtinguiſhed from them by having looſe ſpikes, corollas ſomewhat equal, ſtipulas ſubulate and connivent, and ſtalks flexuoſe and branched. It is found in dry elevated ſituations, eſpecially among ſhrubs, or in woods where the ſoil is chalky or clay, in England, Scotland, Sweden, Denmark, &c.

For a botanical deſcription of the other ſpecies of the trifolium, ſee Lightfoot's *Flora Scotica*, Berkenhout's Synopſis of the Natural Hiſtory of Great Britain and Ireland, and Withering's Botanical Arrangements.

TRIGA, in antiquity, denotes a kind of car or chariot drawn by three horſes; whence the name.

TRIGLA, in ichthyology, a genus of fiſhes belonging to the order of thoracici. The head is loricated with rough lines, and there are ſeven rays in the membranes of the gills. There are eleven ſpecies; of which the principal are the gurnardus,

or grey gurnard; the cuculus, or red gurnard; the lyra, or piper; and the hirundo, or ſapphirine gurnard.

TRIGLOCHIN, in botany: a genus of plants belonging to the claſs of *hexandria*, and order of *trigynia*; and in the natural ſyſtem ranging under the fifth order, *Tripetaloidæ*. The calyx is triphyllous; the petals are three; there is no ſtyle; the capſule opens at the baſe. There are three ſpecies; of which the paluſtre and maritimum are Britiſh. 1. *Paluſtre*, or arrow-headed graſs, has an oblong trilocular capſule. The ſtalk is ſimple, eight or ten inches high; the leaves long and narrow; the flowers are greeniſh, and grow at the end of a long ſpike. It is frequent in moiſt ground. 2. *Maritimum*, or ſea-ſpiked graſs, has ovate ſexlocular capſules; the ſtalk is ſhort; the ſpike long, and flowers purpliſh. It is frequent on the ſea-coaſts. Linnæus ſays that cattle eat theſe two ſpecies with avidity.

TRIGLYPHS, in architecture, a ſort of ornaments repeated at equal intervals, in the Doric freeze.

Dialing TRIGON. See DIALING.

TRIGONALIS. See PILA.

TRIGONELLA, FENUGREEK, in botany: a genus of plants belonging to the claſs of *diadelphia*, and order of *decandria*; and in the natural ſyſtem arranged under the 32d order, *Papilionaceæ*. The vexillum and alæ are nearly equal and patent, reſembling a tripetalous corolla. There are twelve ſpecies; of which the moſt remarkable is the *fœnumgræcum*, or fenugreek, a native of Montpelier in France. Fenugreek is an annual plant, which riſes with a hollow, branching, herbaceous ſtalk, a foot and a half long, garniſhed with trifoliate leaves, placed alternately, whoſe lobes are oblong, oval, indented on their edges, and have broad furrowed footſtalks. Fenugreek ſeeds have a ſtrong diſagreeable ſmell, and an unctuous farinaceous taſte accompanied with a ſlight bitteriſhneſs. The principal uſe of theſe ſeeds is in cataplaſms and fomentations, for ſoftening, maturating, and diſcuſſing tumors; and in emollient and carminative glyſters. They are an ingredient in the *oleum e mucilaginibus* of the ſhops, to which they communicate a conſiderable ſhare of their ſmell, but this is not now in uſe.

TRIGONOMETRY,

THE art of meaſuring the ſides and angles of triangles, either plane or ſpherical, whence it is accordingly called either PLANE TRIGONOMETRY, or SPHERICAL TRIGONOMETRY.

Trigonometry is an art of the greateſt uſe in the mathematical ſciences, eſpecially in aſtronomy, navigation, ſurveying, dialing, geography, &c. &c. By it we come to know the magnitude of the earth, the planets and ſtars, their diſtances, motions, eclipſes, and almoſt all other uſeful arts and ſciences. Accordingly we find this art has been cultivated from the earlieſt ages of mathematical knowledge.

Trigonometry, or the reſolution of triangles, is founded on the mutual proportions which ſubſiſt between the ſides and angles of triangles; which proportions are known by finding the relations between the radius of a circle and certain other lines drawn in and about the circle, called *cords*, *ſines*, *tangents*, and *ſecants*. The ancients, Menelaus, Hipparchus, Ptolemy, &c. performed their trigonometry by means of the cords. As to the ſines, and the common theorems relating to them, they were introduced into trigonometry by the Moors or Arabians, from whom this art paſſed into Europe, with ſeveral other branches of ſcience. The Europeans have introduced, ſince the 15th century, the tangents and ſecants, with the theorems relating to them.

The proportion of the ſines, tangents, &c. to their radius, is ſometimes expreſſed in common or natural numbers, which conſtitute what we call the *tables of natural ſines, tangents, and ſecants*. Sometimes it is expreſſed in logarithms, being the logarithms of the ſaid natural ſines, tangents, &c.; and theſe conſtitute the table of *artificial ſines*, &c. Laſtly, ſometimes the proportion is not expreſſed in numbers; but the ſeveral ſines, tangents, &c. are actually laid down upon lines of ſcales; whence the *line of ſines, of tangents*, &c.

In trigonometry, as angles are meaſured by arcs of a circle deſcribed about the angular point, ſo the whole circumference of the circle is divided into a great number of parts; as 360 degrees, and each degree into 60 minutes, and each minute into 60 ſeconds, &c.; and then any angle is ſaid to conſiſt of ſo many degrees, minutes, and ſeconds, as are contained in the arc that meaſures the angle, or that is intercepted between the legs or ſides of the angle.

Now the ſine, tangent, and ſecant, &c. of every degree and minute, &c. of a quadrant, are calculated to the radius 1, and ranged in tables for uſe; as alſo the logarithms of the ſame; forming the triangular canon. And theſe numbers, ſo arranged in tables, form every ſpecies of right-angled triangles; ſo that no ſuch triangle can be propoſed, but one ſimilar to it may be there found, by compariſon with which the propoſed one may be computed by analogy or proportion.

PLANE TRIGONOMETRY.

THERE are uſually three methods of reſolving triangles, or the caſes of trigonometry; viz. geometrical conſtruction, arithmetical computation, and inſtrumental operation. In the firſt method, the triangle in queſtion is conſtructed by drawing and laying down the ſeveral parts of their magnitudes given, viz. the ſides from a ſcale of equal parts, and the angles from a ſcale of cords or other inſtrument; then the unknown parts are meaſured by the ſame ſcales, and ſo they become known.

In the ſecond method, having ſtated the terms of the proportion according to rule, which terms conſiſt partly of the numbers of the given ſides, and partly of the ſines, &c. of angles taken from the tables, the proportion is then reſolved like all other proportions, in which a fourth term is to be found from three given terms, by multiplying the ſecond and third together, and dividing the product by the firſt. Or, in working with the logarithms, adding the logarithm of the

ſecond and third terms together, and from the ſum ſubtracting the logarithm of the firſt term; then the number anſwering to the remainder is the fourth term ſought.

To work a caſe inſtrumentally, as ſuppoſe by the logarithm lines on one ſide of the two foot ſcales: Extend the compaſſes from the firſt term to the ſecond or third, which happens to be of the ſame kind with it; then that extent will reach from the other term to the fourth. In this operation, for the ſides of triangles, is uſed the line of numbers (marked Num.); and for the angles, the line of ſines or tangents (marked ſin. and tan.) according as the proportion reſpects ſines or tangents. See SECTOR.

In every caſe of plane triangles there muſt be three parts, one at leaſt of which muſt be a ſide. And then the different circumſtances, as to the three parts that may be given, admit of three caſes or varieties only; viz.

Firſt, When two of the three parts given are a ſide and its oppoſite angle. Second, When there are given two ſides and their contained angle. And, thirdly, When the three ſides are given.

To each of theſe caſes there is a particular rule or proportion adapted for reſolving it by.

Firſt, *The rule for the firſt Caſe*, or that in which, of the three parts that are given, an angle and its oppoſite ſide are two of them, is this, viz. that the ſides are proportional to the ſines of their oppoſite angles; that is,

As one ſide given :
To the ſine of its oppoſite angle : :
So is another ſide given :
To the ſine of its oppoſite angle.

Or, As the ſine of an angle given :
To its oppoſite ſide : :
So is the ſine of another angle given :
To its oppoſite ſide.

So that, to find an angle, we muſt begin the proportion with a given ſide that is oppoſite to a given angle; and to find a ſide, we muſt begin with an angle oppoſite to a given ſide.

Example. Suppoſe in the triangle BDC (Pl. 1. fig. 1.) there be given the ſide BC = 106, DB = 65, and the angle BCD 31° 49′ given; to find the angle BDC obtuſe and the ſide CD.

1. *Geometrically by Conſtruction.*

Draw the line BC equal to 106, at C make an angle of 31° 49′ by drawing CD, take 65 in your compaſſes, and with one foot in B lay the other upon the line CD in D; draw the line BD, and it is done; for the angle D will be 120° 43′, the angle B 27° 28′, and the ſide DC 56.9 as was required.

2. *Arithmetically by Logarithms.*

As the ſide BD 65	log.	1.81291
Is to ſine angle C 31° 49′		9.72198
So is the ſide BC 106		2.02531
		11.74729
		1.81291
To ſine angle D 120° 43′		9.93438

To find DC.		
As ſine ang. C 31° 49′	9.72198	
Is to the ſide BD 65	1.81291	
So is ſine ang. B 27. 28	966392	
	11.47683	
	9.72198	
To the ſide DC 56. 88	1.75485	

180.0	
The ſupp. 59.17 of ang. D,	
120.43 angle D.	
31.49 angle C.	
152.32 their ſum.	
180.0	
152.32 ſum ſubt.	
27.28 angle B.	

Here it may be proper to obſerve, that if the given angle be obtuſe, the angle ſought will be acute; but when the given angle is acute, and oppoſite to a leſſer given ſide, then the required angle is doubtful, whether acute or obtuſe; it ought therefore to be determined before the operation. For it is plain the above proportion produces 59° 17′ for the required angle; but as it is obtuſe, its ſupplement to 180 degrees muſt be taken, viz. 120° 43′.

By Gunter.

"The extent from 65 to 106 on the line of numbers will reach from 31° 49′ to 59° 17′ on the line of ſines."

Secondly, "The extent from 31° 49′ to 27° 28 on the line of ſines will reach from 65 to 56.88 on the line of numbers."

CASE II. When there are given two ſides and their contained angle, to find the reſt, the rule is this:

As the ſum of the two given ſides :
Is to the difference of the ſides : :
So is the tangent of half the ſum of the two oppoſite angles or cotangent of half the given angle :
To tang. of half the diff. of thoſe angles.

Then the half diff. added to the half ſum, gives the greater of the two unknown angles; and ſubtracted leaves the leſs of the two angles.

Hence, the angles being now all known, the remaining third ſide will be found by the former caſe.

Example. The ſide BC = 109, BD = 76 (fig. 2.), and the angle CBD 101° 30′ given, to find the angle BDC or BCD, and the ſide CD.

1. *Geometrically by Conſtruction.*

Draw the line BC 109, and BD, ſo as to make an angle with BC of 101° 30′, and make BD equal to 76; join BC and BD with a right line, and it is done; for the angle D being meaſured by the cord of 60°, will be 47° 32′, angle C 30° 58′, and the ſide DC 144.8, as was required.

2. *Arithmetically by Logarithms.*

Side BC	109	- 109 -	180° 0′	
BD	76	- 76 -	101 30	
Their ſum	185	33 their diff.	78 30	ſum of the ang. D and C
			½ Sum 39 15	then

To find the angles D and C.

As the ſum of the ſides BC and BD = 185	2.26717
Is to their difference - - 33	1.51851
So is tang. of ½ the ſum of the angles C and D 39° 15′	9.91224
	11.43075
	2.26717
To the tang. of ½ the diff. of the angles C and D 8° 17′	9.16358
To half the ſum of the angles D and C -	39° 15
Add half the difference of the angles C and D	8 17
Gives the greater angle D	47 32
Subtracted, gives the leſſer angle C	30 58

To find DC.

As ſine angle D 47° 32′ - -	9.86786
Is to the ſide BC 109 - -	2.03743
So is ſine angle B 101° 30′ - -	9.99119
	12.02862
	9.86786
To the ſide DC required 144.8 -	2.16076

3. *By Gunter.*

1ſt, "The extent from 185 to 33 on the line of numbers will reach from 39° 15′ to 8° 17′ on the line of tangents. 2dly, The extent from angle D 47° 32′ to 78° 30′ (the ſupplement of angle B) on the line of ſines, will reach from the ſide BC 109 to 144.8, the ſide DC required, on the line of numbers."

CASE III. Is when the three ſides are given, to find the three angles; and the method of reſolving this caſe is, to let a perpendicular fall from the greateſt angle upon the oppoſite ſide or baſe, dividing it into two ſegments, and the whole triangle into two ſmaller right-angled triangles: then it will be,

As the baſe or ſum of the two ſegments :
Is to the ſum of the other two ſides : :
So is the difference of thoſe ſides :
To the difference of the ſegments of the baſe.

Then half this difference of the two ſegments added to the half ſum, or half the baſe, gives the greater ſegment, and ſubtracted gives the leſs. Hence, in each of the two right-angled triangles, there are given the hypothenuſe, and the baſe, beſides the right angle, to find the other angles by the firſt caſe.

Example. The ſides BC (fig. 3.) = 105, BD = 85, and CD = 50, given to find the angles BDC, BCD, or CBD.

1. *Geometrically by Conſtruction.*

Draw the line BC equal to 105, take CD 50 in your compaſſes, and with one foot in C deſcribe an arch; then take BD 85 in your compaſſes, and with one foot in B cut the former arch in D, join BD and DC, and it is done; for the angle B, being meaſured, will be found 28° 4′, angle C 53° 7′, which being added together, is 81° 11′, their ſum ſubtracted from 180, leaves angle D 98° 49′ as was required.

2. *Arithmetically by Logarithms.*

The two ſhorteſt ſides are BD (= 85) and CD (= 50), the ſum of which is 135, and their difference 35. The ſegments of the baſe BC are found in this manner:

As the ſide BC	= 105	log. 2.02119
Is to the ſum of the ſides BD & DC	= 135	2.13033
So is their difference	= 35	1.54407
To the difference of the ſeg. of BC	= 45	1.65321

Thus the ſum and difference of the ſegments of the baſe BC being known, we have only to add half this ſum = 52½ to half the difference = 22½, and we ſhall obtain the greater ſegment, which is = 75; which ſubtracted from 105, gives 30 = the ſmaller ſegment. Then

To find the angle BDA.

As the Hypothenuſe BD	= 85	log. 1.92942
Is to radius	=	10.00000
So is the greater ſegment	= 75	1.87506
To the ſum of the angle BDA	=	9.94564

The angle BDA therefore is equal to 61° 56′

Let us now find the angle ADC, which is done thus.

As the hypothenuſe DC	= 50	log. 1.69897
Is to radius	=	10.00000
So is the ſmaller ſegment	= 30	1.47712
To the ſine of ADC	=	9.77815

The angle ADC therefore is equal to 36° 53′, and the whole angle BDC = 98° 49′.

To find the angle at B, we have only to ſubtract the angle BDA (=61° 56′) from 90°, and the rem. 28° 4′ is the angle ſought. The angle at C is equal to 53° 7′.

3. *By Gunter.*

1ſt, "The extent from 105 to 135, will reach from 35 to 45 on the line of numbers." 2dly, "The extent from 85 to 75, on the line of numbers, will reach from radius to 61° 56′, the angle BDA on the line of ſines." 3dly, "The extent from 50 to 30 on the line of numbers, will reach from radius to angle ADC 36° 53′ on the line of ſines."

The foregoing three caſes include all the varieties of plane triangles that can happen, both of right and oblique-angled triangles. But beſides theſe, there are ſome other theorems that are uſeful upon many occaſions, or ſuited to ſome particular forms of triangles, which are often more expeditious in uſe than the foregoing general ones; one of which, for right-angled triangles, as the caſe for which it ſerves ſo often occurs, may be here inſerted, and is as follows.

CASE IV. When in a right-angled triangle, there are given the angles and one leg, to find the other leg, or the hypothenuſe. Then it will be

As radius :
To given leg AB : :
So is tang. adjacent the angle A :
To the oppoſite leg BC, and : :
So is ſec. of ſame angle A :
To hypot. AC.

Example. In the triangle ABC (fig. 4.), right-angled at B,

Given the leg AB = 162
and the angle A = 53° 7′ 48″ } to find BC and AC.
conſeq. the angle C = 36 52 12

1. *Geometrically.*—Draw the leg AB = 162: erect the indefinite perpendicular BC: make the angle A = 53°$\frac{1}{8}$, and the ſide AC will cut BC in C, and form the triangle ABC. Then by meaſuring, there will be found AC = 270, and BC=216.

2. *Arithmetically.*

As radius	= 10	log. 10.0000000
To AB	= 162	2.2095150
So is tang. A	= 53° 7′ 48″	10.1249372
To BC	= 216	2.3344522
So is ſec. A	= 53° 7′ 48″	10.2218477
To AC	= 270	2.4313627

3. *By Gunter.*

Extend the compaſſes from 45° at the end of the tangents (the radius) to the tangent of 53°$\frac{1}{8}$; then that extent will reach, on the line of numbers, from 162 to 216, for BC. Again, extend the compaſſes from 36° 52′ to 90 on the ſines; then that extent will reach, on the line of numbers, from 162 to 270 for AC.

Note, Another method, by making every ſide radius, is often added by the authors on trigonometry, which is thus: the given right-angled triangle being ABC, make firſt the hypothenuſe AC radius, that is, with the extent of AC as a radius, and each of the centres A and C, deſcribe arcs CD and AE (fig. 5.); then it is evident that each leg will repreſent the ſine of its oppoſite angle, viz. the leg BC the ſine of the arc CD or of the angle A, and the leg AB the ſine of the arc AE or of the angle C. Again, making either leg radius, the other leg will repreſent the tangent of its oppoſite angle, and the hypothenuſe the ſecant of the ſame angle; thus, with radius AB and centre A deſcribing the arc BF, BC repreſents the tangent of that arc, or of the angle A, and the hypothenuſe AC the ſecant of the ſame; or with the radius BC and centre C deſcribing the arc BG, the other leg AB is the tangent of that arc BG or of the angle C, and the hypothenuſe CA the ſecant of the ſame.

And then the general rule for all theſe caſes is this, *viz*, that the ſides bear to each other the ſame proportions as the parts or things which they repreſent. And this is called making every ſide radius.

SPHERICAL TRIGONOMETRY.

Spherical Trigonometry is the art whereby, from three given parts of a ſpherical triangle, we diſcover the reſt; and, like plane trigonometry, is either right-angled or oblique-angled. But before we give the analogies for the ſolution of the ſeveral caſes in either, it will be proper to premiſe the following theorems:

Theorem I. In all right-angled ſpherical triangles, the ſign of the hypothenuſe : radius : : ſine of a leg : ſine of its oppoſite angle. And the ſine of a leg : radius : : tangent of the other leg : tangent of its oppoſite angle.

Demonſtration. Let EDAFG (*ibid.* fig. 6.) repreſent the eighth part of a ſphere, where the quadrantal plancs EDFG, EDBC, are both perpendicular to the quadrantal plane ADFB; and the quadrantal plane ADGC is perpendicular to the plane EDFG; and the ſpherical triangle AEC is right-angled at B, where CA is the hypothenuſe, and BA, BC, are the legs.

To the arches GF, CB, draw the tangents HF, OB, and the ſines GM, CI, on the radii DF, DB; alſo draw BL the ſine of the arch AB, and CK the ſine of AC; and then join IK and OL. Now HF, OB, GM, CI, are all perpendicular to the plane ADFB. And HD, GK, OL, lie all in the ſame plane ADGC. Alſo FD, IK, BL, lie all in the ſame plane ADGC. Therefore the right-angled triangles HFD, CIK, ODL, having the equal angles HDF, CKI, OLB, are ſimilar. And CK : DG : : CI : GM; that is, as the ſine of the hypotheneuſe : rad. : : ſine of a leg : ſine of its oppoſite angle. For GM is the ſine of the arc GF, which meaſures the angle CAB. Alſo, LB : DF : : BO : FH : that is, as the ſine of a leg : radius : : tangent of the other leg : tangent of its oppoſite angle. Q. E. D.

Hence it follows, that the ſines of the angles of any oblique ſpherical triangle ACD (fig. 7.) are to one another, directly, as the ſines of the oppoſite ſides. Hence it alſo follows, that, in right-angled ſpherical triangles, having the ſame perpendicular, the ſines of the baſes will be to each other, inverſely, as the tangents of the angles at the baſes.

Theorem II. In any right-angled ſpherical triangle ABC (fig. 8.) it will be, As radius is to the co-ſine of one leg, ſo is the co-ſine of the other leg to the co-ſine of the hypothenuſe.

Hence, if two right-angled ſpherical triangles ABC, CBD fig. 7.) have the ſame perpendicular BC, the co-ſines of their hypothenuſes will be to each other, directly, as the co-ſines of their baſes.

Theorem III. In any ſpherical triangle it will be, As radius is to the ſine of either angle, ſo is the co-ſine of the adjacent leg to the co-ſine of the oppoſite angle.

Hence, in right-angled ſpherical triangles, having the ſame perpendicular, the co-ſines of the angles at the baſe will be to each other, directly, as the ſines of the vertical angles.

Theorem IV. In any right-angled ſpherical triangle it will be, As radius is to the co-ſine of the hypothenuſe, ſo is the tangent of either angle to the co-tangent of the other angle.

As the ſum of the ſines of two unequal arches is to their difference, ſo is the tangent of half the ſum of thoſe arches to the tangent of half their difference: and as the ſum of the co-ſines is to their difference, ſo is the co-tangent of half the ſum of the arches to the tangent of half the difference of the ſame arches.

Theorem V. In any ſpherical triangle ABC (fig. 9. and 10.) it will be, As the co-tangent of half the ſum of half their difference, ſo is the co-tangent of half the baſe to the tangent of the diſtance (DE) of the perpendicular from the middle of the baſe.

Since the laſt proportion, by permutation, becomes co-tang. $\frac{AC+BC}{2}$: co-tang. AE : : tang. $\frac{AC-BC}{2}$: tang. DE, and as the tangents of any two arches are, inverſely, as their co-tangents; it follows, therefore, that tang. AE : tang. $\frac{AC+BC}{2}$: : tang. $\frac{AC-BC}{2}$: tang. DE; or, that the tangent of half the baſe is to the tangent of half the ſum of the ſides, as the tangent of half the difference of the ſides to the tangent of the diſtance of the perpendicular from the middle of the baſe.

Theorem VI. In any ſpherical triangle ABC (fig. 9.) it will be, As the co-tangent of half the ſum of the angles at the baſe is to the tangent of half their difference, ſo is the tangent of half the vertical angle to the tangent of the angle which the perpendicular CD makes with the line CF biſecting the vertical angle.

The following propoſitions and remarks, concerning ſpherical triangles (ſelected and communicated to Dr. Hutton by the Reverend Nevil Maſkelyne, D. D. Aſtronomer Royal, F. R. S.), will alſo render the calculation of them perſpicuous, and free from ambiguity.

1. A ſpherical triangle is equilateral, iſoſcelar, or ſcalene, according as it has its three angles all equal, or two of them equal, or all three unequal; and *vice verſa*.

2. The greateſt ſide is always oppoſite the greateſt angle, and the ſmalleſt ſide oppoſite the ſmalleſt angle.

3. Any two ſides taken together are greater than the third.

4. If the three angles are all acute, or all right, or all obtuſe; the three ſides will be, accordingly, all leſs than 90°, or equal to 90°, or greater than 90°; and *vice verſa*.

5. If from the three angles A, B, C, of a triangle ABC, as poles, there be deſcribed, upon the ſurface of the ſphere, three arches of a great circle DE, DF, FE, forming by their interſections a new ſpherical triangle DEF; each ſide of the new triangle will be the ſupplement of the angle at its pole; and each angle of the ſame triangle will be the ſupplement of the ſide oppoſite to it in the triangle ABC.

6. In any triangle ABC, or AbC, right-angled in A, 1ſt, The angles at the hypothenuſe are always of the ſame kind as their oppoſite ſides; 2dly, The hypothenuſe is leſs or greater than a quadrant, according as the ſides including the right angle are of the ſame or different kinds; that is to ſay, according as theſe ſame ſides are either both acute or both obtuſe, or as one is acute and the other obtuſe. And *vice verſa*, 1ſt, The ſides including the right angle are always of the ſame kind as their oppoſite angles: 2dly, The ſides including the right angle will be of the ſame or different kinds, according as the hypothenuſe is leſs or more than 90°; but one at leaſt of them will be of 90°, if the hypothenuſe is ſo.

The Solution of the Cases of right-angled ſpherical Triangles (fig. 8.)

Caſe	Given	Sought	Solution
1	The hyp. AC and one angle A	The oppoſite leg BC	As radius : ſine hyp. AC : : ſine A : ſine BC (by the former part of theor. 1)
2	The hyp. AC and one angle A	The adjacent leg AB	As radius : co-ſine of A : : tang. AC : tang. AB (by the latter part of theor. 1.)
3	The hyp. AC and one angle A.	The other angle C	As radius : co-ſine of AC : : tang. A : co-tang. C (by theorem 4.)
4	The hyp. AC and one leg AB	The other leg BC	As co-ſine AB : radius : : co-ſine AC : co-ſine BC (by theorem 2.)
5	The hyp. AC and one leg AB	The oppoſite angle C	As ſine AC : radius : : ſine AB : ſine C (by the former part of theorem 1.)
6	The hyp. AC and one leg AB	The adjacent angle A	As tang. AC : tang. AB : : radius : co-ſine A (by theorem 1.)
7	One leg. AB and the adjacent angle A	The other leg BC	As radius : ſine AB : : tangent A : tangent BC (by theorem 4)
8	One leg AB and the adjacent angle A	The oppoſite angle C	As radius : ſine A : : co-ſine of AB : co ſine of C (by theorem 3.)
9	One leg AB and the adjacent angle A	The hyp. AC	As co-ſine of A : radius : : tang AB : tang. AC (by theorem 1.)
10	One leg BC and the oppoſite angle A	The other leg AB	As tang. A : tang. BC : : radius : ſine AB (by theorem 4.)
11	One leg BC and the oppoſite angle A	The adjacent angle C	As co-ſine BC : radius : : co-ſine of A . ſine C (by theorem 3.)
12	One leg BC and the oppoſite angle A	The hyp. AC	As ſine A : ſine BC : : radius : ſine AC (by theorem 1.)
13	Both legs AB and BC	The hyp. AC	As radius : co-ſine AB : : co-ſine BC : co-ſine AC (by theorem 2.)
14	Both legs AB and BC	An angle, ſuppoſe A	As ſine AB : radius : : tang. BC : tang. A (by theorem 4.)
15	Both angles A and C.	A leg, ſuppoſe AB	As ſine A : co-ſine C : : radius : co-ſine AB (by theorem 3.)
16	Both angles A and C	The hyp. AC	As tang. A : co-tang. C : : radius : co-ſine AC (by theorem 4.)

Note, The 10th, 11th, and 12th caſes are ambiguous : ſince it cannot be determined by the data, whether ABC, and AC, be greater or leſs than 90° degrees each.

The Solution of the CASES of oblique ſpherical TRIANGLES (fig. 9 and 10.)

Caſe	Given	Sought	Solution
1	Two ſides AC, BC, and an angle A oppoſite to one of them	The angle B oppoſite to the other.	As ſine BC : ſine A : : ſine AC : ſine B (by theorem 1.) Note, this caſe is ambiguous when BC is leſs than AC; ſince it cannot be determined from the data whether B be acute or obtuſe.
2	Two ſides AC, BC, and an angle A oppoſite to one of them	The included angle ACB	Upon AB produced (if need be) let fall the perpendicular CD; then (by theorem 4.) rad. : co-ſine AC : : tang. A : co-tang. ACD; but (by theorem 1.) as tang. BC : tang. AC : : co-ſine ACD : co-ſine BCD. Whence ACB = ACD ± BCD is known.
3	Two ſides AC, BC, and anangle A oppoſite to one of them	The other ſide AB	As rad. : co-ſine A : : tang. AC : tang. AD (by theor. 1.) and (by theor. 2.) as co-ſine AC : co-ſine BC : : co-ſine AD : co-ſine BD. Note, this and the laſt caſe are both ambiguous when the firſt is ſo.
4	Two ſides AC, AB, and the included angle A	The other ſide BC	As rad. : co-ſine A : : tang. AC : tang. AB (by theor. 1.) whence AD is alſo known; then (by theor. 2.) as co-ſine AD : co-ſine BD : : co-ſine AC : co-ſine BC.
5	Two ſides AC, AB, and the included angle A	Either of the other angles, ſuppoſe B	As rad. : co-ſine A : : tang. AC : tang. AD (by theor. 1.) whence BD is known; then (by theor. 4.) as ſine BD : ſine AD : : tang A : tang. B.
6	Two angles A, ACB, and the ſide AC betwixt them	The other angle B	As rad. : co-ſine AB : : tang. A : co-tang. ACD (by theorem 4.) whence BCD is alſo known; then (by theor. 3.) as ſine ACD : ſine BCD : : co-ſine A : co-ſine B.
7	Two angles A, ACB, and the ſide AC betwixt them	Either of the other ſides, ſuppoſe BC	As rad. : co-ſine AC : : tang. A : co-tang. ACD (by theorem 4.) whence BCD is alſo known: then, as co-ſine BCD : co-ſine ACD : : tang. AC : tang. BC (by theor 1.)
8	Two angles A, B, and a ſide AC oppoſite to one of them	The ſide BC oppoſite the other	As ſine B : ſine AC : : ſine A : ſine BC (by theorem 1.)
9	Two angles A, B, and a ſide AC oppoſite to one of them	The ſide AB betwixt them	As rad. : co-ſine A : : tang. AC : tang. AD (by theor. 1.) and as tang. B : tang. A : : ſine AD : ſine BD (by theor. 4.) whence AB is alſo known.
10	Two angles A, B, and a ſide AC oppoſite to one of them	The other angle ACB	As rad. : co-ſine AC : : tang. A : co-tang. ACD (by theorem 4.) and as co-ſine A : co-ſine B : : ſine ACD : ſine BCD (by theor. 3.) whence ACB is alſo known.
11	All the three ſides AB, AC, and BC	An angle, ſuppoſe A	As tang. $\frac{1}{2}$AB : tang. $\frac{AC+BC}{2}$: : tang. $\frac{AC-BC}{2}$: tang. DE the diſtance of the perpendicular from the middle of the baſe (by theorem 6.) whence AD is known: then, as tang. AC : tang. AD : : rad. : co-ſine A (by theor. 1.)
12	All the three angles A, B, and ACB	A ſide, ſuppoſe AC	As co-tang. $\frac{ABC+A}{2}$: tang. $\frac{ABC-A}{2}$: : tang. $\frac{ACB}{2}$: tang. of the angle included by the perpendicular and a line biſecting the vertical angles; whence ACD is alſo known: then (by theorem 5.) tang. A : co-tang. ACD : : rad. : co-ſine AC.

TRI

TRIHILATÆ, from *tres*, "three," and *hilum*, "an external mark on the ſeed;" the name of the 23d claſs in Linnæus's Fragments of a Natural Method; conſiſting of plants with three ſeeds, which are marked with an external cicatrix or ſcar, where they are faſtened within the fruit. See BOTANY.

TRIM, implies in general the ſtate or diſpoſition by which a ſhip is beſt calculated for the ſeveral purpoſes of navigation. Thus the *trim of the hold* denotes the moſt convenient and proper arrangement of the various materials contained therein relatively to the ſhip's motion or ſtability at ſea. The trim of the maſts and ſails is alſo their moſt appoſite ſituation with regard to the conſtruction of the ſhip and the effort of the wind upon her ſails. See SEAMANSHIP.

TRINGA, SANDPIPER; a genus of birds belonging to the order of *grallæ*. The bill is ſomewhat tapering, and of the length of the head; the noſtrils are ſmall; the toes are four in number and divided, the hind toe being frequently raiſed from the ground. According to Dr. Latham there are forty-five ſpecies, of which eighteen are Britiſh. We ſhall deſcribe ſome of the moſt remarkable.

1. *Vanellus*, lapwing, or tewit, is diſtinguiſhed by having

the bill, crown of the head, creſt, and throat, of a black colour; there is alſo a black line under each eye; the back is of a purpliſh green; the wings and tail are black and white, and the legs red: the weight is eight ounces and the length thirteen inches. It lays four eggs, making a ſlight neſt with a few bents. The eggs have an olive caſt, and are ſpotted with black. The young, as ſoon as hatched, run like chickens: the parents ſhow remarkable ſolicitude for them, flying with great anxiety and clamour near them, ſtriking at either men or dogs that approach, and often fluttering along the ground like a wounded bird, to a conſiderable diſtance from their neſt, to delude their purſuers; and to aid the deceit, they become more clamorous when moſt remote from it: the eggs are held in great eſteem for their delicacy, and are ſold by the London poulterers for three ſhillings the dozen. In winter, lapwings join in vaſt flocks; but at that ſeaſon are very wild: their fleſh is very good, their food being inſects and worms. During October and November, they are taken in the fens in nets, in the ſame manner that ruffs are; but are not preſerved for fattening, being killed as ſoon as caught.

2. *Pugnax.* The male of this ſpecies is called *ruff*, and the female *reeve*. The name *ruff* is given to the males becauſe they are furniſhed with very long feathers, ſtanding out in a remarkable manner, not unlike the ruff worn by our anceſtors. The ruff is of as many different colours as there are males; but in general it is barred with black; the weight is ſix or ſeven ounces; the length one foot. The female, or *reeve*, has no ruff; the common colour is brown; the feathers are edged with a very pale colour; the breaſt and belly white. Its weight is about four ounces.

Theſe birds appear in the fens in the earlieſt ſpring, and diſappear about Michaelmas. The reeves lay four eggs in a tuft of graſs, the firſt week in May, and ſit about a month. The eggs are white, marked with large ruſty ſpots. Fowlers avoid in general the taking of the females; not only becauſe they are ſmaller than the males, but that they may be left to breed.

Soon after their arrival, the males begin to hill, that is, to collect on ſome dry bank near a ſplaſh of water, in expectation of the females, who reſort to them. Each male keeps poſſeſſion of a ſmall piece of ground, which it runs round till the graſs is worn quite away, and nothing but a naked circle is left. When a female lights, the ruffs immediately fall to fighting. It is a vulgar error, that ruffs muſt be fed in the dark leſt they ſhould deſtroy each other by fighting on admiſſion of light. The truth is, every bird takes its ſtand in the room as it would in the open fen. If another invades its circle, an attack is made, and a battle enſues. They make uſe of the ſame action in fighting as a cock, place their bills to the ground and ſpread their ruffs. Mr. Pennant ſays, he has ſet a whole room-full a fighting, by making them move their ſtations; and after quitting the place, by peeping through a crevice, ſeen them reſume their circles and grow pacific.

When a fowler diſcovers one of thoſe hills, he places his net over night, which is of the ſame kind as thoſe that are called *clap* or *day nets*; only it is generally ſingle, and is about fourteen yards long and four broad. The fowler reſorts to his ſtand at day-break, at the diſtance of one, two, three, or four hundred yards from the nets, according to the time of the ſeaſon; for the later it is, the ſhyer the birds grow. He then makes his firſt pull, taking ſuch birds as he finds within reach: after that he places his ſtuffed birds or ſtales to entice thoſe that are continually traverſing the fen. When the ſtales are ſet, ſeldom more than two or three are taken at a time. A fowler will take forty or fifty dozen in a ſeaſon.—Theſe birds are found in Lincolnſhire, the iſle of Ely, and in the Eaſt Riding of York. They viſit a place called *Martin-Mere* in Lancaſhire the latter end of March or beginning of April; but do not continue there above three weeks; where they are taken in nets, and fattened for the table with bread and milk, hempſeed, and ſometimes boiled wheat; but if expedition is required, ſugar is added, which will make them in a fortnight's time a lump of fat: they then ſell for two ſhillings or half a crown a-piece. They are dreſſed like the woodcock, with their inteſtines; and when killed at the critical time, ſay the Epicures, are the moſt delicious of all morſels.

3. *Canutus*, or knot, has the forehead, chin, and lower part of the neck, brown, inclining to aſh-colour; the back and ſcapulars deep brown, edged with aſh-colour; the coverts of the wings white, the edges of the lower order deeply ſo, forming a white bar; the breaſt, ſides, and belly, white, the two firſt ſtreaked with brown; the coverts of the tail marked with white and duſky ſpots alternately; the tail aſh-coloured, the outmoſt feather on each ſide white; the legs of a bluiſh grey; and the toes as a ſpecial mark, divided to the very bottom; the weight four ounces and a half.—Theſe birds, when fattened, are preferred by ſome to the ruffs themſelves. They are taken in great numbers on the coaſts of Lincolnſhire, in nets ſuch as are employed in taking ruffs; with two or three dozens of ſtales of wood painted like the birds, placed within; 14 dozens have been taken at once. Their ſeaſon is from the beginning of Auguſt to that of November. They diſappear with the firſt froſts. Camden ſays, they derive their name from King Canute, Knute, or Knout, as he is ſometimes called; probably becauſe they were a favourite diſh with that monarch. We know that he kept the feaſt of the purification of the Virgin Mary with great pomp and magnificence at Ely; and this being one of the fen birds, it is not unlikely but he met with it there.

4. The *hypoleucos*, or common ſandpiper, except in pairing time, is a ſolitary bird: it is never found near the ſea, but frequents rivers, lakes, and other freſh waters. Its head is brown, ſtreaked with downward black lines; the neck an obſcure aſh-colour; the back and coverts of the wings brown, mixed with a gloſſy green, elegantly marked with tranſverſe duſky lines; the breaſt and belly are of a pure white; the quill feathers and the middle feathers of the tail are brown; the legs of a dull pale green.

5. The *alpina*, or dunling ſandpiper, is at once diſtinguiſhed from the others by the ſingularity of its colours. The back, head, and upper part of the neck, are ferruginous, marked with large black ſpots; the lower part of the neck white, marked with ſhort duſky ſtreaks; the coverts of the wings aſh-colour; the belly white, marked with large black ſpots, or with a black creſcent pointing towards the thighs; the tail is aſh-coloured; legs black; toes divided to their origin. In ſize it is ſuperior to that of a lark. Theſe birds are found on our ſea-coaſts: but may be reckoned among the more rare kinds. They lay four eggs of a dirty white colour, blotched with brown round the thicker end, and marked with a few ſmall ſpots of the ſame colour on the ſmaller end. They are common on the Yorkſhire coaſts, and eſteemed a great delicacy.

6. The *cinclus*, purre, or ſtint, is in length 7½ inches; the head and hind part of the neck are aſh-coloured, marked with duſky lines; a white ſtroke divides the bill and eyes; the back is of a browniſh aſh-colour; the breaſt and belly white; the coverts of the wings and tail a dark brown, edged with light aſh-colour or white; the upper part of the quill feathers duſky, the lower white; the legs of a duſky green; the toes divided to their origin. The bill an inch and a half long, ſlender and black; irides duſky.—Theſe

birds come in prodigious flocks on our ſea-coaſts during the winter: in their flight they perform their evolutions with great regularity; appearing like a white or a duſky cloud, as they turn their backs or their breaſts towards you. They leave our ſhores in ſpring, and retire to ſome unknown place to breed. They were formerly a well known diſh at our tables.

TRINIDAD, an Iſland in the gulf of Mexico, ſeparated from New Andaluſia, in Terra Firma, by a ſtrait, about three miles over. The ſoil is fruitful, producing ſugar, cotton, Indian corn, fine tobacco, and fruits; but the air is unhealthy. It is about 62 miles in length, and 45 in breadth; and was diſcovered by Chriſtopher Columbus in 1498. There is a bituminous lake in this iſland.

TRINITARIANS, thoſe who believe in the Trinity: thoſe who do not believe therein being called *Antitrinitarians*

TRINITY, in theology, the ineffable myſtery of three perſons in one God; Father, Son, and Holy Spirit. See THEOLOGY.

TRINITY-*Houſe*. See LONDON.

TRINITY-*Sunday*, a feſtival obſerved on the Sunday next after Whitſunday, in honour of the holy Trinity. The obſervation of this feſtival was firſt enjoined in the council of Arles, anno 1260.

TRINOBANTES (anc. geog.) a people of Britain, ſuppoſed to have occupied Middleſex and Eſſex.

TRIO, in muſic, a part of a concert wherein three perſons ſing; or, more properly, a muſical compoſition conſiſting of three parts.

TRIPHTHONG, in grammar, an aſſemblage or concourſe of three vowels in one ſyllable; as *quæ*.

TRIPLE, in muſic, is one of the ſpecies of meaſure or time. See MUSIC.

TRIPOD, in antiquity, a famed ſacred ſeat or ſtool, ſupported by three feet, whereon the prieſts and ſybils were placed to render oracles. It was on the tripod that the gods were ſaid to inſpire the Pythias with that divine fury and enthuſiaſm wherewith they were ſeized at the delivery of their predictions.

TRIPOLI, a country of Africa, in Barbary: bounded on the north by the Mediterranean ſea; on the ſouth, by the country of the Beriberies; on the weſt, by the kingdom of Tunis, Biledulgerid, and a territory of the Gadamis; and on the eaſt, by Egypt. It is about 925 miles along the ſea coaſt; but the breadth is various. Some parts of it are pretty fruitful; but that towards Egypt is a ſandy deſert. It had the title of a *kingdom*; but is now a republic governed by a dey. He is not abſolute, for a Turkiſh baſhaw reſides here, who receives his authority from the grand ſeignior, and has a power of controlling the dey, and levying taxes on the people. The dey is elected by the ſoldiers, who make no ſcruple of depoſing him when they pleaſe.

TRIPOLI, a conſiderable town of Africa, and capital of a republic of the ſame name in Barbary, and under protection of the grand ſeignior, with a caſtle and a fort. It is pretty large, and the inhabitants are noted pirates. It was taken by Charles V. who ſettled the knights of Malta there; but they were driven away by the Turks in 1551. It was formerly very flouriſhing; and has now ſome trade in ſtuffs, ſaffron, corn, oil, wool, dates, oſtrich feathers, and ſkins: but they make more of the Chriſtian ſlaves which they take at ſea; for they either ſet high ranſoms upon them, or make them perform all ſorts of work. It is ſeated on the coaſt of the Mediterranean, in a ſandy ſoil, and ſurrounded by a wall, ſtrengthened by other fortifications. E. Long. 13. 12. N. Lat. 32. 34.

TRIPOLI, called *Tripolis* of *Syria*, to diſtinguiſh it from Tripoli in *Barbary*, received its name from its being anciently formed of three cities at a ſmall diſtance from each other, one of which belonged to the Aradians, or ancient kingdom of Arad, the ſecond to the Sidonians, and the third to the Tyrians, perhaps as a common mart to thoſe maritime powers. The preſent town of Tripoli is built at the diſtance of a mile and a half from the other, upon the declivity of a hill facing the ſea, in 34° 20′ north latitude, and in 35° 50′ eaſt longitude from Greenwich. It is ſurrounded with walls, fortified with ſeven high ſtrong towers, and a caſtle, all of Gothic architecture; but the ſtreets are narrow, and the houſes low. The city contains about 8000 houſes, and near 60,000 inhabitants, conſiſting of Turks, Chriſtians, and Jews. The baſha, or pacha, who reſides in the caſtle, where there is a garriſon of 200 janizaries, governs the adjacent territory, in which there is plenty of fruit, and a great number of mulberry-trees, which enable the inhabitants to carry on a ſilk manufacture, from which they draw conſiderable profit.

All the environs of Tripoli are laid out in orchards, where the mopal grows ſpontaneouſly, and the white-mulberry is cultivated for the ſilk-worm; the pomegranate, orange, and lemon trees, for their fruit, which is here very fine. The country, though delightful to the eye, is unhealthy; from July to September, epidemic fevers, like thoſe of Scanderoon and Cyprus, prevail, and are principally cauſed by the artificial inundations made for the purpoſe of watering the mulberry trees, to enable them to throw out their ſecond leaves, and from a want of free circulation of air, the city being open only to the weſtward.

TRIPOLI, a genus of argillaceous earth, much uſed in the poliſhing of metals. It has its name from Tripoli in Barbary, from whence it was formerly brought to us, and has the following properties: 1. It does not effervеſce with any of the acids. 2. It hardens in the fire; and by a conſiderable heat, its ſurface becomes vitrified. 3. Every kind of it, excepting that found in England, becomes red by calcination. 4. It is fuſible by mixture with calcareous earth, as well as by means of borax and microcoſmic ſalt. 5. Generally no ſalt can be extracted by waſhing, though ſometimes the marine and vitriolic acid may be extracted by diſtillation. 6. When crude it imbibes water, but is not diffuſible in it. 7. It taſtes like common chalk, and feels ſandy between the teeth, though no ſand can by any means be extracted from it.

Tripoli is found of two different kinds: 1. Solid, and of a rough texture; brown yellowiſh, and ſpotted like marble. 2. Friable and compact; granulated, brown or yellowiſh; this laſt being the kind met with in England. This laſt kind has alſo been found in Scotland; but the rotten ſtone found in Derbyſhire, and likewiſe much uſed in poliſhing, is quite another ſubſtance. According to Ferber, the rotten ſtone is tripoli mixed with a calcareous earth. In the memoirs of the academy at Paris, for 1769, it is aſſerted, that tripoli is a volcanic product. In proof of this, we are there informed, that a coal mine at St. Etienne having accidentally taken fire, and the fire having extended to ſome beds of ſchiſtus and bitumen, tripoli was found in the burnt parts of the ſtrata, but no-where elſe. Cronſtedt is of opinion, that 100 parts of it contain 90 of ſiliceous earth, 7 of argill, and 3 of iron; but the red ſort probably contains more iron.

TRIPTOLEMUS, laws of. See MYSTERIES.

TRIQUETROUS, among botaniſts, expreſſes a fruit or leaf that has three ſides or faces all flat.

TRIREMIS, in antiquity, a galley with three ranks of oars on a ſide.

TRISMEGISTUS, an epithet or ſurname given to one of the two Hermeſes. See THOTH.

TRISMUS, the LOCKED JAW. See MEDICINE.

TRISSYLLABLE, in grammar, a word conſiſting of three ſyllables.

TRITICUM, WHEAT, in botany: a genus of plants belonging to the claſs of *triandria*, and order of *digynia*; and in the natural ſyſtem ranging under the 4th order, *Gramina*. The calyx is bivalve, ſolitary, and generally containing three florets; the corolla is bivalve, one valve being bluntiſh, the other acute. There are 15 ſpecies; the *æſtivum*, ſummer or ſpring wheat; *hybernum*, winter Lammas, or common wheat; *compoſitum, turgidum*, or cone-wheat; *polonicum*, or Poliſh wheat; *ſpelta*, or ſpelt wheat; *monococcum*, or one-grained wheat; *proſtratum*, or trailing wheat-graſs; *pumilum*, or dwarf wheat-graſs; *junceum*, or ruſh wheat-graſs; *repens*, or couch-graſs; *tenellum*, or tender wheat-graſs; *maritimum*, or ſea wheat-graſs; *unilaterale*, or ſpiked ſea-wheat; *unioloides*, or linear ſpiked wheat-graſs.—Of what country the firſt ſix ſpecies are natives, cannot now be determined: the proſtratum is a native of Siberia; the junceum, repens, unilaterale, and maritimum, are natives of Britain; the tenellum is a native of Spain; and the uniloides is a native of Italy. It may alſo be obſerved, that the firſt nine are annuals, the reſt are perennials. See HUSBANDRY.

Linnæus comprehends the different kinds of wheat cultivated at preſent under ſix ſpecies; but cultivation has produced a great many varieties from theſe.

1. *Triticum æſtivum*, or ſpring-wheat, hath four flowers in a calyx, three of which moſtly bear grain. The calyces ſtand pretty diſtant from each other on both ſides a flat ſmooth receptacle. The leaves of the calyx are keel-ſhaped, ſmooth, and they terminate with a ſhort ariſta. The glumes of the flowers are ſmooth and bellying, and the outer leaf of three of the glumes in every calyx is terminated by a long ariſta, but the three inner ones are beardleſs. The grain is rather longer and thinner than the common wheat. It is ſuppoſed to be a native of ſome part of Tartary. The farmers call it *Spring Wheat*, becauſe it will come to the ſickle with the common wheat, though it be ſown in February or March. The varieties of it are: *Triticum æſtivum ſpica et grana rubente*. Spring wheat, with a red ſpike and grain. *Triticum æſtivum rubrum, ſpica alba*. Red ſpring wheat, with a white ſpike. *Triticum æſtivum, ſpica et grana alba*. Spring wheat, with a white ſpike and grain.—2. *Triticum hybernum*, winter or common wheat, has alſo four flowers in a calyx, three of which are moſtly productive. The calyces ſtand on each ſide a ſmooth flat receptacle, as in the former ſpecies, but they are not quite ſo far aſunder. The leaves of the calyx are bellying, and ſo ſmooth that they appear as if poliſhed, but they have no ariſta. The glumes of the flowers too are ſmooth, and the outer ones near the top of the ſpike are often tipped with ſhort ariſtæ. The grain is rather plumper than the former, and is the ſort moſt generally ſown in England; whence the name of *common wheat*. Its varieties are: *Triticum hybernum, ſpica et grana rubente*. Common wheat, with a red ſpike and grain. *Triticum hybernum rubrum, ſpica alba*. Common red wheat with a white ſpike. *Triticum hybernum, ſpica et grana alba*. Common wheat with a white ſpike and grain.—3. *Triticum turgidum*, thick ſpiked or cone-wheat: it is eaſily diſtinguiſhed from either of the former; for though it has four flowers in a calyx after the manner of them, yet the whole calyx and the edges of the glumes are covered with ſoft hairs. The calyces too ſtand thicker on the receptacle, which make the ſpike appear more turgid. Some of the outer glumes near the top of the ſpike are terminated by ſhort ariſtæ, like thoſe of the common wheat. The grain is ſhorter, plumper, and more convex on the back than either of the former ſpecies. Its varieties are numerous, and have various appellations in different counties, owing to the great affinity of ſeveral of them. Thoſe moſt eaſily to be diſtinguiſhed are: *Triticum turgidum conicum album*. White cone wheat. *Triticum turgidum conicum rubrum*. Red cone wheat. *Triticum turgidum ariſtiferum*. Bearded cone wheat. *Triticum turgidum ſpica multiplici*. Cone wheat, with many ears. The third variety is what the farmers call *clog wheat, ſquare wheat*, and *rivets*. The grain of this is remarkably convex on one ſide, and when ripe the awns generally break in pieces and fall off. This ſort is very productive, but it yields an inferior flour to what the former two ſpecies do.—4. *Triticum Polonicum*, or Poliſh wheat, has ſome reſemblance to the turgidum, but both grain and ſpike are longer. The calyx contains only two flowers, and the glumes are furniſhed with very long ariſtæ; the teeth of the midrib are bearded. As this ſort is ſeldom ſown in England, there is no telling what varieties it produces.—5. *Triticum Spelta*, ſpelt or German wheat. At firſt view this has a great reſemblance to barley, but it has no involucrum. The calyx is truncated; that is, it appears as if the ends were ſnipped off, and it contains four flowers, two of which are hermaphrodite and the glumes bearded, but the intermediate ones are neuter. There are two rows of grain as in barley, but they are ſhaped like wheat. It is much cultivated in France, Germany, and Italy. 6. *Triticum monococcum*, St Peter's corn, or one-grained wheat, has three flowers in each calyx alternately bearded, and the middle one neuter. The ſpike is ſhining, and has two rows of grain in the manner of barley. Where it grows naturally is not known, but it is cultivated in Germany; and in conjunction with ſpelt wheat is there made into bread, which is coarſe, and not ſo nouriſhing as that made of common wheat. Malt made of any of our wheats is often put into beer, and a ſmall quantity of it will give a large brewing a fine brown tranſparent tincture.

TRITON, a ſea demigod, held by the ancients to be an officer or trumpeter of Neptune, attending on him, and carrying his orders from ſea to ſea.

TRITURATION, the act of reducing a ſolid body into a ſubtile powder; called alſo *pulveriſation* and *levigation*.

TRIUMPH, in Roman antiquity, a public and ſolemn honour conferred by the Romans on a victorious general by allowing him a magnificent entry in the city. The greater triumph, called alſo *curulis*, or ſimply the *triumph*, was decreed by the ſenate to a general, upon the conquering of a province or gaining a ſignal victory. The day appointed for the ceremony being arrived, ſcaffolds were erected in the forum and circus, and all the other parts of the city where they could beſt behold the pomp: the ſenate went to meet the conqueror without the gate called *Capena* or *Triumphalis*, and marched back in order to the Capitol; the ways being cleared and cleanſed by a number of officers and tipſtaffs, who drove away ſuch as thronged the paſſage or ſtraggled up and down. The general was clad in a rich purple robe, interwoven with figures of gold, ſetting forth his great exploits; his buſkins were beſet with pearl; and he wore a crown, which at firſt was only laurel, but afterwards gold; in one hand he bore a branch of laurel, and in the other a truncheon. He was carried in a magnificent chariot, adorned with ivory and plates of gold, drawn uſually by two white horſes; though ſometimes by other animals, as that of Pompey, when he triumphed over Africa, by elephants; that of Marc Antony by lions; that of Heliogabalus by tigers; that of Aurelian by deer, &c. His children were at his feet,

and ſometimes on the chariot-horſes. The proceſſion was led up by the muſicians, who played triumphal pieces in praiſe of the general: theſe were followed by young men, who led the victims to the ſacrifice, with their horns gilded, and their heads adorned with ribands and garlands; next came the carts and waggons, loaded with all the ſpoils taken from the enemy, with their horſes, chariots, &c.; theſe were followed by the kings, princes, and generals, who had been taken captives, loaded with chains; after theſe appeared the triumphal chariot, before which, as it paſſed, they all along ſtrewed flowers, and the people with loud acclamations called out *Io triumphe!* The chariot was followed by the ſenate, clad in white robes; and the ſenate by ſuch citizens as had been ſet at liberty or ranſomed; and the proceſſion was cloſed by the prieſts and their officers and utenſils, with a white ox led along for the chief victim. In this order they proceeded through the triumphal gate, along the via ſacra, to the Capitol, where the victims were ſlain. In the mean time all the temples were open, and all the altars loaded with offerings and incenſe; games and combats were celebrated in the public places, and rejoicings appeared everywhere.

TRIUMVIR, one of three perſons who govern abſolutely, and with equal authority, in a ſtate. It is chiefly applied to the Roman government: Cæſar, Pompey, and Craſſus, were the firſt triumvirs who divided the government among them. There were alſo other officers ſo called; as the triumviri or treſviri capitales, who were the keepers of the public gaol: they had the office of puniſhing malefactors; for which purpoſe they kept eight lictors under them.

TROAS, a country of Phrygia in Aſia Minor, of which Troy was the capital. When Troas is taken for the whole kingdom of Priam, it may be ſaid to contain Myſia and Phrygia Minor; but if only applied to that part of the country where Troy was ſituated, its extent is confined within very narrow limits. Troas was anciently called Dardania. See TROJA.

TROCHÆUS, in proſody, a foot conſiſting of a long and ſhort ſyllable.

TROCHANTER, in anatomy. See ANATOMY.

TROCHE, in pharmacy, a ſort of medicine made of glutinous ſubſtances into little cakes, and afterwards exſiccated. See PHARMACY.

TROCHILUS, HUMMING BIRD, a genus of birds belonging to the order of *picæ*. The roſtrum is ſubulate, filiform, and longer than the head, the apex being tubular: the upper mandible ſheaths the lower. The tongue is filiform and tubulous, the two threads coaleſcing; the feet are ſlender and fit for walking; the tail has ten feathers. There are 65 ſpecies, none of which are natives of Britain. They are all remarkable for the beauty of their colours, and moſt of them for the ſmallneſs of their ſize, though ſome are eight or nine inches in length—They are divided into two families, viz. thoſe with crooked bills, and thoſe with ſtraight bills. Of theſe we ſhall deſcribe the four following ſpecies:

1. The *exilis*, or little humming-bird, has a crooked bill, is an inch and a half in length; frequently weighing leſs than 50 grains. The bill is black, and half an inch in length; the body greeniſh-brown, with a red, ſhining, inimitable gloſs: the head is creſted with a ſmall tuft, green at bottom, but of a ſparkling gold colour at top: quills and tail fine black. It is a native of Guiana; and the velocity of it in flying is ſo great, that the eye can ſcarce keep pace with its motion.

2. The *moſchitus*, or ruby-necked humming-bird, according to Maregrave is the moſt beautiful of the whole genus. Its length is three inches four lines; the bill ſtraight, eight lines long, and blackiſh: the top of the head and hind part of the neck are as bright as a ruby, and of the ſame colour: the upper parts of the body are brown, with a faint mixture of green and gold: the throat and fore part of the neck are the colour of the moſt brilliant topaz: the belly, ſides, and thighs, are brown; but on the lower part of the belly, on each ſide, is a ſpot of white: the tail is rufous purple, inclining to violet at the ends; the two middle feathers are ſhorteſt: the legs and claws blackiſh. The female has only a daſh of golden or topaz on the breaſt and fore part of the neck; the reſt of the under parts are greyiſh white. This ſpecies is found in Brazil, Curaſſoa, Guiana, and Surinam.

3. The *minimus*, or leaſt humming-bird, is exceeded, both in weight and dimenſions, by ſeveral ſpecies of bees. The total length is one inch and a quarter; and when killed, weighs no more, according to Sir Hans Sloane, than 20 grains. The bill is ſtraight and black, three lines and a half in length: the upper parts of the head and body are of a greeniſh gilded brown, in ſome lights appearing reddiſh: the under parts are greyiſh white; the wings are violet-brown; the tail of a bluiſh black, with a gloſs of poliſhed metal; but the outer feather, except one on each ſide, is grey from the middle to the tip, and the outer one wholly grey; legs and claws brown. The female is leſs than the male: the whole upper ſide of a dirty brown, with a ſlight gloſs of green; the under parts of a dirty white. Theſe birds are found in various parts of South America and the adjacent iſlands.—Our author received it from Jamaica.

4. *Superciliaſus*, white ſhaft, or ſupercilious humming-bird, has a bill twenty lines long; the feathers of the tail next the two long ſhafts are alſo the longeſt, and the lateral ones continually decreaſe to the two outermoſt which are the ſhorteſt, and this gives the tail a pyramidical ſhape; its quills have a gold gloſs on a grey and blackiſh ground, with a whitiſh edge at the point, and the two ſhafts are white through the whole projecting portions; all the upper ſide of the back and head gold colour; the wing violet-brown; and the under ſide of the body white-grey.

Theſe birds ſubſiſt on the nectar or ſweet juice of flowers: they frequent thoſe moſt which have a long tube; particularly the *impatiens noli me tangere*, the *monarda* with crimſon flowers, and thoſe of the convolvulus tribe. They never ſettle on the flower during the action of extracting the juice, but flutter continually like bees, moving their wings very quick, and making a humming noiſe; whence their name. They are not very ſhy, ſuffering people to come within a foot or two of the place where they are, but on approaching nearer fly off like an arrow out of a bow. They often meet and fight for the right to a flower, and this all on the wing: in this ſtate they often come into rooms where the windows ſtand open, fight a little, and go out again. When they come to a flower which is juiceleſs, or on the point of withering, they pluck it off as it were in anger, by which means the ground is often quite covered with them. When they fly againſt each other, they have, beſides the humming, a ſort of chirping noiſe like a ſparrow or chicken. They do not feed on inſects nor fruit; nor can they be kept long in cages, though they have been preſerved alive for ſeveral weeks together by feeding them with water in which ſugar had been diſſolved.

This bird moſt frequently builds in the middle of a branch of a tree, and the neſt is ſo ſmall that it cannot be ſeen by a perſon who ſtands on the ground; any one therefore deſirous of ſeeing it, muſt get up to the branch, that he may view it from above: it is for this reaſon that the neſts are not more frequently found. The neſt is of courſe very ſmall, and quite round: the outſide, for the moſt part, is compoſed of green

moſs, common on old pales and trees; the inſide of ſoft down, moſtly collected from the leaves of the great mullein, or the ſilk-graſs; but ſometimes they vary the texture, making uſe of flax, hemp, hairs, and other ſoft materials: they lay two eggs of the ſize of a pea, which are white, and not bigger at one end than the other.

The above account of the manners will in general ſuit all the birds of this genus; for as their tongues are made for ſuction, it is by this method alone that they can gain nouriſhment: no wonder, therefore, they can ſcarcely be kept alive by human artifice. Captain Davies, however, informed our author, that he kept theſe birds alive for four months by the following method:—He made an exact imitation of ſome of the tubular flowers with paper, faſtened round a tobacco-pipe, and painted them of a proper colour; theſe were placed in the order of nature, in the cage wherein theſe little creatures were confined; the bottoms of the tubes were filled with a mixture of brown ſugar and water as often as emptied; and he had the pleaſure of ſeeing them perform every action; for they ſoon grew familiar, and took the nouriſhment in the ſame manner as when ranging at large, though cloſe under his eye.

TROGLODYTES, in the ancient geography, a people of Ethiopia, ſaid to have lived in caves under ground. Pomponius Mela gives a ſtrange account of the Troglodytes: he ſays, they did not ſo properly ſpeak as ſhriek; and that they lived on ſerpents.

TROGUS, (Pompeius), Latin univerſal hiſtorian to the time of Auguſtus Cæſar, of whom we have only an abridgement by Juſtin, flouriſhed about 41 B.C.

TROJA, the capital city of Troas, or, according to others, a country of which Ilium was the capital. It was built on a ſmall eminence near mount Ida, and the promontory of Sigæum, at the diſtance of about four miles from the ſea-ſhore. Dardanus the firſt king of the country built it, and called it *Dardania*, and from Tros one of his ſucceſſors it was called *Troja*, and from Ilus *Ilion*. This city has been celebrated by the poems of Homer and Virgil; and of all the wars which have been carried on among the ancients, that of Troy is the moſt famous. A deſcription of the plan of Troy has been lately publiſhed in French in the 3d volume of the Philoſophical Tranſactions of the Royal Society of Edinburgh, written by M. Chevalier. The city of Troy, according to him, ſtood on the preſent ſite of the modern village of Bounarbachi, diſtant four leagues from the ſea, and which is the reſidence of an Aga, ruling with abſolute ſway the inhabitants of the Trojan plain and the inferior Agas, to whom they are immediately ſubject. Bounarbachi is ſituated on the ſide of an eminence, expoſed to every wind, at the termination of a ſpacious plain, the ſoil of which is rich and of a blackiſh colour. Cloſe to the village is to be ſeen a marſh covered with tall reeds; and the ſituation is impregnable on all ſides except at Erin (Homer's ερινεος), *the hill of wild fig trees*, which extended between the Scæan gate and the ſources of the Scamander. Theſe circumſtances, agreeing with Homer's deſcriptions, ſtrongly ſupport M. Chevalier's opinion concerning the ſituation of Troy. A very intereſting part of this work is the account of conical mounds or barrows, ſeveral of them 100 feet in diameter at the baſe; and which the author maintains to be the identical tombs raiſed over the aſhes of the heroes of the Trojan war; ſome of them he deems more ancient. He deſcribes particularly the tombs of Eſyetes, Ilus, Ajax, Hector, Achilles, Patroclus, and Antilochus. This diſſertation, which runs to the length of 92 quarto pages, is replete with erudition and ingenious reaſoning, and is illuſtrated and embelliſhed by maps of the plan of Troy and ſeveral tables of inſcriptions. It has been tranſlated with much accuracy and care by Mr. Dalzel profeſſor of Greek in the Univerſity of Edinburgh, and accompanied with large notes and illuſtrations.

TROLLIUS, Globe-flower, or *Luchen Gowan*, in botany: a genus of plants belonging to the claſs of *polyandria*, and order of *polygynia*; and in the natural ſyſtem ranging under the 26th order, *Multiſiliquæ*. The calyx is wanting; there are about 14 petals; the capſules are very numerous, ovate, and monoſpermous. There are two ſpecies, the *aſiaticus* and *europæus*; the latter of which is a Britiſh plant. The *europæus*, or European globe-flower, has its corollets connivent, and from 9 to 16 nectaria, of the length of the ſtamina, linear, plane, incurvated, and perforated at the inſide of the baſe. The leaves are divided firſt into five ſegments down to the baſe; the ſegments are again divided, each about half way, into two or three lobes, which are ſharply indented on the edges. The ſtalk is a foot high, and ſcarcely branched; the flower is yellow, globoſe, and ſpacious. It grows at the foot of Mountains, and by the ſides of rivulets. The country people in Sweden ſtrew their floors and pavements on holidays with the flowers, which have a pleaſant ſmell, and are ornamental in gardens.

TROMP (Martin Happertz Van), a celebrated Dutch admiral, was born at the Brille, in Holland. He raiſed himſelf by his merit, after having diſtinguiſhed himſelf on many occaſions, eſpecially at the famous engagement near Gibraltar in 1607. He paſſed for one of the greateſt ſeamen that had till that time appeared in the world; and was declared admiral of Holland, even by the advice of the prince of Orange. He in that character defeated a large Spaniſh fleet in 1630, and gained 32 other victories at ſea; but was killed when under deck, in an engagement with the Engliſh in 1653. The ſtates-general cauſed medals to be ſtruck to his honour, and lamented him as one of the greateſt heroes of their republic. Van Tromp, in the midſt of the greateſt glory, conſtantly diſcovered a remarkable modeſty; for he never aſſumed a higher character than that of a burgher, and that of being the father of the ſailors.

TRONAGE, an ancient cuſtomary duty or toll, for weighing of wool. According to Fleta, *trona* is a beam to weigh with, mentioned in the ſtat. Weſtm. 2. cap. 25. And tronage was uſed for the weighing wool in a ſtaple or public mart, by a common trona or beam; which, for the tronage of wool in London, was fixed at Leaden-Hall. The mayor and commonalty of London are ordained keepers of the beams and weights for weighing merchants' commodities, with power to aſſign clerks and porters, &c. of the great beam and balance; which weighing of goods and wares is called *tronage;* and no ſtranger ſhall buy any goods in London before they are weighed at the king's beam, on pain of forfeiture.

TRONE-weight, the moſt ancient of the different weights uſed in Scotland; and, though now forbidden by ſeveral ſtatutes, is ſtill uſed by many for home-commodities, and that in a very irregular manner; for the pound varies in different places, and for different purpoſes, from 20 to 24 Dutch ounces. The common allowance is 21½ oz. for wool, 20½ for butter and cheeſe, 20 for tallow, lint, hemp, and hay. It is divided into 16 of its own ounces, and 16 pounds make a ſtone.

TROOP, a ſmall body of horſe or dragoons, about 50 or 60, ſometimes more, ſometimes leſs, commanded by a captain, lieutenant, cornet, quarter-maſter, and three corporals, who are the loweſt officers of a troop.

TROPE. See Oratory.

TROPHONIUS cave, or *Oracle* (anc. geog.), a cave near Lebadia in Bœotia, between Helicon and Chæronea (Strabo): ſo called from Trophonius, an enthuſiaſtic diviner; who, deſcending into this cave, pretended to give anſwers and pro-

nounce oracles; and was hence called *Jupiter Trophonius*. Such as went down to this cave never after ſmiled; hence the proverbial ſaying of a man who has loſt his mirth, That he is come out of Trophonius's cave. Though Pauſanias, who writes from experience, contradicts this; affirming that perſons came out of the cave affected indeed with a ſtupor, but that they ſoon after recovered themſelves. See ORACLE.

TROPHY *(Tropæum)*, among the ancients, a monument of victory.

TROPIC-BIRD. See PHÆTON.

TROPICS. See GEOGRAPHY.

TROUBADOURS, poets that flouriſhed in Provence during the 12th century. They wrote poems on love and gallantry; on the illuſtrious characters and remarkable events of the times; ſatires which were chiefly directed againſt the clergy and monks; and a few didactic pieces. The troubadours were great favourites in different courts, diffuſed a taſte for their language and for poetry over Europe, which was about that time ſunk in ignorance and rudeneſs; they diſappeared in the 14th century. A hiſtory of the troubadours, in 3 volumes 12mo, was begun by M. de Sainte Palaie, and finiſhed by the Abbé Millot.

TROVER, in law, an action that a man hath againſt one that, having found any of his goods, refuſeth to deliver them upon demand.

TROUT. See SALMO.

TROY. See TROJA.

TROY-*Weight*, one of the moſt ancient of the different kinds uſed in Britain. The ounce of this weight was brought from Grand Cairo in Egypt, about the time of the cruſades, into Europe, and firſt adopted in *Troyes* a city of Champagne; whence the name. The pound *Engliſh* Troy contains 12 ounces, or 5760 grains. It was formerly uſed for every purpoſe; and is ſtill retained for weighing gold, ſilver, and jewels; for compounding medicines; for experiments in natural philoſophy; and for comparing different weights with each other.

Scots TROY-*Weight* was eſtabliſhed by James VI. in the year 1618, who enacted, that only one weight ſhould be uſed in Scotland, viz. the French Troy ſtone of 16 pounds, and 16 ounces in the pound. The pound contains 7600 grains, and is equal to 17 oz. 6 dr. avoirdupois. The cwt. or 112 lb. avoirdupois, contains only 103 lb. $2\frac{1}{2}$ oz. of this weight, though generally reckoned equal to 104 lb. This weight is nearly, if not exactly, the ſame as that of Paris and Amſterdam; and is generally known by the name of *Dutch weight*. Though prohibited by the articles of union, it is ſtill uſed in weighing iron, hemp, flax, moſt Dutch and Baltic goods, meal, butcher-meat, unwrought pewter and lead, and ſome other articles.

TRUE-LOVE, in botany. See PARIS.

TRUFFLES. See LYCOPERDON.

TRUMPET, a muſical inſtrument, the moſt noble of all portable ones of the wind kind; uſed chiefly in war, among the cavalry to direct them in the ſervice. Each troop of cavalry has one. The cords of the trumpets are of crimſon, mixed with the colours of the facings of the regiments. As to the invention of the trumpet, ſome Greek hiſtorians aſcribe it to the Tyrrhenians; but others, with greater probability, to the Egyptians; from whom it might have been tranſmitted to the Iſraelites. The trumpet was not in uſe among the Greeks at the time of the Trojan war; though it was in common uſe in the time of Homer. According to Potter (*Arch. Græc.* vol. ii. cap. 9.), before the invention of trumpets, the firſt ſignals of battle in primitive wars were lighted torches; to theſe ſucceeded ſhells of fiſhes, which were ſounded like trumpets. And when the trumpet became common in military uſe, it may well be imagined to have ſerved at firſt only as a rough and noiſy ſignal of battle, like that at preſent in Abyſſinia and New Zealand, and perhaps with only one ſound. But, even when more notes were produced from it, ſo noiſy an inſtrument muſt have been an unfit accompaniment for the voice and poetry; ſo that it is probable the trumpet was the firſt ſolo inſtrument in uſe among the ancients.

TRUMPET, *hearing*, is an inſtrument invented by Joſeph Landini, to aſſiſt the ear in hearing perſons who ſpeak at a great diſtance, without the aſſiſtance of any ſpeaking-*trumpet*. Inſtruments of this kind are repreſented in Pl. 2. They are formed of tubes, with each wide mouths, terminating in a ſmall canal, which is applied to the ear. The conſtruction of theſe inſtruments evidently ſhews how they contribute to aſſiſt the hearing; for the weak and languid pulſes of the air being received by the large end of the tube, and reflected ſeveral times from its ſides in paſſing to the ſmall end, are condenſed, and entering the ear in this condenſed ſtate, ſtrike the tympanum with a greater force than they could have done without the intervention of the tube. Hence it appears, that a *ſpeaking-trumpet* may be applied to the purpoſe of a hearing-*trumpet*, by turning the wide end towards the ſound, and putting the ear to the narrow end. Fig. 2. is an *ear-trumpet*, which anſwers the purpoſe in ſlighter caſes of deafneſs, and may be conveniently carried in the pocket.

TRUMPET, *ſpeaking*, is a tube from 6 to 15 feet long, made of tin, perfectly ſtraight, and with a very large aperture; the mouth-piece being big enough to receive both lips. The mouth being applied to it, carries the voice to a very great diſtance, ſo that it may be heard diſtinctly a mile, or more; hence its uſe at ſea. The invention of this *trumpet* is held to be modern, and is commonly aſcribed to Sir Samuel Moreland. Of this inſtrument an account was publiſhed in 1671, in a work intituled *Tuba Stentoro-phonica*, wherein the author relates ſeveral experiments made by him with this inſtrument; the reſult of which was, that a *ſpeaking-trumpet* conſtructed by him, 5 feet 6 inches long, 21 inches diameter at the greater end, and 2 inches at the ſmaller, being tried at Deal-caſtle, was heard at the diſtance of three miles, the wind blowing from the ſhore. But Ath. Kircher ſeems to have a better title to the invention; for it is certain he had ſuch an inſtrument before ever Sir S. Moreland thought of his. Kircher, in his Phonurgia Nova, publiſhed in 1673, ſays, that the tromba, publiſhed laſt year in England, he invented twenty-four years before, and publiſhed in his Muſurgia: he adds, that Jac. Albanus Ghibbiſius, and Fr. Eſchinardus, aſcribe it to him; and that G. Schottus teſtifies of him, that he had ſuch an inſtrument in his chamber in the Roman college, with which he could call to, and receive anſwers from, the porter. Indeed, conſidering how famed Alexander the Great's tube was, wherewith he uſed to ſpeak to his army, and which might be diſtinctly heard a hundred ſtadia or furlongs, it is ſomewhat ſtrange the moderns ſhould pretend to the invention; the ſtentorophonic horn, or tube of Alexander, whereof there is a figure preſerved in the Vatican, being almoſt the ſame with that now in uſe. The principle upon which this inſtrument is conſtructed is obvious; for as ſound is ſtronger in proportion to the denſity of the air, it muſt follow, that the voice paſſing through a tube or *trumpet*, muſt be greatly augmented by the conſtant reflection and agitation of the air through the length of the tube, by which it is condenſed, and its action on the external air greatly increaſed at its exit from the tube. In order to eſtimate the effect of this inſtrument, let us ſuppoſe A B, Pl. 2. fig. 1. to be ſuch a length of tube as admits one reflection of the ſound, emitted by the ſpeaker, from the ſide B B; let A F be another length, in which the ſound or voice is reflected five times by the ſides, viz. in B, C, D, E, and F: the ſound ſtriking the metal tube in B is the ſame as that at F; but the number of parts forming the pe-

riphery of the circle in B is to that in F, as the diameter B B is to the diameter F F; and therefore the intenſities, with which the parts of the metal will be moved in theſe peripheries, will be in the inverſe ratios of the peripheries, or of the diameters B B, F F. But the parts of the metal move the air contained within the peripheries of the circle, or conſtituting their reſpective areas, which are as the ſquares of the diameters: *i. e.* the air agitated in B is to that agitated in F, as $B B^2$ to $F F^2$: and conſequently, the intenſity of the ſame ſound in the tube of the length A B, is to that in the length A F, as $B B^2$ to $F F^2$, and the inverſe ratio of the diameter B to F: or, the intenſity in A B is to that in $A F :: F F \times B B^2 : B B \times F F^2$, *i. e.* dividing the laſt ratio by $B B \times F F :: B B : F F$. But the intenſity of the ſound increaſes the more frequently it is reflected from the ſides: let then the number of reflections of the ſound in B be n, in F it will be $5n$, and therefore the whole intenſity of the ſound in B is to that in F as $n \times B B$ to $5n \times F F$. Conſequently, the longer the tube the more numerous will be the reflections, and the greater will be the increaſe of the ſound, and the farther may it be heard. A man, ſpeaking through a tube 4 feet in length, may be underſtood at the diſtance of 500 geometrical paces; with a tube of $16\frac{2}{3}$ feet, at the diſtance of 1800 paces, and with a tube 24 feet long, at a greater diſtance than 2500 geometrical paces. The ſound will be alſo heightened by having the remoter aperture of the tube wide, more than if it were narrow. However, the effect of the tube in magnifying ſound, either for ſpeaking or hearing, depends principally upon its length: nevertheleſs ſome advantage may be derived from its particular form and ſhape. Some have propoſed the figure which is made by the revolution of a parabola about its axis, as the beſt; where the mouth-piece is placed in the focus of the parabola, and conſequently the ſonorous rays will be reflected parallel to the axis of the tube. But Mr. Martin obſerves, that this parallel reflection is by no means eſſential to the magnifying of ſound; on the contrary, it prevents the infinite number of reflections and reciprocations of ſound, in which, according to Sir I. Newton, its augmentation principally conſiſts: the augmentation of the impetus of the pulſes of air being proportional to the number of repercuſſions from the ſides of the tube, and therefore to its length, and to ſuch a figure as is moſt productive of them. Hence he infers, that the parabolic *trumpet* is the moſt unfit of any for this purpoſe. He obſerves, that there is one thing more which contributes to the augmentation of the agitations of air in the tube; viz. the proportion which the ſeveral portions of air bear to each other when divided by tranſverſe ſections, at very ſmall, but equal diſtances, from one end of the tube to the other. Thus, let thoſe ſeveral diviſions be made at the points *a, b, c, d, e*, &c. (fig. 2.) in which let the right lines $n k, b l, c m, d n$, &c. be taken in geometrical proportion. Then will the portions of air contained between B and *a*, *a* and *b*, *b* and *c*, *c* and *d*, &c. be very nearly in the ſame proportion, as being in the ſame ratio with their baſes, when the points of diviſion are indefinitely near together. But it is known, that when any quantity of motion is communicated to a ſeries of elaſtic bodies, it will receive the greateſt augmentation when thoſe bodies are in geometrical proportion. Therefore, ſince the force of the voice is impreſſed upon, and gradually propagated through a ſeries of elaſtic portions of air in a geometrical ratio to each other, it eaſily receives the greateſt augmentation poſſible. And ſince by conſtruction $B a = a b = b c = c d$, &c. and $a k : b l :: b l : c m :: c m : d n$, &c. the points *k, l, m, n, o, p, q, r, s*, A will form the *logarithmic* or *logiſtic* curve: whence Mr. Martin concludes, that a *trumpet*, formed by the revolution of this curve about its axis, will augment the ſound in a greater degree than any other figured tube whatever. Caſſegrain alſo is of opinion, that an hyperbola, having the axis of the tube for an aſymptote, is the beſt figure for this inſtrument. Muſchenb. Int. ad Phil. Nat. tom. ii. p. 296, 4to. Martin's Phil. Brit. vol. ii. p. 248, 3d edit.

For other conſtructions of ſpeaking *trumpets* by Mr. Conyers, ſee Phil. Tranſ. N° 141, for 1678.

TRUMPET, *Marine*, is a muſical inſtrument conſiſting of three tables, which form its triangular body. See pl. 2. It has a very long neck with one ſingle ſtring, very thick, mounted on a bridge, which is firm on one ſide, but tremulous on the other. It is ſtruck by a bow with one hand, and with the other the ſtring is preſſed or ſtopped on the neck by the thumb. It is the trembling of the bridge, when ſtruck, that makes it imitate the ſound of a trumpet, which it does to that perfection, that it is ſcarce poſſible to diſtinguiſh the one from the other. And this is what has given it the denomination of trumpet-marine, though, in propriety, it be a kind of monochord. Of the ſix diviſions marked on the neck of the inſtrument, the firſt makes a fifth with the open chord, the ſecond an octave, and ſo on for the reſt, correſponding with the intervals of the military trumpet.

TRUMPET-*Flower*. See BIGNONIA.

TRUMPETER. See PSOPHIA.

TRUNCATED, in general, is an appellation given to ſuch things as have, or ſeem to have, their points cut off: thus, we ſay, a truncated cone, pyramid, leaf, &c.

TRUNCHEON, a ſhort ſtaff or baton uſed by kings, generals, and great officers, as a mark of their command.

TRUNDLE, a ſort of carriage with low wheels, whereon heavy and cumberſome burdens are drawn.

TRUNK, among botaniſts, that part of the herb which ariſes immediately from the root, and is terminated by fructification; the leaves, buds, and auxiliary parts of the herb, not entering in its deſcription.

TRUNNIONS, or TRUNIONS, of a piece of ordnance, are thoſe knobs or bunches of metal which bear her up on the cheeks of the carriage.

TRUSS, a bundle, or certain quantity of hay, ſtraw, &c. A truſs of hay contains 56 pounds, or half an hundred weight: 36 truſſes make a load.

TRUSS is alſo uſed for a ſort of bandage or ligature made of ſteel, or the like matter, wherewith to keep up the parts in thoſe who have hernias or ruptures.

TRUSS, in a ſhip, a machine employed to pull a yard home to its reſpective maſt, and retain it firmly in that poſition.

TRUSTEE, one who has an eſtate, or money, put or truſted in his hands for the uſe of another.

TRUTH, a term uſed in oppoſition to falſehood, and applied to propoſitions which anſwer or accord to the nature and reality of the thing whereof ſomething is affirmed or denied.

TRYPHIODORUS, an ancient Greek poet, who lived ſome time between the reigns of Severus and Anaſtaſius. His writings were very numerous; yet none of them have come down to us, except an epic poem, on which Mr. Addiſon has made ſome entertaining remarks in the Spectator, N° 63. The firſt edition of this extraordinary work was publiſhed by Aldus at Venice, with Quintus Calaber's paralipomena, and Coluthus's poem on the rape of Helen. It has been ſince reprinted at ſeveral places, particularly at Francfort in 1580 by Friſchlinus; who not only corrected many corrupt paſſages, but added two Latin verſions, one in verſe and the other in proſe. That in verſe was reprinted in 1742, with the Greek, at Oxford, in 8vo, with an Engliſh tranſlation in verſe, and Notes, by Mr. Merrick.

TUAM, a town of Ireland, in the province of Connaught, and county of Galway, with an archbiſhop's ſee. It was once a famous city, though now it is reduced to a village; yet it

ſtill retains the title of a city, as being an archiepiſcopal ſee. It is ſeven miles from the borders of Mayo. W. Long. 8. 46. N. Lat. 53. 33.

TUB, in commerce, denotes an indetermined quantity or meaſure: thus a tub of tea contains about 60 pounds; and a tub of camphor from 56 to 86 pounds.

TUBE, in general, a pipe, conduit, or canal; a cylinder, hollow within-ſide, either of lead, iron, glaſs, wood, or other matter, for the air or ſome other matter to have a free conveyance through it.

Auricular TUBE, or inſtrument to facilitate hearing. See TRUMPET, *hearing*.

TUBERCLES, in medicine, little tumors which ſuppurate and diſcharge pus; and are often found in the lungs, eſpecially of conſumptive perſons.

TUCUMAN, a province of South America, in Paraguay; bounded on the north by the provinces of Los-Chicas and Chaco; on the eaſt by Chaco and Rio-de-la-Plata, on the ſouth by the country of Chicuitos and Pampes, and on the weſt by the biſhopric of St. Jago. The air is hot, and the earth ſandy: however, ſome places are fruitful enough, and the original natives have a good character. The Spaniards poſſeſs a great part of this country.

TUFA, a ſtone conſiſting of volcanic aſhes concreted together with various other ſpecies of ſtone. It is of various colours, blackiſh grey, bluiſh grey, and yellow; every colour having a different mixture and ſolidity: but all of them have the bad quality of mouldering down on long expoſure to the weather; notwithſtanding which, they have been uſed in buildings both ancient and modern. The yellow kind reſiſts the air leſs than any other.

TULIPA, TULIP, in botany: a genus of plants belonging to the claſs of *hexandria*, and order of *monogynia;* and in the natural ſyſtem ranging under the 10th order *Coronariæ*. The corolla is hexapetalous and campanulated, and there is no ſtyle. The ſpecies of this genus are four; the *ſylveſtris*, or Italian yellow tulip, a native of the ſouth of Europe; the *geſneriana*, or common tulip, a native of the Levant; the *breyniana*, or cape tulip, a native of the Cape of Good Hope; and the *biflora*.

1. The *ſylveſtris*, or wild European tulip, hath an oblong bulbous root, ſending up long narrow ſpear-ſhaped leaves; and a ſlender ſtalk, ſupporting at top a ſmall yellow flower, nodding on one ſide, having acute petals.

2. The *geſneriana*, Goſner's Turky tulip of Cappadocia, or common garden-tulip, hath a large, oblong, tunicated, ſolid, bulbous root, covered with a brown ſkin, ſending up long oval ſpear-ſhaped leaves; an upright round ſtalk, from half a foot to a yard high, garniſhed with a few leaves, and its top crowned with a large bell-ſhaped erect hexapetalous flower, of almoſt all colours and variegations in the different varieties.

This tulip, and its vaſt train of varieties, is the ſort ſo generally cultivated for the ornament of our gardens, and ſo much admired by all for its great variety and beautiful appearance: it grows freely in the open ground in any common ſoil of a garden, and proves a very great decoration to the beds and borders of the pleaſure ground for ſix weeks or two months in ſpring, by different plantings of early and late ſorts; planting the principal part in autumn, and the reſt towards Chriſtmas, and in January or February. The autumn plantings will come earlieſt into bloom, and flower the ſtrongeſt: and the others will ſucceed them in flowering. In ſummer, when the flowering is paſt, and the leaves and ſtalks aſſume a ſtate of decay, the bulbs of the choiceſt varieties are generally taken up, the offſets ſeparated, and the whole cleaned from filth; then put up to dry till October or November, and then planted again for the future year's bloom.

Of this ſpecies, which is the floriſt's delight, the varieties may be divided into two principal claſſes, viz. 1. Early or dwarf ſpring tulips (*præcocea*). 2 Late flowering tall tulips (*ſerotina*). 1. *Early tulips.* The early tulips are among floriſts diſtinguiſhed by the appellation of *præcoces* (early), becauſe they flower early in the ſpring, a month or more before the others; are much ſhorter ſtalked, and the flowers ſmaller; but are in greater reputation for their early bloom and their gay lively colours, both of ſelf-colours, and broken into flaked variegations; ſuch as reds, crimſon, ſcarlet, carnation, violets, purples, yellow, &c. with flowers of each, edged and flaked with red, yellow, and white, in many diverſities. 2. *Late flowering common tulips.*—This claſs is denominated *late flowering*, and by the floriſts called *ſerotines*, becauſe they blow later in the ſpring, a month or more, than the præcoces, *i. e.* not coming into flower before the end of April, May, and June. They are all of tall growth, ſupporting large flowers, and furniſh an almoſt endleſs variety in the vaſt diverſity of colours, after they break from whole blowers into variegations and ſtripes, exceeding all others of the tulip kind in beauty and elegance of flower.

Both theſe ſpecies of tulipa are hardy perennials, durable in root, or at leaſt, although the old bulb decays annually, it perpetuates its ſpecies by off-ſets, and is annual in leaf and ſtalk; which riſing from the bulb early in the ſpring, arrives to a flowering ſtate in April and May. All the varieties are ſucceeded by plenty of ripe ſeed in July and Auguſt, contained in an oblong capſule of three cells, having the ſeeds placed on each other in double rows. By the ſeeds many new varieties may be raiſed, which however will not attain a flowering ſtate till they are ſeven or eight years old; and after that will require two or three years or more to break into variegations, when the approved varieties may be marked, and increaſed by off-ſets of the root, as directed in their propagation.

The colours in greateſt eſtimation in variegated tulips are the blacks, golden yellows, purple-violets, roſe, and vermilion, each of which being variegated various ways; and ſuch as are ſtriped with three different colours diſtinct and unmixed, with ſtrong regular ſtreaks, but with little or no tinge of the breeder, may be called the moſt perfect tulips. It is rare to meet with a tulip poſſeſſing all theſe properties.

As to the manner of obtaining this wonderful variety of colours in tulips, it is often accompliſhed by nature alone, but is ſometimes aſſiſted and forwarded by ſome ſimple operations of art; ſuch as that, in the firſt place, when the ſeedling bulbs of the whole blower or breeder are arrived to full ſize, and have flowered once, to tranſplant them into beds of any poor dry barren ſoil, in order that, by a defect of nutriment in the earth, the natural luxuriance of the plant may be checked, and cauſe a weakneſs in their general growth, whereby they generally in this weakened or infirm ſtate gradually change and break out into variegations, ſome the firſt year, others not till the ſecond or third; and according as they are thus broke, they ſhould be planted in beds of good earth

Another method to aſſiſt nature in effecting the marvellous work of breaking the breeding tulips into diverſified colours, is to make as great a change as poſſible in the ſoil; if they were this year in a light poor ſoil, plant them the next in a rich garden mould, and another year in a compoſt of different earths and dung; or tranſplant them from one part of the garden to another, or into different gardens, &c. or from one country to another; all of which contributes in aſſiſting nature in producing this deſirable diverſity of colours and variegations.

The double tulip is alſo a variety of the common tulip, and is very beautiful, though not ſo much eſtimation among the floriſts as the common ſingle variegated ſorts, not poſſeſſing ſuch.

a profuſion of variegations in the colours and regularity of ſtripes: they however exhibit an elegantly ornamental appearance, as they riſe with an upright, talliſh, firm ſtem, crowned with a very large double flower compoſed of numerous petals, multiplied in ſeveral ſeries one within another like a double peony, but far more beautiful in their diverſity of colours, variegations, and ſtripes of white and red, yellow and red, &c. ſo that they highly deſerve culture, both in beds alone near the other ſorts to increaſe their variety, alſo to plant in patches, about the borders, in aſſemblage with the late variegated tulips, as they blow nearly about the ſame time, *i. e.* April and May.

Tulip roots are ſold in full collection, conſiſting of numerous varieties, at moſt of the nurſeries and ſeeds-mens, who both propagate them themſelves by off-ſets and ſeed, and import vaſt quantities annually from Holland; the Dutch being famous for raiſing the grandeſt collections of the fineſt tulips, and other bulbous flowers, in the greateſt perfection.

Tulip-*Tree*. See Liriodendron.

TULL (Jethro), an Oxfordſhire gentleman who farmed his own land, and introduced a new method of culture, to raiſe repeated crops of wheat from the ſame land without the neceſſity of manure: the principles of which he publiſhed about 30 years ſince, in A Treatiſe on Horſe-hoeing Huſbandry.

TUMBRELL, Tumbrellum, or *Turbichetum*, is an engine of puniſhment, which ought to be in every liberty that hath the view of frank-pledge, for the correction of ſcolds and unquiet women.

TUMEFACTION, the act of ſwelling or riſing into a tumor.

TUMOR, in medicine and ſurgery, a preternatural riſing or eminence in any part of the body.

Tumors, in farriery. See Farriery.

TUN, a large veſſel or caſk, of an oblong form, biggeſt in the middle, and diminiſhing towards its two ends, girt about with hoops, and uſed for ſtowing ſeveral kinds of merchandiſe for convenience of carriage; as brandy, oil, ſugar, ſkins, hats, &c.

Tun is alſo the name of a meaſure. A tun of wine is four hogſheads; of timber, a ſquare of 40 ſolid feet; and of coals, 20 cwt.

Tun, or Ton, is alſo a certain weight whereby the burden of ſhips, &c. are eſtimated.

TUNBRIDGE, a town of Kent in England, ſituated on a branch of the river Medway, over which there is a bridge. It is a large well built place, noted for the mineral waters four or five miles ſouth of the town. E. Long. 0. 20. N. Lat. 51. 14.

TUNE. See Music and Tone.

TUNGSTEN, or lapis ponderosus; a genus of calcareous earth. It contains about one half its weight of calcareous earth, and the remainder iron, and a peculiar acid of an earthy appearance, now known by the name of the *tungſten acid*. When pure, it is of a grey colour and lamellated texture; its ſpecific gravity being from 4,99 to 5,8.

TUNICA, a kind of waiſtcoat or under garment, in uſe among the Romans. They wore it within doors by itſelf, and abroad under the gown. The common people could not afford the toga, and ſo went in their tunics; whence Horace calls them *populus tunicatus*.

Tunica, in anatomy, is applied to the membranes which inveſt the veſſels, and divers others of the leſs ſolid parts of the body; thus the inteſtines are formed of five tunics or coats.

TUNIS, a large and celebrated town of Africa, in Barbary, and capital of a kingdom of the ſame name. It is ſeated on the point of the Gulph of Goletta, about eight miles from the place where the city of Carthage ſtood. It is in the form of a long ſquare, and is about four miles in circumference, with ten large ſtreets, five gates, and thirty-five moſques. The houſes are all built with ſtone, though but one ſtory high; but the walls are very lofty, and flanked with ſeveral ſtrong towers. It has neither ditches nor baſtions, but a good citadel, built on an eminence on the weſt ſide of the city. It is ſaid to contain 300,000 inhabitants, of whom 30,000 are Jews. The divan, or council of ſtate, aſſembles in an old palace; and the dey is the chief of the republic, who reſides there. The harbour of Tunis has a very narrow entrance, through a ſmall canal. In the city they have no water but what is kept in ciſterns, except one well kept for the baſhaw's uſe. It is a place of great trade, and is ten miles from the ſea. E. Long. 10. 16. N. Lat. 36. 42.

Tunis, a country of Africa, bounded on the north and eaſt by the Mediterranean Sea and the kingdom of Tripoli, on the ſouth by ſeveral tribes of the Arabs, and on the weſt by the kingdom of Algiers and the country of Eſab; being 300 miles in length from eaſt to weſt, and 250 in breadth from north to ſouth. This country was formerly a monarchy; but a difference ariſing between a king and his ſon, one of whom was for the protection of the Chriſtians, and the other for that of the Turks, in 1574 the inhabitants ſhook off the yoke of both. From this time it became a republic under the protection of the Turks, and pays a certain tribute to the baſhaw who reſides at Tunis. The air in general is healthy; but the ſoil in the eaſtern parts is indifferent for want of water. Towards the middle the mountains and valleys abound in fruits; but the weſtern part is the moſt fertile, becauſe it is watered with rivers. The environs of Tunis are very dry, upon which account corn is generally dear. The inroads of the Arabs oblige the inhabitants to ſow their barley and rye in the ſuburbs, and to incloſe their gardens with walls. However, there are plenty of citrons, lemons, oranges, dates, grapes, and other fruits. There are alſo olive-trees, roſes, and odoriferous plants. In the woods and mountains there are lions, wild beeves, oſtriches, monkeys, cameleons, roebucks, hares, pheaſants, partridges, and other ſorts of birds and beaſts. The moſt remarkable rivers are the Guadilcarbar, Magrida, Magerada, and Caps. The form of government is ariſtocratic; that is, by a council, whoſe preſident is the dey, not unlike the doge of Venice. The members of the divan or council are choſen by the dey, and he in his turn is elected by the divan; which is compoſed of ſoldiers, who have more than once taken off the dey's head. The baſhaw is a Turk, reſiding at Tunis; whoſe buſineſs is to receive the tribute, and protect the republic: the common revenues are only 400,000 crowns a-year, becauſe the people are very poor; nor can they ſend above 40,000 men into the field; nor more than twelve men-of-war of the line to ſea, even upon the moſt extraordinary occaſions. There are generally about 12,000 Chriſtian ſlaves in this country; and the inhabitants carry on a great trade in linen and woollen cloth. In the city of Tunis alone there are above 3000 clothiers and weavers. They alſo have a trade in horſes, olives, oil, ſoap, oſtriches eggs and feathers. The Mahometans of this city have nine colleges for ſtudents, and eighty-ſix petty ſchools. The principal religion is Mahometaniſm; but the inhabitants conſiſt of Moors, Turks, Arabs, Jews, and Chriſtian ſlaves. However, the Turks, though feweſt in number, domineer over the Moors, and treat them little better than ſlaves.

TUNKERS, a religious ſect of baptiſts in Pennſylvania, ſo called from the word *tunker*, to put a morſel in ſauce. They are alſo called *tumblers*, becauſe in performing baptiſm they plunge the perſon into the water with the head firſt. As the Germans ſound the letters *t* and *b* like *d* and *p*, the

words *tunlers* and *tumblers*, have been ſometimes written *dunlers* and *dumplers*. Their church-government and diſcipline are the ſame with thoſe of the Engliſh baptiſts, except that every brother is allowed to ſpeak in the congregation, and the beſt ſpeaker is uſually ordained to be their miniſter. They are a harmleſs, well-meaning people.

TUNNAGE. See TONNAGE.

TUNNY, in ichthyology. See SCOMBER.

TUNNY-FISHING. See FISHERY.

TURBAN, the head-dreſs of moſt of the eaſtern nations. It conſiſts of two parts, a cap and ſaſh of fine linen or taffety, artfully wound in divers plaits about the cap. The cap has no brim, is pretty flat, though roundiſh at top, and quilted with cotton; but does not cover the ears. There is a good deal of art in giving the turban a fine air; and the making of them is a particular trade. The ſaſh of the Turk's turban is white linen; that of the Perſian's red woollen. Theſe are the diſtinguiſhing marks of their different religions. Sophi king of Perſia, being of the ſect of Ali, was the firſt who aſſumed the red colour, to diſtinguiſh himſelf from the Turks, who are of the ſect of Omar, and whom the Perſians eſteem heretics.

TURBINATED, is a term applied by naturaliſts to ſhells which are ſpiral or wreathed conically, from a larger baſis to a kind of apex.

TURBITH-MINERAL, a preparation of quickſilver, called in the new diſpenſatory of the London College *hydrargyrus vitriolatus*; and in that of Edinburgh, *mercurius flavus*.

TURBO, the WREATH, in zoology, a genus of inſects belonging to the order of *vermes teſtacea*. The animal is of the ſnail kind; the ſhell conſiſts of one ſpiral ſolid valve, and the aperture is orbicular. There are 116 ſpecies; of which the moſt remarkable are, 1. The *littoreus*, or periwinkle. This is abundant on moſt rocks far above low-water mark. The Swediſh peaſants believe, that when theſe ſhells creep high up the rocks, they indicate a ſtorm from the ſouth. They are eaten by the poor people in moſt parts of this kingdom. Young lobſters are ſaid to take up their lodging in the empty ſhells of theſe animals, which has given occaſion to a notion that periwinkles are changed into lobſters. 2. The *claibrus*, or barbed wreath, has a taper ſhell of eight ſpires, diſtinguiſhed by elevated diviſions running from the aperture to the apex. There is a variety pellucid, with very thin edges. It is analogous to that curious and expenſive ſhell, the *wentle-trap*.

TURBOT, in ichthyology. See PLEURONECTES.

TURCÆ, or TURCI (Mela); ſuppoſed to be the *Tuſci* of Ptolemy; whom he places between Caucaſus and the Montes Ceraunii. The name is ſaid to denote, "to deſolate, or lay waſte." Herodotus places them among the wild or barbarous nations of the north. There is a very rapid river called *Turk*, running into the Caſpian Sea, from which ſome ſuppoſe the Turks to take their name. They made no figure in the world till towards the 7th century; about the beginning of which they ſallied forth from the Portæ Caſpiæ, laid waſte Perſia, and joined the Romans againſt Choſroes king of Perſia. In 1042 they ſubdued the Perſians, in whoſe pay they ſerved, and from whom they derived the Mahometan religion: and afterwards pouring forth, over-ran Syria, Cappadocia, and the other countries of the Hither Aſia, under diſtinct heads or princes, whom Ottoman ſubduing, united the whole power in himſelf, which to this day continues in his family, and who fixed his ſeat of empire at Pruſa in Bithynia. His ſucceſſors ſubdued all Greece, and at length took Conſtantinople in 1453; which put a period to the Roman empire in the Eaſt, under Conſtantine the laſt emperor. It is a ſtanding tradition or prophecy among the Turks, that their empire will at length be overturned by the Franks or Chriſtians; which ſeems now to be drawing on apace towards accompliſhment.

TURCOISE. See TURQUOISE.

TURCOMANIA, a province of Aſiatic Turkey, anſwering to the ancient kingdom of Armenia.

TURDUS, the thruſh: a genus of birds belonging to the order of *paſſeres*. The bill is ſtraightiſh, bending towards the point, and ſlightly notched near the end of the upper mandible. The noſtrils are oval, naked or half covered with a membrane; the corners of the mouth are furniſhed with a few ſlender hairs, and the tongue is ſlightly jagged at the end. There are 136 ſpecies; of which ſeven are Britiſh, the viſcivorus, pilaris, iliacus, muſicus, roſeus, merula, and torquatus.

1. The *viſcivorus*, or miſſel, is the largeſt of the genus. Its length is 11 inches; its breadth 16½. The bill is ſhorter and thicker than that of other thruſhes; duſky, except the baſe of the lower mandible, which is yellow. The irides are hazel. Head, back, and leſſer coverts of the wings, are of a deep olive brown. The lower part of the back is tinged with yellow. The loweſt order of leſſer coverts, and the great coverts, are brown; the firſt tipped with white, the laſt both tipped and edged with the ſame colour. The inner coverts of the wings white. The tail is brown; the three outermoſt feathers tipped with white. The cheeks and throat are mottled with brown and white; the breaſt and belly are whitiſh yellow, marked with large ſpots of black; the legs are yellow. Theſe birds build their neſts in buſhes, or on the ſide of ſome tree, generally an aſh, and lay four or five eggs: their note of anger or fear is very harſh, between a chatter and ſhriek; from whence ſome of its Engliſh names. Its ſong, however, is very fine; which it begins ſitting on the ſummit of a high tree, very early in the ſpring, often with the new-year, in blowing ſhowery weather, which makes the inhabitants of Hampſhire to call it the *ſtorm-cock*. It feeds on inſects, holly and miſſeltoe berries, which are the food of all the thruſh kind: in ſevere ſnowy weather, when there is a failure of their uſual diet, they are obſerved to ſcratch out of the banks of hedges the root of arum, or the cuckoo pint; this is remarkably warm and pungent, and a proviſion ſuitable to the ſeaſon.

2. The *pilaris*, or fieldfare, is in length ten inches, in breadth ſeventeen. The head is aſh-coloured inclining to olive, and ſpotted with black; the back and greater coverts of the wings of a fine deep cheſnut; the tail is black; the lower parts of the two middlemoſt feathers, and the interior upper ſides of the outmoſt feathers, excepted; the firſt being aſh-coloured, the latter white. The legs are black; the talons very ſtrong. This bird paſſes the ſummer in the northern parts of Europe; alſo in Lower Auſtria. It breeds in the largeſt trees; feeds on berries of all kinds, and is very fond of thoſe of the juniper. Fieldfares viſit our iſlands in great flocks about Michaelmas, and leave us the latter end of February or the beginning of March.

Theſe birds and the redwings were the *turdi* of the Romans, which they fattened with crumbs of figs and bread mixed together. Varro informs us that they were birds of paſſage, coming in autumn, and departing in the ſpring. They muſt have been taken in great numbers; for, according to Varro (lib. 3. c. 5.) they were kept by thouſands together in their fattening aviaries. They do not arrive in France till the beginning of December.

3. The *muſicus*, or throſtle, is in length nine inches, in breadth 13½. In colour, it ſo nearly reſembles the miſſel-thruſh, that no other remark need to be added, but that it is leſs, and that the inner coverts of the wings are yellow. The throſtle is the fineſt of our ſinging birds, not only for the ſweetneſs and variety of its notes, but for the long continu-

ance of its harmony; for it obliges us with its ſong for near three parts of the year. Like the miſſel-bird, it delivers its muſic from the top of ſome high tree; but to form its neſt deſcends to ſome low buſh or thicket: the neſt is made of earth, moſs, and ſtraw, and the inſide is curiouſly plaſtered with clay. It lays five or ſix eggs, of a pale bluiſh green, marked with duſky ſpots.

4. The *iliacus*, or redwing, has a very near reſemblance to the throſtle; but is leſs: their colours are much the ſame; only the ſides under the wings and the inner coverts in this are of a reddiſh orange, in the throſtle yellow; above each eye is a line of yellowiſh white, beginning at the bill and paſſing towards the hind part of the head. Theſe birds appear in Great Britain a few days before the fieldfare; they come in vaſt flocks, and from the ſame countries as the latter. With us they have only a diſagreeable piping note; but in Sweden, during the ſpring, they ſing very finely, perching on the top of ſome tree among the foreſts of maples. They build their neſts in hedges, and lay ſix bluiſh-green eggs ſpotted with black.

5. The *merula*, or black-bird, when it has attained its full age, is of a fine deep black, and the bill of a bright yellow; the edges of the eyelids yellow. When young, the bill is duſky, and the plumage of a ruſty black, ſo that they are not to be diſtinguiſhed from the females; but at the age of one year they attain their proper colour. This bird is of a very retired and ſolitary nature; frequents hedges and thickets; in which it builds earlier than any other bird: the neſt is formed of moſs, dead graſs, fibres, &c. lined and plaſtered with clay, and that again covered with hay or ſmall ſtraw. It lays four or five eggs of a bluiſh-green colour, marked with irregular duſky ſpots. The note of the male is extremely fine, but too loud for any place except the woods: it begins to ſing early in the ſpring, continues its muſic part of the ſummer, deſiſts in the moulting ſeaſon, but reſumes it for ſome time in September and the firſt winter months.

6. The *torquatus*, or ring-ouzel, is ſuperior in ſize to the black-bird; the length is eleven inches, breadth ſeventeen. The bill in ſome is wholly black, in others the upper half is yellow; on each ſide the mouth are a few briſtles; the head and whole upper part of the body are duſky, edged with pale brown; the quill-feathers and the tail are black. The coverts of the wings, the upper part of the breaſt, and the belly, are duſky, ſlightly edged with aſh-colour. The middle of the breaſt is adorned with a white creſcent, the horns of which point to the hind part of the neck. It ſome birds this is of a pure white, in others of a dirty hue. In the females and in young birds this mark is wanting, which gave occaſion to ſome naturaliſts to form two ſpecies of them. The ring-ouzel inhabits the Highland hills, the north of England, and the mountains of Wales. They are alſo found to breed in Dartmoor, in Devonſhire, and in banks on the ſides of ſtreams. The places of their retreat are not known. In Scotland and Wales they breed in the hills, but deſcend to the lower parts to feed on the berries of the mountain-aſh. They migrate in France at the latter ſeaſon; and appear in ſmall flocks about Monthard in Burgundy, in the beginning of October, but ſeldom ſtay above two or three weeks.

To theſe we ſhall add the deſcription of the *polyglottus*, or mocking thruſh, which is a native of America. It is about the ſize of a thruſh, of a white and grey colour, and a reddiſh bill. It is poſſeſſed not only of its own natural notes, which are muſical and ſolemn, but it can aſſume the tone of every other animal in the wood, from the wolf to the raven. It ſeems even to ſport itſelf in leading them aſtray. It will at one time allure the leſſer birds with the call of their males, and then terrify them when they have come near with the ſcreams of the eagle. There is no bird in the foreſt but it can mimick; and there is none that it has not at times deceived by its call. But, unlike ſuch as we uſually ſee famed for mimicking with us, and who have no particular merit of their own, the mock bird is ever ſureſt to pleaſe when it is moſt itſelf. At thoſe times it uſually frequents the houſes of the American planters; and ſitting all night on the chimney top, pours forth the ſweeteſt and the moſt various notes of any bird whatever. It would ſeem, if accounts be true, that the deficiency of moſt other ſong-birds in that country is made up by this bird alone. They often build their neſts in the fruit-trees about houſes, feed upon berries and other fruits, and are eaſily rendered domeſtic.

TURENNE (Viſcount). See TOUR.

TURF, *peat*, a blackiſh earth uſed in ſeveral parts of England, Holland, and Flanders, as fuel. Turf, as diſtinguiſhed from peat, conſiſts of mould interwoven with the roots of vegetables; when thoſe roots are of the bulbous kind, or in a large proportion, they form the looſer and worſe kind of turf; but when mixed with a conſiderable proportion of peat, they form what is called *ſtone turf*; it at firſt hardens, but at laſt crumbles by long expoſure to the air.

TURGESCENCE, among phyſicians, denotes a ſwelling or growing bloated.

TURGOT (Anne Robert James), the famous financier, was born at Paris, May 10, 1727, of a very ancient Norman family. His father was for a long time provoſt of the corporation of merchants. During this period he was the object of general admiration; and the regularity and economy of his adminiſtration procured him the particular reſpect of the citizens. M. Turgot was the youngeſt of three brothers. The eldeſt was intended for the rank of magiſtracy, which had been the ſtation of his family for ſeveral generations; the ſecond was deſtined for the army; and Robert for the church. He had ſcarcely attained the age at which reflection commences, when he reſolved to ſacrifice all temporal advantages to liberty and conſcience, and to purſue his eccleſiaſtical ſtudies without declaring his repugnance to their propoſed object. At the age of twenty-three years he took his degree, and was elected prior of the Sorbonne.

The time when it was neceſſary for him to declare that he would not be an eccleſiaſtic was now arrived. He announced this reſolution to his father by letter, ſhowing the motives which induced him to decline the clerical order. His father conſented, and he was appointed maſter of requeſts. M. Turgot prepared himſelf for this office by particular application to thoſe parts of ſcience which are moſt connected with its functions and duties, viz. the ſtudy of natural philoſophy, as far as it relates to agriculture and manufactures, to the ſubjects of merchandize, and the execution of public works, together with ſuch parts of mathematical knowledge as lead to a practical application of natural philoſophy, and facilitate the calculations that are frequently neceſſary in politics, commerce, and law.

About this period he wrote ſome articles for the *Encyclopédie*, of which the moſt capital were, *Etymology*, *Exiſtence*, *Expanſibility*, *Fair*, and *Foundation*. He had prepared ſeveral others, but theſe five only were inſerted; the perſecution ſet on foot againſt the *Encyclopédie* hindered him from continuing to write in it, being unwilling that his opinions ſhould be publiſhed in a work which was received with diſapprobation by ſome of the moſt diſtinguiſhed people of that time.

In 1761 M. Turgot was appointed intendant of Limoges. In this office he did much good. He gave activity to the ſociety of agriculture eſtabliſhed at Limoges, by directing their

efforts to important objects: he opened a mode of public inſtruction for female profeſſors of midwifery: he procured for the people the attendance of able phyſicians during the raging of epidemic diſeaſes: he eſtabliſhed houſes of induſtry, ſupported by charity (the only ſpecies of alms-giving which does not encourage idleneſs): he introduced the cultivation of potatoes into his province, &c. &c. While M. Turgot proceeded with unremitting activity and zeal, in promoting the good of the people over whom he was placed, he meditated projects of a more extenſive nature, ſuch as an equal diſtribution of the taxes, the conſtruction of the roads, the regulation of the militia, the prevention of a ſcarcity of proviſion, and the protection of commerce.

At the death of Louis XV. the public voice called M. Turgot to the firſt offices of government, as a man who united the experience reſulting from habits of buſineſs to all the improvement which ſtudy can procure. After being at the head of the marine department only a ſhort time, he was, Auguſt 24, 1774, appointed comptroller-general of the finances. During his diſcharge of this important office, the operations he carried on are aſtoniſhing. He ſuppreſſed twenty-three kinds of duties on neceſſary occupations, uſeful contracts, or merited compenſations. He aboliſhed the *corvée* for the highways, ſaving the nation thirty millions of livres annually.—He ſet aſide another kind of corvée, which reſpected the carriage of military ſtores and baggage.—He abated the rigour in the adminiſtration of indirect impoſitions, to the great profit of the contributors, the king, and the financiers.—He ſoftened the mode of collecting the territorial impoſts.—He ſtopped the progreſs of a plague among cattle.—He ſuppreſſed a ſedition conducted with art.—He provided for the equal diſtribution of ſubſiſtence.—He gave the utmoſt encouragement to the cultivation of the three chief productions of France, viz. wheat, cattle, and wine, and to the commerce thence reſulting.—He reformed a number of abuſes, ſome of which yielded a profit to the place he filled.—He aboliſhed as much as he could the ſale of offices.—He formed many uſeful eſtabliſhments.—He paid the penſions of the poorer ſervants of the ſtate, who were four years in arrear—He ſupplied the expences of a coronation, the marriage of a princeſs, and the birth of a prince.—He facilitated payments as far as India.—He ſettled a part of the colony debts, and put the reſt in order.—He found the public borrowing at five and a half *per cent.* and reduced the rate to four.—He leſſened the public engagements 84 millions.—He found the revenue 19 millions deficient, and left a ſurplus of three millions and a half.—All theſe he accompliſhed within the ſpace of twenty months, during ſeven of which ſevere fits of the gout totally incapacitated him for buſineſs.

At length, however, by the artifices of the courtiers, his office was taken from him; but when removed to a private ſtation, M. Turgot did not experience that frightful void which is the juſt but dreadful puniſhment of ambitious men when deſerted by fortune. The ſciences and the belles-lettres, which he had cultivated in his youth, afforded him conſolation, while an active ſphere of life was denied him. Natural philoſophy and chemiſtry were his favourite purſuits; yet he frequently entertained himſelf with poetry, eſpecially with tranſlating Virgil into French verſe. "We know," ſays the Marquis de Condorcet, "but of one Latin verſe compoſed by M. Turgot, and which was intended for a picture of Dr. Franklin, "*Eripuit cœlo fulmen, mox ſceptra tyrannis.*"

The attacks of the gout, under which he had long laboured, becoming more frequent and exceſſive, forewarned him of the approaching moment, when, in conformity to the laws of nature, he was going to fill, in a higher order of beings, the rank which theſe laws deſtined for him. He died March 20, 1781.

For a more ample account of this illuſtrious ſtateſman, we refer the reader to the Hiſtory of his Life, written by the Marquis de Condorcet.

TURIN, a city of Italy, and capital of Piedmont, ſituated at the conflux of the Po and the Grand Doria, about ſeven miles from the foot of the Cottian Alps, in the road from France to Italy, by the way of Mount Cenis: according to Pliny, the inhabitants derive their origin from the Ligurians, and were anciently called *Taurini*. Hannibal, the Carthaginian general, when he invaded Italy, took and deſtroyed the town, becauſe the inhabitants would not take part with him; which frightened the other people who inhabited the banks of the Po. It was erected into a Roman colony by Julius Cæſar, who gave it the name of *Julia*, and was called *Auguſta Taurinorum* by his ſucceſſor Auguſtus. It was ſucceſſively ſubjected to the Goths, Huns, Eruli, and Burgundians, who ruined and deſtroyed it, but it was ſoon rebuilt, though not ſo large as before. When the Lombards became maſters of the country, it became the capital of one of their principal duchies. Some of the dukes became kings of Italy. Such was Agilulph, or Agon, who, with his wife Theodelinga, built the cathedral conſecrated to John the Baptiſt, which is at preſent the metropolitan, and endowed it with great revenues. After Charlemagne had aboliſhed the kingdom of the Lombards, it appears that Turin became ſubject to the marquis of Suſa, who had the charge of guarding the paſſages of the Alps, and continued in that family to the death of Ulric Manfred, the laſt marquis of Suſa, in 1302; whoſe daughter, Adelaide, married with Odo, comte of Maurienne and Savoy. Turin ſubmitted to him and to his deſcendants, who have poſſeſſed it with little interruption to this time. Turin is the ſee of an archbiſhop, and contains 110 churches or chapels, ſeveral hoſpitals, and about 65,000 inhabitants. The approach to it is magnificent, and the environs beautiful, though thick fogs from the two rivers are frequent in autumn and winter; ſo that the air of Turin is then very thick and moiſt. The four gates are highly ornamental; the ſtreets in the New Town are wide, ſtraight, clean, having plenty of water running through them, well built, in a good taſte, chiefly of brick ſtuccoed, and generally terminating in ſome agreeable object. No inhabitant can rebuild or repair his houſe but on an uniform plan, laid down by government, for the improvement of the city. The fortifications of Turin are regular, and kept in excellent repair. The citadel is a regular pentagon, conſiſting of five ſtrong baſtions, and is reputed one of the ſtrongeſt in Europe. At the end next the new gate is the arſenal, which, beſides the armories found in ſuch places, contains a cabinet of minerals, a good chemical laboratory, a library of books in mineralogy and metallurgy, and furnaces for caſting cannon: here, alſo, are mathematical, mechanical, and other maſters, for the inſtruction of engineers, miners, &c. The garriſon of Turin is always changed at the end of two years, and then there is a general review. The univerſity was founded firſt in the year 1405, and conſiſts of ſchools, wherein twenty-four profeſſors read lectures, from the 3d of November to the 24th of June; of the royal library, wherein are about 50,000 volumes of printed books, beſides manuſcripts: this is open every day, except holidays, both morning and afternoon. The royal muſeum has a good cabinet of medals, and a collection of antiquities, found chiefly in Piedmont or Sardinia, and elegantly arranged: alſo of natural hiſtory, as ſhells, and Engliſh minerals, poliſhed marbles, and hard ſtones, petrifactions, corals, zoophytes, and ſome minerals, collected by Donati, in the Adriatic; alſo, ſome cheſts of natural curioſities, which

Donati, during his travels in Egypt and Arabia, ſent from Goa. In the military academy, young gentlemen, both natives and ſtrangers, may be inſtructed in the exerciſes at a moderate expence, the king defraying a part of the charge attending this inſtitution. The king's palace is in a ſimple and noble ſtyle of architecture. The apartments are handſomely fitted up and furniſhed: the ceilings painted by Daniele di Sancterre and others. They contain a great collection of pictures, among which are many good ones. The king's theatre, or great opera-houſe, is reckoned one of the fineſt in Europe. The buildings which are moſt eſteemed in point of architecture, are, the palace of the duke of Savoy, called Caſtello Reale, by Filippo Giuvara; the Carignano palace, by Guarini; the buildings of the univerſity, and the town-houſe. There is a literary ſociety at Turin, who have publiſhed memoirs, under the title of *Miſcellanea Philoſophico-Mathematica*. The chief trade of this city and country is in thrown ſilk, which is ſent to England and Lyons; they manufacture, however, ſome of it into excellent ſtockings, and good ſilk for furniture. In the year 1536, Turin was taken by the French, and again in the year 1640, after a long ſiege. In the year 1706, the ſame enemy made another attempt, but after beſieging it upwards of three months, under the conduct of the duke of Orleans, they were driven away, with great loſs, by the duke of Savoy and prince Eugene. Long. 25. 19. E. Ferro. Lat. 44. 52. N.

TURKEY, in ornithology. See MELEAGRIS.

TURKEY, one of thoſe great ſovereignties which includes many countries and provinces, in Europe, Aſia, and Africa, extending from Long. 16. to 66. E. Ferro, reckoning from the weſtern part of Algiers, which is tributary to Baſſora, on the Gulf of Perſia, and from Lat. 13. to 45 N. including Arabia, and the provinces on the coaſts of the Black Sea, from Aden to Otchakov. In Europe, may be reckoned, Romelia, which comprehends Greece, Macedonia, Albania, the Morea, and Theſſaly, with the iſlands of the Archipelago or the Egean Sea; part of Sclavonia, Croatia, Servia, Boſnia, Bulgaria, &c. In Aſiatic Turkey are comprehended, Natolia, Caramania, Syria, Turcomania, Diarbekir, and the three Arabias, Felix, Petræa, and Deſerta. In Africa, the countries ſubject to the Turks are, Barca and Egypt, and great part of Nubia. The ſtates of Algiers, Tunis, and Tripoly, are under their protection: ſo likewiſe are the princes of Moldavia and Walachia; and the republic of Raguſa pays them a tribute. The whole is divided into twenty-five governments, of which two are under the care of beglerbegs, viz. Natolia and Romelia; the reſt under pachas or baſhas: 1. Egypt, or Cairo. 2. Aleppo. 3. Diarbekir. 4. Natolia. 5. Boſnia. 6. Buda, now belonging to Hungary. 7. Caffa (now Theodoſia, and belonging to Ruſſia). 8. Caramania, or Cogni. 9. Cars. 10. Candia. 11. Cyprus. 12. Damaſcus. 13. Van. 14. Maraſch. 15. Moſul. 16. That of the Captain Pacha. 17. Rica. 18. Romelia. 19. Sivas. 20. Schehereſul. 21. Bagdad. 22. Erzerum. 23. Temeſvar, now ſubject to Auſtria. 24. Trebiſond. 25. Tripoly, in Syria. Happily ſituated in the centre of our continent, the Turks might eaſily acquire the trade, as well as the empire of the world, if not withheld by their indolence and their maxims of government. But though the Turks are no traders, being rather diſcouragers and deſtroyers of trade; yet, as they poſſeſs ſo great a part of the world, and ſome of the moſt fruitful countries, and productive of the beſt and choiceſt merchandizes, it will always induce the European parts of the world to ſend their merchants to traffic with them; and the Turks themſelves, by their haughtineſs, deſpiſing manufacturing, and not improving the products which they enjoy in many places, muſt neceſſarily be obliged to purchaſe of other nations the things they ſtand in need of; which naturally encourages the merchants of the other nations to come among them. Thoſe that ſettle among them from the Eaſtern part of the world, are generally Greeks, Jews, Armenians, and Georgians; thoſe from the weſtern parts are chiefly Venetians, French, and Dutch, with ſome Jews alſo, chiefly Italian. The principal places of trade on this ſide the Turkiſh dominions, reſpecting Europe, where the ſaid merchants reſide, are Conſtantinople, Smyrna, Aleppo, Alexandretta or Scanderoon, Alexandria, Tripoli, Antioch, and the iſlands on the coaſt. There are ſome Chriſtian merchants in moſt of the iſlands belonging to the Turks, as at Cyprus, Candia, Rhodes, Zant, Cephalonia, and in moſt of the inhabited iſlands of the Archipelago. Theſe merchants are generally French, though there are ſome Jews. The merchants of England, France, and Holland, chiefly furniſh the Turks with fine woollen cloths, dyed ſcarlet, crimſon, purple, blue, and green; the firſt three in grain, and as rich in colour as poſſible, which raiſes their value. The Engliſh, beſides their cloth, ſend block-tin, lead, clock-work, and watch-work, both in gold and ſilver; and all put together, the value was formerly for upwards of 300,000l. ſterling, one year with another. The returns which the Franks (for ſo the European merchants are called in Turkey) make from the Turks, and which are the product of the Turkiſh and Perſian dominions, are, raw ſilk, Caramania wool and wool of the iſlands, goats'-hair, ſpun or twiſted cotton wool, and yarn, oil, gums dragant, ſandarac, ſenega, arabic, ſarcocolla; Perſian ſilks, carpets, burdets, callicoes, from the iſlands of Siphanto, Paros, &c. Morocco leather, cordovans, ſhagreen-ſkins. Galls, from Syria; coffee, from Mocha; by Alexandria, balm, natural balſam, rhubarb; from Perſia, ſal-ammoniac, turmeric, incenſe, pumices; from Santorini, ſtorax; from Samos, ſcammony, myrrh, manna, galbanum, ſena, aloes hepatica, olibanum, zedoary, okre, emery, ſealed earth, velani, coloquintida, euphorbium, mirabolans, frank-incenſe, maſtic, opium, and other articles. Arrac, orange-flower-water, vermicelli, turpentine, worm-ſeed, clover-ſeed, garden-ſeeds, rice, piſtachios, raiſins of Smyrna, pomegranates, box and cypreſs wood, fuſtic, ebony, walnut-tree, &c. As the Turks have little or no trade but what is, as it were, forced by the Europeans and others, ſo they have but few ſhips, compared to the extent of their naval dominions. The chief of their ſhipping is among the Grecian iſlands, and theſe are ſuch as belong to the Greeks. Alſo in the Morea, and in the Black Sea, they have ſome ſhipping; but, for the traffic between Egypt and the Porte, they generally hire Engliſh, Dutch, or Venetian ſhips, upon freight. The produce of the iſlands is exceedingly great, and aſſiſts the Turks in making returns for the goods they buy of the European merchants. From what has been ſaid of the trade to Turkey, a judgment may be formed of its importance; but notwithſtanding this, the Engliſh trade has for ſome years been greatly on the decline. The air of Turkey in Europe is healthy in itſelf, but the peſtilence is often brought there, and has more than once ſwept away the fifth of the inhabitants of Conſtantinople; yet by the prevalence of cuſtom, and of the Turkiſh doctrine of fatality, they give themſelves no great concern about it. The provinces are univerſally fruitful, though with ſome difference; vaſt quantities of all kinds of excellent grain and fruits being exported every year. The number of its inhabitants is greatly diſproportionate to the extent and goodneſs of the country, which may be chiefly attributed to peſtilence, polygamy, and war. This accounts for ſuch large tracts of fine ſoil lying waſte. The Turks are ſtigmatized among the Chriſtians as a ſlothful, ſtupid, and inhuman people; but they are by no means ſo wicked and dreadful a ſet of creatures as ſome writers have repreſented them. Turkey is not without

men of parts, probity, and honour; nor benevolent, liberal, temperate, converſible, and ingenious people. In ſhort, there is here, as in all other countries and nations, a mixture of good and bad. Driceſch ſays, that, in compaſſion and love towards our neighbours, the Turks excel all the reſt of mankind; and this aſſertion is confirmed by ſeveral other travellers. One ſtriking mark of their charity, are the public inns, by the Aſiatics called Caravanſeri, which are to be met with almoſt in every little village. In theſe a traveller, of whatever religion or country he be, may continue three days gratis; and in not a few he is found alſo in victuals. The Turks are generally robuſt and well-ſhaped, of a good mien, and patient of hardſhips, which renders them fit for war, to which indeed they inure themſelves from their youth. Perſons of rank ſeldom train up their children to any thing elſe, out of a notion that no glory is comparable to that acquired in war. In their dreſs, manner of living, and cuſtoms, they are particular. They ſhave their heads, but wear long beards, of which they are extremely careful, except thoſe in the ſeraglio, and military men, who wear only whiſkers. The turban, or Turkiſh band, worn by the men, is white, and conſiſts of long pieces of thin linen made up together in ſeveral folds. No one but a Turk muſt preſume to wear a white turban. Their clothes are long and full. They ſit, eat, and ſleep, agreeably to the cuſtom of the Orientals, on the floor, on cuſhions (ſophas), matreſſes, and carpets. Rice is their moſt general food, and coffee their uſual drink, wine being interdicted. They expend great ſums on fountains, and no country indeed affords ſo fine; and thoſe not only in the towns, but in the country, and other ſolitary places, for the refreſhment of travellers and labourers. Their moſt uſual ſalutation is to bow the head a little, laying the right hand on their breaſt; but to perſons of rank they ſtoop ſo low as to touch and kiſs the border of their veſt. In war time, the left hand is the place of honour among military men, but in time of peace this diſtinction ceaſes among the officers of ſtate and relations. The fair ſex here are kept under a rigorous confinement. The Arabic word Haram, which ſignifies a ſacred or prohibited thing, is in its fulleſt ſenſe, uſed both of the women's habitation, and of the women themſelves. The ſeraglios are improperly termed harams, the word ſeraglio ſignifying no more than a palace. The nobility among the Turks are the chief military officers, judges, and eccleſiaſtics. The Turkiſh commonalty enjoy the greateſt liberty; and to the orders of the Porte, which muſt be anſwered with the head, thoſe only are expoſed who hold conſiderable poſts; or, as the phraſe is in Turkey, "eat the ſultan's bread." The Grecks, who are the ancient inhabitants of the country, live intermixed with the Turks, and in ſeveral places, particularly the iſlands, out-number them. In Conſtantinople alone it is computed there are no leſs than 400,000. They are accuſtomed to ſervitude, and prefer living under the Turkiſh exactions, to the ſpiritual tyranny of the pope: but they muſt be very cautious of not giving the leaſt colour for ſuſpicion of holding correſpondence with the enemies of the Ottoman porte, or of meditating a ſedition; in caſe alſo of a war with any of the Chriſtian powers, it is uſual, for the greater ſecurity, to diſarm them. All Greeks, from the age of fourteen, pay annually, at the beginning of the Turkiſh feaſt of Beiram, a head money, in value about a ducat, and receive a note of it. The eccleſiaſtics are aſſeſſed higher: a deacon paying two ducats, and an archimandrite four; but the biſhops, archbiſhops, and patriarchs, pay large ſums, generally as much as the arbitrary avarice of the grand vizir and baſhas ſhall think proper to require. The duties on traders are eſtimated to the value and price of the commodities they import. The Turks every-where lay hold of all opportunities of extorting money from the Greeks, but eſpecially from their clergy: in return for this tribute, they enjoy the protection of the Ottoman porte, and are maintained in the quiet poſſeſſion of their properties; inſomuch that no Turk is to inſult them, take any thing from them, or intrude themſelves into their houſes, againſt their will; and in caſe of any ſuch injuries, they are certain of expeditious juſtice againſt the delinquents. The Greek women are exempt from all taxes, as are likewiſe great numbers of other Greeks, who ſerve in the navy, or elſewhere. It ſometimes happens indeed, that a Greek girl, of diſtinguiſhed beauty, is taken away, and carried to the ſeraglio; but Chriſtian children are not in general forced away from their parents to be brought up in Mahometaniſm: and when any thing of that kind is done, it muſt be in the provinces which are at a diſtance from Conſtantinople. The Turks are of the Mahometan religion, and appropriate to themſelves the name of *Moſlemim*, which has been ſtrangely corrupted into *Muſſelman*, ſignifying perſons profeſſing the doctrine of Mahomet, which he calls Iſlam. Drinking wine is manifeſtly prohibited in the Koran, yet the Turks make uſe of it occaſionally, without any ſcruple, though inſtead of it, they generally uſe ſherbet, a liquor made of honey, ſpices, and the juice of fruits. Polygamy is indeed permitted, but the Koran enjoins that no man ſhall have more than four wives and concubines; and to exceed that number, is the particular privilege of the prophet and his ſucceſſors; divorces are alſo allowed of, but no one may take back again the wife he has once repudiated, till ſhe has been married to another, and afterwards divorced with him. Friday is the day ſet apart for divine worſhip. The churches of the Turks are called moſches, and the ſmaller ones meſches. The chief eccleſiaſtic is the mufti, which ſignifies an expounder of the law, and his office is of ſuch dignity, that when he comes to court, the emperor himſelf riſes from his ſeat, and advances ſeven ſteps to meet him. He alone has the honour of kiſſing the ſultan's left ſhoulder; whereas the grand vizir, with a more profound inclination of body, kiſſes only the edge of the emperor's veſt, who advances only three ſteps to meet him. By the law, the mufti is to be conſulted on all emergencies, in thoſe more particularly relating to peace and war. As the mufti of the Turks may be compared to the pope; ſo a cadaliſkir, who is alſo a ſecular perſon, is not unlike a patriarch; a mola is an archbiſhop; a cadie is alſo a layman, may be accounted a biſhop; and an imam a prieſt. The chief employment of the latter is praying. The Turks have alſo their convents and monks, under the general name of derviſes. The head of the Greek church in Turkey in Europe, is the patriarch of Conſtantinople, who is choſen by the neighbouring archbiſhops and metropolitans, and confirmed by the emperor, or grand vizir; he is a perſon of great dignity, being the principal of the Greek patriarchs, and head and director of the Eaſtern church. His income amounts to no leſs than 120,000 guilders, of which he pays the one-half, by way of annual tribute, to the Ottoman porte, adding 6000 guilders beſides, by way of preſent, at the feaſt of Beiram. Subordinate to him are ſeventy archbiſhops and metropolitans, and a much greater number of biſhops. An archimandrite is the director of one or more convents, which are called mandren, and rank above an abbot, of which each convent has one. The monks, prieſts and ſtudents excepted, are obliged to follow ſome handicraft, and lead an auſtere life. The moſt celebrated are thoſe of Mount Athos. The Greeks have but few nunneries at preſent. The ſecular clergy are ſubject to no rules, as the regulars are, who perform divine worſhip. They are allowed to marry, but that only before ordination, and then only once, and that with a virgin. Theſe ſecular eccleſiaſtics never riſe higher than an archprieſt; the biſhops, metropolitans, archbiſhops, and patriarchs, being

choſen from among the monks. The Armenians, the Roman-catholics, and Jews, have alſo the free exerciſe of their religion, and the Swedes have been permitted to build a Lutheran church at Conſtantinople. The Turks are not without all kinds of learning, having ſome ſchools, colleges, and academies. And, in this century, a Turkiſh printing office was ſet up, at Conſtantinople, by Ibrahim Effendi, who, after great oppoſition, obtained leave to print all kinds of books, except on matters of religion; accordingly, among others, he publiſhed ſome maps and books of hiſtory and geography. The Turks are of Tartarian, or Scythian extraction, this appellation being firſt given them in the middle ages, as a proper name, it being a general title of honour to all the nations comprehended under the two principal branches of Tartar and Mogul, and therefore never uſed as a proper name of any Scythian or Tartarian people: nor do even the Turks appropriate it peculiarly to themſelves; the word Tur, as an adjective, ſignifying ſublime and pre-eminent, and, as an appellative, a governor. Turci, therefore, may import both the governor of a hord (ki, among the Tartars, ſignifying a hord or company) as well as the hord itſelf. The Scythian or Tartarian nation, to which the name of Turks has been particularly given, dwell betwixt the Black and Caſpian Seas, and became firſt known in the ſeventh century, when Heraclius, emperor of the Eaſt, took them into his ſervice, under whom they ſo diſtinguiſhed themſelves, by their fidelity and bravery, in the conqueſt of Perſia, that the Arabian and Saracen caliphs, not only had particular bodies of them for guards, but their armies were likewiſe filled with them. Thus they gradually got the power into their hands, and ſet up and dethroned caliphs at pleaſure. Some governors alſo of this nation, have wholly revolted from the dominions of the caliphs. This happened about the ninth century. By this ſtrict union of the Turks with the Saracens or Arabs, the former were brought to embrace the Mahometan religion; ſo that they are now become intermixed, and have jointly enlarged their conqueſts. The Turks, however, were ſuperior, and ſubdued the Saracens. Jenghis Khan, or Zengis-Chan, at the head of the Oguzinian hord, iſſued out of great Tartary, and made himſelf maſter of a great tract of land, near the Caſpian Sea, and even of all Perſia and Aſia the Leſſer. Incited by his example and ſucceſs, Schah Soliman, prince of the town of Nera, on the Caſpian Sea, in the year 1214, paſſed Mount Caucaſus, with 50,000 men; he made his way through Aderbeitzan, or Media, as far as the borders of Syria; and though ſtopped there in his career, by the Jenghizkan Tartars, yet, in the year 1219, he penetrated a ſecond time into Aſia the Leſſer, as far as the Euphrates. The report of his conqueſts reaching the court of Perſia, Soliman and his people were ſpoken of as Turks, a name common to all the Scythians, who came out of Tartary, under the command of Jenghiz khan. Othman, his grandſon, made himſelf maſter of ſeveral countries and places in Leſſer Aſia, belonging to the Grecian empire; and having, in the year 1300, at the city of Karahiſſar, taken upon him the title of emperor of the Othmans, called his people after his own name. His reſidence was fixed at Eſkiſhehr, and, excluſive of many other towns, in the year 1326, he took Pruſa, in Bithynia, now called *Burſa*, which his ſon and ſucceſſor, Orchan, made the ſeat of his empire. Orchan ſent his two ſons, Solyman and Amurath, on an expedition into Europe; the former of whom reduced the city of Gallipoli, and the latter took Tyrilos. Amurath ſucceeding his father in the government, in the year 1360, conquered Anlyra, Adrianople, and Philippopolis. In the year 1362 he inſtituted the janizaries, over-run Servia and fell upon Macedonia and Albania. His ſon and ſucceſſor, Bajazet, was ſucceſsful both in Europe and Aſia, defeating the Chriſtians, near Nicopolis; but, in the year 1401, he himſelf was routed and taken priſoner, by Tamerlane. His ſons diſagreed, but Mahomet I. held the ſovereignty, and his ſon Amurath II. diſtinguiſhed himſelf by ſeveral important enterprizes; and, particularly, in the year 1444, gained a ſignal victory over the Hungarians, near Varna. Mahomet II. and the greateſt of all the emperors, in the year 1453, made himſelf maſter of Conſtantinople, reducing the whole Grecian empire under his dominion. He ſubdued twelve kingdoms and 200 towns. Bajazet II. and Selim I. enlarged the Turkiſh empire in Europe, Aſia, and Africa. Soliman I. is not more famous for his victories over the Hungarians, than for his body of laws. The ſucceeding emperors were not ſo fortunate: Mahomet IV. in the year 1669, ſubdued Candia; and in 1683, laid ſiege to Vienna, but in Hungary met ill ſucceſs. In the reigns of Soliman II. Achmet II. and Muſtapha, the Hungarians and Venetians were ſo ſucceſsful againſt the Turks, that Muſtapha II. in the year 1699, was glad to come to a peace at Karlowitz. Achmet III. in 1718, concluded the treaty of Paſſarowitz, and Mahomet V. by the peace of Belgrade, in the year 1739, reannexed Servia, a part of Walachia, and Choczim, to the empire. In the ſucceſſion to the empire, no regard is paid to age or birthright, the Turks thinking it ſufficient, if, in their elections, they keep to the Ottoman family. Women are excluded from the throne. The government is indeed purely monarchical; but, if the emperor indulges not the humours of the people, and eſpecially of the mutinous janizaries, he is not only in danger of being depoſed, but alſo of being put to death. The emperor's council of ſtate is ſtyled *galibe Divan*, or *Divan galibe*, and meets twice a-week in the emperor's palace, namely, on Sundays and Thurſdays. The grand vizir ſits as preſident, having the cadaliſkar of Romelia at his right hand, and that of Natolia at his left. The mufti alſo aſſiſts, when expreſsly ſummoned. All the others, lubbe vizirs, have likewiſe a ſeat here, and next to them ſtand on one ſide the tefterdar, or high treaſurer, the reis-effendi, ſecretary of ſtate, and other commiſſioners of the calem, or exchequer; but the military officers, ſuch as the aga of the janizaries, the aga of the ſpahis, the aga of the ſiluds, &c. ſit within the divan. The ſultan hears what paſſes from an adjoining chamber, which looks into the divan. When the ſultan convenes a general council, to which are ſummoned all the great perſons of the empire, the clergy, the military, and other officers, and even the old and experienced ſoldiers; ſuch a divan is called *Ajak Divani*; the whole aſſembly ſtanding. The higheſt officer, and next to the emperor, is the grand vizir, whoſe income, without any breach of probity, may amount to ſix hundred thouſand dollars a-year, excluſive of preſents and other perquiſites. The high court of juſtice is held in a large hall of the grand vizir's palace, called *Divan-chane*. The grand vizir being preſident, is obliged four times a-week, namely, on Friday, Saturday, Monday, and Wedneſday, to ſit in the divan, and adminiſter juſtice to the people; unleſs, which ſeldom happens, he be hindered by affairs of a very important nature. At Beglerbeg is a viceroy, with ſeveral provinces under his command; the name itſelf ſignifying a prince of princes: under theſe are the baſhaws or governors, whoſe poſts are very conſiderable but precarious; and ſubordinate again to theſe are the ſangiacs, who may be termed deputy-governors. The janizaries, properly jengitſheri, a word compounded of *jengi* new, and *iſcheri* a ſoldier, are the flower of the Turkiſh land forces; they are all infantry, and were firſt formed out of captive Chriſtians by the emperor Amurath the Firſt: their number is generally forty thouſand, divided into one hundred and ſixty-two companies, or chambers, called *Odas*, in which they live together at Conſtantinople, as in a convent; the recruits are termed *yamagi*; the capis are alſo infantry; the ſpahis, light-horſe; and the timar, ſpahi, or the old and preferred ſpahis, inſtead of

pay, have villages in ſeveral of the provinces, and are obliged, according to their income, to bring at leaſt three ſlaves with them into the field. The foot, under the command of a baſhaw, are ſtill called by the ancient name of *Segban*, and the horſe *Seraje*. The tributary princes, as the princes of Moldavia and Walachia, are obliged alſo to ſend auxiliaries. The whole Turkiſh army makes above three hundred thouſand men. The janizaries and ſpahi have their aga, or general. A ſeraſkier, or commander in chief of the whole army, muſt be a baſhaw of two or three horſe-tails: theſe horſe-tails are the inſignia of grandeur in Turkey, and carried before the great men. It is only the principal baſhaws, and other perſons of the higheſt diſtinction, who are allowed three. The beglerbegs and ſangiacs have alſo their ſeveral commands. The Turkiſh navy is laid up at Conſtantinople near the arſenal, and conſiſts of about forty large-ſhips; but in time of war, when the fleet is to put to ſea, the Turks receive auxiliary ſhips from Algiers, Tunis, and Tripoli: they buy up alſo or hire merchants' ſhips, and thoſe riſe a fleet of one hundred and fifty ſail, excluſive of galleys of two, three, and four banks of oars: the admiral is ſtyled capudan or capitan-baſhaw.

TURMERIC, in botany. See CURCUMA.

TURNEBUS (Adrian), an eminent French critic, was born in 1512. His true name was Turnbull. He was the ſon of a Scotchman, an officer in the Scotch troop of guards, who married a Norman lady. The ſon, who is the ſubject of this article, changed his name into Tourneboeuf; but this name giving occaſion for puns, he varied it to Turnebe, in Latin Turnebus. He acquired ſo extenſive a reputation by his learning, that he had great offers made him from Italy, Germany, and England; but we are told he preferred poverty in his own country to riches in any other. He taught polite literature firſt at Toulouſe; but in 1547 went to be Greek profeſſor at Paris, whither his name drew ſcholars to him from all parts of Europe: in 1552, he took upon him the care of the royal Greek preſs for three years, when he quitted it on being admitted into the number of royal profeſſors. He died in 1565; and his works, which are all in Latin, were printed at Straſburg, in one volume folio, 1600. His *Adverſaria*, three volumes folio, had been printed at Paris before.

TURNEP, in botany, a ſpecies of BRASSICA. For the culture of them, ſee HUSBANDRY.

TURNEP-*Bread*. See BREAD.

TURNEP-*Fly*. See CHRYSOMALA.

TURNING, the art of forming hard bodies, as wood, ivory, iron, into a round or oval ſhape by means of a machine called a *lathe*. This art was well known to the ancients, and ſeems to have been carried by them to a very great degree of perfection; at leaſt, if we believe the teſtimony of Pliny and ſeveral other authors, who tell us, that thoſe precious vaſes enriched with figures in *half-relief*, which ſtill adorn our cabinets, were turned on the lathe.

The art of turning is of conſiderable importance, as it contributes eſſentially to the perfection of many other arts. The architect uſes it for many ornaments, both within and without highly finiſhed houſes. The mathematician, the aſtronomer, and the natural philoſopher, have recourſe to it, not only to embelliſh their inſtruments, but alſo to give them the neceſſary dimenſion and preciſion. In ſhort, it is an art abſolutely neceſſary to the goldſmith, the watchmaker, the joiner, the ſmith.

Turning is performed by the lathe, of which there are various kinds, and ſeveral inſtruments, as gouges, chiſels, drills, formers, ſcrew tales, uſed for cutting what is to be turned into its proper form as the lathe turns round. One of the moſt ſimple kinds of lathe is repreſented in Plate 2. fig. 1. in which *a* is the footſtool, *b* the cord, *c* the frame of the lathe, *d d* the puppets, *e e* the points, *f* the ſpanging tree.

The lathe ſhould be fixed in a place very well lighted; it ſhould be immoveable, and neither too high nor too low. The puppets ſhould neither be ſo low as to oblige the workman to ſtoop in order to ſee his work properly, nor ſo high that the little chips, which he is continually driving off, ſhould come into his eyes.

The piece to be turned ſhould be rounded (if it be wood) before it be put on the lathe, either with a ſmall hatchet made for the purpoſe, or with a plane, or with a file, fixing it in a vice, and ſhaving it down till it is every-where almoſt of an equal thickneſs, and leaving it a little bigger than it is intended to be when finiſhed off. Before putting it on the lathe, it is alſo neceſſary to find the centres of its two end ſurfaces, and that they ſhould be exactly oppoſite to each other, that when the *points* of the puppets are applied to them, and the piece is turned round, no ſide may belly out more than another. To find theſe two centres, lay the piece of wood to be turned upon a plank; open a pair of compaſſes to almoſt half the thickneſs of the piece; fix one of the legs in the plank, and let the point of the other touch one of the ends of the piece, brought into the ſame plane with the plank on which the compaſſes is fixed, and very near the fixed leg. Deſcribe four arches on that end at equal diſtances from each other, at the circumference of the end, but interſecting one another within; the point of interſection is the centre of the end. In the ſame manner muſt the centre of the other end be found. After finding the two centres, make a ſmall hole at each of them, into which inſert the points of the puppets, and fix the piece ſo firmly as not to be ſhaken out, and yet looſe enough to turn round without difficulty.

The piece being thus fixed, it is neceſſary in the next place to adjuſt the cord, by making it paſs twice round the piece, and in ſuch a manner, that the two ends of the cord, both that which is fixed to the *ſpang* and to the *foot-board*, come off on the ſide on which the turner ſtands, that the piece may move againſt the edge of the cutting-tool and be turned. If the lathe be moved by a wheel, the manner of adjuſting the cord needs no directions.

If the workman does not chooſe to be at the trouble to find the two centres of the piece in the manner deſcribed above, let him lay, as nearly as he can, the centre of one end upon the *point* of the left hand *puppet*, and then let him puſh forward the right hand puppet, ſtriking it with a mallet till its point is as near as he can in the centre of the other end of piece; and then fixing the right hand puppet by a gentle blow of the mallet on the key, let him turn round the piece to ſee by the eye if the centres have been properly found. If any part of it bellies out, let him ſtrike that part gently with the mallet till it goes properly; then let him ſtrike one of the puppets pretty ſmartly to drive the points into the piece, and afterwards fix the puppet by ſtriking the key. If the workman cannot judge by the eye whether the piece be turning properly round its centres or not, he ſhould apply gently the point of an inſtrument called a *triangular graver*, leaning it on the *reſt*, and it will mark by a line the place where the piece is out of its centre; and by ſtriking upon this line with a mallet, the piece can eaſily be placed properly. The *reſt*, of which we have juſt ſpoken, ought to be placed upon the two arms of the lathe, and fixed with ſcrews as near the piece as the workman pleaſes.

The piece being fixed between the two points of the puppets, the cord adjuſted, and the *reſt* fixed as near the work as poſſible without touching it; the workman is now to take a *gouge* (fig. 2. in which *a* is the mouth and *b* the handle) of a proper ſize in his left hand, and hold it by the handle a little inclined, keeping the back of the hand lowermoſt. With his right hand, the back of which is to be turned upwards, he is to graſp it as near the end as poſſible on this ſide of the *reſt*:

then leaning the gouge on the *reſt*, he is to preſent the edge of it a little higher than the horizontal diameter of the piece, ſo as to form a kind of tangent to its circumference; then putting the right foot on the foot-board, and turning round the wheel, and holding the gouge firmly on the *reſt*, the piece will be cut neatly. In the ſame manner are the chiſels, formers, and other inſtruments, to be uſed, taking care that the wood be cut equally, and that the inſtrument be not puſhed improperly, ſometimes ſtronger than at others; and taking care alſo that the inſtrument uſed do not follow the work, but that it be kept firmly in the hand without yielding.

The young turner ought to endeavour to acquire the management of the gouge and the chiſel, which are the inſtruments by far the moſt frequently uſed, and the moſt neceſſary in this art: by them, almoſt entirely, are the ſoft woods *turned*; for as for hard woods and other things, as box, ebony, horn, ivory, and the metals, they are hardly ever turned except by *ſhaving off*. In that caſe gravers are to be uſed with ſquare, round, or triangular mouths (fig. 3, 4, 5.). They ſhould be held horizontally while applied to the wood, and not obliquely as directed for the gouge and the chiſel.

After the work is completely turned, it is next to be poliſhed; and this cannot be done with the inſtruments hitherto mentioned. Soft woods, as pear tree, hazle, maple, ought to be poliſhed with ſhark-ſkin or Dutch ruſhes. There are different ſpecies of ſharks; ſome of which have a greyiſh, others a reddiſh ſkin. Shark-ſkin is always the better to be a good deal uſed; at firſt it is too rough for poliſhing. The *Dutch-ruſh* is the *equiſetum hyemale* of Linnæus, which grows in moiſt places among mountains, and is a native of Scotland; it has a naked, ſimple, round ſtem, about the thickneſs of a writing pen. The oldeſt plants are the beſt. Before uſing them they ſhould be moiſtened a little, otherwiſe they break in pieces almoſt immediately, and render it exceedingly difficult to poliſh with them. They are particularly proper for ſmoothing the hard woods, as box, lignum vitæ, ebony, &c. After having cleaned up the piece well, it ſhould be rubbed gently either with wax or olive-oil, then wiped clean and rubbed with its own raſpings or with a cloth a little worn. Ivory, horn, ſilver, and braſs, are poliſhed with pumice-ſtone finely pounded and put upon leather or a linen cloth a little moiſtened: with this the piece is rubbed as it turns round in the lathe; and to prevent any dirt from adhering to any part of it, every now and then it is rubbed gently with a ſmall bruſh dipt in water. To poliſh very finely, the workmen make uſe of tripoli, a particular kind of earth, and afterwards of putty or calx of tin. Iron and ſteel are poliſhed with very fine powder of emery; this is mixed with oil, and put between two pieces of very tender wood, and then the iron is rubbed with it. Tin and ſilver are poliſhed with a burniſher and that kind of red ſtone called in France *ſanguine dune*. They may be poliſhed alſo with putty, putting it dry into ſhammy-ſkin, or with the palm of the hand.

To ſucceed in turning iron, it is neceſſary to have a *lathe* exceedingly ſtrong in all its parts, and exceedingly well fixed. The puppets ſhould be ſhort, and the *reſt* well fixed very near the work: the back of the *reſt* ſhould be two or three lines lower than the iron to be turned.

The lathe and other inſtruments being prepared, it is neceſſary to determine the length and thickneſs of the iron to be turned according to the deſign which is to be executed, and to make a model of it in wood a little thicker than it ought to be: then one exactly like this is to be forged of the beſt iron that can be procured; that is to ſay, it muſt not be new, but well prepared and well beaten with hammers; it muſt have no flaws, nor cracks, nor pimples. New iron, which has not been well beaten, often contains round drops of caſt iron, called by the workmen *grains*, which blunt the edges of the gouges, chiſels, and other inſtruments uſed for cutting; break them, or make them ſlide. The iron being forged according to the model, it ſhould be annealed, that is, heated red hot and allowed to cool ſlowly on the coals till the fire go out of itſelf. Some people, to ſoften the iron, cover it over with clay and allow it to cool. The iron cylinder being thus made, it is next to be put upon the lathe, finding the centres as formerly directed, and boring a ſmall hole in them that the iron may not eſcape from the points.

The points ſhould be oiled from time to time to prevent their being exceſſively heated and ſpoiled while the iron is turning. A *crotchet* is then to be applied to the iron to be turned, a little above its centre, pretty gently, and by this means the inequalities of the cylinder will be taken off. Other inſtruments are then to be applied to mould the iron according to the model; and whenever any of them grow hot, they are to be plunged into a baſon of water lying beſide the workman. If the iron, after being properly turned, is to be bored like a gun-barrel, one of the puppets is to be removed, and another ſubſtituted in its place, having a ſquare hole through it, into which the collar of the iron is to be fixed firmly, ſo as not to ſhake; then borers are to be applied, like thoſe which lock-ſmiths uſe to bore keys; and beginning with a ſmall one, and afterwards taking larger ones, the hole is to be made as wide and deep as neceſſary; great care muſt be taken to hold the borers firm on the *reſt*, otherwiſe there is danger of not boring the hole ſtraight. The borer muſt be withdrawn from time to time to oil it and to clean the hole. Since it is difficult to make a hole quite round with borers alone, it is neceſſary to have alſo an inſtrument a good deal ſmaller than the hole, one of the ſides of which is ſharp, very well tempered, and a little hollow in the middle. This inſtrument being fixed in a pretty long handle, is to be applied with ſteadineſs to the inner ſurface of the hole, and it will entirely remove every inequality that may have been there before its application.

For turning ovals, a lathe of ſomewhat a different conſtruction is uſed. The axis or ſpindle, having on it the pulley over which the band-cord paſſes for turning the lathe, is fixed between the two puppets ſo as to turn round eaſily; one end of it paſſes through one of the puppets, and to it is firmly fixed a circular plate of braſs, ſo that it turns round along with the ſpindle. Upon this plate two brazen ſegments of circles are fattened, the circumferences of which correſpond to the circumference of the plate: their chords are parallel, and equally diſtant from the centre of the plate, ſo that they leave a diſtance between them. They have a groove in each of them: in theſe grooves another plate is placed, which exactly fills up the ſpace between the two grooves, but is ſhorter than the diameter of the larger circular plate on which it is laid. This plate is made to ſlide in the grooves. To its centre is fixed a ſhort ſpindle, on which the piece of wood to be turned is fixed. When the lathe is ſet a-going, the circular plate moves round, and carries the piece along with it; the plate of braſs on which the piece is fixed being fixed looſely in the grooves already deſcribed, ſlides down a little every time that the grooves become perpendicular to the floor (and there are particular contrivances to prevent it from ſliding down too far); and by theſe two motions combined, the circular one of the large plate, and the ſtraight one of the ſmall, the circumference of the piece of wood to be turned neceſſarily deſcribes an oval; and gouges or other tools being applied in the uſual manner ſupported on the *reſt*, it is cut into an oval accordingly. The ſmall plate may be made to ſlide either more or leſs in the grooves; and by this contrivance the tranſverſe diameter of the oval, or rather ellipſe, may be made longer or ſhorter at pleaſure. Another, and ſtill ſimpler method, if poſ-

ſible, of turning ovals, is this: take two ovals of metal, exactly of the ſize of the oval which you intend to make; fix them firmly on the ſpindle of the lathe ſo as to turn round with it: fix between them the wood to be turned; and then it is eaſy, by the help of chiſels and other tools, to cut it, as the lathe goes into exactly the figure of the external ovals. Or an oval may be formed by placing the wood, or whatever is to receive that ſhape, obliquely on the lathe. There are ſeveral other ingenious methods of turning; but our bounds do not permit us to enter upon them. We ſhall therefore conclude this article with a number of receipts, which every turner ought to know.

1. *The method of moulding boxes both of ſhell and horn.*—In the firſt place, form a proper mould, which muſt conſiſt of two pieces, viz. of a circle about half an inch thick, which ſhould ſlope a little in order to draw out the moulded ſhell the more eaſily; and a ring fitted to the outſide of the circle, ſo that both together make the ſhape of a box. Theſe two pieces being adjuſted, it is neceſſary to round the ſhell to be moulded of ſuch a ſize, that, when moulded, it will be a little higher than the ring of the mould, that there may be no deficiency. The mould is then to be put into a preſs on a plate of iron, exactly under the ſcrew of the preſs; put then the ſhell upon the circle of the mould, ſo that its centre alſo is exactly oppoſite to the ſcrew of the preſs: then take a piece of wood formed into a truncated cone, and not ſo thick as the diameter of the circle of the mould, nor ſo deep as the ring: then put a plate of iron above the cone, and ſcrew down the preſs gently and cautiouſly till the whole is well fixed: then plunge the whole into a cauldron of boiling water placed above a fire. In eight or ten minutes the ſhell or horn will begin to ſoften; ſcrew the preſs a little firmer that the wooden cone may ſink into the ſoftened ſhell: repeat this from time to time till the cone is quite ſunk in the mould; then take out the preſs and plunge it into cold water. When it is cold, take the box now formed out of the mould, and put into the inſide of it a new mould of tin exactly of the form you wiſh the inſide of the box to be; do the ſame with the outſide, put it again into the preſs, and plunge it into boiling water; ſcrew the preſs gradually till the box be faſhioned as you deſire.

2. *Method of preparing green wood ſo that it will not ſplit in the turning.*—Having cut your wood into pieces of a proper ſize, put it into a veſſel full of a ley made with wood aſhes. Boil it there about an hour; then, taking the cauldron off the fire, allow the ley to cool; then take out the wood and dry it in the ſhade.

3. *Method of giving an ebony-black to hard and fine woods.*—After forming the wood into the deſtined figure, rub it with aqua fortis a little diluted. Small threads of wood will riſe in the drying, which you will rub off with pumice-ſtone. Repeat this proceſs again, and then rub the wood with the following compoſition: Put into a glazed earthen veſſel a pint of ſtrong vinegar, two ounces of fine iron-filings, and half a pound of pounded galls, and allow them to infuſe for three or four hours on hot cinders. At the end of this time augment the fire, and pour into the veſſel four ounces of copperas (ſulphat of iron), and a chopin of water having half an ounce of borax and as much indigo diſſolved in it; and make the whole boil till a froth riſes. Rub ſeveral layers of this upon your wood; and, when it is dry, poliſh it with leather, on which you have put a little tripoli.

4. *Method of giving to plum-tree the colour of brazil wood.*—Slack lime with urine, and bedaub the wood over with it while it is hot: allow it to dry; then take off the coat of lime, and rub it with chamois ſkin well oiled. Or, ſteep your wood in water, having a quantity of alum diſſolved in it: then, having allowed brazil wood to diſſolve in water five or ſix hours, ſteep your wood in it, kept luke-warm during a night; and when it is dry, rub it, as before directed, with chamois ſkin well oiled.

5. *Method of giving a fine black colour to wood.*—Steep your wood for two or three days in luke-warm water in which a little alum has been diſſolved; then put a handful of logwood, cut ſmall, into a pint of water, and boil it down to leſs than half a pint. If you then add a little indigo, the colour will be more beautiful. Spread a layer of this liquor quite hot on your wood with a pencil, which will give it a violet colour. When it is dry, ſpread on another layer; dry it again, and give it a third: then boil verdegris at diſcretion in its own vinegar, and ſpread a layer of it on your wood: when it is dry, rub it with a bruſh, and then with oiled chamois ſkin. This gives a fine black, and imitates perfectly the colour of ebony.

6. *Method of cleaning and whitening bones before uſing them.*—Having taken off with a ſaw the uſeleſs ends of the bones, make a ſtrong ley of aſhes and quick-lime, and into a pailful of this ley put four ounces of alum, and boil the bones in it for an hour; then take the veſſel containing the ley off the fire and let it cool; then take out the bones and dry them in the ſhade.

7. *Method of ſoldering ſhells.*—Clean the two ſides of the ſhells which you wiſh to join together; then, having joined them, wrap them up in linen folded double and well moiſtened; then heat two plates of iron pretty hot, that they may keep their heat for ſome time; and putting your ſhells rolled up between them under a preſs, which you muſt ſcrew very tight, leave them there till the whole is cold, and they will be ſoldered. If you do not ſucceed the firſt time, repeat the proceſs.

8. *Method of moulding ſhells.*—Put ſix pints of water into a kettle; add to it an ounce of olive or other oil; make the water boil; then put in your ſhell, and it will grow ſoft. Take it out, and put it into a mould under a preſs, and it will take the figure you want. This muſt be done quickly; for if the ſhell cool ever ſo little, the proceſs will fail. It will not require much preſſure.

9. *Method of tinging bones and ivory red.*—Boil ſhavings of ſcarlet in water. When it begins to boil, throw in a quarter of a pound of aſhes made from the dregs of wine, which will extract the colour: then throw in a little rock alum to clear it, and paſs the water through a linen cloth. Steep your ivory or bone in aqua fortis, and put it into the water. If you wiſh to leave white ſpots, cover the places deſtined for them with wax.

10. *To tinge ivory black.*—Steep the ivory during five or ſix days in water of galls with aſhes made with dried dregs of wine and arſenic; then give it two or three layers of the ſame black with which plum-tree is blackened, in order to imitate ebony. Or, diſſolve ſilver in aqua fortis, and put into it a little roſe water. Rub the ivory with this, and allow it to dry in the ſun.

11. *Method of hardening wood to make pulleys.*—After finiſhing the pulley, boil it ſeven or eight minutes in olive oil, and it will become as hard as copper.

12. *To make Chineſe varniſh.*—Take of gum-lac in grains four ounces; put it into a ſtrong bottle with a pound of good ſpirit of wine, and add about the bulk of a hazel-nut of camphor. Allow them to mix in ſummer in the ſun, or in winter on hot embers for twenty-four hours, ſhaking the bottle from time to time. Paſs the whole through a fine cloth, and throw away what remains upon it. Then let it ſettle for twenty-four hours, and you will find a clear part in the upper part of the bottle, which you muſt ſeparate gently and put into another vial, and the remains will ſerve for the firſt layers.

TURNSTONE, in ornithology. See TRINGA.

TURPENTINE, a tranſparent viſcous ſubſtance, flowing either naturally or by inciſion from ſeveral unctuous or reſinous trees; as the terebinthus, pine, larch, fir, &c. See PINUS.

Oil of TURPENTINE. An eſſential oil, procured from turpentine by diſtillation. It is of great uſe in the arts and in medicine.

TURPETH, the cortical part of the root of a ſpecies of convolvulus, brought from the Eaſt Indies. It is accounted a pretty ſtrong cathartic; but it is very uncertain in its ſtrength, for ſometimes a doſe from a ſcruple to a dram purges violently, while at other times a much greater doſe produces very little effect.

TURQUOISE, is the tooth of an animal penetrated with the blue calx of copper: it loſes its colour when heated; it is opaque, and of a lamellar texture, and ſuſceptible of a fine poliſh; its ſpecific gravity is from 2,5 to 2,908; ſome are of a deep blue, ſome of a whitiſh blue, but become of a deeper when heated. This ſubſtance is found in Perſia and Languedoc. The copper may be extracted from it by diſtilled vinegar. According to Reaumur (*Mem. Par.* 1715) nitrous acid will not diſſolve that of Perſia, though it will that of France, which ſhows a difference between them.

TURRETIN (Francis), miniſter and profeſſor of divinity at Geneva, his native place, was born in 1623. Having ſtudied at Geneva, Leyden, Saumur, Montauban, and Niſmes, with great ſucceſs, he was admitted into the miniſtry in 1648, and ſerved at the ſame time the French and Italian churches at Geneva. Two years after, he was offered the profeſſorſhip of philoſophy, which he refuſed; but accepted the invitation of the church of Lyons. He was recalled to Geneva at a year's expiration, becauſe he was wanted to give lectures in divinity; which he began in 1653. He was ſent to Holland in 1661, to procure money which the city of Geneva had occaſion for. He had in that journey all the ſucceſs he could promiſe himſelf; and gained ſuch a character there, that he was ſtrongly importuned by the Walloon churches at the Hague and at Leyden to enter into their ſervice. On his return he reſumed the functions of his place, and continued there till his death with remarkable application. He died in 1687, with the character of a man of great merit; eloquent, judicious, laborious, learned, and zealous for orthodoxy. His works were publiſhed by his ſon John Alphonſus, in 3 and in 4 vols. 4to.

TURRITIS, TOWER-MUSTARD, in botany: a genus of plants belonging to the claſs of *tetradynamia*, and to the order of *ſiliquoſa*; and in the natural ſyſtem ranging under the 39th order, *Siliquoſæ*. The ſiliqua is very long and angulated; the calyx connivent and erect; the corolla is alſo erect. There are three ſpecies; two of which are natives of Great Britain, the glabra and hirſuta.

TURTLE, in ichthyology. See TESTUDO.

TURTLE-*Dove*, in ornithology. See COLUMBA.

TUSCAN ORDER, in architecture. See ARCHITECTURE.

TUSCAN *Earth*, a yellowiſh kind of bole dug in many parts of Italy, particularly about Florence, where there is a ſtratum of it eight or ten feet thick, at the depth of five or ſix feet from the ſurface. It is ſuppoſed to have an aſtringent property.

TUSCANY (Duchy of), a country of Italy, ſituated between the Mediterrancan, the Tiber, and the Appenines; ſome parts of it are diſtributed among the territories of Modena, Lucca, and Genoa, which portions excepted, its extent from north to ſouth is about 115 miles, and its breadth about eighty. The face of the country is beautifully varied with hills and valleys, and the ſoil rich and fertile, producing corn in abundance, with excellent fruit, oranges, lemons, olives, and grapes. The air, in ſeveral parts, is rendered unwholeſome by fens and moraſſes: the ſalt-pits are rich. Manna is gathered in the marſhlands near the ſea; and the mountainous parts are rich in mines and minerals. In ſome places are found amethyſts, jaſpers, cornelians, cryſtal, lapis-lazuli, chalcedony, marble, ſlate, alabaſter, ſulphur, alum, and quickſilver. Several medicinal ſprings have been diſcovered beſides thoſe of Piſa. The principal river is the Arno: Florence is the capital. This country was anciently called *Etruria*, and the inhabitants Etrurij, Tyrrheni, and Tuſcani, though the preſent does not include the whole of Etruria: after ſeveral revolutions and changes, it became a republic, called, from its chief city, the republic of Florence. In this republic, the Medici family obtained, by commerce, the wealth and grandeur of princes; and Henry II. king of France, choſe his conſort, the famous Catharine, out of this family. The Emperor Charles V. in the year 1531, at the ſolicitation of Clement VII. created Alexander Medici duke of Florence; and afterwards gave him in marriage, Margaret, his natural daughter. His nephew and ſucceſſor, Coſmo I. was, in the year 1569, declared great duke, by Pope Pius V. which title was at laſt ratified by the Emperor Maximilian II. in the year 1575, on condition of his enjoying and holding it as a fief of the empire. In 1699 the emperor conferred on the great duke the title of royal highneſs, to which the pope and the court of France readily acquieſced. The great duke, John Gaſton, having no heirs, it was ſtipulated in the fifth article of the quadruple alliance, made in 1718, that the duchy ſhould, by all the contracting parties, be for ever acknowledged a male fief of the Roman empire; and that, with the conſent of the Germanic body, the emperor ſhould confer it as a fief on the king of Spain's eldeſt ſon by the ſecond marriage, from him to devolve to his male deſcendants, and on their failure to the younger brother and his heirs; but that Leghorn was always to remain a free port. This was not only confirmed in the treaty of Vienna, in 1725, but the great duke alſo, and his ſiſter, in 1731, concluded with the king of Spain a family treaty of like import, and the infant Don Carlos was accordingly brought up at the great duke's court at Florence. New differences ariſing, and, in 1733, breaking out into a war, in which the emperor, in 1734, loſt the kingdoms of Naples and Sicily, Don Carlos cauſed himſelf to be proclaimed king, and, by the peace of 1736, retained the poſſeſſions of theſe kingdoms. On the other hand it was ſtipulated, that the great duchy of Tuſcany, after the demiſe of the poſſeſſor, ſhould eſcheate to the Houſe of Lorrain in lieu of that duchy, which was to be reſigned to King Staniſlaus. This took place in 1737, and by this means became annexed to the houſe of Auſtria.

TUSK, or TORSK, in ichthyology. See GADUS.

TUSSILAGO, COLT'S FOOT, in botany: a genus of plants belonging to the claſs of *ſyngeneſia*, and order of *polygamia ſuperflua*; and in the natural ſyſtem ranging under the 49th order, *Compoſitæ*. The receptacle is naked; the pappus ſimple; the ſcales of the calyx equal, of the ſame height as the diſk, and ſomewhat membranaceous. There are 12 ſpecies; three of which are indigenous to Britain, the farfara, hybrida, and petaſites. The *farfara*, or common colt's foot, grows plentifully on the banks of rivulets, or in moiſt and clayey ſoils in England and Scotland.—The leaves are ſmoked in the manner of tobacco, or a ſyrup or decoction of them and the flowers ſtand recommended in coughs and other diſorders of the breaſt and lungs. It ſeems now to be almoſt entirely rejected. The downy ſubſtance under the leaves, boiled in a lixivium with a little ſaltpetre, makes excellent tinder. The *petaſites*, or common butter-bur, is frequent in wet meadows, and by the ſides of rivers. Its leaves are the largeſt of any plant in Great Britain, and in heavy rains afford a ſeaſonable ſhelter to poultry and other ſmall animals. The root dug up

in the ſpring is reſinous and aromatic. A drachm of it in a doſe has been ſometimes given as a ſudorific and alexipharmic; but as it poſſeſſes thoſe virtues but in a ſmall degree, it has loſt its reputation in the ſhops.

TUTENAGE, an ore of zinc, containing commonly from 60 to 90 *per cent.* of zinc, the remainder iron, and a ſmall proportion of clay.

TUTOR, in the civil law, is one choſen to look to the perſons and eſtate of children left by their fathers and mothers in their minority. The different kinds of *tutory* eſtabliſhed among the Romans, and the powers and duties of tutors, are deſcribed in *Inſt. Leg.* 1. T. XIII. ſect. 1. and 2. to which the reader is referred. See alſo the article GUARDIAN.—For the nature and effects of tutory in the Scotch law, which is founded on that of the Roman, ſee *Scotch Law*, Part III. ſect. 7.

TUTOR is alſo uſed in the Engliſh univerſities for a member of ſome college or hall, who takes on him the inſtructing of young ſtudents in the arts and faculties.

TUTTY, an argillaceous ore of zinc, found in Perſia, formed on cylindrical moulds into tubulous pieces, like the bark of a tree, and baked to a moderate hardneſs; generally of a browniſh colour, and full of ſmall protuberances on the outſide, ſmooth and yellowiſh within, ſometimes whitiſh, and ſometimes with a bluiſh caſt. Like other argillaceous bodies, it becomes harder in a ſtrong fire; and after the zinc has been revived and diſſipated by inflammable additions, or extracted by acids, the remaining earthy matter affords, with oil of vitriol, an aluminous ſalt. In medicine, tutty is celebrated as an opthalmic, and frequently employed as ſuch in unguents and collyria.

TWEED, a river of Scotland, which riſes on the confines of the ſhire of Clydeſdale, and running eaſtward through Tweedale, and dividing the ſhire of Merſe from Teviotdale and Northumberland, falls into the German Sea at Berwick. It abounds with ſalmon.

TWEEDALE, or PEEBLESHIRE, a county of Scotland, bounded on the north by Edinburghſhire, on the Eaſt by Edinburghſhire and Selkirkſhire, on the ſouth by Dumfrieſſhire, and on the weſt by Lanerkſhire; twenty-five miles from north to ſouth, and from ten to eighteen from eaſt to weſt. The country in general riſes in hills, many of which are covered with verdure to their very ſummits, and between them are pleaſant fertile valleys, well watered and interſperſed with gentlemen's ſeats. The principal grain is oats and barley, with few plantations, except round particular houſes. This country is ſometimes called *Tweedale*, from the river Tweed, which croſſes a conſiderable part. Peebles is the capital.

TWELFTH-DAY, the feſtival of the Epiphany, or the manifeſtation of Chriſt to the Gentiles; ſo called, as being the twelfth day, excluſive, from the nativity or Chriſtmas-day.

TWILIGHT, that light, whether in the morning before ſun-riſe, or in the evening after ſun-ſet, ſuppoſed to begin and end when the leaſt ſtars that can be ſeen by the naked eye ceaſe or begin to appear.

TWINKLING *of the* STARS. See OPTICS.

TWINS, two young ones delivered at a birth, by an animal which ordinarily brings forth but one.

TWITE, in ornithology. See FRINGILLA.

TYGER, or TIGER, in zoology. See FELIS.

TYLE, or TILE, in building, a ſort of thin laminated brick uſed on the roofs of houſes: or, more properly, a kind of fat clayey earth kneaded and moulded of a juſt thickneſs, dried and burnt in a kiln like brick, and uſed in the covering and paving of houſes.

TYMPAN, among printers, a double frame belonging to the preſs, covered with parchment, on which the blank ſheets are laid in order to be printed off. See PRINTING-*Preſs*.

TYMPANUM, in mechanics, a kind of wheel placed round an axis or cylindrical beam, on the top of which are two levers or fixed ſtaves for the more eaſily turning the axis in order to raiſe a weight required. The tympanum is much the ſame with the peritrochium; but that the cylinder of the axis of the peritrochium is much ſhorter and leſs than the cylinder of the tympanum.

TYMPANUM, in anatomy. See ANATOMY.

TYMPANY, in medicine. See MEDICINE and SURGERY.

TYNDALE (William), a zealous Engliſh reformer, and memorable for having made the firſt Engliſh verſion of the Bible, was born on the borders of Wales ſome time before 1500. He was of Magdalene-hall in Oxford, where he diſtinguiſhed himſelf by imbibing early the doctrines of Luther, and by as zealouſly propagating thoſe doctrines among others. Afterwards he removed to Cambridge, and from thence went to live with a gentleman in Glouceſterſhire in the capacity of tutor to his children.—While he continued there, he ſhowed himſelf ſo furious for Luther, and ſo invetcrate to the pope, that he was forced, merely for the ſecurity of his perſon, to leave the place. He next endeavoured to get into the ſervice of Tonſtall, biſhop of Durham, but did not ſucceed. His zeal for Lutheraniſm made him deſirous to tranſlate the New Teſtament into Engliſh; and as this could not ſafely be done in England, he went into Germany, where, ſetting about the work, he finiſhed it in 1527. He then began with the Old Teſtament, and finiſhed the five books of Moſes, prefixing diſcourſes to each book, as he had done to thoſe of the New Teſtament. At his firſt going over into Germany, he went into Saxony, and had much conference with Luther; and then returning to the Netherlands, made his abode chiefly at Antwerp. During his peregrinations from one country to another, he ſuffered ſhipwreck upon the coaſt of Holland, and loſt all his books and papers. His tranſlations of the Scriptures being in the mean time ſent to England, made a great noiſe there; and, in the opinion of the clergy, did ſo much miſchief, that a royal proclamation was iſſued out, prohibiting the buying or reading ſuch tranſlation or tranſlations. But the clergy were not ſatisfied with this, they knew Tyndale capable of doing infinite harm, and therefore thought of nothing leſs than removing him out of the way. For this purpoſe one Philips was ſent over to Antwerp, who inſinuated himſelf into his company, and under the pretext of friendſhip betrayed him into cuſtody. He was ſent to the caſtle of Filford, about 18 miles from Antwerp; and though the Engliſh merchants at Antwerp did what they could to procure his releaſe, and letters were alſo ſent from Lord Cromwell and others out of England, yet Philips beſtirred himſelf ſo heartily, that he was tried and condemned to die. He was firſt ſtrangled by the hands of the common hangman, and then burned near Filford caſtle, in 1536. While he was tying to the ſtake, he cried with a fervent and loud voice, "Lord, open the King of England's eyes."

TYPE (τυπος), an impreſſion, image, or repreſentation of ſome model, which is termed the *antitype*. In this ſenſe the word occurs often in the writings of divines, who employ it to denote that prefiguration of the great events of man's redemption which they have found or fancied in the principal tranſactions recorded in the Old Teſtament.

That the death of Chriſt for the ſins of men, and his reſurrection from the dead for their juſtification, were prefigured in the ritual worſhip inſtituted by Moſes, is indeed incontrovertible; but when divines conſider as a type every thing mentioned in the Hebrew Scriptures, in which an active imagination can diſcover the ſlighteſt reſemblance or analogy to any circumſtance in the life, or death, or reſurrection, of Chriſt, they expoſe the whole doctrine of *type*

to the ridicule of unbelievers, and do a real injury to that cauſe which it is their profeſſed intention to ſerve. To contend as ſome of them have done, that the extraction of Eve from the ſide of Adam, while he was in a deep ſleep, was intended as a type of the Roman ſoldier's piercing our Saviour's ſide while he ſlept the ſleep of death; or that the envy of the ſons of Jacob to their brother Joſeph, was typical of the envy of the Scribes and Phariſees to Jeſus the Meſſiah, is to burleſque the Scriptures, and inſult reaſon. The nature of types ſeems indeed to be very little underſtood even by thoſe who pretend to have ſtudied them with care. They are generally compared to prophecies having a double ſenſe, and are thought to have been ſo contrived as to give information of the future events to which they pointed; but the information which they gave of Chriſtianity muſt have been exceedingly obſcure, to thoſe who lived before the coming of Chriſt, however plain it may appear to us who can now compare the type with the antitype. A different opinion has indeed been maintained, not only by myſtical cabaliſts, who will maintain any thing from which common ſenſe revolts, but alſo by writers who, when treating of other ſubjects, have ſhown that they poſſeſſed very ſound underſtandings.

TYPE, among letter-founders and printers, the ſame with letter. See LETTER.

TYPE, is alſo uſed to denote the order obſerved in the intenſion, and remiſſion of fevers, pulſes, &c.

TYPHA, CAT'S TAIL, in botany: a genus of plants belonging to the claſs of *monœcia*, and order of *triandria*; and in the natural ſyſtem ranging under the 3d order, *Calamariæ*. The amentum of the male flower is cylindrical; the calyx is tripetalous, but ſcarcely diſtinguiſhable; there is no coralla. The female has a cylindrical amentum below the male; the calyx is compoſed of villous hair; there is no corolla, and only one ſeed fixed in a capillary pappus. There are two ſpecies, both natives of Britain; the latifolia and anguſtifolia. 1. *Latifolia*, great cat's tail, or reed mace, is frequent in ponds and lakes. The ſtalk is ſix feet high; the leaves a yard long, hardly an inch wide, convex on one ſide: the amentum, or cylindrical club, which terminates the ſtalk, is about ſix inches long, of a dark brown or fiſcous colour. Cattle will ſometimes eat the leaves, but Schreber thinks them noxious: the roots have ſometimes been eaten in ſallads, and the down of the amentum uſed to ſtuff cuſhions and mattreſſes. Linnæus informs us, that the leaves are uſed by the coopers in Sweden to bind the hoops of their caſks. 2. *Anguſtifolia*, narrow-leaved cat's tail, is found in pools and ditches. The leaves are ſemi-cylindrical, and the male and female ſpike are remote and ſlender.

TYPHON. See WHIRLWIND.

TYPHON, the devil of the ancient Egyptians. See POLYTHEISM.

TYPOGRAPHY, the art of printing. See PRINTING.

TYRANNION, a celebrated grammarian in Pompey's time, was of Amiſus in the kingdom of Pontus. He was the ſcholar of Dionyſius of Thrace at Rhodes. He fell into the hands of Lucullus, when that general of the Roman army defeated Mithridates, and ſeized his dominions. This captivity of Tyrannion was no diſadvantage to him, ſince it procured him an opportunity of being illuſtrious at Rome, and raiſing a fortune. He ſpent it, among other things, in making a library of above 30,000 volumes. He died very old, being worn out with the gout. His care in collecting books contributed very much to the preſervation of Ariſtotle's works.

TYRANT, among the ancients, denoted ſimply a king or monarch; but the ill uſe which ſeveral perſons inveſted with that ſacred character made of it, has altered the import of the word; and tyrant now carries with it the idea of an unjuſt or cruel prince, who invades the people's liberty, and rules in a more deſpotic manner than the laws of nature or of the country allow.

TYRE, formerly a celebrated city of Aſia, on the coaſt of Syria, ſituated under the 54th degree of eaſt longitude, and 32d of north latitude. It was built, according to ſome writers, 2760 years before the chriſtian era. There were two cities of that name; the one called *Palætyrus*, ſituated on the continent; and the other the city of *Tyre*, built on an iſland about half a mile from the ſhore. It was about 19 miles in circumference, including Palætyrus; the town on the iſland was about four miles round. The buildings of Tyre were very magnificent; the walls were 150 feet high, and broad in proportion. This city was at one period the moſt famous commercial city in the world. Of its commercial tranſactions, the moſt particular account that is to be found in any ancient writer has been given by the prophet Ezekiel, which at the ſame time conveys a magnificent idea of the extenſive power of that ſtate. It reſiſted Nebuchadnezzar king of Babylon for 13 years; at the end of which, wearied with endleſs efforts, the inhabitants reſolved to place the ſea between them and their enemy, and paſſed accordingly into the iſland. The new city ſtood out againſt Alexander the Great for ſeven months; and before he could take it, he was obliged to fill up the ſtrait which ſeparated the iſland from the continent. It was repaired afterwards by Adrian, and became the metropolis of the province. It afterwards fell into the hands of the Arabs; and after being taken by Baldwin II. king of Jeruſalem, it was deſtroyed by the ſultan of Egypt in 1289, and abandoned, never more to riſe from its ruins. An excellent account of its ſituation and modern ſtate may be found in Volney's Travels, vol. ii. It now conſiſts of a ſmall village, compoſed of wretched huts, containing about 50 or 60 poor families. The words of Ezekiel are literally fulfilled, "And they ſhall make a ſport of their riches." (Ezek. xxvi. 12, 13, 14.) Mr. Bruce ſaw this queen of the nations converted into a place for fiſhers to dry their nets in. Its harbour, formerly ſo famous for its ſhipping, is now almoſt choaked up. It is called *Sour* or *Tſour* by the Orientals.

TYRIAN DYE. See MUREX and PURPURA.

TYRONE, a county of Ireland, in the province of Ulſter, 46 miles in length and 37 in breadth; bounded on the north by Londonderry, on the eaſt by Armagh and Lough-Neagh, on the ſouth by Fermanagh, and on the weſt by Donnegal. It is a rough and rugged country, but tolerably fruitful; contains 12,683 houſes, 30 pariſhes, 4 baronies, 4 boroughs, and ſends 10 members to parliament. The principal town is Dungannon.

U, V.

U or u, the 20th letter and 5th vowel of our alphabet, is formed in the voice by a round configuration of the lips, and a greater extruſion of the under one than in forming the letter o, and the tongue is alſo more cannulated. The ſound is ſhort in *curſt, muſt, tun, tub*; but is lengthened by a final *e*, as in *tune, tube*, &c. In ſome words it is rather acute than long; as in *brute, flute, lute*, &c. It is moſtly long in polyſyllables; as in *union, curious*, &c. but in ſome words it is obſcure, as in *nature, venture*, &c. This letter in the form of V, or v, is properly a conſonant, and as ſuch is placed before all the vowels; as in *vacant, venal, vibrate*, &c. Though the letters v and u had always two ſounds, they had only the form v till the beginning of the fourth century, when the other form was introduced, the inconvenience of expreſſing two different ſounds by the ſame letter having been obſerved long before. In numerals V ſtands for five; and with a daſh added at top, thus $\overline{V}$, it ſignifies 5000. In abbreviations, amongſt the Romans, V. A. ſtood for *veterani aſſignati*; V. B. *viro bono*; V. B. A. *viri boni arbitratu*; V. B. F. *vir bonæ fidei*; V. C. *vir conſularis*; V. C. C. F. *vale conjux chariſſime. feliciter*; V. D. D. *voto dedicatur*; V. G. *verbi gratia*; Vir. Ve. *virgo veſtalis*; VL. *videlicet*; V. N. *ui nto nonarum.*

VACCINIUM, the WHORTLE-BERRY, or *Bilberry*, in botany: a genus of plants of the claſs of *octandria*, and order of *monogynia*; and arranged in the natural ſyſtem under the 18th order, *Bicornes*. The calyx is ſuperior; the corolla monopetalous; the filaments inſerted into the receptacle; the berry quadrilocular and polyſpermous. There are 15 ſpecies; the moſt remarkable of which are, 1. The *myrtillus*, black-whorts, whortle berries, or bilberries, growing in woods and on heaths abundantly. The flowers frequently vary, with five ſegments at the rim, and with ten ſtamina. The berries when ripe are of a bluiſh black colour, but a ſingular variety, with white berries, was diſcovered by the duke of Athol, growing in the woods, about mid-way between his two ſeats of Dunkeld and Blair. The berries have an aſtringent quality. In Arran and the Weſtern Iſles they are given in diarrhœas and dyſenteries with good effect. The Highlanders frequently eat them in milk, which is a cooling agreeable food; and ſometimes they make them into tarts and jellies, which laſt they mix with whiſky, to give it a reliſh to ſtrangers.—They dye a violet colour; but it requires to be fixed with alum. The grous feed upon them in the autumn. 2. The *uliginoſum*, or great bilberry buſh, is found in low moiſt grounds, and almoſt at the ſummits of the Highland mountains. The leaves are full of veins, ſmooth and glaucous, eſpecially on the under ſide; the berries are eatable, but not ſo much eſteemed as the preceding; as they are apt, if eaten in any quantity, to give the headach. 3. The *vitis idæa*, or red whortle-berries, frequent in dry places, in heaths, woods, and on mountains. The berries have an acid cooling quality, uſeful to quench the thirſt in fevers. The Swedes are very fond of them made into the form of a rob or jelly, which they eat with their meat as an agreeable acid, proper to correct the animal alkali. 4. The *oxycoccus*, cran berries, moſs-berries, or moor-berries, frequent on peat-bogs in the Lowlands, but not ſo common in the Highlands of Scotland. The ſtalks are long, ſlender, woody, weak, and trailing; the leaves are ſtiff, acutely oval, glaucous underneath, their edges turned back, and grow alternate; two or three flowers grow ſingly on long red footſtalks out of the extremity of the branches the flowers are red, divided deeply into four acute ſegments, which are reflexed quite backwards; the filaments are downy; the antheræ ferruginous and longer than the filaments: the berries red, and about the ſize of the hawthorn berries. At Longtown, on the borders of Cumberland, they are made ſo conſiderable an article of commerce, that, at the ſeaſon when they are ripe, not leſs than 20l. or 30l.'s worth are ſold by the poor people each market-day for five or ſix weeks together, which are afterwards diſperſed over different parts of the kingdom for making the well-known cranberry tarts.

VACUUM, in philoſophy, denotes a ſpace empty or devoid of all matter or body. It has been a matter of much diſpute among philoſophers whether there be in nature a perfect vacuum, or ſpace void of all matter; but if bodies conſiſt of material ſolid atoms, it is evident that there muſt be vacuities, or motion would be impoſſible. (See METAPHYSICS.) We can even produce ſomething very near a vacuum in the receiver of an air-pump and in the Torricellian tube (ſee PNEUMATICS, *paſſim*); and it is very doubtful whether the particles of the denſeſt bodies known be in perfect contact. See OPTICS.

VADIUM, a pledge in law, is either *vivum* or *mortuum*.

VADIUM *Vivum*, or *Living Pledge*, is when a man borrows a ſum (ſuppoſe 200l.) of another; and grants him an eſtate, as of 20l. *per annum*, to hold till the rents and profits ſhall repay the ſum ſo borrowed. This is an eſtate conditioned to be void as ſoon as ſuch ſum is raiſed. And in this caſe the land or pledge is ſaid to be living: it ſubſiſts, and ſurvives the debts; and, immediately on the diſcharge of that, reſults back to the borrower.

VADIUM *Mortuum*, or *Dead Pledge*. See MORTGAGE.

VAGABOND, or VAGRANT, one who wanders illegally, without a ſettled habitation. Such perſons are cognizable by the laws. See IDLENESS.

VAGINA, properly ſignifies a ſheath or ſcabbard; and the term *vagina*, is uſed in architecture for the part of a terminus, becauſe reſembling a ſheath out of which the ſtatue ſeems to iſſue.

VAGINA, in anatomy, a canal reaching from the external orifice, or, os pudendi, of women, to the uterus.

VAILLANT (John Foy), a phyſician and great medaliſt, to whom, according to Voltaire, France was indebted for the ſcience of medals, and Louis XIV. for one half of his cabinet, was born at Beauvais in 1632. Through the means of the miniſter Colbert he travelled into Italy, Greece, Egypt, and Perſia, to collect medals for the royal cabinet; and returned with ſo many as made the king's cabinet ſuperior to any in Europe. In one of his voyages the ſhip he ſailed in was fallen upon and taken by an Algerine corſair. After a captivity of near five months he was permitted to return to France, and received at the ſame time 20 gold medals which had been taken from him. He embarked in a veſſel bound for Marſeilles, and was carried on with a favourable wind for two days, when another corſair appeared, which in ſpite of all the ſail they could make, bore down upon them within the reach of cannon-ſhot. Mr.

Vaillant, dreading the miſeries of a freſh ſlavery, reſolved, however, to ſecure the medals which he had received at Algiers, and in order thereto ſwallowed them. But a ſudden turn of the wind freed them from this adverſary, and caſt them upon the coaſts of Catalonia; where after expecting to run aground every moment, they at length fell among the ſands at the mouth of the Rhone. Mr. Vaillant got to ſhore in a ſkiff, but felt himſelf extremely incommoded with the medals he had ſwallowed, which might weigh altogether five or ſix ounces, and therefore did not paſs like Scarborough waters. He had recourſe to a couple of phyſicians, who were a little puzzled with the ſingularity of his caſe; however, nature relieved him from time to time, and he found himſelf in poſſeſſion of the greateſt part of his treaſure when he got to Lyons. Here he explained, with much pleaſure to his friends, thoſe medals which were already come to hand, as well as thoſe which were daily expected; among which laſt was an Otho, valuable for its rarity.—He was much careſſed on his return; and when Louis XIV. gave a new form to the Academy of Inſcriptions in 1701, Mr. Vaillant was firſt made aſſociate, and then penſionary. He wrote ſeveral works relating to ancient coins, and died in 1706.

VAIR, or VAIRE, a kind of fur, formerly uſed for lining the garments of great men and knights of renown. It is repreſented in engraving by the figures of little bells reverſed, ranged in a line. See HERALDRY, Chap. II. ſect. 2.

VAIRY, in heraldry, expreſſes a coat, or the bearings of a coat, when charged or chequered with vairs.

VALAIS, a valley in Switzerland, which extends from the ſource of the river Rhone to the lake of Geneva. It is near 100 miles in length, but the breadth is very unequal. It is bounded on the north by the Alps, which ſeparate it from the cantons of Bern and Uri, on the eaſt by the mountains of Forche, on the ſouth by the duchy of Milan and the Val d'Aoſte, and on the weſt by Savoy and the republic of Geneva. The inhabitants profeſs the Roman-catholic religion, and are ſubject to the ſwelling of the throat called *bronchocele*; and ideots are ſaid to abound among them more than in any other place of the globe. They are naturally hardy, enterpriſing, and good-natured. It is ſurrounded on all ſides by very high mountains, moſt of which are covered with ſnow and ice that never thaw. However the ſoil is fertile in corn, wine, and good fruit. The muſcat wine, which is produced here, is excellent, and well known all over Europe. There are mineral waters, plenty of game, and ſome mines. This country comprehends 55 large pariſhes, to which one biſhop only belongs, whoſe ſee is at Sion the capital. The mountains afford good paſture for their cattle in ſummer, and their harveſt continues from May to October; it being ſooner or later according to the ſituation of the place.

VALANTIA, in botany: a genus of plants in the order *monœcia*, of the claſs *polygamia*, and in the natural ſyſtem arranged under the 41ſt order, the *Aſperifoliæ*. There is ſcarcely any calyx; the corolla is monopetalous, flat, four-parted; the ſtamina four, with ſmall antheræ: the hermaphrodite flowers have a piſtillum with a large germen, a bifid ſtyle, the length of the calyx, and one ſeed; the piſtilla of the male flowers are hardly diſcernible. There are eight ſpecies, only one of which is a native of Britain, the *cruciata*; the ſtalks of which are ſquare, the whole plant hairy, the leaves oval and verticillate, four in a whirl; the flowers are yellow, and grow on ſhort peduncles out of the alæ of the leaves. The roots, like thoſe of the galiums, to which it is nearly related, will dye red. It is aſtringent, and was once uſed as a vulnerary.

VALENCIA, a province of Spain, which has the title of a kingdom; and is bounded on the eaſt and ſouth by the Mediterranean ſea, on the north by Catalonia and Arragon, and on the weſt by New Caſtile and the kingdom of Murcia. It is about 165 miles in length, and 63 in breadth. It is one of the moſt populous and agreeable parts of Spain, and where they enjoy almoſt a perpetual ſpring. The great number of rivers wherewith it is watered renders it extremely fertile, particularly in fruits and wine. There are very rugged mountains in it, which contain mines of alum and other minerals.

VALENCIA, a city of Spain, and capital of the kingdom of the ſame name. It contains about 12,000 houſes, beſides thoſe of the ſuburbs and the ſummer-houſes round it. It has an univerſity, and an archbiſhop's ſee; and was taken from the Moors by the Chriſtians in the 13th century. The town is handſome, and adorned with very fine ſtructures. It is not very ſtrong, though there are ſome baſtions along the ſides of the walls. They have manufactures in wool and ſilk, which bring in great ſums to the inhabitants. It is ſeated on the river Guadalaviar, over which there are five handſome bridges; and it is about three miles from the ſea, where there is a harbour: 110 miles north of Murcia, and 165 eaſt by ſouth of Madrid. This city ſurrendered to the earl of Peterborough in the year 1705; but it was loſt again in 1707. W. Long. 0. 10. N. Lat. 39. 23.

VALENCIENNES, an ancient, ſtrong, and conſiderable city of France, in the department of the North and late province of Hainault. It contains about 20,000 ſouls. The Scheld divides it into two parts. It is a very important place; the citadel and fortifications, the work of Vauban, were conſtructed by order of Louis XIV. who took this town from the Spaniards. It was confirmed to him by the treaty of Nimeguen, in 1678. In 1793 it ſurrendered to the allies after a ſevere ſiege, but was afterwards abandoned; and is now in the poſſeſſion of the French republicans. Beſides lace, this city is noted for manufactories of woollen ſtuffs and very fine linens. It is 20 miles weſt-ſouth-weſt of Mons, 17 north-eaſt of Cambray, and 120 north-eaſt by north of Paris. E. Long. 3. 37. N. Lat. 50 21.

VALENS (Flavius), emperor of the Eaſt, a great patron of the Arians. Killed by the Goths in the year 379.

VALENTINIAN I. emperor of the Weſt, a renowned warrior, but a tyrant over his ſubjects. The exploits of this monarch are amply detailed in the Roman Hiſtory.

VALENTINIAN II. emperor of the Weſt, a prince celebrated for his virtues, and above all for his moderation; yet a conſpiracy was formed againſt him by Arbogaſtes, the commander in chief of his armies; and he was ſtrangled in the year 392.

VALENTINIANS, in church hiſtory, a ſect of Chriſtian heretics, who ſprung up in the ſecond century, and were ſo called from their leader Valentinus. The Valentinians were only a branch of the Gnoſtics, who realized or perſonified the Platonic ideas concerning the Deity, whom they called *Pleroma* or *Plenitude*. Their ſyſtem was this: the firſt principle is Bythos, *i. e.* Depth, which remained many ages unknown, having with it Ennoe or Thought, and Sige or Silence; from theſe ſprung the Nous or Intelligence, which is the only ſon, equal to and alone capable of comprehending the Bythos; the ſiſter of Nous they called *Aletheia* or *Truth*; and theſe conſtituted the firſt quaternity of æons, which were the ſource and original of all the reſt: for Nous and Aletheia produced the World and Life; and from theſe two proceeded Man and the Church. But beſides theſe eight principal æons, there were 22 more; the laſt of which, called *Sophia*, being deſirous to arrive at the knowledge of

Bythos, gave herſelf a great deal of uneaſineſs, which created in her Anger and Fear, of which was born Matter. But the Horas or Bounder ſtopped her, preſerved her in the Pleroma, and reſtored her to Perfection. Sophia then produced the Chriſt and the Holy Spirit, which brought the æons to their laſt perfection, and made every one of them contribute their utmoſt to form the Saviour. Her Enthymeſe, or Thought, dwelling near the Pleroma, perfected by the Chriſt, produced every thing that is in the world by its divers paſſions. The Chriſt ſent into it the Saviour, accompanied with angels, who delivered it from its paſſions without annihilating it: from thence was formed corporeal matter. And in this manner did they romance concerning God, nature, and the myſteries of the Chriſtian religion.

VALERIAN, or VALERIANUS (Publius Licinius), emperor of Rome, remarkable for his captivity and cruel treatment by Sapor I. king of Perſia. See the hiſtories of Rome.

VALERIANA, in botany: a genus of plants belonging to the claſs *triandria* and order *monogynia*, and in the natural ſyſtem arranged under the 48th order, *Aggregatæ*. There is hardly any calyx; the corolla is monopetalous, gibbous at the baſe, ſituated above the germen; there is only one ſeed. There are 21 ſpecies, only four of which are natives of Britain, the *officinalis*, the *locuſta*, the *rubra*, the *dioica*; of theſe only the officinalis is uſeful. The root of this plant is perennial: the ſtalk is upright, ſmooth, channelled, round, branched, and riſes from two to four feet in height: the leaves on the ſtem are placed in pairs upon ſhort broad ſheaths; they are compoſed of ſeveral lance-ſhaped, partially dentated, veined, ſmooth pinnæ with an odd one at the end, which is the largeſt: the floral leaves are ſpear-ſhaped and pointed; the flowers are ſmall, of a white or purpliſh colour, and terminate the ſtem and branches in large bunches. It flowers in June, and commonly grows about hedges and woods.

It is ſuppoſed to be the φυ of Dioſcorides and Galen, by whom it is mentioned as an aromatic and diuretic: it was firſt brought into eſtimation in convulſive affections by Fabius Columna, who relates that he cured himſelf of an epilepſy by the root of this plant: we are told, however, that Columna ſuffered a relapſe of the diſorder; and no further accounts of the efficacy of valerian in epilepſy followed till thoſe publiſhed by Dominicus Panarolus fifty years afterwards, in which three caſes of its ſucceſs are given. To theſe may be added many other inſtances of the good effects of valerian root in this diſeaſe, ſince publiſhed by Cruger, Schuchmann, Riverius, Sylvius, Marchant, Chomel, Sauvages, Tiſſot, and others.

The advantages ſaid to be derived from this root in epilepſy cauſed it to be tried in ſeveral other complaints termed *nervous*, particularly thoſe produced by increaſed mobility and irritability of the nervous ſyſtem, in which it has been found highly ſerviceable. Bergius ſtates its virtues to be antiſpaſmodic, diaphoretic, emmenagogue, diuretic, anthelmintic. The root in ſubſtance is moſt effectual, and is uſually given in powder from a ſcruple to a dram: its unpleaſant flavour may be concealed by a ſmall addition of mace. A tincture of valerian in proof ſpirit and in volatile ſpirit are ordered in the London Pharmacopœia.—Cats are very fond of the ſmell of this root, and ſeem to be intoxicated by it.

VALERIUS MAXIMUS, a Latin hiſtorian, ſprung from the families of the Valerii and Fabii, which made him take the name of *Valerius Maximus*. He ſtudied polite literature, and afterwards followed Sextus Pompey to the wars. At his return he compoſed an account of the actions and remarkable ſayings of the Romans and other great men; and dedicated that work to the emperor Tiberius. Many of the learned think that this is the ſame that is now extant, and bears the name of Valerius Maximus; but others maintain, that what we have now is only an abridgment of the work written by this celebrated hiſtorian, and that this abridgment was made by one Nepotian of Africa. However, this work is well written, and contains a great number of memorable actions performed by the Greeks and Romans that are worthy of being read.

VALET, a French term, uſed as a common name for all domeſtic men-ſervants employed in the more ſervile offices, as grooms, footmen, coachmen, &c. But with us it is only uſed in the phraſe *valet de chambre*, which is a ſervant whoſe office is to dreſs and undreſs his maſter, &c.

VALETTA, a city of Malta, and capital of the iſland (ſee Malta). It is ſituated in E. Long. 14. 34. N. Lat. 35. 54.

VALETUDINARY, among medical writers, denotes a perſon of a weak and ſickly conſtitution, and frequently out of order.

VALID, in law, an appellation given to acts, deeds, tranſactions, &c. which are clothed with all the formalities requiſite to their being put into execution, and to their being admitted in a court of juſtice.

VALLADOLID, a town of Spain, in the province of Leon, on a ſmall river called *Eſquava*, near the Piſuerga. The ſee of a biſhop, and an univerſity, founded in the year 1346. Several of the churches of Valladolid, thoſe eſpecially of the Dominicans and of San Benito, are elegant, agreeably to the Spaniſh taſte, that is handſome, and full of altars richly guilt. Valladolid is not wholly without manufactures, ſome ſtuffs and coarſe cloths are made there from the wool of the ſheep which are kept in the neighbourhood. There are alſo gold and ſilver-ſmiths; and one ſtreet is entirely inhabited by jewellers. This is very lively, and full of buſineſs, as are all the others, which terminate in the great ſquare. An academy of the Belles Lettres was eſtabliſhed here, in the year 1752: eighty-four miles NNW. Madrid. Long. 11. 57. E. Peak of Teneriffe. Lat. 41. 42. N.

VALVE, in hydraulics, pneumatics, &c. is a kind of lid or cover of a tube or veſſel ſo contrived as to open one way, but which, the more forcibly it is preſſed the other way, the cloſer it ſhuts the aperture; ſo that it either admits the entrance of a fluid into the tube or veſſel, and prevents its return; or admits its eſcape, and prevents its re-entrance.

VALVE, in anatomy, a thin membrane applied on ſeveral cavities and veſſels of the body, to afford a paſſage to certain humours going one way, and prevent their reflux towards the place from whence they came.

VAMPYRE, a ſpecies of bat. See VESPERTILIO.

VAN, a term derived from the French *avant*, or *avaunt*, ſignifying before or foremoſt of any thing; thus we ſay, the van-guard of the army, &c.

VANBRUGH (Sir John), a celebrated Engliſh dramatic writer and architect, was deſcended of a family in Cheſhire which came from France, though by his name he appears to have been originally of Dutch extraction. He was born about the middle of the reign of Charles II. and received a liberal education. His firſt comedy, called the *Relapſe*, or *Virtue in Danger*, was acted in the year 1697 with great applauſe; which gave him ſuch encouragement, that he wrote eleven more comedies. He was the friend of Mr. Congreve, whoſe genius was naturally turned for dramatic performances; and theſe two gave new life to the Engliſh ſtage, and reſtored its reputation, which had been for ſome time ſinking: but their making vicious perſons their moſt amiable and ſtriking characters, and their bordering too much on obſcenity, could be of no ſervice to the cauſe of virtue; and therefore it was not without reaſon that they were attacked by Mr. Collier, in his piece on the Immorality and Profaneneſs of the Stage. However, either the reputation Sir John gained by his come-

dies, or his ſkill in architecture, procured him very conſiderable advantages. He was appointed Clarencieux king at arms, which he afterwards diſpoſed of. In 1716 he was appointed ſurveyor of the works at Greenwich hoſpital: he was likewiſe made comptroller-general of his majeſty's works, and ſurveyor of all the gardens and waters. He was an able architect; but his performances in that way are eſteemed heavy. Under his direction were raiſed Blenheim-houſe in Oxfordſhire, Claremont in Surrey, and his own houſe at Whitehall. He died of a quinſey in 1726.

VANDELLIA, in botany: a genus of plants belonging to the claſs *didynamia* and order *angioſpermia*. The calyx is ſubquadrifid; the corolla ringent; the two exterior filaments proceed from the diſc of the lip of the corolla; the antheræ are connected; the capſule is unilocular and polyſpermous. There is only one ſpecies known, the *diffuſa*.

VAN-DIEMEN'S LAND. See DIEMEN.

VAN DYCK (Sir Anthony), a moſt illuſtrious painter, was born at Antwerp in 1599, and trained under the no leſs illuſtrious Rubens. Afterwards he went to Italy, ſtaid a ſhort time at Rome, and then removed to Venice; where he attained the beautiful colouring of Titian, Paul Veroneſe, and the Venetian ſchool: proofs of which appeared in the pictures he drew at Genoa, where he left behind him many excellent pieces. After a few years ſpent abroad, he returned to Flanders, with a manner of painting ſo noble, natural, and eaſy, that Titian himſelf was hardly his ſuperior; and no other maſter in the world equal to him in portraits. The Prince of Orange, hearing of his fame, ſent for him to draw the pictures of his princeſs and children. Cardinal Richelieu invited him to France; where, not liking his entertainment, he ſtaid but a little time. Then he came over to England, ſoon after Rubens had left it, and was entertained in the ſervice of Charles I. who conceived a marvellous eſteem for his works; honoured him with knighthood; preſented him with his own picture, ſet round with diamonds; aſſigned him a conſiderable penſion; ſate very often to him for his portrait; and was followed by moſt of the nobility and gentry of the kingdom. He acquired great riches by his profeſſion; married one of the faireſt ladies of the Engliſh court, a daughter of the lord Ruthen earl of Gowry; and, though he had little with her except her beauty and her quality, lived in a ſtate and grandeur anſwerable to her birth. He grew weary, towards the latter end of his life, of the continued trouble that attended face-painting; and, being deſirous of immortalizing his name by ſome more glorious undertaking, went to Paris, in hopes of being employed in the grand gallery of the Louvre. Not ſucceeding there, he returned to England; and propoſed to the king, by his friend Sir Kenelm Digby, to make cartoons for the Banquetting-houſe at Whitehall. The ſubject was to have been the inſtitution of the order of the garter, the proceſſion of the knights in their habits, with the ceremony of their inſtallment, and St. George's feaſt: but his demand of 8000l. being thought unreaſonable, while the king was treating with him for a leſs ſum, the gout and other diſtempers put an end to his life. He died in 1641, aged forty-two years; and was buried in St. Paul's cathedral, where his monument, whatever it was, periſhed by the fire.

VANE, a thin ſlip of bunting hung to the maſt-head, or ſome other conſpicuous place in the ſhip, to ſhow the direction of the wind. It is commonly ſewed upon a wooden frame called the *ſtock*, which contains two holes whereby to ſlip over the ſpindle, upon which it turns about as the wind changes.

VANILLA, or VANILLO. See EPIDENDRUM.

VAPOUR, in philoſophy, the particles of bodies rarefied by heat, and thus rendered ſpecifically lighter than the atmoſphere, in which they riſe to a conſiderable height. See EVAPORATION, DAMP, GAS, &c. Many kinds of vapour are unfriendly to animal life, but the moſt noxious are thoſe which ariſe from metallic ſubſtances. In the ſmelting and refining of lead, a white vapour ariſes, which, falling upon the graſs in the neighbourhood, imparts a poiſonous quality to it, ſo that the cattle which feed there will die; and in like manner ſtagnant waters impregnated with this vapour will kill fiſh. In ſome places the earth exhales vapours of a very noxious quality; ſuch as the Grotto del Cani, and other places in Italy, where a mephitic vapour conſtantly hovers over the ſurface of the ground, proving inſtantly fatal to ſuch animals as are immerſed in it. In ſome parts of the world there have been inſtances of people killed, and almoſt torn to pieces, by a vapour ſuddenly burſting out of the earth under their feet. Of the *aqueous* vapour raiſed from the earth by the ſun's heat are formed the clouds; but though theſe are commonly at no great diſtance from the earth, we cannot from thence determine the height to which the vapours aſcend. Indeed, conſidering the great propenſity of water, and even quickſilver, to evaporate in the moſt perfect vacuum we can make, it is by no means probable that any limit can be fixed for this aſcent. See WEATHER.

VAPOURS, *noxious*, method of diſſipating. The following ingenious method of diſſipating the noxious vapours commonly found in wells and other ſubterraneous places, is related in the Tranſ. Philadel. by Mr. Robinſon of Philadelphia the inventor. "After various unſucceſsful trials (ſays he), I was led to conſider how I could convey a large quantity of freſh air from the top to the bottom of the well, ſuppoſing that the foul would neceſſarily give way to the pure air. With this view I procured a pair of ſmith's bellows, fixed in a wooden frame, ſo as to work in the ſame manner as at the forge. This apparatus being placed at the edge of the well, one end of a leathern tube (the hoſe of a fire-engine) was cloſely adapted to the noſe of the bellows, and the other end was thrown into the well, reaching within one foot of the bottom. At this time the well was ſo infected, that a candle would not burn at a ſhort diſtance from the top; but, after blowing with my bellows only half an hour, the candle burned bright at the bottom; then, without farther difficulty, I proceeded in the work, and finiſhed my well. Wells are often made in a very ſlight manner, owing to the difficulty of working in them, and there have been ſeveral fatal inſtances of the danger attending the workmen; but, by the above method, there is neither difficulty nor danger in completing the work with the utmoſt ſolidity. It is obvious, that in cleanſing vaults, and working in any other ſubterraneous place, ſubject to damps as they are called, the ſame method muſt be attended with the ſame beneficial effect."

VAPOURS, in medicine, a diſeaſe properly called *hyp*, or the *hypochondriacal diſeaſe*; and in men particularly, the *ſpleen*. See MEDICINE.

VAPOUR-*Bath*, in chemiſtry, a term applied to a chemiſt's bath or heat, wherein a body is placed ſo as to receive the fumes of boiling water. It conſiſts of two veſſels, diſpoſed over one another in ſuch manner as that the vapour raiſed from the water contained in the lower heats the matter incloſed in the upper. It is very commodious for the diſtilling of odoriferous waters, and the drawing of ſpirit of wine. We alſo uſe the term *vapour-bath*, when a ſick perſon is made to receive the vapours ariſing from ſome liquid matter placed over a fire. Many contrivances have been propoſed for this purpoſe; and their expediency and utility are beſt known to thoſe who are converſant in this buſineſs. A late writer has ſuggeſted a new conſtruction of vapour-baths; and the whole

apparatus is reduced to a tin-boiler, tin pipes wrapped in flannel, and a deal box with a cotton cover, for the reception of the body and circulation of the vapour.

VARI, in medicine, little, hard, and ruddy tumors, which frequently infeſt the faces of young perſons of a hot temperament of body.

VARIATION *of the Compaſs*, is the deviation of the magnetic or mariner's needle from the meridian or true north and ſouth line. On the continent it is called the *declination* of the magnetic needle; and this is a better term. Our readers know, that the needle of a mariner's compaſs is a ſmall magnet, exactly poiſed on its middle, and turning freely in a horizontal direction on a ſharp point, ſo that it always arranges itſelf in the plane of the magnetic action. We need not add any thing on this head to what has been delivered in the articles COMPASS and *Azimuth Compaſs*.

After the diſcovery of that moſt uſeful property of the magnet, or loadſtone, namely, the giving hardened iron and ſteel a polarity, the compaſs was for many years uſed without knowing that its direction in any-wiſe deviated from the poles of the world; and about the middle of the 16th century, ſo certain were ſome of its inflexibly pointing to the north, that they treated with contempt the notion of the variation, which about that time began to be ſuſpected. However, careful obſervations ſoon diſcovered, that in England and its neighbourhood, the needle pointed to the eaſtward of the true north; but the quantity of this deviation being known, mariners became as well ſatisfied as if the compaſs had none; becauſe they imagined that the true courſe could be obtained by making allowance for the true variation.

From ſucceſſive obſervations made afterwards, it was found, that the deviation of the needle from the north was not a conſtant quantity, but that it gradually diminiſhed; and at laſt, about the year 1660, it was found at London that the needle pointed due north, and has ever ſince been getting to the weſtward; and now the variation is more than 20° to the weſtward of the north: ſo that in any one place it may be ſuſpected the variation has a kind of libratory motion, traverſing through the north to unknown limits eaſtward and weſtward. But the ſettling of this point muſt be left to time.

During the time of the ſaid obſervations it was alſo diſcovered, that the variation of the needle was different in different parts of the world, it being weſt in ſome places when it was eaſt in others; and in places where the variation was of the ſame name, yet the quantity of it greatly differed. It was therefore found neceſſary, that mariners ſhould every day, or as often as they had opportunity, make during their voyage proper obſervations for an amplitude or azimuth; whereby they might be enabled to find the variation of the compaſs in their preſent place, and thence correct their courſes.

Dr. Halley publiſhed in the laſt century a theory of the variations of the compaſs. In this work he ſuppoſes there are four magnetic poles in the earth; two of which are fixed and two moveable, by which he explains the different variation of the compaſs at different times in the ſame place. But it is impoſſible to apply exact calculations to ſo complicated an hypotheſis. M. Euler, ſon of the celebrated geometrician of that name, has however ſhown, that two magnetic poles placed on the ſurface of the earth will ſufficiently account for the ſingular figure aſſumed by the lines which paſs through all the points of equal variation in the chart of Dr. Halley.

M. Euler firſt examines the caſe wherein the two magnetic poles are diametrically oppoſite; ſecond, he places them in the two oppoſite meridians, but at unequal diſtances from the poles of the world; third, he places them in the ſame meridians. Finally, he conſiders them ſituated in two different meridians. Theſe four caſes may become equally important; becauſe, if it is determined that there are only two magnetic poles, and that theſe poles change their ſituations, it may ſome time hereafter be diſcovered that they paſs through all the different poſitions.

Since the needle of the compaſs ought always to be in the plane which paſſes through the place of obſervation and the two magnetic poles, the problem is reduced to the diſcovery of the angle contained between this plane and the plane of the meridian. M. Euler, after having examined the different caſes, finds that they alſo expreſs the earth's magnetiſm, repreſented in the chart publiſhed by Meſſ. Mountaine and Dodſon in 1744, particularly throughout Europe and North America, if the following principles are eſtabliſhed.

Between the arctic pole and the magnetic pole 14° 53′.

Between the antarctic pole and the other magnetic pole 29° 23′.

53° 18′ the angle at the north pole, formed by the meridian's paſſing through the two magnetic poles.

250° the longitude of the meridian, which paſſes over the northern magnetic pole.

As the obſervations which have been collected with regard to the variation are for the moſt part looſe and inaccurate, it is impoſſible to repreſent them all with preciſion; and the great variations obſerved in the Indian Ocean ſeem to require, ſays M. Euler, that the three firſt quantities ſhould be 14, 35, and 65 degrees. In the mean time, the general agreement is ſufficiently ſatisfactory.

The high reputation of Dr. Halley's magnetical chart renders it more particularly neceſſary to point out the errors contained therein. There is evidently too little diſtance between the lines of no variation, of which one croſſes the equator 17° weſtward of London, and the other 119° to the eaſtward. This makes 136° only; whereas it ſhould neceſſarily exceed 180, and even 200, inaſmuch as the pole of the world is ſuppoſed further diſtant from the magnetic pole towards the ſouth than in the north, as is required by the other phenomena. Again, upon the coaſts diſcovered by Diemen, there was no variation in 1642; and Dr. Halley alſo ſuppoſes there was none in 1700. Meanwhile, by the alteration obſerved at Paris, the line of no variation ſhould be advanced 60° towards the ſouth, which will agree better with the calculations, and prove that the diſtance of the two interſections was really greater than Dr. Halley had eſtabliſhed.

The table of variation of Meſſ. Mountaine and Dodſon is accompanied with ſeveral intereſting particulars, which equally deſerve to be inſerted here.

At Barbadoes (ſays Captain Snow), the variation ſeems very nearly at a ſtand: for in the road I obſerved 5° eaſt; and by Dr. Halley's draught, in the year 1701, 5½°. In 1747, at Port Royal keys, Jamaica, I obſerved the variation 7° 20′ E.; and on the coaſt of Carthagena, the ſame week, off the high land of Santa Martha, 7° 45′ nearly ſouth of Port Royal. Therefore theſe curves are not much altered: the curve at Jamaica is nearly at a ſtand, as though tied, and the ſouth part of them with the reſt dropping to the weſtward.

Under the equator, in longitude 40° E. of London, the higheſt variation during the whole 56 years appears to be 17° ¼ W. and the leaſt 16° ½ W.: and in latitude 15° N. longitude 60° W. from London, the variation has been conſtantly 5° E. But in other places the caſe has been widely different. For in the latitude of 10° S. longitude 60° E. from London, the variation has decreaſed from 17° W. to 7° ¼ W.; and in latitude 10° S longitude 5° W. from London, from 2° ¼ W. to 12° ¾ W.; and in latitude 15° N. longitude 20°, it has increaſed from 1° W. to 9° W.

But there is ſtill a more extraordinary appearance in the Indian ſea. For inſtance, under the equator:

LONGITUDE E. from London. Degrees.	MAGNETICAL VARIATION in 1700. Degrees.	in 1756. Degrees.
40	16¾ Weſt.	16¾ Weſt.
45	17¾ W.	14½ W.
50	17½ W.	11¾ W.
55	16½ W.	8¾ W.
60	15¼ W.	6 W.
65	13½ W.	4½ W.
70	11½ W.	3¼ W.
75	9¾ W.	1 W.
80	7¾ W.	0¼ Eaſt.
85	5½ W.	1¼ E.
90	4¼ W.	1 E.
95	3¼ W.	0½ Weſt.
100	2½ W.	1 W.

Where the weſt variation, in the longitude 40° E. is the ſame in both the above years; and in 1700 the weſt variation ſeemed to be regularly decreaſing from longitude 50° E. to the longitude 100° E. but in 1756, we find the weſt variation decreaſing ſo faſt, that we have eaſt variation in the longitude 80°, 85°, and 90° E. and yet in the longitude 95° and 100° E. we have weſt variation again.

To theſe remarks may be ſubjoined the following extracts from the *Expoſition du calcul aſtronomique*, by M. de la Lande.

"At the royal obſervatory in Paris, a magnetical needle of four inches deviated from the N. 18° 10′ towards the weſt, on the 15th of February 1759: and on the 22d of April 1760, the ſame needle varied 18° 20′. It is indeed natural to conceive, that nothing can be preciſely aſcertained by 10′ upon a circle whoſe diameter is only four inches. It is nevertheleſs ſufficiently evident, that this variation continues to increaſe at Paris. In 1610 the needle declined 8° towards the eaſt, ſo that the variation has changed 26° 20′ in the ſpace of 150 years; and this appears particularly ſince 1740: for the ſame needle, which has always been uſed by M. Maraldi, is more than 3° advanced towards the weſt, beyond what it was at that period; and this makes 9′ in one year."

We ſee the needle frequently diſturbed both from its general annual poſition, and from the change made on it by the diurnal variation. This is probably the effect of auroræ boreales which are inviſible, either on account of thick weather or day-light. Van Swinden ſays, he ſeldom or never failed to obſerve auroræ boreales immediately after any anomalous motion of the needle; and concluded that there had been one at the time, though he could not ſee it. Since no needle but a magnetic one is affected by the aurora borealis, we may conclude, that there is ſome natural connection between this meteor and magnetiſm. This ſhould farther incite us to obſerve the circumſtance formerly mentioned, *viz.* that the ſouth end of the dipping needle points to that part of the heavens where the rays of the aurora appear to converge. We wiſh that this were diligently obſerved in places which have very different variation and dip of the mariner's needle.

For the diurnal and this irregular variation, conſult the Diſſertations of Celſus and of Hiorter, in the *Memoirs of Stockholm*; Wargentin, *Philoſophical Tranſactions*, vol. 48. Braun (*Comment. Petropol. Novi*, T. V. VII. IX.); Graham and Canton as above.

VARIETY, in botany, is a change in ſome leſs eſſential part or quality; as colour, ſize, pubeſcence or age.—Externally; by the plaiting or interweaving of the branches—by bundling or uniting of ſeveral ſtalks into one broad flat one; by the greater breadth, or narrowneſs, or curling of leaves—by becoming awnleſs, or ſmooth, or hirſute. Internally; by becoming mutilated in the corolla; or having one larger than ordinary—by luxuriancy, multiplication, or fulneſs—by becoming proliferous, or creſted—by bearing bulbs inſtead of ſeeds—or being viviparous. The uſual *cauſes* of variation are, climate, ſoil, expoſure, heat, cold, winds, culture.

VARIOLA, the SMALL-POX. See MEDICINE.

VARIX, in pathology, the dilatation of a vein, ariſing from the laxity of its coats. A common inſtance of this occurs in the legs of perſons who are afflicted with ulcers; which often ariſe from *varices*, and require, for their cure, a bandage or laced ſtocking.

VARNISH, a clear limpid fluid, capable of hardening without loſing its tranſparency, uſed by painters, gilders, &c. to give a luſtre to their works, to preſerve them and defend them from the air.

A coat of varniſh ought to poſſeſs the following properties: 1. It muſt exclude the action of the air; becauſe wood and metals are varniſhed to defend them from decay and ruſt. 2. It muſt reſiſt water; for otherwiſe the effect of the varniſh could not be permanent. 3. It ought not to alter ſuch colours as are intended to be preſerved by this means. It is neceſſary therefore that a varniſh ſhould be eaſily extended or ſpread over the ſurface, without leaving pores or cavities; that it ſhould not crack or ſcale; and that it ſhould reſiſt water. Now reſins are the only bodies that poſſeſs theſe properties. Reſins conſequently muſt be uſed as the baſes of varniſh. The queſtion which of courſe preſents itſelf muſt then be, how to diſpoſe them for this uſe? and for this purpoſe they muſt be diſſolved, as minutely divided as poſſible, and combined in ſuch a manner that the imperfections of thoſe which might be diſpoſed to ſcale may be corrected by others.

Reſins may be diſſolved by three agents. 1. By fixed oil. 2. By volatile oil. 3. By alcohol. And accordingly we have three kinds of varniſh: the fat or oily varniſh, eſſential varniſh, and ſpirit varniſh. Before a reſin is diſſolved in a fixed oil, it is neceſſary to render the oil drying. For this purpoſe the oil is boiled with metallic oxides; in which operation the mucilage of the oil combines with the metal, while the oil itſelf unites with the oxigene of the oxide. To accelerate the drying of this varniſh, it is neceſſary to add oil of turpentine. The eſſential varniſhes conſiſt of a ſolution of reſin in oil of turpentine. The varniſh being applied, the eſſential oil flies off, and leaves the reſin. This is uſed only for paintings. When reſins are diſſolved in alcohol, the varniſh dries very ſpeedily, and is ſubject to crack; but this fault is corrected by adding a ſmall quantity of turpentine to the mixture, which renders it brighter, and leſs brittle when dry.

We ſhall now give the method of preparing a number of varniſhes for different purpoſes.

A Varniſh for Toilet-boxes, Caſes, Fans, &c.—Diſſolve two ounces of gum maſtich and eight ounces of gum ſandarach in a quart of alcohol; then add four ounces of Venice turpentine.

A Varniſh for Wainſcots, Cane chairs, Iron-chairs, Grates.—Diſſolve in a quart of alcohol eight ounces of gum ſandarach, two ounces of ſeed lac, four ounces of roſin; then add ſix ounces of Venice turpentine. If the varniſh is wiſhed to produce a red colour, more of the lac and leſs of ſandarach ſhould be uſed, and a little *dragon's blood* ſhould be added. This varniſh is ſo thick that two layers of it are equal to four or five of another.

A Varniſh for Fiddles, and other Muſical Inſtruments.—Put four ounces of gum ſandarach, two ounces of lac, two ounces

of gum maſtich, an ounce of gum elemi, into a quart of alcohol, and hang them over a ſlow fire till they are diſſolved; then add two ounces of turpentine.

Varniſh in order to employ Vermilion for painting Equipages.—Diſſolve in a quart of alcohol ſix ounces of ſandarach, three ounces of gum lac, and four ounces of roſin; afterwards add ſix ounces of the cheapeſt kind of turpentine; mix with it a proper quantity of vermilion when it is to be uſed.

Gold-coloured Varniſh.—Pound ſeparately four ounces of ſtick lac, four ounces of gamboge, four ounces of dragon's blood, four ounces of anotta, and one ounce of ſaffron: put each of them ſeparately into a quart of alcohol, and expoſe them for five days in a narrow-mouthed bottle to the ſun, or keep them during that time in a very warm room, ſhaking them every now and then to haſten the ſolution. When they are all melted, mix them together. More or leſs of each of theſe ingredients will give the different tints of gold according as they are combined. In order to make ſilver imitate gold exactly when covered with this varniſh, the quantity of ingredients muſt be ſomewhat greater. The method of gilding ſilver-leaf, &c. with this varniſh is as follows: The ſilver-leaf being fixed on the ſubject, in the ſame manner as gold-leaf, by the interpoſition of proper glutinous matters, the varniſh is ſpread upon the piece with a bruſh or pencil. The firſt coat being dry, the piece is again and again waſhed over with the varniſh till the colour appears ſufficiently deep. What is called *gilt leather*, and many picture frames, have no other than this counterfeit gilding. Waſhing them with a little rectified ſpirit of wine affords a proof of this; the ſpirit diſſolving the varniſh, and leaving the ſilver-leaf of its own whiteneſs. For plain frames, thick tin-foil may be uſed inſtead of ſilver. The tin-leaf, fixed on the piece with glue, is to be burniſhed, then poliſhed with emery and a fine linen cloth, and afterwards with putty applied in the ſame manner: being then lacquered over with the varniſh five or ſix times, it looks very nearly like burniſhed gold. The ſame varniſh, made with a leſs proportion of the colouring materials, is applied alſo on works of braſs; both for heightening the colour of the metal to a reſemblance with that of gold, and for preſerving it from being tarniſhed or corroded by the air.

Oil Varniſhes.—Gum copal and amber are the ſubſtances principally employed in oil varniſhes; they poſſeſs the properties neceſſary for varniſhes, ſolidity, and tranſparency.—The copal being whiteſt, is uſed for varniſhing light, the amber for dark colours. It is beſt to diſſolve them before mixing them with the oil, becauſe by this means they are in leſs danger of being ſcorched, and at the ſame time the varniſh is more beautiful. They ſhould be melted in a pot on the fire; they are in a proper ſtate for receiving the oil when they give no reſiſtance to the iron ſpatula, and when they run off from it drop by drop. The oil employed ſhould be a drying oil, and perfectly free from greaſe. It ſhould be poured into the copal or amber by little and little, conſtantly ſtirring the ingredients at the ſame time with the ſpatula. When the oil is well mixed with the copal or amber, take it off the fire; and when it is pretty cool, pour in a greater quantity of the eſſence of turpentine than the oil that was uſed. After the varniſh is made, it ſhould be paſſed through a linen cloth. Oil varniſhes become thick by keeping; but when they are to be uſed, it is only neceſſary to pour in a little eſſence of turpentine, and to put them for a little on the fire. The turpentine is neceſſary in oil varniſhes to make them dry properly; generally twice as much of it is uſed as of oil. Leſs is neceſſary in ſummer than in winter. Too much oil hinders the varniſh from drying; but when too little is uſed, it cracks and does not ſpread properly. We ſhall ſubjoin the moſt uſeful oil varniſhes:

White Copal Varniſh.—On ſixteen ounces of melted copal pour four, ſix, or eight ounces of linſeed oil, boiled and quite free from greaſe. When they are well mixed, take them off the fire (not forgetting to ſtir them properly); and when pretty cool, pour in ſixteen ounces of the eſſence of Venice turpentine. Paſs the varniſh through a cloth.—Amber varniſh is made in the ſame way.

Black Varniſh for Coaches and Iron Work.—This varniſh is compoſed of bitumen of Paleſtine, roſin, and amber, melted ſeparately, and afterwards mixed; the oil is then added, and afterwards the turpentine, as directed above. The uſual proportions are, twelve ounces of amber, two ounces of roſin, two ounces of bitumen, ſix of oil, and twelve of the eſſence of turpentine.—Golden-coloured varniſh may be made alſo by ſubſtituting linſeed oil for alcohol.

Eſſential Oil Varniſhes.—The only eſſential oil varniſhes uſed are for pictures. Picture varniſhes ſhould be white, light, and quite tranſparent, which will preſerve the colours without giving them any diſagreeable tint; and it ſhould be poſſible to take them off the picture without injuring it. They are uſually made of gum maſtich and turpentine diſſolved together in ſome eſſential oil. The varniſh is paſſed through a cloth, and allowed to clarify. It is applied cold to the picture.

Varniſh for Glaſs, in order to preſerve it from the Rays of the Sun.—Pulveriſe a quantity of gum adragant, and let it diſſolve for twenty-four hours in the white of eggs well beat up; then rub it gently on the glaſs with a bruſh.

Varniſhes before they are uſed ſhould be carefully kept from duſt, which would ſpoil them; and they ſhould be kept in a veſſel quite clean and dry. When uſed, they ſhould be lifted lightly with a bruſh, and ſpread upon a ground altogether free from dirt and moiſture. The ſubſtance, after being varniſhed, ſhould be expoſed to the heat of the ſun, or placed in a warm room covered with a glaſs caſe, to keep out all filth. Oil varniſhes require more heat than alcohol varniſhes. The varniſh ſhould be put on very quickly, making great ſtrokes with the pencil or bruſh, taking care that theſe ſtrokes never croſs one another; it ſhould be ſpread equally, and never thicker than a leaf of paper; a ſecond coat ſhould not be put on till the firſt is quite dry. If the varniſh, after being put on, becomes dull and uneven, it muſt be taken off entirely, and new varniſh put on.

When wainſcot is to be varniſhed, it is firſt painted of a wooden colour. This colour is made by infuſing in water either red or yellow ochre (according to the colour wiſhed for), terra ombria (a kind of ochre), and white lead; into this as much as neceſſary is put of *parchment paſte*. Two thin coats of this are to be put on, and, after they are quite dry, the varniſh.

Varniſhes are poliſhed with pumice-ſtone and tripoli earth. The pumice-ſtone muſt be reduced to an impalpable power, and put upon a piece of ſerge moiſtened with water; with this the varniſhed ſubſtance is to be rubbed lightly and equally. The tripoli muſt alſo be reduced to a very fine powder, and put upon a clean woollen cloth moiſtened with olive oil, with which the poliſhing is to be performed. The varniſh is then to be wiped with ſoft linen, and, when quite dry, cleaned with ſtarch or Spaniſh white, and rubbed with the palm of the hand or with a linen cloth.

To recover colours or varniſh, and to take off the dirt and filth which may adhere to them, a ley is uſed made of potaſh and the aſhes of lees of wine. Take forty-eight ounces of potaſh, and ſixteen of the above-mentioned aſhes, and put them into ſix quarts of water, and the ley is made: inſtead of the aſhes an equal quantity of potaſh would probably do as well. To clean dirty colours, dilute ſome of this ley with four times its quantity of water, and rub the picture with it

then waſh it with river water; and when dry, give it a coat or two of varniſh. In order to take off a varniſh, waſh it with the above-mentioned ley, then with water, and then lift it off the ſubſtance on which it was with any iron inſtrument.—We ſhall finiſh this article with a deſcription of the famous Chineſe varniſh.

The Chineſe varniſh is not a compoſition, but a reſin which exudes from a tree called in China *tſi-chu*, "varniſh-tree." This tree grows in ſeveral provinces of the ſouthern parts of China. The Chineſe take the following method of propagating this tree: in ſpring they chooſe a vigorous ſhoot about a foot in length, which proceeds immediately from the trunk; and coat over the lower part, by which it adheres to the tree, with a kind of yellow earth, at leaſt three inches in thickneſs. This coat is carefully covered with a mat, to defend it from rain and the injuries of the air. Towards the autumnal equinox they detach a little of the earth, to obſerve in what condition the ſmall roots are, which begin to ſpring forth from the ſhoot. If they find that the filaments which compoſe them are of a reddiſh colour, they judge it is time to make an amputation; but they defer it if the roots are white, becauſe this colour ſhows that they are yet too tender: they then cloſe up the coat again, and wait till the ſpring following. When the ſhoot is ſeparated from the trunk of the tree, it is put into the earth; but in whatever ſeaſon it is planted, whether in ſpring or autumn, great care muſt be taken to put plenty of cinders into the hole prepared for it; without this precaution the ants would deſtroy the yet tender roots, or at leaſt deprive them of all their moiſture, and cauſe them to decay.

The Chineſe do not procure varniſh from the tſi-chu until its trunk is nearly five inches in diameter, which ſize it ſeldom attains to before ſeven or eight years. Varniſh extracted from a tree ſmaller or of leſs age would not have the ſame body and ſplendor. This liquor diſtils only in the night-time, and during the ſummer ſeaſon. To cauſe the gum to flow, they make ſeveral rows of inciſions round the trunk, the number of which is proportioned to the vigour of the tree. The firſt row is ſeven inches from the earth, and the reſt are at the ſame diſtance one from the other, and continue to the top of the trunk, and even ſometimes on the boughs which are of a ſufficient ſtrength and ſize. The Chineſe uſe a crooked iron for making theſe inciſions, which muſt run a little obliquely, and be equal in depth to the thickneſs of the bark; they make them with one hand, and with the other hold a ſhell, the edges of which they inſert into the opening, where it remains without any ſupport. Theſe inciſions are made towards evening, and next morning they collect the varniſh which has fallen into the ſhells; the following evening they are again inſerted, and this operation is continued until the end of ſummer. A thouſand trees yield almoſt in one night twenty pounds of varniſh.

While the varniſh diſtils, it exhales a malignant vapour, the bad effects of which can only be prevented by preſervatives and great precaution. The merchant who employs the workmen is obliged to keep by him a large vaſe filled with rape-oil, in which a certain quantity of thoſe fleſhy filaments have been boiled that are found in hog's lard, and which do not melt. When the workmen are going to fix the ſhells to the trees, they carry ſome of this oil along with them, and rub their face and hands with it, which they do with greater care when they collect in the morning the varniſh that has diſtilled during night. After eating, they waſh their whole bodies with warm water, in which the bark of the cheſnut-tree, fir-wood, cryſtalliſed ſaltpetre, and ſome other drugs, have been boiled. When they are at work near the trees, they put upon their heads a ſmall cloth bag in which there are two holes, and cover the fore-part of their bodies with a kind of apron made of doe-ſkin, which is ſuſpended from their necks with ſtrings, and tied round them with a girdle. They alſo wear boots, and have coverings on their arms, made of the ſame kind of ſkin. The labourer who ſhould attempt to collect varniſh without uſing this precaution, would ſoon be puniſhed for his raſhneſs, and the moſt dreadful effects would enſue. The diſorder ſhows itſelf by tetters, which become of a bright red colour, and ſpread in a very ſhort time; the body afterwards ſwells, and the ſkin burſts and appears covered with an univerſal leproſy. The unhappy wretch could not long endure the excruciating pains which he feels, did he not find a ſpeedy remedy in thoſe preſervatives which are uſed againſt the malignant and noxious exhalations of the varniſh.

The ſeaſon of collecting varniſh being ended, the merchant puts it into ſmall caſks cloſely ſtopped. A pound of it newly made coſts him about one ſhilling and eight pence ſterling; but he gains *cent. per cent.* upon it, and ſometimes more, according to the diſtance of the place to which he tranſports it.

Beſides the luſtre and beauty which that varniſh gives to many of the Chineſe manufactures, it has alſo the property of preſerving the wood upon which it is laid, eſpecially if no other matter be mixed with it. It prevents it from being hurt either by dampneſs or worms.

Every workman has a particular art and method of uſing the varniſh. This work requires not only much ſkill and dexterity, but alſo great attention, to obſerve the proper degree of fluidity which the gum ought to have, as it muſt be neither too thick nor too liquid when it is laid on. Patience above all is neceſſary in thoſe who wiſh to ſucceed. To be properly varniſhed, a work muſt be done at leiſure; and a whole ſummer is ſcarcely ſufficient to bring it to perfection. It is therefore rare to ſee any of thoſe cabinets which are imported to us from Canton ſo beautiful and durable as thoſe manufactured in Japan, Tong-king, and Nang-king, the capital of the province of Kiang-nan: not that the artiſts do not employ the ſame varniſh; but as they work for Europeans, who are more eaſily pleaſed, they do not take the trouble of giving the pieces which come from their hands all the poliſh they are capable of receiving.

There are two methods of laying on the varniſh; the ſimpleſt is, when it is immediately laid on the wood The work is firſt poliſhed, and then daubed over with a kind of oil which the Chineſe call *tong-yeou*. When this oil is dry, it receives two or three coats of varniſh; which remain ſo tranſparent, that all the ſhades and veins of the wood may be ſeen through them. If the artiſt is deſirous of entirely concealing the ſubſtance on which they are laid, nothing is neceſſary but to add a few more coats; theſe give the work a ſhining ſurface, the ſmoothneſs of which equals that of the moſt beautiful ice. When the work is dry, various figures are painted upon it in gold and ſilver, ſuch as flowers, birds, trees, temples, dragons, &c. A new coat of varniſh is then ſometimes laid over theſe figures, which preſerves them, and adds much to their ſplendor. The ſecond method requires more preparation. The Chineſe workmen fix to the wood by means of glue a kind of paſteboard, compoſed of paper, hemp, lime, and other ingredients, well beaten, that the varniſh may incorporate with them. Of this they make a ground perfectly ſmooth and ſolid, over which the varniſh is laid in thin coats, that are left to dry one after the other.

It often happens, that the luſtre of varniſhed tables and other pieces of furniture is inſenſibly deſtroyed by tea and warm liquors. "The ſecret of reſtoring to varniſh its ſhining black colour (ſays a Chineſe author), is to expoſe it for one night to a white hoar-froſt, or to cover it ſome time with

ſnow." For a method of imitating *Chineſe varniſh*, ſee TURNING.

VARNISH, among medaliſts, ſignifies the colours antique medals have acquired in the earth. The beauty which nature alone is able to give to medals, and art has never yet attained to counterfeit, enhances the value of them: that is, the colour which certain ſoils in which they have a long time lain tinges the metals withal: ſome of which are blue, almoſt as beautiful as the torquoiſe; others with an inimitable vermilion colour; others with a certain ſhining poliſhed brown, vaſtly finer than Braſil figures. The moſt uſual varniſh is a beautiful green, which hangs to the fineſt ſtrokes without effacing them, more accurately than the fineſt enamel does on metals. No metal but braſs is ſuſceptible of this; for the green ruſt that gathers on ſilver always ſpoils it, and it muſt be got off with vinegar or lemon juice.

Falſifiers of medals have a varniſh, which they uſe on their counterfeits, to give them the appearance of being antique. But this may be diſcovered by its ſoftneſs; it being ſofter than the natural varniſh, which is as hard as the metal itſelf. Some depoſit their ſpurious medals in the earth for a conſiderable time, by which means they contract a ſort of varniſh, which may impoſe upon the leſs knowing; others uſe ſal ammoniac, and others burnt paper.

VARRO (Marcus Terentius), the moſt learned of all the Romans, was born 28 years B.C. He was a ſenator of the firſt diſtinction, both for birth and merit; and bore many great offices. He was an intimate friend of Cicero: and this friendſhip was confirmed and immortalized by a mutual dedication of their learned works to each other. Thus Cicero dedicated his Academic Queſtions to Varro; and Varro dedicated his treatiſe on the Latin tongue to Cicero. In the civil wars he was zealouſly attached to Pompey; but after his defeat ſoon ſubmitted to Cæſar, who was reconciled to him. Afterwards he applied his whole time to letters, and had the charge of the Greek and Latin libraries at Rome. He was above ſeventy when Antony proſcribed him; however, he found means to eſcape and ſave his life, though he could not ſave ſome of his works and his library from being plundered by the ſoldiers. After this ſtorm was over, he purſued his ſtudies as uſual; and Pliny relates, that he continued to ſtudy and to write when he was eighty-eight years of age. He was eighty when he wrote his three books *De re Ruſtica*, which are ſtill extant. Five of his books *De lingua Latina*, which he addreſſed to Cicero, are alſo extant. There remain too, divers fragments of his works, particularly of his Menippean Satires, which are medleys of proſe and verſe; and Scaliger has collected ſome of his epigrams from among the *Catalecta Virgilii*. His books *De lingua Latina* and *De re Ruſtica*, were printed with the notes of Joſeph Scaliger, Turnebus, and Victorius, by Henry Stephens, at Paris, 1573, in 8vo. and have been publiſhed ſeparately ſince among the *Auctores de lingua Latina*, and the *Auctores de re Ruſtica*.

There was another Varro of antiquity, called *Atacinus*, who was born about ten years after the firſt, at a ſmall town near Narbonne. Though infinitely below the Roman in learning, he was at leaſt as good, if not a better, poet; which perhaps has made Lilius Gyraldus and other critics confound them. He compoſed many works in verſe; ſome fragments of which were collected, and publiſhed with thoſe of other ancient poets, at Lyons in 1603. His chief works were, A poem on the war with the Sequani, a people of Gaul; and the Aſtronomics, that went under the name of Planciades the grammarian. But the *Argonautics*, in four books, was what gained him the greateſt reputation: and though indeed nothing but a tranſlation of Apollonius Rhodius, yet was ſo well done as to be commended by Quintilian.

VARRONIA, in botany: a genus of plants belonging to the claſs of *pentandria*, and to the order of *monogynia*; and arranged in the natural ſyſtem under the 41ſt order, *Aſperifoliæ*. The corolla is quinquifid; the fruit a drupa, with a quadrilocular kernel. There are ſix ſpecifies; none of which are natives of Britain.

VASE, a term frequently uſed for ancient veſſels dug from under ground, or otherwiſe found, and preſerved in the cabinets of the curious. In architecture, the appellation *vaſe* is alſo given to thoſe ornaments placed on corniches, ſochles, or pedeſtals, repreſenting the veſſels of the ancients, particularly thoſe uſed in ſacrifice, as incenſe-pots, flower-pots, &c. See PORTLAND-*Vaſe*.

VASSAL, in our ancient cuſtoms, ſignified a tenant or feudatory; or perſon who vowed fidelity and homage to a lord, on account of ſome land, &c. held of him in fee; alſo a ſlave or ſervant, and eſpecially a domeſtic of a prince.—*Vaſſalas* is ſaid to be *quaſi inferior ſocius*; as the vaſſal is inferior to his maſter, and muſt ſerve him; and yet he is in a manner his companion, becauſe each of them is obliged to the other. See FEODAL-*Syſtem*.

VATICAN, a magnificent palace of the pope, in Rome, which is ſaid to conſiſt of ſeveral thouſand rooms: but the parts of it moſt admired are the grand ſtaircaſe, the pope's apartment, and eſpecially the library, which is one of the richeſt in the world, both in printed books and manuſcripts.

VAUBAN (Sebaſtian le Preſtre, ſeigneur de), marſhal of France, and the greateſt engineer that country ever produced, was born in 1633. He diſplayed his knowledge of fortification in the courſe of many ſieges, and his ſervices were rewarded with the firſt military honours. He was made governor of Liſle in 1668, commiſſary-general of the fortifications of France in 1678, governor of the maritime parts of Flanders in 1689, and a marſhal of France in 1703. He died in 1707, after having brought the arts of attacking and defending fortified places to a degree of perfection unknown before. His writings on theſe ſubjects are in the higheſt eſteem.

VAUDOIS, VALDENSES, or *Waldenſes*, in eccleſiaſtical hiſtory, a name given to a ſect of reformers, who made their firſt appearance about the year 1160. This famous ſect, according to Moſheim, aroſe from Peter, an opulent merchant of Lyons, ſurnamed *Valdenſis*, or *Validiſius*, from Vaux or Waldum, a town in the marquiſate of Lyons.

Their rules of practice were extremely auſtere; for they adopted as the model of their moral diſcipline the ſermon of Chriſt on the mount, which they interpreted and explained in the moſt rigorous and literal manner, and conſequently prohibited and condemned in their ſociety all wars, and ſuits of law, and all attempts towards the acquiſition of wealth, the inflicting of capital puniſhments, ſelf-defence againſt unjuſt violence, and oaths of all kinds.

During the greateſt part of the 17th century, thoſe of them who lived in the valleys of Piedmont, and who had embraced the doctrine, diſcipline, and worſhip of the church of Geneva, were oppreſſed and perſecuted, in the moſt barbarous and inhuman manner, by the miniſters of Rome. This perſecution was carried on with peculiar marks of rage and enormity in the years 1655, 1656, and 1696, and ſeemed to portend nothing leſs than the total extinction of that unhappy nation. The moſt horrid ſcenes of violence and bloodſhed were exhibited in this theatre of papal tyranny; and the few Waldenſes that ſurvived were indebted for their exiſtence and ſupport to the interceſſion made for them by the Engliſh and Dutch governments, and alſo by the Swiſs cantons, who ſolicited the clemency of the Duke of Savoy in their behalf.

VAULT, in architecture, an arched roof, ſo contrived that

the ſtones which form it ſuſtain each other. Vaults are on many occaſions to be preferred to ſoffits or flat ceilings, as they give a greater height and elevation, and are beſides more firm and durable.

VAYER. See MOTHE.

VAYVODE, or VAIVODE. See WAYWODE.

UBES (St.), a ſea-port town of Portugal, in the province of Eſtramadura, ſeated on a bay of the Atlantic Ocean, twenty-one miles ſouth of Liſbon. It ſtands on an eminence, with a very ſtrong caſtle built on a rock. The ſoil about it is fertile in corn, wine, and fruits; and it is furniſhed with good fiſh from the ſea, and a ſmall lake in the neighbourhood. Here they make great quantities of fine ſalt, which is carried to the American plantations. E. Long. 8. 54. N. Lat. 38. 22.

UBIQUITARIANS, formed from *ubique*, "every-where," in eccleſiaſtical hiſtory, a ſect of Lutherans which roſe and ſpread itſelf in Germany; and whoſe diſtinguiſhing doctrine was, that the body of Jeſus Chriſt is every-where, or in every place. Brentius, one of the earlieſt reformers, is ſaid to have firſt broached this error, in 1560. Luther himſelf, in his controverſy with Zuinglius, had thrown out ſome unguarded expreſſions, that ſeemed to imply a belief of the omnipreſence of the body of Chriſt; but he became ſenſible afterwards, that this opinion was attended with great difficulties, and particularly that it ought not to be made uſe of as a proof of Chriſt's corporeal preſence in the euchariſt. However, after the death of Luther, this abſurd hypotheſis was renewed, and dreſſed up in a ſpecious and plauſible form by Brentius, Chemnitius, and Andræas, who maintained the communication of the properties of Chriſt's divinity to his human nature. It is indeed obvious, that every Lutheran who believes the doctrine of conſubſtantiation, whatever he may pretend, muſt be an Ubiquitarian.

UBIQUITY, OMNIPRESENCE; an attribute of the Deity, whereby he is always intimately preſent to all things; gives the *eſſe* to all things; knows, preſerves, and does all in all things.

UDDER, in comparative anatomy, that part in brutes wherein the milk is prepared, anſwering to the mammæ or breaſts in women. See COMPARATIVE ANATOMY.

VEDAS, the ſacred books of the Hindoos, believed to be revealed by God, and called *immortal*. They are conſidered as the fountain of all knowledge human and divine, and are four in number; of which we have the following account in the firſt volume of the Aſiatic Reſearches: the *Rigveda* conſiſts of five ſections; the *Yajurveda* of eighty-ſix; the *Samaveda* of a thouſand; and the *At'harvaveda* of nine; with eleven hundred *ſac'ha's*, or branches, in various diviſions and ſubdiviſions. The *Vedas* in truth are infinite; but have been long reduced to this number and order: the principal part of them is that which explains the duties of man in a methodical arrangement; and in the fourth is a ſyſtem of divine ordinances. From theſe are reduced the four *Upavedas*, the firſt of which was delivered to mankind by BRAHMA, INDRA, DHANWANTARI, and five other deities; and compriſes the theory of diſorders and medicines, with the practical methods of curing diſeaſes. The ſecond conſiſts of muſic, invented for the purpoſe of raiſing the mind by devotion to the felicity of the divine nature: the third treats of the fabrication and uſe of arms; and the fourth of *ſixty-four* mechanical arts. Of however little value we may eſteem the mechanical arts of the Hindoos, and however deſpicable their theological ſyſtem may really be, the *Upaveda*, which treats of diſeaſes and the method of curing them, ſurely deſerves to be ſtudied by every European phyſician practiſing in India. There are indeed a great number of medical books in the Shanſcrit language worthy of attention; for though the theories of their authors may be groundleſs and whimſical, they contain the names and deſcription of many Indian plants and minerals, with their uſes, diſcovered by *experience*, in the cure of diſeaſes.

VEDETTE, in war, a centinel on horſeback, with his horſe's head towards the place whence any danger is to be feared, and his carabine advanced, with the butt-end againſt his right thigh. When the enemy has encamped, there are vedettes poſted at all the avenues, and on all the riſing grounds, to watch for its ſecurity.

To VEER *and* HAUL, to pull a rope tight, by drawing it in and ſlackening it alternately, till the body to which it is applied acquires an additional motion, like the increaſed vibrations of a pendulum, ſo that the rope is ſtraitened to a greater tenſion with more facility and diſpatch. This method is particularly uſed in hauling the bowlines. The wind is ſaid *to veer and haul* when it alters its direction, and becomes more or leſs fair. Thus it is ſaid to veer aft and to haul forward.

VEER, *Ter-Veer*, anciently *Camp-Veer*, a town of Zealand in the United Provinces, ſtanding at the mouth of the Eaſt Schelde, about four miles from Middleburgh, and eight from Fluſhing. Veer, in Dutch, ſignifies a paſſage or ferry over an arm of the ſea or a river; and as there was once a ferry here over the Schelde to the village of Compen, on the iſland of North Bevelann, the town thereby got the name of *Veer*, *Camp-Veer*, and *Ter-Veer*. It is well fortified, and formerly enjoyed a good trade, eſpecially to Scotland; the natives enjoying particular privileges here. The harbour is very good, and the arſenal the beſt furniſhed in the world. Hence the Veres, anciently earls of Oxford, are ſaid to have derived both their origin and name.

VEERING, or WEARING, the operation by which a ſhip, in changing her courſe from one board to the other, turns her ſtern to windward. Hence it is uſed in oppoſition to TACKING, wherein the head is turned to the wind and the ſtern to leeward. See SEAMANSHIP.

VEGA (Lopez de), a celebrated Spaniſh poet. He was the ſon of Felix de Vega and Franciſcan Fernandez, who were both deſcended from honourable families, and lived in the neighbourhood of Madrid. Our poet was born in that city on the 25th of November, 1562. He was, according to his own expreſſion, a poet from his cradle; and beginning to make verſes before he had learned to write, he uſed to bribe his elder ſchool-fellows with part of his breakfaſt, to commit to paper the lines he had compoſed. Having loſt his father while he was yet ſtill a child, he engaged in a frolic very natural to a lively boy, and wandered with another lad to various parts of Spain, till, having ſpent their money, and being conducted before a magiſtrate at Segovia for offering to ſell a few trinkets, they were ſent home again to Madrid. Soon after this adventure, our young poet was taken under the protection of Geronimo Manrique, biſhop of Avila, and began to diſtinguiſh himſelf by his dramatic compoſitions, which were received with great applauſe by the public, though their author had not yet completed his education; for, after this period, he became a member of the univerſity of Alcala, where he devoted himſelf for four years to the ſtudy of philoſophy. He was then engaged as ſecretary to the Duke of Alva, and wrote his Arcadia in compliment to that patron: who is frequently mentioned in his occaſional poems. He quitted that employment on his marriage with Iſabel de Urbina, a lady (ſays his friend and biographer Perez de Montalvan) beautiful without artifice, and virtuous without affectation. His domeſtic happineſs was ſoon interrupted by a painful incident:—having written ſome lively verſes in ridicule of a perſon who had taken ſome injurious freedom with his character, he received a challenge in conſequence of his wit; and happening, in the

duel which enſued, to give his adverſary a dangerous wound, he was obliged to fly from his family, and ſhelter himſelf in Valencia. He reſided there a conſiderable time; but connubial affection recalled him to Madrid. He wife died in the year of his return. His affliction on this event led him to relinquiſh his favourite ſtudies, and embark on board the Armada which was then preparing for the invaſion of England, He had a brother who ſerved in that fleet as a lieutenant; and being ſhot in an engagement with ſome Dutch veſſels, his virtues were celebrated by our afflicted poet, whoſe heart was peculiarly alive to every generous affection. After the ill ſucceſs of the Armada, the diſconſolate Lopez de Vega returned to Madrid, and became ſecretary to the Marquis of Malpica, to whom he has addreſſed a grateful ſonnet. From the ſervice of this patron he paſſed into the houſehold of the Count of Lemos, whom he celebrates as an inimitable poet. He was once more induced to quit his attendance on the great, for the more inviting comforts of a married life. His ſecond choice was Juana de Guardio, of noble birth and ſingular beauty. By this lady he had two children, a ſon who died in his infancy, and a daughter named *Feliciana*, who ſurvived her father. The death of his little boy is ſaid to have haſtened that of his wife, whom he had the misfortune to loſe in about ſeven years after his marriage. Having now experienced the precarioufneſs of all human enjoyments, he devoted himſelf to a religious life, and fulfilled all the duties of it with the moſt exemplary piety: ſtill continuing to produce an aſtoniſhing variety of poetical compoſitions. His talents and his virtues procured him many unſolicited honours. Pope Urban VIII. ſent him the croſs of Malta, with the title of Doctor in Divinity, and appointed him to a place of profit in the Apoſtolic Chamber; favours for which he expreſſed his gratitude by dedicating his *Corona Tragica* (a long poem on the fate of Mary Queen of Scots) to that liberal pontiff. In his ſeventy-third year he felt the approaches of death, and prepared himſelf for it with the utmoſt compoſure and devotion. His laſt hours were attended by many of his intimate friends, and particularly his chief patron the Duke of Seſſa, whom he had made his executor; leaving him the care of his daughter Feliciana, and of his various manuſcripts. The manner in which he took leave of thoſe he loved was moſt tender and affecting. He ſaid to his diſciple and biographer Montvalvan, That true fame conſiſted in being good; and that he would willingly exchange all the applauſes he had received to add a ſingle deed of virtue to the actions of his life. Having given his dying benediction to his daughter, and performed the laſt ceremonies of his religion, he expired on the 25th of Auguſt, 1635.

VEGETATION, in phyſiology, the act whereby plants receive nouriſhment and growth. The proceſs of nature in the vegetation of plants is very accurately delivered by Malpighi: The egg or ſeed of the plant being excluded out of the ovary, called *pod* or *huſk*, and requiring further ſoſtering and brooding, is committed to the earth; which having received it into her fertile boſom, not only does the office of incubation by her own warm vapours and exhalation, joined with the heat of the ſun, but by degrees ſupplies what the ſeed requires for its further growth; as abounding everywhere with canals and ſinuſes, wherein the dew and rain water, impregnated with fertile ſalts, glide, like the chyle and blood in the arteries, &c. of animals. This moiſture meeting with a new-depoſited ſeed, is percolated, or ſtrained through the pores or pipes of the outer rind or huſk, correſponding to the ſecundines of the fœtuſes, on the inſide whereof lies one or more, commonly two, thick ſeminal leaves, anſwering to the placenta in women, and the cotyledons in brutes.

Theſe ſeed-leaves conſiſt of a great number of little veſiculæ, or bladders, with a tube correſponding to the navel-ſtring in animals. In theſe veſiculæ is received the moiſture of the earth, ſtrained through the rind of the ſeed; which makes a ſlight fermentation with the proper juice before contained therein. This fermented liquor is conveyed by the umbilical veſſel to the trunk of the little plant; and to the germ or bud which is contiguous thereto: upon which a vegetation and increaſe of the parts ſucceed.

Such is the procedure in the vegetation of plants: which the illuſtrious author exemplifies in a grain of wheat, as follows: The firſt day the grain is ſown it grows a little turgid; and the ſecundine, or huſk, gapes a little in ſeveral places: and the body of the plant, being continued by the umbilical veſſel to the conglobated leaf (which is called the *pulp* or *fleſh* of the ſeed, and is what conſtitutes the flower) ſwells; by which means, not only the germ or ſprout (which is to be the future ſtem) opens, and waxes green, but the roots begin to bunch out; whence the placenta, or ſeed-leaf, becoming looſe, gapes. The ſecond day, the ſecundine or huſk, being broke through, the ſtem, or top of the future ſtraw, appears on the outſide thereof, and grows upward by degrees; in the mean time, the ſeed-leaf guarding the roots becomes turgid with its veſiculæ, and puts forth a white down. And the leaf being pulled away, you ſee the roots of the plants bare; the future buds, leaves, and reſt of the ſtalk, lying hid. Between the roots and the aſcending ſtem the trunk of the plant is knit by the navel-knot to the flower-leaf, which is very moiſt, though it ſtill retains its white colour and its natural taſte. The third day, the pulp of the conglobated, or round leaf, becomes turgid with the juice which it received from the earth fermenting with its own.

Thus the plant increaſing in bigneſs, and its bud or ſtem becoming taller, from whitiſh turns greeniſh; the lateral roots alſo break forth greeniſh and pyramidal from the gaping ſheath, which adheres chiefly to the plant; and the lower root grows longer and hairy, with many fibres ſhooting out of the ſame.

Indeed there are hairy fibres hanging all along on all the roots, except on their tips; and theſe fibres are ſeen to wind about the ſaline particles of the ſoil, little lumps of earth, &c. like ivy; whence they grow curled. Above the lateral roots there now break out two other little ones.

The fourth day, the ſtem mounting upwards, makes a right angle with the ſeminal leaf: the laſt roots put forth more; and the other three growing larger, are clothed with more hairs, which ſtraitly embrace the lumps of earth; and where they meet with any vacuity, unite into a kind of network.

From this time forward the root puſhes with more regularity downward, and the ſtalk upward, than before. There is, however, this great difference in their growth, that the ſtalk and branches find no reſiſtance to their ſhooting up, while the roots find a great deal to their ſhooting downward, by means of the ſolidity of the earth; whence the branches advance much faſter and farther in their growth than the roots; and theſe laſt often finding the reſiſtance of a tough earth unſurmountable, turn their courſe, and ſhoot almoſt horizontally.

From a number of experiments made by Mr. Gough, and related by him in the fourth volume of the Manchester Tranſactions, it appears, that ſeeds will not vegetate without air; and that during their vegetation, they abſorb oxygen, part of which they retain, and that carbonic acid is formed with the reſt. Theſe facts were aſcertained in the following manner: He put ſeveral parcels of ſteeped peas and barley, at different times, into phials, which were left to ſtand for three or four minutes in ſpring water, of the heat of 46, 5°, to reduce them to a known temperature. They were then

ſecurely corked, and removed into a room, the temperature of which was never leſs than 53°. After remaining from four to ſix days in this ſituation, they were again placed in the ſame ſpring water, and opened in an inverted poſition, care being taken that the barometer ſtood at the time nearly where it did at firſt. When a cork was thus drawn, a quantity of water ruſhed in immediately, more than was ſufficient to fill the neck. The air being paſſed through lime water, contracted very ſenſibly, and precipitated the lime. The reſiduum, freed in this manner from carbonic acid, extinguiſhed a lighted taper like water, and this it did repeatedly. He made one of theſe experiments with more attention than the reſt, from which it appeared, that four ounces one dram forty grains, by meaſure, of atmoſpheric air, loſt one-ſixth of its original bulk, by being confined five days with one ounce of ſteeped barley. It is plain, from this experiment, that ſeeds in the act of vegetation take oxygen from the atmoſphere, part of which they retain, and reject the reſt charged with carbon. The ſubſtance of the ſeed-lobes is hereby changed, an additional quantity of oxygen being introduced into their compoſition; and a part of their carbon loſt. This change, in the proportion of their alimentary principles, generates ſugar, as is evident from the proceſs of malting. But ſugar and carbonic acid are more ſoluble in water than the farinaceous oxyd. They therefore combine with the humidity in the capillary tubes of the ſeed, and find a ready paſſage to the germ, the vegetative principle of which they call into action by a ſtimulus ſuited to its nature. A nutritious liquor being thus prepared by the decompoſition of the ſeed-lobes, and diſtributed through the infant plant, its organs begin to exert their ſpecific actions, by decompounding the nouriſhment conveyed to them, and forming new oxyds from the elementary principles of it, for the increaſe of the veſſels and fibres; and in this manner the firſt ſtage of vegetation commences.

Mr. Gough has aſcertained, that a germ in the act of vegetation requires to be continually excited by the ſtimulus of oxygen; but as ſoon as the ſeed lobes are exhauſted, the young plant is in a ſtate to derive its nutrition from the ground; and then (and not till then) it finds itſelf in a ſituation capable of making future advances, unaſſiſted by the ſtimulus of reſpirable air.

The infant ſprout at firſt ſuffers only a ſuſpenſion of its energy from the abſence of pure air; but if this neceſſary ſupport be withheld too long, it periſhes by the putrefactive fermentation.

The lively green which the ſtems and leaves of plants receive from the action of light, cannot be imparted to them, provided the energy of the vegetative principle in them be ſuſpended: for after permitting a number of peas to produce both extremities of their ſprouts in wet ſand covered from the light by an earthern pot, Mr. Gough placed five of them, on the 29th of April, in an inverted glaſs jar, containing azot confined by water; and three in another jar, in which a portion of common air was alſo encloſed by the ſame means. On the 30th the upper extremities of the ſprouts of the parcel laſt mentioned were green; but though the experiment was prolonged to the 2d of May, thoſe in the other glaſs did not exhibit any perceptible alteration in ſize or colour. Two of them were now placed in a glaſs filled with atmoſpheric air, where they were left unobſerved to the fifth, at the end of which time the germs had vegetated conſiderably; the lower parts of them ſtill remained white, but their oppoſite extremities had changed to their proper green. Hence it may be ſafely inferred, that greenneſs cannot be imparted to the ſprouts of ſeeds without the joint action of light and oxygen; in which they are very different from the ſhoots that frequently proceed from maturer plants, when ſecluded from the atmoſphere: for, as theſe grow freely in cloſe glaſs veſſels, placed in a window, and containing water and azot, the parts which are recently produced continue to vegetate, in conſequence of their connection with the parent ſtock, and acquire the colour in queſtion without the aſſiſtance of reſpirable air. See Plant, Tree, Germination, Botany, &c.

VEGETATIVE soul, among philoſophers, denotes that principle in plants by virtue of which they vegetate, or receive nouriſhment and grow. See the preceding article.

VEHICLE, in general, denotes any thing that carries or bears another along; but is more particularly uſed in pharmacy for any liquid ſerving to dilute ſome medicine, in order that it may be adminiſtered more commodiouſly to the patient.

VEII (anc. geog.), a city of Etruria, the long and powerful rival of Rome; diſtant about 100 ſtadia, or twelve miles, to the north-weſt; ſituated on a high and ſteep rock. Taken after a ſiege of ten years by Camillus, ſix years before the taking of Rome by the Gauls: and thither the Romans, after the burning of their city, had thoughts of removing; but were diſſuaded from it by Camillus (Livy). It remained ſtanding after the Punic war; and a colony was there ſettled, and its territory aſſigned to the ſoldiers. But after that it declined ſo gradually, as not to leave a ſingle trace ſtanding. Famous for the ſlaughter of the 300 Fabii on the Cremera (Ovid). The ſpot on which it ſtood lies near Iſola, in St. Peter's patrimony (Holſtenius).

VEIL, a piece of ſtuff, ſerving to cover or hide any thing. In the Romiſh churches, in time of Lent, they have veils or curtains over the altar, crucifix, images of ſaints, &c. A veil of crape is wore on the head by nuns, as a badge of their profeſſion: the novices wear white veils, but thoſe who have made the vows black ones. See the article Nun.

VEIN, in anatomy, is a veſſel which carries the blood from the ſeveral parts of the body to the heart. See Anatomy.

Vein, among miners, is that ſpace which is bounded with woughs, and contains ore, ſpar, canck, clay, chirt, croil, brownhen, pitcher-chirt, cur, which the philoſophers call the *mother of metals*, and ſometimes *ſoil of all colours*. When it bears ore, it is called a *quick vein*; when no ore, *a dead vein*.

VELA, a remarkable cape on the coaſt of Terra Firma, in South America. W. Long. 71. 25. N. Lat. 12. 30.

VELARIUS, in antiquity, an officer in the court of the Roman emperors, being a kind of uſher, whoſe poſt was behind the curtain in the prince's apartment, as that of the chancellor's was at the entry of the balluſtrade; and that of the oſtiarii at the door. The velarii had a ſuperior of the ſame denomination, who commanded them.

VELEZ-de-Gomara, a town of Africa, in the kingdom of Fez, and in the province of Eriff. It is the ancient Acarth. With a harbour and a handſome caſtle, where the governor reſides. It is ſeated between two high mountains, on the coaſt of the Mediterranean Sea. W. Long. 4. 0. N. Lat. 35. 10.

VELITES, in the Roman army, a kind of ancient ſoldiery, who were armed lightly with a javelin, a caſk, cuiraſs, and ſhield.

VELLEIUS Paterculus. See Paterculus.

VELLUM, is a kind of parchment, that is finer, evener, and more white than the common parchment. The word is formed from the French *velin*, of the Latin *vitulinus*, "belonging to a calf."

VELOCITY, in mechanics, ſwiftneſs; that affection of motion whereby a moveable is diſpoſed to run over a certain ſpace in a certain time. It is alſo called *celerity*, and is always

proportional to the ſpace moved. Huyghens, Leibnitz, Bernoulli, Wolfius, and the foreign mathematicians, hold, that the momenta or forces of falling bodies, at the end of their falls, are as the ſquares of their velocities into the quantity of matter; the Engliſh mathematicians, on the contrary, maintain them to be as the velocities themſelves into the quantity of matter. See QUANTITY.

VELVET, a rich kind of ſtuff, all ſilk, covered on the outſide with a cloſe, ſhort, fine, ſoft ſhag, the other ſide being a very ſtrong cloſe tiſſue. The nap or ſhag, called alſo the *velveting*, of this ſtuff, is formed of part of the threads of the warp, which the workman puts on a long narrow-channelled ruler or needle, which he afterwards cuts, by drawing a ſharp ſteel tool along the channel of the needle to the ends of the warp. The principal and beſt manufactories of velvet are in France and Italy, particularly in Venice, Milan, Florence, Genoa, and Lucca: there are others in Holland, ſet up by the French refugees: whereof that at Haerlem is the moſt conſiderable: but they all come ſhort of the beauty of thoſe in France, and accordingly are ſold for ten or fifteen *per cent.* leſs. There are even ſome brought from China; but they are the worſt of all.

VENEERING, VANEERING, or *Fineering*, a kind of marquetry, or inlaying, whereby ſeveral thin ſlices or leaves of fine wood, of different kinds, are applied and faſtened on a ground of ſome common wood. There are two kinds of inlaying: the one, which is the more ordinary, goes no farther than the making of compartiments of different woods; the other requires much more art, and repreſents flowers, birds, and the like figures. The firſt kind is what we properly call *veneering*; the latter we have already deſcribed under MARQUETRY. The wood intended for veneering is firſt ſawed out into ſlices or leaves, about a line thick: in order to ſaw them, the blocks or planks are placed upright in a kind of vice or ſawing preſs: the deſcription of which may be ſeen under the article juſt referred to. Theſe ſlices are afterwards cut into ſlips, and faſhioned divers ways, according to the deſign propoſed; then the joints being carefully adjuſted, and the pieces brought down to their proper thickneſs, with ſeveral planes for the purpoſe, they are glued down on a ground or block of dry wood, with good ſtrong Engliſh glue. The pieces thus joined and glued, the work, if ſmall, is put in a preſs; if large, it is laid on the bench, covered with a board, and preſſed down with poles, or pieces of wood, one end whereof reaches to the ceiling of the room, and the other bears on the boards. When the glue is quite dry, they take it out of the preſs and finiſh it; firſt with little planes, then with divers ſcrapers, ſome whereof reſemble raſps, which take off dents, &c. left by the planes. When ſufficiently ſcraped, the work is poliſhed with the ſkin of a ſea-dog, wax, and a bruſh and poliſher of ſhave-graſs: which is the laſt operation.

VENEREAL, ſomething belonging to venery; as the lues venerea, &c. See MEDICINE.

VENERY, is uſed for the act of copulation, or coition, of the two ſexes.

VENESECTION, or PHLEBOTOMY, in ſurgery. See SURGERY.

VENETIAN BOLE, a fine red earth uſed in painting, and called in the colour ſhops *Venetian red*.—It is dug in Carinthia, and ſent from Venice to all parts of the world; but the uſe of it here is very much ſuperſeded by a bright colcothar of vitriol.

VENICE, a city of Italy, and capital of a republic. This city makes a very grand appearance at a diſtance, as ſeeming, from its being built on a multitude of iſlands, to float on the ſea; or rather, with its ſtately buildings and ſteeples, as it were, riſing out of it. The number of theſe iſlands is uncertain; ſome reckoning ſixty; others ſeventy-two; and others again making them amount to one hundred and thirty-eight; but the latter muſt comprehend, in their calculation, all thoſe places which have gradually been raiſed in the Laguna, and by driving piles in the ground, fitted for building on. The Laguna, or marſhy lake, which lies between the city and the continent, and five Italian miles in breadth, is too ſhallow for large ſhips; but, by the attention of the republic, is prevented from becoming part of the continent, and from being ever frozen, ſo as to bear an army. Towards the ſea, the acceſs to the city is alſo difficult; but the ſafe and navigable parts are indicated by piles; which, at the approach of an enemy's fleet, can be cut away. Beſides, as a conſiderable number of galleys and men-of-war may be fitted out very expeditiouſly for ſea from the docks, which contain vaſt quantities of naval ſtores, the city is ſtrong without fortifications. The fiſh, which are caught even at the very doors of the houſes, may be reputed a good preſervative againſt famine. The ſeveral canals, leading to the city among the ſand banks and marſhy ſhallows, are, though at a vaſt expence, kept clear of the mud and ſlime the flood brings with it. The return of the ſea is ſomething later here than every ſixth hour, and it generally riſes between four and five feet, keeping the water between the iſlands of the city in continual motion. Some of theſe canals being very narrow, the mud is not ſo effectually carried off as to prevent ill ſmells in hot water. The great canal, which winds through the city, and divides it into two parts, is thirteen hundred paces long. The beſt way of going up and down the city is in gondolas, which, indeed, ſtrike the eye with a mournful appearance, being all lined either with black cloth or ſerge, or painted black. Over the ſeveral canals are laid four hundred and fifty (ſome ſay upwards of five hundred) bridges, great and ſmall, and the better part of them ſtone: the higheſt and longeſt is the Rialto, which, in the midſt of the city, croſſes the great canal at its narroweſt part, where it is but forty paces broad. This bridge conſiſts only of one ſingle arch, whoſe foundation takes up ninety feet, reſting on twelve thouſand elm-piles, and every-where incruſtated with marble. It is ſaid to have coſt the republic two hundred and fifty thouſand ducats. In the upper part, it is thirty-ſeven common paces broad, with two rows of ſhops, forming as it were three ſtreets, of which that in the middle is the wideſt. At each end is an aſcent of fifty-ſix ſteps. The city may, indeed, every-where be traverſed on foot; but the ſtreets are very narrow, and the free-ſtone pavement very ſlippery in wet weather. The many ſmall bridges, with their ſteps, are alſo not a little troubleſome. The whole city is ſaid to be ſix Italian miles in circumference, and to make the tour of it in a gondola takes up ſomewhat more than two hours. Venice contains ſeventy pariſh churches, beſides others, fifty-four convents of monks, twenty-ſix nunneries, ſeventeen rich hoſpitals, eighteen oratories, forty religious fraternities, with their chapels: among which are ſix called Scuole Grandi, fifty-three ſquares, one hundred and ſixty-five marble, and twenty-three half ſtatues. The buildings, indeed, are all of ſtone; but the greater part make ſo mean a figure, that this city, in point of beauty and elegance, can in no-wiſe ſtand the teſt with many others. St. Mark's ſquare, it is true, is very fine, and ſo are the ſeveral ſtately marble palaces that border upon the great canal, though moſt of them are of Gothic architecture. In the churches and convents, the moſt admirable part are the paintings; and indeed Venice, highly renowned for fine paintings, far ſurpaſſes, in this very reſpect, even Rome itſelf. Venice, from the fertility of its neighbourhood, and the facility of carriage, enjoys a conſtant plenty of all kinds of proviſions. The ſpring-water being very indifferent in moſt places, almoſt every houſe has a ciſtern, into which the

rain water is conveyed from the roof, and clarified by being filtrated through ſand. Water is alſo brought from the river Brenta, and preſerved in ciſterns. Among the diverſions of Venice, the carnival is accounted the chief. It uſually begins the ſecond day of Chriſtmas, and continues till Shrove-Tueſday; conſiſting chiefly of maſquerades and ridottos. The Venetians are paſſionately fond of maſquerades; during the carnival, St. Mark's place is the general rendezvous. The other diverſions are plays and operas; maſquerades are alſo permitted at other times, particularly about Aſcenſion-day, at which time there is a fair at St. Mark's place, which begins the Sunday before that feſtival, and laſts till Whitſuntide. Among the moſt rational and agreeable diverſions of this city, are the concerts. The trade in cloth, eſpecially ſcarlet, ſilk goods, and looking-glaſſes, is ſtill very conſiderable. Here alſo gold and ſilver ſtuffs are manufactured; which, though not ſo beautiful as thoſe of France, have a very good ſale in the Levant. The Brocatellas (a kind of ſtuff like brocade), made of coarſe ſilk, are much uſed for carpets. The invention of public banks is owing to the Venetians; thoſe erected in the ſeveral ſtates of Europe being modelled after theirs. The bank of Venice belongs to the ſtate, and pays no intereſt for any funds lodged in it. Venice is divided into ſix parts, called *Seſtieric, Seſtieria*. S. Marco contains the piazzo di S. Marco, with the adjacent buildings. This ſquare, the pride of the city, forms a right angle, the ſhorteſt ſide of which, two hundred and forty paces long, and ſeventy-five broad, reaches along the ducal palace. The ducal palace, towards the water-ſide and St. Mark's place, is entirely Gothic; but on the ſide of the ſmall canal, and in the court, of modern architecture, and moſtly of marble. It not only ſerves for the reſidence of the Doge, but alſo for the meeting of the council. The fineſt ornaments of the council-chamber and other apartments, are the paintings of famous ancient maſters. In the palace, is a little arſenal, where a conſiderable number of loaded muſkets are always kept in readineſs, that, in caſe of an inſurrection of the people, the Doge and the nobility may have recourſe to this defence; and it is for this purpoſe, that the council-chamber has a communication through a door with this armoury: every three months the pieces are loaded afreſh. In one ſide of the palace, towards the canal, Rio di palazzo, dark priſons, ſtrongly ſecured with iron grates, preſent themſelves to view. The lower gallery, or arched walk, on the ſide of St. Mark's ſquare, together with the oppoſite hall, is called Broglio. Here, at a certain hour of the day, the nobles take their walks; and, at this time, no Venetian, of an inferior rank, muſt be ſeen on it, though a foreigner, as ſuppoſed unacquainted with the cuſtom, is not deſired to quit the place. That part of St. Mark's ſquare, between theſe two buildings and the piazza, receives an additional ornament from two pillars of oriental granate, on one of which ſtands St. Mark's lion in braſs, and on the other, a marble ſtatue of St. Theodore. Between theſe is the place for the public execution of malefactors, through which no nobleman is ever ſeen to paſs. A galley completely rigged and armed, lies cloſe to the Broglio, for the defence of the ducal palace on any ſudden emergency. Contiguous to the north part of the Doge's palace, is St. Mark's church, which is alſo ſtyled the Doge's chapel. Its materials juſtly entitle it to be called magnificent, being, both on the out and in-ſide, covered with fine marble: but the architecture is entirely Gothic. The beſt part of it are the Moſaic paintings, and the four braſs horſes, formerly gilt, ſtanding over the great door, and ſaid to have been brought here from Conſtantinople. They are univerſally allowed to be maſter-pieces, which very few of the kind can equal. The church treaſury is, for the greater part, old faſhioned, but very rich in gold and jewels. In it is kept a very famous manuſcript of the goſpel of St. Mark, pretended to be autographical; but the dampneſs of the place where it lies, has ſpoiled it to ſuch a degree, that no part of it is any longer legible, and it is not ſo much as certain whether it be written in Latin or Greek. In the Seſtieria di Caſtello, is the ſo much celebrated arſenal or dock, two Italian miles and a half in circuit, walled and moated in, with twelve towers along its walls; and within the enclofure a great variety of buildings, in which every thing requiſite for a land or ſea armament is kept in readineſs. Theſe buildings conſiſt of an armoury, ſtore-houſes for iron-work, oars, cordage, bullets, tar, canvas, guns, &c. a rope-houſe, a ſaltpetre-houſe, ſmith's forges, a foundery, baſons and ſlips for ſhip-building, &c. Within it lie the men-of-war, frigates, galleys, and other veſſels, with the Bucentauro, which is alſo laid up here. In the Seſtiera di Canale Regio is the theatre; and in this quarter the Jews live, to the amount of fifteen hundred. They muſt wear a ſcrap of red cloth in their hats, by way of diſtinction from Chriſtians. Seſtiera di S. Pavelo contains the exchange, the bank, &c. On the invaſion of Italy, in the fifth century, by the Huns, under their king Attila, and the general deſolation that every-where appeared, great numbers of the people, who lived near the Adriatic, took ſhelter in thoſe iſlands where now ſtands the famous city of Venice; and which iſlands, about the year 421, particularly Rialto, had, in ſome meaſure, been built upon by the Paduans, for the advantage of commerce. Here having ſettled their ſmall places or ſtates, they were at firſt governed by conſuls; afterwards by tribunes, and formed a kind of republic, the council of which was repreſented by the perſons of theſe magiſtrates. Theſe iſlands became ſtill better inhabited on the ſucceeding incurſions of the Goths and Longobardi into Italy; multitudes from Rome and other large cities repairing thither, ſo that this ſtate became ſoon able to make ſome head againſt theſe bold invaders. At length the chiefs of the iſlands and the Longobardi came to an agreement, whereby the former were to remain unmoleſted. This was the commencement of the city and ſtate of Venice. About the beginning of the eighth or the end of the ſeventh century, the former government of theſe iſlands was aboliſhed, and an unlimited power conferred on Paulucio Anafeſto, with the title of duke. Under this ſovereignty the ſtate greatly increaſed, till the people, juſtly becoming weary of the ills of domeſtic deſpotiſm, choſe, in the year 1171, another duke, but curtailed his power, by aſſigning him a council of two hundred and forty perſons, compoſed of commons as well as nobles. Duke Ziani ſided with Pope Alexander III. againſt the Emperor Frederick, and obtained over him ſuch a ſignal victory at ſea, that the pope preſented him with a ring, which he was to drop into the Adriatic, as a ſign of his marriage with, and perpetual ſovereignty over it. The Venetians, who had already extended their dominion into Iſtria, Dalmatia, Syria, Lombardy, and other places, made a very conſiderable acquiſition, in the beginning of the thirteenth century, by poſſeſſing themſelves of the principal iſlands in the Archipelago and Mediterranean, particularly that of Candia. From this time they alone carried on, at an immenſe profit, the trade for Eaſt-India goods, which they imported from Alexandria in Egypt, to which place they were brought acroſs the Red Sea, and by the way of Suez. Under Duke Marino Moroſini, was introduced the preſent form of electing the Doge; and it was at this juncture that jealouſy and envy fomented the war with Genoa, which, after continuing 130 years, was at laſt put an end to by a treaty, in 1381. During this war, Duke Peter Gradonigo, in the year 1296, ordained, that the nobility alone ſhould be capable of ſitting in the grand council. Thus the government became ariſtocratical. In the fourteenth century, the Venetians extended their poſſeſſions in

Lombardy; and, in 1473, the laſt king of Cyprus appointed the ſtate of Venice his heir. Towards the end of the fifteenth century, the Venetian commerce, and, conſequently, power, began to decline, when the Portugueſe diſcovered a route by ſea to the Eaſt Indies, which opened the trade to all nations. In the ſixteenth century, the pope, the emperor, France and Spain, joining in a league againſt them, they were diſpoſſeſſed of all their towns and places in the kingdom of Naples, the eccleſiaſtical ſtate, and the Milaneſe. They received another ſevere blow from the Turks, who drove them out of the kingdom of Cyprus. In the ſeventeenth century, a ſharp conteſt aroſe between the ſtate, the clergy, and the pope, in which, however, they had the advantage. They were alſo long engaged in troubleſome wars with the Turks, loſing Candia, and gaining part of Dalmatia and all Morea; but even the greater part of theſe have been loſt in the wars of the laſt century. Thus has the republic of Venice continued now upwards of 1300 years, amidſt many foreign wars, and inteſtine commotions. Its grandeur was chiefly owing to trade and liberty; and ſince the decline of the former, its ſtrength, of conſequence, muſt have ſuffered a conſiderable diminution. The power is lodged in the hands of the nobility, who are ſaid to be near 2000, including thoſe whom public employments in the provinces oblige to reſide out of Venice. On the birth of a nobleman's ſon, his name is entered in the golden book, otherwiſe he forfeits his nobility. Every noble is, indeed, a member of the ſenate; and, on this account, it is a received maxim, that they all are equal in dignity. But the difference, notwithſtanding, between the intereſt and authority of families, is very conſiderable. To the firſt claſs belong the ancient houſes, whoſe anceſtors choſe the firſt duke, and who, from thence, are called *Le Caſe Eletterali*. Theſe are the Contarini, Morofini, Badovari, Tiepoli, Michieli, Sanudi, Gradenighi, Memmi, Falieri, Dandali, Polani, and Barozzi; and on them, preferable to others, are conferred the higher offices; the Giuſtinani, Cornari, Bragadini, and Bembi, pretend to an equality with the foregoing, being very little inferior to them in point of antiquity. Next follow eight houſes almoſt as ancient; among which the moſt diſtinguiſhed are Quirini, Delfiri, Soranzi, Zorzi, and Marcetti. The ſecond claſs has its origin from the Serrar del Conſiglio; Duke Grandinigo having paſſed a law that the council ſhould perpetually conſiſt of the families which then compoſed it, and ſome others which he ennobled. This produced a ſecond claſs of nobility, who, accordingly, were then regiſtered in the golden book. It conſiſts of upwards of eighty families, and ſome of great wealth and reputation, as the Mocenighi, Capoli, Foſcarini, Foſcari, Grimani, Gritti, Goſſoni, Loredani, Donati, Malipierri, Nani, Piſani, Peſari, Priuli, &c. with theſe are alſo included thoſe families that were raiſed to nobility after the Genoeſe war, on account of their large contributions towards carrying it on with vigour. Many of this degree are now extinct, and the principal among the ſurviving are, the Treviſani, Vandramini, Renieri, Giuſti, and Paſqualighi. The third and laſt claſs is compoſed of the Cittadini, or citizens, whoſe nobility was purchaſed for 100,000 Venetian ducats, a reſource of the republic for raiſing money in neceſſitous times. Crowned heads, German and other princes, have not thought it any degradation to be made nobles of Venice. The habit of the nobility, whilſt at Venice, is a black furred gown reaching to their heels, with a belt about three inches broad, and plated with ſilver. Inſtead of hats they have long caps. The head of the republic is the doge, or duke, who, on the demiſe of the former, is choſen in the following manner: all the nobili above thirty years of age meet in the palace of St. Mark, where an equal number of balls to thoſe preſent are put into an urn. Thirty of theſe are gilded, and the others ſilvered over. Every noble, in his turn, takes out a ball; and they who have drawn the thirty gilt balls, retire into a chamber, to continue the election. But that there may be but one perſon of a family among the electors, the relations of him who draws a golden ball immediately withdraw from the council; and the ſame number of white balls are taken out of the urn. The thirty electors again draw from another urn, in which are twenty-one ſilvered, and nine gilded balls: they who draw the gilded, chooſe forty other electors of quite different families, though they may nominate themſelves; and every one of the four firſt has a right of nominating five; but the five others can name only four each. Theſe electors are again, by lots, reduced to twelve, who name twenty-five: the firſt nominating three, and each of the other, two. Theſe twenty-five draw lots a ſecond time to be reduced to nine; and of theſe nine each chooſes five others, and, from the total forty-five, eleven are ſeparated again by lot, who chooſe forty-one others; the eight firſt nominating four, and the three laſt only three. Theſe forty-one are, according to the form in all preceding elections, confirmed by the grand council; and, being ſhut up in a chamber of the ducal palace, there remain till they have choſen a new doge. To the due and legal election of a doge, it is required that out of the forty-one he ſhould have twenty-five votes. His election is followed by a kind of coronation; the ducal cap, the forepart of which projects, as a mark of the unlimited power of the republic, being placed with great ceremony on his head. This is performed at his public entrance into St. Mark's church, where he is received, by the illuſtrious Signoria, on the great ſteps, called Laſcala de Giganti, and afterwards conducted to the upper ſtep, where the cap is placed on his head. The doge has been very juſtly defined to be, in habit and ſtate, a king; in authority a counſellor; in the city, a priſoner; and out of it, a private perſon. He is not ſo much as to ſtir from the city without the council's permiſſion. At preſent his privileges conſiſt in the following principal particulars: That the coin be ſtamped with his name, but not his image. That all the credentials of the republic's miniſters to foreign courts be made out in his name, though without either his ſignature or ſeal, and his family is not to be ſubject to any ſumptuary laws. His yearly income is 12,000 Venetian ducats. Of this ſum he muſt ſpend one half on the four grand entertainments, which he is obliged to give every year; and, to live up to his dignity, he muſt alſo ſpend conſiderably of his own fortune. Among the reſtrictions, are the following: during his life, none of his children or brethren can hold any of the great honorary offices, nor be ſent on embaſſies. He is not ſo much as to aſk the pope for any benefice, nor to accept of any when offered, the purple only excepted. He is not to marry the ſiſter or relation of a prince, without the conſent of the great council. He cannot reſign, but may be depoſed. He is not to receive any preſent whatever from a foreign prince. In ſtate affairs, he cannot tranſact the leaſt matter without the council. During his life, he is ſubject to the council of ten, who keep a watchful eye over his whole adminiſtration, and, at any time, can come and ſearch his moſt private apartments. In general, his authority, eſſentially conſidered, is no greater than that of a private perſon, unleſs he be of ſuch abilities as to influence the whole council; then, indeed, his authority bears the ſway; but it ſeldom happens that ſuch perſons are choſen. On his death, a formal enquiry is made, whether he has abuſed his power; whether, from a care of his own concerns, he neglected thoſe of the public; whether he lived agreeably to his dignity, &c. If found guilty of any thing alleged to his charge, his heirs are fined in proportion to the nature of the crime. However, the ducal dignity is ſolicited, and the perſon duly elected is not to decline it. On aſcenſion-day, the doge, or, in caſe of illneſs, the vice-doge, who is always one of the ſix conſiglieri, performs the annual frivolous ceremony of marrying the Adriatic Sea, in a barge pompouſly gilt and

carved, called the Bucentauro, on board of which are alſo the Signoria and all foreign miniſters. The patriarch having poured into it a quantity of holy water, which is ſaid to prevent or allay any ſtorms, the doge, through an aperture near his ſeat, drops into the ſea a golden ring, of a few dollars' value, ſaying theſe words, *Deſponſamus te, mare, in ſignum veri perpetuique dominii*; That is, We eſpouſe thee, O ſea, in token of a real and perpetual dominion over thee. In the grand council, all nobles of the age of twenty-five years, may take their place, though ſome younger find means to obtain admittance. It uſually meets on Sundays and holidays, in the large hall of the ducal palace, and, when all the nobility are preſent, conſiſts of near 2000 perſons. The ſenate, or pregadi, are a committee of the grand council, by whom they are alſo choſen. This ſenate has the management of the moſt ſecret and important ſtate affairs, as the making alliances and peace, declaring war, ſending ambaſſadors, coining money, filling up offices, impoſing taxes, &c. Next is the collegium, in which all public inſtruments directed to the ſtate and doge, are read, audiences given to foreign miniſters, and other matters of importance tranſacted. It conſiſts of the doge, ſix counſellors, &c. the three capidella quarantia criminale (or preſidents of the quarantia, or court of forty), the ſix ſavi-grandi (or the chief officers of ſtate), the five ſavi di terra firma (or the military officers), the five ſavi degli ordini (who, though conductors of ſea affairs, are here little more than mute ſpectators). Of theſe three great aſſemblies, the preſidentſhip is lodged in the ſignoria, or il conſiglietto, compoſed of the doge and his ſix counſellors, who are, as it were, the wardens of the people, one being choſen from every ſeſtieria, or ſixth part of the city. The procurators of St. Mark have not only the inſpection of the church of St. Mark, its library, and the records of the republic, but likewiſe manage all affairs relating to the poor, together with wills, guardianſhips, redemption of chriſtian ſlaves, and bringing over-rigid creditors to a reaſonable compoſition. Their number never exceeds nine: their office is of great authority and during life, and it is out of them that the doge is generally choſen. Titular, or extraordinary procurators of St. Mark, are more numerous; the republic gladly ſelling theſe titles in a public ſcarcity of money. Il conſiglio di dieci is a high penal court, which conſiſts of ten counſellors, the doge, who is preſident, and his ſix conſiglieri. With regard to the ſtate of religion and the clergy in the countries of the republic, the eſtabliſhed religion is the Roman-catholic; but Greeks, Armenians, and Jews, are allowed the public exerciſe of their worſhip, and proteſtants, obſerving privacy, remain unmoleſted. At the head of the church-government is the patriarch of Venice, the chief eccleſiaſtic in the republic. He is always a noble Venetian, and choſen by the ſenate; and though confirmed by the pope, muſt, in all other reſpects, be independent of the papal chair. The territories of the republic are under governors choſen out of the nobility, who are changed at the expiration of a certain term of years. The commander in chief of an entire province, is called proveditore generale, or governatore. In a large town is a podeſta and caſtellano; and the military affairs are managed by a capitano. Appeals from the inferior courts in the town are carried to the quarantia civile at Venice, or civil court of forty perſons. The annual revenue of the republic is computed at 8,200,000 ducats, and is under the direction of three governatori dell'Entrate. In war-time, both the nobles and the other ſubjects, even the doge, contribute proportionably to their incomes towards defraying the public expences. The ſtates of Italy ſubject to the Venetians, are the Dogado, the Paduan, the Poleſine di Rovigo, the Veroneſe, the Vicentin, the Breſſan, the Bergamaſco, the Cremaſco, the Trevigiano, the Feltrin, the Belluneſe, the Cadorin; great part of Friuli and Iſtria. To theſe may be added a part of Dalmatia, the iſlands of Corfu, Zante, Cephalonia, Paxu, Antipaxu, and ſome others. The number of inhabitants in the city of Venice is eſtimated at 160,000, and, of the whole ſtate, at 2,500,000. Venice is ſituated 216 miles N. Rome. Long. 30. E. Ferro. Lat. 45. 28. N.

VENIRE FACIAS, in law, is a judicial writ lying where two parties plead and come to iſſue, directed to the ſheriff, to cauſe twelve men of the ſame neighbourhood to meet and try the ſame, and to ſay the truth upon the iſſue taken.

VENTER, ſignifies the belly; but it is alſo uſed for the children by a woman of one marriage: there is in law a firſt and ſecond venter, &c. where a man hath children by ſeveral wives; and how they ſhall take in deſcents of lands.

VENTER *Inſpiciendo*, is a writ to ſearch a woman that ſaith ſhe is with child, and thereby withholdeth lands from the next heir: the trial whereof is by a jury of women.

VENTILATOR, a machine by which the noxious air of any cloſe place, as an hoſpital, gaol, ſhip, chamber, &c. may be diſcharged and changed for freſh.

The noxious qualities of bad air have been long known; and no one has taken greater pains to ſet the miſchiefs ariſing from foul air in a juſt light than Dr. Hales; who has alſo propoſed an eaſy and effectual remedy by the uſe of his ventilators; his account of which was read to the Royal Society in May 1741. In the November following, M. Triewald, military architect to the king of Sweden, informed Dr. Mortimer, ſecretary to the Royal Society, that he had in the preceding ſpring invented a machine for the uſe of his majeſty's men-of-war, in order to draw out the bad air from under their decks, the leaſt of which exhauſted 36,172 cubic feet of air in an hour, or at the rate of 21,732 tons in twenty-four hours. In 1742 he ſent one of them, formed for a 60-gun ſhip, to France; which was approved of by the Royal Academy of Sciences at Paris; and the king of France ordered all the men-of-war to be furniſhed with the like ventilators.

The ventilators invented by Dr. Hales conſiſt of a ſquare box ABCD (Pl. 3. fig. 1.) of any ſize; in the middle of one ſide of this box a broad partition or midriff is fixed by hinges X, and it moves up and down from A to C, by means of an iron rod ZR, fixed at a proper diſtance from the other end of the midriff, and paſſing through a ſmall hole in the cover of the box up to R. Two boxes of this kind may be employed at once, and the two iron rods may be fixed to a lever FG (fig. 2.) moving on a fixed centre O; ſo that by the alternate raiſing and preſſing down of the lever FG, the midriffs are alſo alternately raiſed and depreſſed, whereby theſe double bellows are at the ſame time both drawing in air, and pouring it out, through apertures with valves made on the ſame ſide with, and placed both above and below, the hinges of the midriffs. In order to render the midriffs light, they are made of four bars lengthwiſe, and as many acroſs them breadthwiſe, the vacant ſpaces being filled up with thin pannels of fir-board; and that they may move to and fro with the greater eaſe, and without touching the ſides of the boxes, there is an iron regulator fixed upright to the middle of the end of the box AC (fig. 1.) from N to L, with a notch cut into the middle of the end of the midriff at Z; ſo that the midriffs, in riſing and falling, ſuffer no other friction than what is made between the regulator and the notch. Moreover, as the midriff ZX moves with its edges only one-twentieth of an inch from the ſides of the box ABCDFE, very little air will eſcape by the edges; and, therefore, there will be no need of leathern ſides as in the common bellows. The end of the box at AC is made a little circular, that it may be better adapted between A and C to the riſing and falling midriff; and at the other end X of the midriff a ſlip of leather may be nailed over the joints if needful. The eight large valves through which the air is to paſs, are placed at the hinge-end of the boxes BK (fig 2.) as at 1, 2, 3, &c. The valve 1 opens inward to admit the air to enter, when the midriff is depreſſed at the other end by means of

the lever FG. And at the ſame time the valve 3 in the lower ventilator is ſhut by the compreſſed air which paſſes out at the valve 4. But when that midriff is raiſed, the valve 1 ſhuts, and the air paſſes out at the valve 2. And it is the ſame with the valves 5, 6, &c. of the other box; ſo that the midriffs are alternately riſing and falling, and two of the ventilators drawing in air, and two blowing it out; the air entering at the valves 1, 3, 6, 8, and paſſing out at the valves 2, 4, 5, 7. Before theſe laſt valves there is fixed to the ventilators a box QQNM (fig. 3.) as a common receptacle for all the air which comes out of theſe valves; which air paſſes off by the trunk P, through the wall of a building. For a farther account of this machine we refer to the author himſelf, who gives a full detail of it and of its manner of working. See Deſcription of Ventilators by Stephen Hales, D.D. Lond. 1743, 8vo.

The ventilators in large ſhips, ſince the order for ventilating the fleet iſſued by the lords of the admiralty in 1756, are fixed in the gunner's fore-ſtore-room, and generally a-head of the ſail-room. The foul air is carried up through the decks and fore-caſtle near the fore-maſt, ſometimes afore it, and ſometimes abaft it, but more frequently on its ſtarboard ſide; the lever, by which the ventilators are worked, is under the fore-caſtle in two-deck ſhips, and between the upper and middle decks in three-deckers; ſometimes the lever is hung athwart ſhips; in ſome ſhips afore and aft, and in others oblique. The iron rod, which communicates the motion from the lever, paſſes through the partners of the fore-maſt, and is connected with another lever, ſuſpended at or near the middle; in ſome ſhips over the ventilators, in others under them, when it is found neceſſary to fix them up to the deck. The beſt method to ſave room is to place the ventilators over one another with their circular ends together; the air-trunk ſhould be ſo high above deck, that the men on deck may not be incommoded by the foul air which blows out of it; and therefore the trunk comes through the upper deck, near and behind the fore-maſt. For the method of freeing mines, ſhips, priſons, &c. from noxious air by means of fire-pipes, ſee PNEUMATICS.

VENTRICLE, properly denotes any little cavity; but is more particularly uſed by phyſicians and anatomiſts for the ſtomach and certain cavities of the heart and brain.

VENTRILOQUISM, an art by which certain perſons can ſo modify their voice, as to make it appear to the audience to proceed from any diſtance, and in any direction. Some faint traces of this art are to be found in the writings of the ancients; and it is the opinion of M. de la Chapelle, who in the year 1772 publiſhed an ingenious work on the ſubject, that the reſponſes of many of the oracles were delivered by perſons thus qualified, to ſerve the purpoſes of prieſt-craft and deluſion. As the ancient ventriloquiſts, when exerciſing their art, ſeemed generally to ſpeak from their own bellies, the name by which they were deſigned was abundantly ſignificant: but it is with no great propriety that modern performers are called *ventriloquiſts*, and their art *ventriloquiſm*, ſince they appear more frequently to ſpeak from the pockets of their neighbours, or from the roof or diſtant corners of the room, than from their own mouths or their own bellies.

From Brodeau, a learned critic of the 16th century, we have the following account of the feats of a capital ventriloquiſt and cheat, who was valet de chambre to Francis the Firſt. The fellow, whoſe name was *Louis Brabant*, had fallen deſperately in love with a young, handſome, and rich heireſs; but was rejected by the parents as an unſuitable match for their daughter, on account of the lowneſs of his circumſtances. The young lady's father dying, he made a viſit to the widow, who was totally ignorant of his ſingular talent. Suddenly, on his firſt appearance, in open day, in her own houſe, and in the preſence of ſeveral perſons who were with her, ſhe heard herſelf accoſted, in a voice perfectly reſembling that of her dead huſband, and which ſeemed to proceed from above, exclaiming, "Give my daughter in marriage to Louis Brabant: He is a man of great fortune, and of an excellent character. I now endure the inexpreſſible torments of purgatory, for having refuſed her to him. If you obey this admonition, I ſhall ſoon be delivered from this place of torment. You will at the ſame time provide a worthy huſband for your daughter, and procure everlaſting repoſe to the ſoul of your poor huſband."

The widow could not for a moment reſiſt this dread ſummons, which had not the moſt diſtant appearance of proceeding from Louis Brabant; whoſe countenance exhibited no viſible change, and whoſe lips were cloſe and motionleſs, during the delivery of it. Accordingly, ſhe conſented immediately to receive him for her ſon-in-law. Louis's finances, however, were in a very low ſituation; and the formalities attending the marriage contract rendered it neceſſary for him to exhibit ſome ſhow of riches, and not to give the ghoſt the lie direct. He accordingly went to work upon a freſh ſubject, one Cornu, an old and rich banker at Lyons; who had accumulated immenſe wealth by uſury and extortion, and was known to be haunted by remorſe of conſcience on account of the manner in which he had acquired it.

Having contracted an intimate acquaintance with this man, he, one day while they were ſitting together in the uſurer's little back parlour, artfully turned the converſation on religious ſubjects, on demons and ſpectres, the pains of purgatory, and the torments of hell. During an interval of ſilence between them, a voice was heard, which to the aſtoniſhed banker ſeemed to be that of his deceaſed father, complaining, as in the former caſe, of his dreadful ſituation in purgatory, and calling upon him to deliver him inſtantly from thence, by putting into the hands of Louis Brabant, then with him, a large ſum for the redemption of Chriſtians then in ſlavery with the Turks; threatening him at the ſame time with eternal damnation if he did not take this method to expiate likewiſe his own ſins. The reader will naturally ſuppoſe that Louis Brabant affected a due degree of aſtoniſhment on the occaſion; and further promoted the deception, by acknowledging his having devoted himſelf to the proſecution of the charitable deſign imputed to him by the ghoſt. An old uſurer is naturally ſuſpicious. Accordingly the wary banker made a ſecond appointment with the ghoſt's delegate for the next day; and, to render any deſign of impoſing upon him utterly abortive, took him into the open fields, where not a houſe, or a tree, or even a buſh, or a pit, were in ſight, capable of ſcreening any ſuppoſed confederate. This extraordinary caution excited the ventriloquiſt to exert all the powers of his art. Wherever the banker conducted him, at every ſtep his ears were ſaluted on all ſides with the complaints and groans not only of his father, but of all his deceaſed relations, imploring him for the love of God, and in the name of every ſaint in the calendar, to have mercy on his own ſoul and theirs, by effectually ſeconding with his purſe the intentions of his worthy companion. Cornu could no longer reſiſt the voice of Heaven, and accordingly carried his gueſt home with him, and paid him down 10,000 crowns; with which the honeſt ventriloquiſt returned to Paris, and married his miſtreſs.—The cataſtrophe was fatal. The ſecret was afterwards blown, and reached the uſurer's ears, who was ſo much affected by the loſs of his money, and the mortifying railleries of his neighbours, that he took to his bed and died.

This trick of Louis Brabant is even exceeded by an innocent piece of waggery played off not forty years ago by another French ventriloquiſt on a whole community. We have the ſtory from M. de la Chapelle, who informs us, that M. St. Gill, the ventriloquiſt, and his intimate friend, returning home from a place whither his buſineſs had carried him, fought for

ſhelter from an approaching thunder-ſtorm in a neighbouring convent. Finding the whole community in mourning, he enquired the cauſe, and was told that one of their body had died lately, who was the ornament and delight of the whole ſociety. To paſs away the time, he walked into the church, attended by ſome of the religious, who ſhowed him the tomb of their deceaſed brother, and ſpoke feelingly of the ſcanty honours they had beſtowed on his memory. Suddenly a voice was heard, apparently proceeding from the roof of the quire, lamenting the ſituation of the defunct in purgatory, and reproaching the brotherhood with their lukewarmneſs and want of zeal on his account. The friars, as ſoon as their aſtoniſhment gave them power to ſpeak, conſulted together, and agreed to acquaint the reſt of the community with this ſingular event, ſo intereſting to the whole ſociety. M. St. Gill, who wiſhed to carry on the joke ſtill farther, diſſuaded them from taking this ſtep; telling them that they would be treated by their abſent brethren as a ſet of fools and viſionaries. He recommended to them, however, the immediately calling of the whole community into the church, where the ghoſt of their departed brother might probably reiterate his complaints. Accordingly all the friars, novices, lay-brothers, and even the domeſtics of the convent, were immediately ſummoned and collected together. In a ſhort time the voice from the roof renewed its lamentation and reproaches, and the whole convent fell on their faces, and vowed a ſolemn reparation. As a firſt ſtep, they chanted a *De profundis* in a full choir; during the intervals of which the ghoſt occaſionally expreſſed the comfort he received from their pious exerciſes and ejaculations on his behalf. When all was over, the prior entered into a ſerious converſation with M. St. Gill; and on the ſtrength of what had juſt paſſed, ſagaciouſly inveighed againſt the abſurd incredulity of our modern ſceptics and pretended philoſophers on the article of ghoſts or apparitions. M. St. Gill thought it now high time to diſabuſe the good fathers. This purpoſe, however, he found it extremely difficult to effect, till he had prevailed upon them to return with him into the church, and there be witneſſes of the manner in which he had conducted this ludicrous deception.

A ventriloquiſt, who performed feats ſomewhat ſimilar to theſe, made his appearance in Edinburgh, and many of the other towns of Scotland, a few months before the writing of this article. He imitated ſucceſsfully the voice of a ſqueaking child, and made it appear to proceed from whatever place he choſe; from the pockets of the company, from a wooden doll, with which he held many ſpirited converſations; from beneath a hat or a wine-glaſs, and out of any perſon's foot or hand. When the voice ſeemed to come from beneath a glaſs or hat, it was dull and on a low key, as ſounds confined always are; and what evinced his dexterity was, that when the glaſs was raiſed from the table during the time of his ſpeaking, the words or ſyllables uttered afterwards were on a higher key, in conſequence, one would have thought, of the air being readmitted to the ſpeaker. This part of the experiment failed, however, when the management of the glaſs was at a diſtance committed to any of the company; but as the room was not well illuminated, we are inclined to attribute this failure to the ventriloquiſt's not being able to perceive at what preciſe inſtant of time the glaſs was removed from the table. The ſame artiſt imitated the tones of a ſcolding old woman, diſturbed at unſeaſonable hours by a perſon demanding admiſſion into her houſe; but this exhibition did not to us appear maſterly. The tones of the old woman and the child were not accurately diſcriminated: the child was a young ſcold, and the ſcold ſpoke like an angry child. We have heard that, when in Edinburgh, the ſame practitioner aſtoniſhed a number of perſons in the Fiſhmarket, by making a fiſh appear to ſpeak, and give the lie to its vender, who affirmed that it was freſh, and caught in the morning; and whether this fact was really performed or not, we cannot doubt, from what we ſaw and heard him do, but that he was fully equal to its performance.

Our ventriloquiſt was an illiterate man; and though ſufficiently communicative, could not make intelligible to us the manner in which he produced theſe acouſtic deceptions. Indeed if he had, we ſhould hardly have deſcribed the practical rules of the art to the public; for though it is proper to make the exiſtence of ſuch an art univerſally known, it will readily occur to every reflecting mind, that the attainment of it ſhould not be rendered eaſy to thoſe who, like Louis Brabant, might make it ſubſervient to the purpoſes of knavery and deception. The ſpeculative principles on which it is founded muſt be obvious to every man who has ſtudied the philoſophy of the human mind, and has ever witneſſed the feats of mimickry.

It is undoubtedly true, that, previous to experience, we cannot refer ſound to any external cauſe; that it does not therefore give immediate indication of the place or diſtance of the ſonorous body; and that it is only by the aſſociation of place with ſound that the latter becomes an indication of the former. This being admitted, nothing ſeems requiſite to fit a man for becoming an expert ventriloquiſt but a delicate ear, flexibility of the organs of ſpeech, and long practice of thoſe rules which repeated trials would enable him to diſcover. A delicate ear perceives every difference which change of place produces in the ſame ſound; and if a perſon poſſeſſed of ſuch an ear have ſufficient command over his organs of ſpeech, to produce by them a ſound in all reſpects ſimilar to another proceeding from any diſtant object, it is evident that to the audience the ſound which he utters muſt appear to proceed from that object. If this be the true theory of ventriloquiſm, it does not ſeem to be poſſible for the moſt expert ventriloquiſt to ſpeak in his uſual tones of converſation, and at the ſame time make the voice appear to come from a diſtance; for theſe tones muſt be ſuppoſed familiar to his audience, and to be in their minds aſſociated with the ideas of his figure, place, and diſtance. Hence the ventriloquiſt whom we ſaw appeared to ſpeak from various places only in the tones of the ſqueaking child, while Louis Brabant and M. St. Gill, in their great feats, imitated the voices of ghoſts, to which no man could be familiar, and where terror would greatly contribute to the deception. There can, however, be no doubt, but that if, by a peculiar modification of the organs of ſpeech, a ſound of any kind can be produced, which in faintneſs, tone, body, and in ſhort every other ſenſible quality, perfectly reſembles a ſound delivered from the roof of an oppoſite houſe; the ear will naturally, without examination, refer it to that ſituation and diſtance, the ſound which the perſon hears being only a ſign, which he has from his infancy been conſtantly accuſtomed, by experience, to aſſociate with the idea of a perſon ſpeaking from a houſe-top. It is evident too, that when there is no particular ground of ſuſpicion, any ſmall diſparity between the two ſounds will not be perceptible. But if our theory be juſt, that experience or habit which miſleads a perſon who has ſeldom heard the ventriloquiſt, and is a ſtranger to his powers, at length ſets another perſon right who is acquainted with them, and has been a frequent witneſs of their effects. This was actually the caſe of M. de la Chapelle, with whom the illuſion at length ceaſed, in conſequence of repeated viſits to M. St. Gill: ſo that while others, ignorant of his talent, and poſſeſſed only of their old or habitual experience with regard to articulate ſounds, conſidered his voice as coming from the top of a tree, or from a deep celler under ground; our author, well acquainted with the powers of the ventriloquiſt, and having acquired a new kind of experience, at once referred it directly to the mouth of the ſpeaker.

VENUS, in Pagan worſhip, the goddeſs of love and beauty.

Cicero mentions two other deities of this name. Venus, ſtyled *Urania* and *Celeſtis*; and the *Venus Pandemos* or *Popularis*, the wife of Vulcan, and the goddeſs of wanton and effeminate love. To the firſt the Pagans aſcribed no attributes but ſuch as were agreeable to the ſtricteſt chaſtity and virtue; and of this deity they admitted no corporeal reſemblance, ſhe being only repreſented by the form of a globe, ending conically. Her ſacrifices were termed *nephalia*, on account of their ſobriety. To her, honey and wine were offered, and no animal except the heifer; and on her altars the wood of figs, vines, or mulberries, were not ſuffered to be burnt. The Romans dedicated a temple to this goddeſs, to whom they gave the name of *Verticordia*; becauſe ſhe turned the hearts of lewd women, and inſpired modeſty and virtue.

But the moſt famous of theſe goddeſſes is the wife of Vulcan; who is repreſented as ſpringing from the froth raiſed by the genitals of Saturn, when cut off by Jupiter and thrown into the ſea. As ſoon as ſhe was formed, ſhe was laid in a beautiful ſhell embelliſhed with pearl, and wafted by gentle zephyrs to the iſle of Cytherea, whence ſhe ſailed to Cyprus. At her landing, flowers roſe beneath her feet; ſhe was received by the Hours, who braided her hair with golden fillets; and then waſted her to heaven, where her charms appeared ſo attractive, that moſt of the gods deſired her in marriage; but Vulcan, by the advice of Jupiter, gained poſſeſſion by putting poppies into her nectar. As Venus was the goddeſs of love and pleaſure, the poets have been laviſh in the deſcription of her beauties; and the painters and ſtatuaries have endeavoured to give her the moſt lovely form. Sometimes ſhe is repreſented clothed in purple, glittering with gems, her head crowned with roſes, and drawn in an ivory car by ſwans, doves, or ſparrows; at others ſhe ſtands attended by the Graces; but in all poſitions, her ſon Cupid is her inſeparable companion. She was honoured as the mother of Hymeneus, Cupid, Æneas, and the Graces, and was paſſionately fond of Adonis and Anchiſes.

This goddeſs was principally worſhipped at Paphos and Cyprus; and the ſacrifices offered to her were white goats and ſwine, with libations of wine, milk, and honey. Her victims were crowned with flowers, or wreaths of myrtle.

Venus, in aſtronomy. See Astronomy and Pneumatics.

Venus's *Fly-trap*. See Dionæa *Muſcipula*.

Venus, in zoology, a genus of inſects belonging to the order of vermes teſtacea. This animal is a tethys: the ſhell is bivalve; the hinge with three teeth near each other, one placed longitudinally and bent inwards. There are a great many ſpecies; of which the moſt remarkable is the *mercenaria*, or commercial, with a ſtrong, thick, weighty ſhell, covered with a brown epidermis; pure white within; ſlightly ſtriated tranſverſely. Circumference above eleven inches.—Theſe are called in North America *clams*; they differ from other ſpecies only in having a purple tinge within. Wampum, or Indian money, is made of them.

VEPRECULÆ, diminutive from *vepres*, "a briar or bramble;" the name of the 31ſt order in Linnæus's Fragments of a Natural Method. See Botany.

VERA-Cruz, a ſea-port town of North America, in New Spain, with a very ſecure and commodious harbour, defended by a fort. Here the Flotilla annually arrives from Spain to receive the produce of the gold and ſilver mines of Mexico; and at the ſame time a fair is held here for all manner of rich merchandize brought from China and the Eaſt Indies by way of the South Sea, and for the merchandize of Europe by the way of the Atlantic Ocean. This town is not two miles in circumference; and about it there is a wall of no great ſtrength on the land-ſide. The air is unwholeſome; and there are very few Spaniards here unleſs when the Flotilla arrives, and then it is crowded with people from all parts of Spaniſh America. It is 200 miles ſouth-eaſt of Mexico. W. Long. 37. 25. N. Lat. 19. 12.

VERAGUA, a province of New Spain, bounded on the eaſt by that of Coſta Rica, on the weſt by Panama, on the north by Darien and the Gulf of Mexico, and on the ſouth by the South Sea. It is about 125 miles in length from eaſt to weſt, and 60 in breadth from north to ſouth. It is a mountainous barren country; but has plenty of gold and ſilver. Conception is the capital town.

VERATRUM, in botany: a genus of plants of the claſs of *polygamia*, and order of *monœcia*; and in the natural ſyſtem arranged under the 10th order, *Coronariæ*. There is no calyx; the corolla has ſix petals; there are ſix ſtamina: the hermaphrodite flowers have three piſtils and three capſules. There are three ſpecies, none of which are natives of Britain. The moſt important is the *album*, or hellebore, the root of which is perennial, about an inch thick, externally brown, internally white, and beſet with many ſtrong fibres; the ſtalk is thick, ſtrong, round, upright, hairy, and uſually riſes four feet in height: the leaves are numerous, very large, oval, entire, ribbed, plaited, without footſtalks, of a yelloviſh green colour, and ſurround the ſtem at its baſe: the flowers are of a greeniſh colour, and appear from June to Auguſt in very long, branched, terminal ſpikes.

It appears from various inſtances, that every part of the plant is extremely acrid and poiſonous, as its leaves and even ſeeds prove deleterious to different animals. Greding employed it in a great number of caſes of the maniacal and melancholic kind; the majority of theſe, as might be expected, derived no permanent benefit; ſeveral, however, were relieved, and five completely cured by this medicine. It was the bark of the root, collected in the ſpring, which he gave in powder, beginning with one grain: this doſe was gradually increaſed according to its effects. With ſome patients one or two grains excited nauſea and vomiting, but generally eight grains were required to produce this effect, though in a few inſtances a ſcruple and even more was given.

Veratrum has likewiſe been found uſeful in epilepſy, and other convulſive complaints; but the diſeaſes in which its efficacy ſeems leaſt equivocal, are thoſe of the ſkin; as ſcabies and different prurient eruptions, herpes, morbus pediculoſus, lepra, ſcrophula, &c. and in many of theſe it has been ſucceſsfully employed both internally and externally.

As a powerful ſtimulant, and irritating medicine, its uſe has been reſorted to only in deſperate caſes, and then it is firſt to be tried in very ſmall doſes in a diluted ſtate, and to be gradually increaſed according to the effects.

VERB, in grammar. See Grammar.

VERBASCUM, in botany: a genus of plants of the claſs of *pentandria*, and order of *monogynia*; and in the natural ſyſtem arranged under the 28th order, *Luridæ*. The corolla is rotated, and rather unequal: the capſule is monolocular and bivalved. There are 12 ſpecies, five of which are natives of Britain; 1. The *thapſus*, or great mullein, which has a ſtem ſingle, ſimple, erect, covered with leaves, about ſix feet high. Leaves large, broad, white, woolly on both ſides, ſeſſile, decurrent. Flowers terminal, in a long ſpike, ſeſſile, yellow. Catarrhal coughs and diarrhœas are the complaints for which it has been internally preſcribed. Dr. Home tried it in both, but it was only in the latter diſeaſe that this plant ſucceeded. He relates four caſes in which a decoction of verbaſcum was given; and from which he concludes, that it "is uſeful in diminiſhing or ſtopping diarrhœas of an old ſtanding, and

often in eaſing the pains of the inteſtines. Theſe acquire a great degree of irritability; and the ordinary irritating cauſes, aliment, bile, diſtenſion from air, keep up a quicker periſtaltic motion. This is obviated by the emollient and perhaps gentle aſtringent qualities of this plant." 2. The *nigrum*, or black mullein, having a ſtem beſet with hairs that are beautifully branched; the bloſſoms yellow, with purple tips. It is a beautiful plant, and the flowers are grateful to bees. Swine eat it; ſheep are not fond of it; cows, horſes, and goats, refuſe it. The other Britiſh ſpecies are the lychnitis, nigrum, blattaſi, and virgatum.

VERBENA, in botany: a genus of plants of the claſs of *diandria*, and order of *monogynia*; and in the natural ſyſtem arranged under the 40th order, *Perſonatæ*. There are 17 ſpecies, only one of which is a native of Britain; the *officinalis*, or common vervain, which grows on the road-ſides near towns and villages. The leaves have many jagged clefts, the bloſſoms are pale blue. It manifeſts a ſlight degree of aſtringency, and was formerly much in vogue as a deobſtruent; but is now diſregarded. Mr. Millar ſays, that it is never found above a quarter of a mile from a houſe; whence the common people in England call it *Simpler's joy*, becauſe, wherever it is found, it is a certain ſign of a houſe being near. Sheep eat it; cows, horſes, and goats, refuſe it.

VERD (Cape), a promontory on the weſt coaſt of Africa, forty miles north-weſt of the mouth of the river Gambia. W. Long. 17. 38. N. Lat. 14. 45. The iſlands of Cape de Verd are ſeated in the Atlantic Ocean, about 400 miles weſt of the Cape. They are between the 13th and 19th degree of latitude; and the principal are ten in number, lying in a ſemicircle. Their names are, *St. Antony*, *St. Vincent*, *St. Lucia*, *St. Nicholas*, the *Iſle of Sal*, *Bona Viſta*, *Mayo*, *St. Jago*, *Fuego*, and *Brava*.

VERDICT (*Vere dictum*), is the anſwer of the jury given to the court concerning the matter of fact, in any caſe civil or criminal, committed by the court to their trial and examination. See LAW and TRIAL.

VERDIGRISE, the acetite of copper, much uſed by painters as a green colour. It is chiefly manufactured at Montpelier; the vines of Languedoc being very convenient for this purpoſe. The following proceſs for making verdigriſe is deſcribed by Mr. Monet of the Royal Society of Montpelier, and is publiſhed among the memoirs of the academy for the years 1750 and 1753.

Vine-ſtalks well dried in the ſun are ſteeped during eight days in ſtrong wine, and afterwards drained. They are then put into earthen pots, and upon them wine is poured. The pots are carefully covered. The wine undergoes the acetous fermentation, which in ſummer is finiſhed in ſeven or eight days; but requires a longer time in winter, although this operation is always performed in cellars. When the fermentation is ſufficiently advanced, which may be known by obſerving the inner ſurface of the lids of the pots, which during the progreſs of the fermentation is continually wetted by the moiſture of the riſing vapours, the ſtalks are then to be taken out of the pots. Theſe ſtalks are by this method impregnated with all the acid of the wine, and the remaining liquor is but a very weak vinegar. The ſtalks are to be drained during ſome time in baſkets, and layers of them are to be put into earthen pots with plates of Swediſh copper, ſo diſpoſed that each plate ſhall reſt upon and be covered with layers of ſtalks. The pots are to be covered with lids; and the copper is thus left expoſed to the action of the vinegar, during three or four days, or more, in which time the plates become covered with verdigriſe. The plates are then to be taken out of the pots, and left in the cellar three or four days; at the end of which time they are to be moiſtened with water, or with the weak vinegar above mentioned, and left to dry. When this moiſtening and drying of the plates has been thrice repeated, the verdigriſe will be found to have conſiderably increaſed in quantity; and it may then be ſcraped off for ſale.

A ſolution or eroſion of copper, and conſequently of verdigriſe, may be prepared by employing ordinary vinegar inſtead of wine, as is directed in the above proceſs. But it would not have the unctuoſity of ordinary verdigriſe, which quality is neceſſary in painting. Good verdigriſe muſt be prepared by means of a vinous acid, or ſolvent half acid and half ſpirituous. Accordingly, the ſucceſs of the operation depends chiefly on the degree of fermentation to which the wine employed has been carried: for this fermentation muſt not have been ſo far advanced that no ſenſibly vinous or ſpirituous parts remained in the liquor.

Verdigriſe is employed externally for deterging foul ulcers, and as an eſcharotic. It is rarely or never given internally. Some recommend it indeed in the doſe of a grain or two as an emetic, which operates almoſt as ſoon as received into the ſtomach, and which may therefore be of uſe where poiſonous ſubſtances have been taken, to procure their immediate rejection.

VERDITER, or VERDATER, a preparation of copper, ſometimes uſed by the painters, &c. for a blue; but more uſually mixed with a yellow for a green colour. See COLOUR-*Making*.

VERE (Sir Francis), a renowned Engliſh general, was the ſecond ſon of Geffrey de Vere, a branch of the ancient family of that name, earls of Oxford, and was born in the year 1554. Concerning his education we are uninformed. About the age of thirty-one he began his military career in Holland, in the courſe of which Queen Elizabeth declared him the *worthieſt captain of her time*. (See *Letters of the Sidney Family*, vol. ii. p. 104.) But the laſt and moſt glorious achievement of his life was his gallant defence of Oſtend, with about 1600 men, againſt an army of 12,000, from July 1601 until March 1602, when he reſigned the government, and returned to Holland. He died in 1608, in the 54th year of his age; and was buried in St. John's chapel in Weſtminſter abbey, where a ſplendid monument was erected to his memory. He married the daughter of a citizen of London, named Dent, by whom he had three ſons and two daughters, none of whom ſurvived him. He will ever be remembered by poſterity as one of the greateſt heroes of our moſt heroic age. A military work of his, entitled, "The Commentaries of Sir Francis Vere, being diverſe pieces of ſervice wherein he had command; written by himſelf by way of commentary," will afford ample information reſpecting his exploits. It was printed at Cambridge, 1657, in folio, elegantly adorned with prints of Sir Francis, Sir Horace Vere, Sir John Ogle, maps, and plans of battles, &c.

VERGE (*Virgata*), in law, ſignifies the compaſs of the king's court, which bounds the juriſdiction of the lord ſteward of the houſehold; and which is thought to have been twelve miles round. The term *verge* is alſo uſed for a ſtick or rod, whereby one is admitted tenant to a copyhold eſtate, by holding it in his hand, and ſwearing fealty to the lord of the manor.

VERGERS, certain officers of the courts of king's bench and common pleas, whoſe buſineſs it is to carry white wands before the judges. There are alſo vergers of cathedrals, who carry a rod tipped with ſilver before the biſhop, dean, &c.

VERGIL (Polydore). See VIRGIL.

VERJUICE, a liquor obtained from grapes or apples, unfit for wine or cyder; or from ſweet ones, whilſt yet acid and unripe. Its chief uſe is in ſauces, ragouts, &c. though it is alſo an ingredient in ſome medicinal compoſitions, and is uſed by the wax-chandlers to puriſy their wax.

VERMES, the ſixth claſs of animals in the Linnæan ſyſtem, comprehending five orders. See NATURAL HISTORY, and ZOOLOGY.

VERMICELLI, or VERMICHELLY, a compoſition of fine flour and eggs, reduced to a paſte, and formed into long ſlender threads or ſtrings, by forcing it with a piſton through a number of little holes. It was firſt brought from Italy, where it is in great vogue: it is chiefly uſed in ſoups, and is an excellent article of food.

VERMIFORMIS, in anatomy, a term applied to various parts in the human body, bearing ſome reſemblance to worms; as the appendix vermiformis of the inteſtines.

VERMILION, a very bright and beautiful red colour, compoſed of quickſilver and ſulphur, in great eſteem among the ancients under the name of *minium;* but what goes by the name of minium amongſt us, is a preparation of lead, known alſo by the name of *red-lead.* This ſubſtance is well known to artiſts.

VERMIN, a collective name, including all kinds of little animals and inſects, which are hurtful or troubleſome to mankind, beaſts, or fruits, &c. as worms, lice, fleas, caterpillars, ants, flies, &c.

VERNIER SCALE, a ſcale excellently adapted for the graduation of mathematical inſtruments, thus called from its inventor Peter Vernier, a perſon of diſtinction in the Franche Compté. See NONIUS. Vernier's method is derived from the following principle. If two equal right lines, or circular arcs, A, B, are ſo divided, that the number of equal diviſions in B is one leſs than the number of equal diviſions of A, then will the exceſs of one diviſion of B above one diviſion of A be compounded of the ratios of one of A to A, and of one of B to B.

For let A contain 11 parts, then one of A to A is as 1 to 11, or $\frac{1}{11}$. Let B contain 10 parts, then one of B to B is as 1 to 10, or $\frac{1}{10}$. Now $\frac{1}{10}-\frac{1}{11}=\frac{11-10}{10\times 11}=\frac{1}{10\times 11}=\frac{1}{10}\times\frac{1}{11}$.

Or if B contains n parts, and A contains $n+1$ parts; then $\frac{1}{n}$ is one part of B, and $\frac{1}{n+1}$ is one part of A. And $\frac{1}{n}-\frac{1}{n+1}=\frac{n+1-n}{n\times n+1}=\frac{1}{n}\times\frac{1}{n+1}$.

The moſt commodious diviſions, and their aliquot parts, into which the degrees on the circular limb of an inſtrument may be ſuppoſed to be divided, depend on the radius of that inſtrument.

Let R be the radius of a circle in inches; and a degree to be divided into n parts, each being $\frac{1}{p}$th part of an inch.

Now the circumference of a circle, in parts of its diameter 2 R inches, is 3,1415926×2 R inches.

Then 360°: 3,1415926×2 R : : 1°: $\frac{3,1415926}{360}\times 2$ R inches.

Or, 0,01745329 × R is the length of one degree in inches.

Or, 0,01745329 × R × p is the length of 1°, in pth parts of an inch.

But as every degree contains n times ſuch parts, therefore $n=0{,}01745329\times R\times p$.

The moſt commodious perceptible diviſion is $\frac{1}{8}$ or $\frac{1}{10}$ of an inch.

Example. Suppoſe an inſtrument of 30 inches radius, into how many convenient parts may each degree be divided? how many of theſe parts are to go to the breadth of the vernier, and to what parts of a degree may an obſervation be made by that inſtrument?

Now 0,01745 × R = 0,5236 inches, the length of each degree: and if p be ſuppoſed about $\frac{1}{8}$ of an inch for one diviſion; then 0,5236 × p = 4,188 ſhows the number of ſuch parts in a degree. But as this number muſt be an integer, let it be 4, each being 15′: and let the breadth of the vernier contain 31 of thoſe parts, or 7¾°, and be divided into 30 parts.

Here $n=\frac{1}{4}$; $m=\frac{1}{30}$; then $\frac{1}{4}\times\frac{1}{30}=\frac{1}{120}$ of a degree, or 30′, which is the leaſt part of a degree that nſtrument can ſhow.

If $n=\frac{1}{5}$, and $m=\frac{1}{36}$; then $\frac{1}{5}\times\frac{1}{36}=\frac{60}{5\times 36}$ of a minute, or 20″.

The following table, taken as examples in the inſtruments commonly made from 3 inches to 8 feet radius, ſhows the diviſions of the limb to neareſt tenths of inches, ſo as to be an aliquot of 60's, and what parts of a degree may be eſtimated by the vernier, it being divided into ſuch equal parts, and containing ſuch degrees as their columns ſhow.

Rad inches.	Part in a deg.	Parts in vernier.	Breadth of vernier.	Parts obſerved.
3	1	15	15¼	4′ 0″
6	1	20	20¼	3 0
9	2	20	10¼	1 30
12	2	24	12¾	1 15
15	3	20	6¾	1 0
18	3	30	10¼	0 40
21	4	30	7¼	0 30
24	4	36	9¾	0 25
30	5	30	7½	0 20
36	6	30	5¼	0 20
42	8	30	3⅞	0 15
48	9	40	4⅝	0 10
60	10	36	3 7/10	0 10
72	12	30	2 7/12	0 10
84	15	40	2⅔	0 6
96	15	60	4	0 4

By altering the number of diviſions, either in the degrees or in the vernier, or in both, an angle can be obſerved to a different degree of accuracy. Thus, to a radius of 30 inches, if a degree be divided into 12 parts, each being five minutes, and the breadth of the vernier be 21 ſuch parts, or 1¾°, and divided into 20 parts, then $\frac{1}{12}\times\frac{1}{20}=\frac{1^\circ}{240}=15''$: or taking the breadth of the vernier 2 7/12°, and divided into 30 parts; then $\frac{1}{12}\times\frac{1}{30}=\frac{1^\circ}{360}$, or 10″: Or $\frac{1}{12}\times\frac{1}{50}=\frac{1^\circ}{600}=6''$; where the breadth of the vernier is $4\frac{1}{2}^\circ$.

VERONA, a city of Italy, capital of the Veroneſe, in the territory of Venice, ſituated near the mountains, on the river

Adige, in E. Long. 11. 24. N. Lat. 45. 26. It is ſeven miles in compaſs; was fortified by the Venetians; and contains 57,400 inhabitants.

VERONESE, a territory of Italy, in the republic of Venice, bounded on the north by the Trentino, on the eaſt by the Vicentino and Paduano, on the ſouth by the Mantuano, and on the weſt by the Breſciano. It is about 35 miles in length, and 27 in breadth; and is one of the moſt fertile countries in Italy, abounding in corn, wine, fruits, and cattle.

VERONESE. See CAGLIARI.

VERONICA, in botany: a genus of plants of the claſs of *diandria*, and order of *monogynia*; and in the natural ſyſtem arranged under the 40th order, *Perſonatæ*. There are forty ſpecies; 15 are natives of Britain, only two of which have been applied to any uſe. 1. The *officinalis*, common male ſpeed-well, or fluellin; a native of Britain, growing on heaths and barren grounds. The bloſſoms are blue, the leaves elliptical, ſerrated, and hairy. The leaves have a ſmall degree of aſtringency, and are ſomewhat bitter. An infuſion of them is recommended by Hoffman as a ſubſtitute for tea; but is more aſtringent and leſs grateful. The herb was formerly eſteemed in medicine for various diſorders, but is now almoſt totally diſuſed. Cows, ſheep, goats, and horſes, eat it; ſwine refuſe it. 2. The *beccabunga*, or common brook-lime, the flowers of which are blue, in looſe lateral ſpikes; leaves ſeſſile, oval, oppoſite, thick, notched. This plant was formerly conſidered as of much uſe in ſeveral diſeaſes, and was applied externally to wounds and ulcers; but if it have any peculiar efficacy, it is to be derived from its antiſcorbutic virtue.

VERSAILLES, a town of France, and principal place of a diſtrict, in the department of the Seine and Oiſe. In the beginning of the laſt century, it was a ſmall village, when Louis XIII. built here a hunting-ſeat, which Louis XIV. enlarged into a palace, in a foreſt ten leagues in circumference, which became a place of frequent reſidence of the royal family till the revolution. The palace is magnificent, with beautiful gardens, adorned with ſtatues, canals, fountains, &c. and a park, five miles in circumference, ſurrounded with a wall. Since the revolution, it has been erected into a biſhop's ſee: three poſts SW. Paris. Long. 19. 48. E. Ferro. Lat. 48. 49. N.

VERSE, in poetry, a line conſiſting of a number of long and ſhort ſyllables, which run with an agreeable cadence.

VERSE is alſo uſed for a part of a chapter, ſection, &c.

VERSIFICATION, the art or manner of making verſe; alſo the tune and cadence of verſe. See POETRY.

VERSION, a tranſlation of ſome book or writing out of one language into another. See TRANSLATION.

VERT, in heraldry, the term for a green colour. It is called *vert* in the blazon of the coats of all under the degree of nobles: but in coats of nobility it is called *emerald*; and in thoſe of kings *venus*. In engraving it is expreſſed by diagonals, or line sdrawn athwart from right to left, from the dexter chief corner to the ſiniſter baſe.

VERTEBRÆ, in anatomy. See ANATOMY.

VERTEX, in anatomy, denotes the crown of the head. Hence vertex is alſo uſed figuratively for the top of other things: thus we ſay, the vertex of a cone, pyramid, &c.

VERTEX, is alſo uſed in aſtronomy for the point of the heaven directly over our heads, properly called the *zenith*.

VERTICILLATÆ, the name of a claſs in Ray's and Boerhaave's Methods, conſiſting of herbaceous vegetables, having four naked ſeeds, and the flowers placed in whorls round the ſtalk. The term is ſynonymous to the *labiati*, or lip-flowers of Tournefort; and is exemplified in mint, thyme, and Savory. Verticillatæ is alſo the name of the 42d order in Linnæus's Fragments of a Natural Method, conſiſting of plants which anſwer the above deſcription.

VERTICILLUS, a mode of flowering, in which the flowers are produced in rings at each joint of the ſtem, with very ſhort foot-ſtalks. The term is exemplified in mint, horehound, and the other plants of the natural order deſcribed above.

VERTICITY, is that property of the loadſtone whereby it turns or directs itſelf to one particular point.

VERTIGO, in medicine. See MEDICINE.

VERTUMNUS, in mythology, a god who preſided over gardens and orchards, honoured among the Etruſcans, from whom the worſhip of this deity was tranſmitted to the Romans. Ovid has deſcribed the various forms aſſumed by this deity, in order to obtain the love of Pomona. Some have ſuppoſed that Vertumnus, whoſe name they derive *a vertendo*, becauſe he had power to change his form at pleaſure, marked the year and its variations; and thus they ſay he pleaſed Pomona, by bringing the fruits to maturity. Accordingly, Ovid ſays, that he aſſumed the form of a labourer, reaper, vine-dreſſer, and old woman, to repreſent the four ſeaſons, ſpring, ſummer, autumn, and winter. Vertumnus had a temple near the market-place at Rome, being repreſented as one of the tutelary deities of the merchants. The commentators on Ovid ſay, that he was an ancient king of Hetruria, who, by his diligent and ſucceſsful cultivation of fruits and gardens, obtained the honour of being ranked among the gods.

VERUMONTANUM, in anatomy, a ſmall eminence near the paſſages where the ſemen is diſcharged into the urethra.

VERVAIN, in botany. See VERBENA.

VERTOT d'AUBOEF (Rene Aubert de), a celebrated hiſtorian, was deſcended from a noble and ancient family in Normandy, and born in 1655. At ſixteen years of age, he became a Franciſcan friar; afterwards he entered into the order of the Premonſtratenſes, in which he had ſeveral benefices; and at length was a ſecular eccleſiaſtic. He became ſecretary to the ducheſs of Orleans, member of the Academy of Inſcriptions, and hiſtoriographer of Malta. He died at Paris in 1735. His principal works are: 1. The Hiſtory of the Revolutions of Sweden. 2. The Revolutions of Portugal. 3. The Revolutions of the Romans. 4. The Hiſtory of Malta. Theſe works are written in elegant French, and tranſlated into moſt of the languages of Europe.

VERULAM. See BACON.

VESALIUS (Andreas), a celebrated phyſician and anatomiſt, was born at Bruſſels about the year 1512. He ſtudied phyſic at Paris under James Sylvius; but applied himſelf chiefly to anatomy, which was then very little known, diſſections being eſteemed unlawful and impious: and it appears from his work, *De humani corporis fabrica*, that he perfected himſelf in this uſeful knowledge very early. About the year 1537, the republic of Venice made him profeſſor in the univerſity of Padua, where he taught anatomy for ſeven years; Charles V. called him to be his phyſician, as he was alſo to Philip II. king of Spain. Veſalius was now at the height of his glory, when all of a ſudden he formed the deſign of taking a journey to Paleſtine; concerning which journey we are told the following ſtory. A young Spaniſh nobleman he attended, being believed to be dead, Veſalius obtained leave to open him to explore the true cauſe of his illneſs; but when he opened the breaſt, he perceived ſymptoms of life, and ſaw the heart beat. The parents, not ſatisfied with proſecuting him for murder, accuſed him of impiety to the inquiſition, in hopes that tribunal would puniſh him with greater rigour: but the king interpoſing, ſaved him on condition of his making a pilgrimage to the Holy Land. He was ſhipwrecked on his return, and thrown upon the iſland of Zante, where he periſhed, in 1564. He was the author of ſeveral works, the principal of which is that above mentioned.

VESICATORIUM, a BLISTER; an application of an acrid nature made to any part of the body, in order to draw a flux of humours to that part. and thus elevate the ſcarf-ſkin into a bliſter.

VESPA, the WASP: a genus of inſects belonging to the order of hymenoptera. The mouth conſiſts of two jaws without any proboſcis; the ſuperior wings are plaited; the eyes are lunar; and there is a ſharp ſting in the tail. There are 159 ſpecies; only three of which are natives of Britain, the *crabro*, the *vulgaris*, and the *coarctata*.

1. *Crabro*, the hornet. It has tawny antennæ; the ſegments of the abdomen are black on the anterior part and yellow on the poſterior, with two black ſpots on each. Its length is an inch; it builds in hollow trees. Its cakes or combs are compoſed of a ſubſtance like coarſe paper, or ruſty parchment. It is very voracious, devouring other inſects, and even bees.

2. *Vulgaris*, the common waſp. The male has ſeven yellow ſegments of the abdomen, with a black triangle on each: the head is yellow, and the antennæ long. The upper lip of the female is yellow, the antennæ ſhort; there are ſix ſegments of the abdomen, with two lateral black ſpots on each. M. Reaumur and Dr. Derham agree in diſtinguiſhing three ſorts of waſps; *viz.* the queens or females, the males, and the common labouring waſps, called *mules*, which, according to Reaumur, are neither males nor females, and conſequently barren. The queens, of which there is a great number, are much longer in the body, and larger than any other waſp: they have a large heavy belly, correſponding in ſize to the prodigious quantity of eggs with which they are charged. The males are leſs than the queens, but longer and larger than the common waſps, which are the ſmalleſt of the ſpecies: they have no ſtings, with which both the queens and common waſps are furniſhed. There are in one neſt two or three hundred males, and as many females: but their number depends on the ſize of the neſt; and Dr. Derham obſerved, that the males were bred, or at leaſt moſtly reſided, in the two cells or partings, between the combs, next to the uppermoſt cell. The antennæ or horns of the male waſps are longer and larger than thoſe of either of the other ſorts: but the chief difference, ſays Dr. Derham, conſiſts in their parts of generation, which are altogether different from thoſe of other waſps.

The mules are the labourers belonging to a neſt, and are employed in procuring materials for the neſts, and in conſtructing them, and alſo in furniſhing the other waſps, and the young, with proviſions.

At the beginning of winter, the waſps deſtroy all the eggs, and all the young ones without exception: all the mules and males, which have been employed in this work, being unfurniſhed with proviſions, periſh; and none ſurvive except ſome few females, which, according to Reaumur, were fecundated in October, and raiſe a new colony in the beginning of ſpring. In ſpring a new commonwealth is founded by a ſingle female impregnated during the autumn, and that has weathered out the ſeverity of the winter. It digs a hole in a dry ſoil, contrives itſelf a ſinuous inlet, or elſe it takes up with the dwelling place of a mole, where it haſtily builds a few cells and depoſits its eggs. Within the ſpace of twenty days, they have gone through the different ſtates of larvæ, chryſalids, and turned to waſps. Nature all-wiſe provides for every thing. The mule-waſps are the only ones that labour at laying the foundation of the republic. The firſt eggs that are hatched prove to be neuter-waſps. No ſooner are they come into exiſtence, but they fall to work, enlarge the hole, and go about upon wood, lattice-work, and window ſaſhes, in ſearch of materials for building. With their teeth they cut, hack, and tear off ſmall fibres of wood, which they moiſten with a liquor they diſgorge, and then convey them to the work-ſhop. Other labourers are in waiting for them, who with thoſe materials ſet about the conſtruction of the waſp-neſt, which is commonly round, and made of materials reſembling fine paper. The common covering of it, which is formed of ſeveral leaves or layers, with intermediate ſpaces, is pierced by two holes at a diſtance from one another, one of which is uſed for the entrance of the waſps, and the other only for their exit. The ſpace within this covering is cut by a number of horizontal planes, with intervals between them of the ſize of about half an inch; they are ſuſpended from one another by ligaments, and attached to the covering by their edges: they all have hexagonal cells in their lower ſurface.

The eggs of the waſp are of an oblong form, and reſemble thoſe of a common fly, but they are larger; they are always faſtened to the angles of a cell, never to the ſides of it. They are uſually placed ſingle; it is very rare to find two in one cell; and, if they are laid ſo, it ſeems that only one ſucceeds; for there is never found more than one worm in a cell.

The heads of all the nymphs are turned toward the centre of the comb, and their tails go obliquely downward toward the baſe of the cell. They are continually ſeen opening their mouths, and moving their forceps, ſeeming ever hungry, and impatiently waiting for food from their parents. The cells are left open till the nymph is at its full growth; then the waſps cover it over with a thin lid, under which the worm undergoes its tranſformation; and as ſoon as it is arrived at the waſp-ſtate, it eats its way through this thin cover, and comes to work with the reſt. The elder brothers, or firſt hatched inſects, take amazing care of thoſe born after them, by proportioning their food to the delicacy of their ſtomach. Firſt, it conſiſts of the juice of fruits and meats; afterwards it is the carcaſes of inſects. The caterers provide for the labourers. Each one takes his own portion; there is no diſpute, no fighting. The republic grows daily more numerous, living in profound peace. Every individual, as ſoon as he has acquired ſufficient ſtrength, flies away to the fields. They then become a gang of banditti; they pillage our wall-trees, break into our fruit before its maturity, dart with the fierceneſs of hawks upon our bees, cut their throats to poſſeſs themſelves of their honey, plunder and lay waſte their commonwealth, riot on the fruits of their labour, and oblige them to remove. During the period of plenty, the waſps bring all the booty to the neſt, and ſhare it amongſt them. There is nothing then goes forwards but feaſting, rioting, and good fellowſhip; but concord cannot be laſting among robbers. Towards the month of October proviſions begin to run ſhort: the neuters and males tear from their cradles the eggs, the larvæ, the chryſalids, and the new-born inſects, without ſhowing mercy to any. They next fight againſt one another. Froſts and rains throw the citizens into a ſtate of languor, and they almoſt all periſh, luckily for us and our bees, ſome few females alone excepted, which in the enſuing ſpring become founders of new republics.

3. *Coarctata*, the ſmall waſp; has black antennæ, yellowiſh at the baſe; the head is black with a yellow ſpot between the antennæ, and another at the baſe of the upper lip. Each ſegment of the abdomen is bordered with yellow. It is about half an inch long. The hiſtory, as well as the manners of this ſpecies, are the ſame as thoſe of the common waſp; but their buildings are on a different conſtruction. Their neſt is faſtened to the branch of a tree with a kind of band; and is in bigneſs from the ſize of an orange down to that of an egg. Wood reduced to paper is the material part of it; which if it were of a ruddy colour, might be taken for a large opening roſe. It is covered over with a varniſh impenetrable

by water. One of thoſe neſts was neither mollified nor impaired by that element.

VESPASIAN, the tenth emperor of Rome; remarkable for his clemency and other virtues. See the Roman Hiſtory.

VESPERS, in the church of Rome, denotes the afternoon ſervice; anſwering in ſome meaſure to the evening prayers of the church of England.

VESPERTILIO, the BAT; a genus of quadrupeds, belonging to the order of *primates*. All the teeth are erect, pointed, near each other; and the firſt four are equal. The fore-feet have the toes connected by a membrane expanded into a kind of wings by which the creature is enabled to fly. There are twenty-eight ſpecies, of which four are natives of Britain. The moſt remarkable are,

1. The *vampyrus*, vampire, or Ternate bat (ſee Pl. 1.) with large canine teeth; four cutting teeth above, the ſame below; ſharp black noſe; large naked ears; the tongue is pointed, terminated by ſharp aculeated papillæ; talons very crooked, ſtrong, and compreſſed ſidewiſe; no tail: the membrane divided behind quite to the rump: head of a dark ferruginous colour; on the neck, ſhoulder, and under-ſide, of a much lighter and brighter red; on the back the hair ſhorter, duſky, and ſmooth: the membranes of the wings duſky. They vary in colour; ſome being entirely of a reddiſh brown, others duſky.

Theſe monſters inhabit Guinea, Madagaſcar, and all the iſlands from thence to the remoteſt in the Indian Ocean. They fly in flocks, and perfectly obſcure the air with their numbers; they begin their flight from one neighbouring iſland to another immediately on ſunſet, and return in clouds from the time it is light till ſun-riſe. They live on fruits; and are ſo fond of the juice of the palm-tree, that they will intoxicate themſelves with it till they drop on the ground. It is moſt likely, from the ſize of their teeth, they are carnivorous. Mr. Edwards relates, that they will dip into the ſea for fiſh. They ſwarm like bees; hanging by one another from the trees in great cluſters. The Indians eat them, and declare the fleſh to be very good: they grow exceſſively fat at certain times of the year. The French who live in the Iſle de Bourbon boil them in their bouillon, to give it a reliſh. The negroes hold them in abhorrence. Many are of an enormous ſize: Beckman meaſured one, whoſe extent from tip to tip of the wings was five feet four inches; and Dampier another, which extended farther than he could reach with out-ſtretched arms. Their bodies are from the ſize of a pullet to that of a dove: their cry is dreadful, their ſmell rank, their bite, reſiſtance, and fierceneſs, great when taken.

The ancients had ſome knowledge of theſe animals. Herodotus mentions certain winged wild beaſts like bats, that moleſted the Arabs who collected the caſſia, to ſuch a degree, that they were obliged to cover their faces, all but their eyes, with ſkins. It is very probable, as M. de Buffon remarks, it was from ſuch relations that poets formed their fictions of Harpies.

Linnæus gives this ſpecies the title of *vampyre;* conjecturing it to be the kind which draws blood from people in their ſleep. M. de Buffon denies it; aſcribing that faculty only to a ſpecies found in South America. But there is reaſon to imagine that this thirſt after blood is not confined to the bats of one continent nor to one ſpecies: for Bontius and Nieuhoff informs us, that the bats of Java ſeldom fail of attacking perſons who lie with their feet uncovered, whenever they can get acceſs; and Gumilla, after mentioning a greater and leſs ſpecies found on the banks of the Oronoque, declares them to be equally greedy after human blood. Perſons thus attacked have been known to be near paſſing from a ſound ſleep into eternity. The bat is ſo dexterous a bleeder, as to inſinuate its aculeated tongue into a vein without being perceived, and then ſuck the blood till it is ſatiated; all the while fanning with its wings, and agitating the air in that hot climate in ſo pleaſing a manner, as to fling the ſufferer into a ſtill ſounder ſleep. It is therefore very unſafe to reſt either in the open air, or to leave open any entrance to theſe dangerous animals: but they do not confine themſelves to human blood; for M. Condamine ſays, that in certain parts of America they have deſtroyed all the great cattle introduced there by the miſſionaries.

2. The *ſpectrum*, or ſpectre, with a long noſe; large teeth; long, broad, and upright ears: at the end of the noſe a long conic erect membrane, bending at the end, and flexible: hair on the body cinereous, and pretty long: wings full of ramified fibres: the membrane extends from hind leg to hind leg: no tail; but from the rump extend three tendons, terminating at the edge of the membrane. By Seba's figure the extent of the wings are two feet two inches; from the end of the noſe to the rump, ſeven inches and an half. Inhabits South America; lives in the palm-trees; grows very fat; called *vampyre* by M. de Buffon, who ſuppoſes it to be the ſpecies that ſucks the human blood: but neither Piſo, nor any other writer who mentions the fact, gives the leaſt deſcription of the kind.

3. The *Peruvian* bat hath a head like a pug dog; large ſtraight-pointed ears; two canine teeth, and two ſmall cutting teeth between each, in each jaw: the tail is incloſed in the membrane which joins to each hind-leg, and is alſo ſupported by two long cartilaginous ligaments involved in the membrane: colour of the fur, iron grey: body equal to that of a middle ſized rat: extent of the wings two feet five inches.

4. The *noctule* hath the noſe ſlightly bilobated; ears ſmall and rounded; on the chin a minute verruca; hair reddiſh aſh-colour: length of the rump two inches eight-tenths; tail one inch ſeven-tenths; extent of wings thirteen inches. Inhabits Great Britain and France; flies high in ſearch of food, not ſkimming near the ground. A gentleman informed Mr. Pennant of the following fact relating to thoſe animals, which he was witneſs to: that he ſaw taken under the caves of Queen's College, Cambridge, in one night, 185; the ſecond night, ſixty-three; the third night, two; and that each that was meaſured had fifteen inches extent of wings.

5. The *murinus*, common bat; has a tail: the lips and noſe are ſimple; and the ears are ſmaller than the head. It inhabits Europe, and is found in Britain. This animal flies only during the night, living chiefly on moths: when it lights on the ground it is unable to riſe again till it has crawled to ſome height: it remains torpid during winter, revives in the beginning of the ſpring, and comes abroad in the duſk of the evening. This ſpecies is two inches and a half long, when full grown, and about nine inches in extent; the fur is of a mouſe-colour, tinged with reddiſh; it generally ſkims near the ground, with an uneven jerking flight; and often ſeeking for gnats and other aquatic inſects, flies cloſe by the ſurface of water. It breeds in the ſummer ſeaſon, and is preyed on by owls.

Bats are very voracious, if proper food is to be had; and though moths and other inſects be their natural and common food, yet if fleſh, whether raw or roaſted, freſh or corrupted, comes in their way, they devour it with greedineſs. In this country they appear abroad early in the ſpring, flying about only in the evenings; but are ſometimes rouſed from their torpidity by a warm day or two during winter, and will then venture out in queſt of food, but recommence their ſtate of hybernation whenever the cold returns: they retire at the end

of ſummer into eaves, ruined houſes, or the roofs and caves of houſes, where they remain ſuſpended by the hind legs, and enveloped in their wings, generally in large numbers. Bats may be caught by means of the flower cups of bur-dock, whitened and thrown up in the way of their flight; they are attracted by the whiteneſs, and the hooks of the bur, ſticking to their membranous wings, make them fall to the ground.

VESSEL, a general name given to the different ſorts of ſhips which are navigated on the ocean, or in canals and rivers. It is, however, more particularly applied to thoſe of the ſmaller kind, furniſhed with one or two maſts. See SHIP.

VESTA, in pagan worſhip, the ſame with Cybele. See CYBELE.

VESTA the *Younger*, in pagan worſhip, the goddeſs of Fire, was the daughter of Saturn and Cybele, and the ſiſter of Ceres. She was ſo much in love with chaſtity, that on Jupiter's aſcending the throne and offering to grant whatever ſhe aſked, ſhe only deſired the preſervation of her virginity, which ſhe obtained.—Veſta was not repreſented in her temple by any image.

VESTALIA, in Roman antiquity, a feſtival celebrated in honour of the goddeſs Veſta, on the 5th of the ides of June; that is, on the ninth of the month.

VESTALS, among the ancient Romans, were prieſteſſes of the goddeſs Veſta, and had the perpetual fire committed to their charge: they were at firſt only four in number, but afterwards increaſed to ſix; and it does not appear that their number ever exceeded ſix, among whom was one ſuperior to the reſt, and called *veſtalis maxima*. The veſtals were choſen from ſix to ten years of age, and obliged to ſtrict continency for thirty years; the firſt ten of which were employed in learning the ceremonies of religion, the next ten in the performance of them, and the ten laſt in teaching them to the younger veſtals. The habit of the veſtals conſiſted of an head-dreſs, called *infula*, which ſat cloſe to the head, and from whence hung certain laces called *vittæ*: a kind of ſurplice made of white linen, and over it a purple mantle with a long train to it.

VESTIBLE, in architecture, a kind of entrance into a large building; being an open place before the hall, or at the bottom of the ſtaircaſe

VESTRY, a place adjoining to a church, where the veſtments of the miniſter are kept; and alſo a meeting at ſuch place, conſiſting of the miniſter, church-wardens, and chief men of moſt pariſhes, who make a pariſh veſtry or meeting. By cuſtom there are ſelect veſtries, being a certain number of perſons choſen to have the government of the pariſh, make rates, and take the accounts of church-wardens, &c.

VESUVIUS, a volcanic mountain of Italy, in the kingdom of Naples, remarkable for its eruptions, recorded both in ancient and modern hiſtory. One which happened in the ſeventy-ninth year of the chriſtian æra, overwhelmed the cities of Herculaneum and Pompeia, when the elder Pliny loſt his life. The principal eruptions of modern times, which have been recorded, happened in the years 1538, 1631, 1707, 1717, 1737, 1760, 1761, 1766, 1767, 1779, and 1794; of theſe, the firſt in 79, in 1631, and the laſt in 1794, appear to have been the moſt tremendous. In the year 1794, the miſchief was conſiderable: the lava covered, and totally deſtroyed, 5000 acres of rich vineyards and cultivated land, and drove the inhabitants of Torre del Greco from the town, moſt of the houſes being either buried, or ſo injured, as to be uninhabitable: the damage done to the vineyards by the aſhes likewiſe was immenſe: ſeven miles eaſt of Naples. See VOLCANO, and (in the SUPPLEMENT) ÆTNA.

VETCH, in botany. See VICIA.

VETERAN, among the ancient Romans, an appellation given to a *ſoldier* grown old in the ſervice, or who had made a certain number of campaigns.

VETERINARY ART. See FARRIERY.

VEXILLUM, in botany; the upper petal of a pea-bloom, or butterfly-ſhaped flower, which is generally larger than any of the others.

VIALES, in mythology, a name given among the Romans to the gods who had the care and guard of the roads and highways.

VIATICUM, in Roman antiquity, an appellation given in common to all officers of any of the magiſtrates, as *lictors, accenſi, ſcribes, criers.*

VIBEX, is ſometimes uſed, by phyſicians, for a black and blue ſpot in the ſkin occaſioned by an afflux or extravaſation of blood.

VIBRATION, in mechanics, a regular, reciprocal motion of a body, as a pendulum.

VIBURNUM, in botany: a genus of plants of the claſs *pentandria*, order *trigynia*, and in the natural ſyſtem arranged under the 43d order, *Dumoſæ*. The calyx is quinquepartite and above; the corolla divided into five laciniæ; the fruit a monoſpermous berry. There are 19 ſpecies; two of which, the *lantana* and *opulus*, are natives of Britain. 1. The *lantana*, common viburnum, wayfaring, or pliant meally tree, riſes with a woody ſtem, branching twenty feet high, having very pliant ſhoots covered with a lightiſh-brown bark; large heart-ſhaped, veined, ſerrated leaves, white and hoary underneath; and the branches terminated by umbels of white flowers, ſucceeded by bunches of red berries, &c. 2. The *opulus*, or gelder roſe; conſiſting of two varieties, one with flat flowers, the other globular. The former grows eighteen or twenty feet high, branching oppoſite, of an irregular growth, and covered with a whitiſh bark; large lobated or three-lobed leaves on glanduloſe foot-ſtalks, and large flat umbels of white flowers at the ends of the branches, ſucceeded by red berries. The latter grows fifteen or eighteen feet high, branching like the other, garniſhed with large lobated or three-lobed leaves, on glandular footſtalks; and large globular umbels of white flowers at the ends of the branches, in great abundance. This tree when in bloom exhibits a ſingularly fine appearance; the flowers, though ſmall, are collected numerouſly into large globular umbels round like a ball; hence it is ſometimes called *ſnow-ball-trees*. 3. The *tinus*, common lauruſtinus, or evergreen viburnum; grows eight or ten feet high or more, branching numerouſly from the bottom upwards, aſſuming a cloſe buſhy growth, with the branches ſomewhat hairy and glandulous; very cloſely garniſhed with oval, wholly entire leaves, of a ſtrong green colour, placed in pairs oppoſite; and whitiſh and red flowers, collected numerouſly in large umbellate cluſters all over the plant, at the ſides and ends of the branches, from January until March or April, exhibiting a moſt beautiful appearance. There are a great many varieties. All the different ſpecies of viburnum, both deciduous and evergreen kinds, being of the tree kind, are woody and durable in root, ſtem, and branches. They may all be propagated by layers; and are of ſuch hardy temperature, as to grow freely in the open ground all the year, in ſhrubberies, and other hardy plantations.

VICAR, a perſon appointed as deputy to another, to perform his functions in his abſence, and under his authority.

VICAR, in the canon-law, denotes a prieſt of a pariſh, the predial tithes whereof are impropriated or appropriated; that is, belong either to a chapter, religious houſe, &c. or to a layman who receives them, and only allows the vicar the

ſmall tithes, or a convenient ſalary. See the article PARSON *and Vicar*.

VICE, in ethics, is ordinarily defined an elective habit, denoting either an exceſs or defect from the juſt medium wherein virtue is placed.

VICE, in ſmithery and other arts converſant in metals, a machine or inſtrument ſerving to hold faſt any thing they are at work upon, whether it is to be beat, filed, or rivetted.

VICE is alſo uſed in the compoſition of divers words to denote the relation of ſomething that comes inſtead or in the place of another; as vice-admiral, vice-chancellor, &c. are officers who take place in the abſence of admirals, &c.

VICEROY, a governor of a kingdom, who commands in the name and inſtead of a king, with full and ſovereign authority.

VICIA, in botany: a genus of plants of the claſs *diadelphia*, and order of *decandria*; and in the natural ſyſtem arranged under the 32d order, *Papilionaceæ*. The ſtigma is bearded tranſverſely on the lower ſide. There are 20 ſpecies, ſeven of which are natives of Britain. The moſt important of theſe are, 1. The *ſativa*, common vetch, or tare. The ſtalks are round, weak, branched, about two feet long. Pinnæ five or ſeven pair, a little hairy, notched at the end. Stipulæ dentated. Flowers light and dark purple, on ſhort pedicles, generally two together; pods erect; ſeeds black. It is known to be an excellent fodder for horſes. 2. The *cracca*, tufted vetch. It has a ſtem branched, three or four feet long. Leaves pinnated; pinnæ generally ten or twelve pairs, lance-ſhaped, downy. Stipulæ entire. Flowers purple, numerous, pendulous, in imbricated ſpikes. It is alſo reckoned an excellent fodder for cattle. 3. The *faba*, or common garden bean. It is a native of Egypt. It is too well known to require deſcription.

VICTIM, denotes a ſacrifice offered to ſome deity, of a living creature, as a man or beaſt, which is ſlain to appeaſe his wrath, or to obtain ſome favour.

VICTOR (Sextus Aurelius), a Roman hiſtorian, who flouriſhed under the emperors Conſtantius and Julian; as we learn from many paſſages in his own writings, and alſo from Ammianus Marcellinus. This hiſtorian relates, that Conſtantius made him conſul, and honoured him with a brazen ſtatue, on account of his excellent qualifications; although, as he owns of himſelf, he was born in an obſcure village, and of poor and illiterate parents. It is commonly believed that he was an African: it is certain, that he dwells much upon the praiſes of that country, which he calls the glory of the earth; *decus terrarum*. Two books of his are extant in the hiſtorical way: one, *De viris illuſtribus urbis Romæ*; the other, *De Cæſaribus*; to which is prefixed *Libellus de origine gentis Romanæ*. The whole makes an abridged hiſtory of Rome, from its foundation down to the reign of Julian incluſive.

VICTORY, in pagan worſhip, is repreſented by Heſiod as the daughter of Styx and Pallas; and Varro calls her the *daughter of Heaven and Earth*. The Romans erected a temple to her, where they prayed to the gods to give ſucceſs to their arms. They painted her in the form of a woman, clad in cloth of gold. In ſome medals, ſhe is repreſented with wings flying through the air, holding a laurel crown in one hand, and a palm in the other; but in other medals, ſhe is ſeen ſtanding upon a globe, with the ſame crown and branch of palm.

VIDA (Marcus Hieronymus), biſhop of Alva, in Mountferrat, and one of the moſt excellent Latin poets that have appeared ſince the Auguſtan age, was born at Cremona in 1470. Having diſtinguiſhed himſelf by his learning and taſte for literature, he was made biſhop of Alva in 1552. After continuing two years with Pope Clement VII. at Rome, he went to reſide upon his ſee; where, for thirty years, he performed all the offices of a good biſhop and a good man; and though he was mild, gentle, and full of goodneſs, he was ſo far from wanting ſpirit, that when the city of Alva was beſieged by the French, he uſed all poſſible means to prevent its being given up, by ſtrenuouſly exhorting the people, and, when proviſions were ſcarce, by ſupplying them at his own expence. His poetics, and poem on the ſilk-worm, paſs for his maſterpiece; his poem on the game of cheſs is alſo greatly admired. He alſo wrote hymns, eclogues, and a poem entitled *Chriſtiados*, in ſix books; all which are in Latin, and have gained him a great reputation. His works in proſe conſiſt of dialogues, ſynodical conſtitutions, letters, and other pieces. He died in 1566, ſoon after his being made biſhop of Cremona.

VIENNA, the capital of the circle of Auſtria, in Germany, and of the whole German empire, is the place where the emperor reſides. The city itſelf is not of very great extent; nor can it be enlarged, it being limited by a very ſtrong fortification; but it is very populous. The ſtreets, in general, are narrow, and the houſes built high. Some of the public buildings are magnificent; but they appear externally to no great advantage, on account of the narrowneſs of the ſtreets. The chief of them are the imperial palace, the library, and the muſeum; the palaces of the princes Lichtenſtein, Eugene, &c. Vienna was twice ineffectually beſieged by the Turks; namely, in 1589 and 1683. At the latter period, the ſiege was raiſed by John Sobieſki, king of Poland, who totally defeated the Turkiſh army before the walls of this place. There is no great danger that Vienna will ever again be ſubject to the inconveniences of a ſiege. Yet, in caſe this ſhould happen, a meaſure has been taken, which will prevent the neceſſity of deſtroying the ſuburbs; namely, no houſes without the walls are allowed to be built nearer to the glacis than 600 yards; ſo that there is a circular field of that breadth all round the town, which, excluſive of the advantage above mentioned, has a very beautiful and ſalutary effect. Theſe magnificent ſuburbs, and the town together, are ſaid to contain above 300,000 inhabitants; yet the former are not near ſo populous, in proportion to their ſize, as the town; becauſe many houſes in the ſuburbs have extenſive gardens belonging to them, and many families, who live during the winter within the fortifications, ſpend the ſummer in the ſuburbs. The cathedral is built of free-ſtone, is 114 yards long, and forty-eight broad, and the ſteeple is 447 feet high. Inſtead of a weather-cock there was a Turkiſh creſcent, in memory of the ſiege in 1589; but after the ſecond ſiege in 1683, they changed it for a golden croſs, which three months after was thrown down by a ſtorm. At preſent there is a black ſpread eagle, over which is a gilded croſs. Joining to this church is the archbiſhop's palace, the front of which is very fine. The univerſity had ſeveral thouſand ſtudents, who, when this city was beſieged, mounted guard, as they did alſo in 1741. Beſides this, there is the academy of Lower Auſtria; and the archducal library is much frequented by foreigners, as it contains above 100,000 printed books, and 10,000 manuſcripts. The academy of painting is remarkable for the fine pictures it produces. The archducal treaſury, and a cabinet of curioſities of the houſe of Auſtria, are great rarities. The inhabitants, in general, live in a ſplendid manner; and people of diſtinction have all ſorts of wines at their tables, which they are very free with to foreigners. There is a ſort of harbour on the Danube, where there are magazines of naval ſtores, and ſhips have been fitted out to ſerve on that river againſt the Turks. Vienna is an archbiſhop's ſee. It is ſeated

at the place where the river Vienna, or Wien, falls into the Danube, thirty miles weſt of Preſburgh, 350 north-north-eaſt of Rome, 520 ſouth-eaſt by ſouth of Amſterdam, 565 eaſt of Paris, and 680 eaſt-ſouth-eaſt of London. E. Long. 16. 28. N. Lat. 48. 13.

VIGIL, in church-hiſtory, is the eve or next day before any ſolemn feaſt; becauſe then Chriſtians were wont to watch, faſt, and pray in their churches.

VIGILS *of Plants*, a term under which botaniſts comprehend the preciſe time of the day in which the flowers of different plants open, expand, and ſhut. As all plants do not flower in the ſame ſeaſon, or month; in like manner, thoſe which flower the ſame day, in the ſame place, do not open and ſhut preciſely at the ſame hour. Some open in the morning, as the lip-flowers, and compound flowers with flat ſpreading petals; others at noon, as the mallows; and a third ſet in the evening, or after ſun-ſet, as ſome geraniums and opuntias: the hour of ſhutting is equally determined. Of thoſe which open in the morning, ſome ſhut ſoon after, while others remain expanded till night.

The hours of opening, like the time of flowering, ſeem to vary, according to the ſpecies of the plant, the temperature of the climate, and that of the ſeaſon. Flowers, whoſe extreme delicacy would be hurt by the ſtrong impreſſions of an ardent ſun, do not open till night; thoſe which require a moderate degree of heat to elevate their juices; in other words, whoſe juices do not riſe but in the morning or evening, do not expand till then; whilſt thoſe which need a more lively heat for the ſame purpoſe, expand at noon, when the ſun is in his meridian ſtrength. Hence it is, that the heat of the air being greater betwixt the tropics than elſewhere, plants which are tranſported from thoſe climates into the cold or temperate climates of Europe, expand their flowers much later than in their native ſoil. Thus, a flower which opens in ſummer at ſix o'clock in the morning at Senegal, will not open at the ſame ſeaſon in France and England till eight or nine, nor in Sweden till ten.

Linnæus diſtinguiſhes by the general name of *ſolar (flores ſolares)* all thoſe flowers which obſerve a determinate time in opening and ſhutting. Theſe flowers are again divided, from certain circumſtances, into three ſpecies, or kinds:

Equinoctial flowers *(flores æquinoxialis)* are ſuch as open or ſhut at all ſeaſons, at a certain fixed or determinate hour.

Tropical flowers *(flores tropici)* are ſuch whoſe hour of opening is not fixed at all ſeaſons, but accelerated or retarded according as the length of the day is increaſed or diminiſhed.

Meteorous flowers *(flores meteorici)* are ſuch whoſe hour of expanſion depends upon the dry or humid ſtate of the air, and the greater or leſs preſſure of the atmoſphere. Of this kind is the Siberian ſow-thiſtle, which ſhuts at night if the enſuing day is to be clear and ſerene, and opens if it is to be cloudy and rainy. In like manner the African marigold, which in dry or ſerene weather opens at ſix or ſeven in the morning, and ſhuts at four o'clock in the afternoon, is a ſure indication that rain will fall during the courſe of the day, when it continues ſhut after ſeven.

VIGO, a ſea-port town of Spain, in Galicia, with an old caſtle and a fort. It is ſeated in a fertile country by the ſea-ſide. It was rendered famous by a ſea-fight between the confederate fleet commanded by Sir George Rook, and a ſquadron of French men-of-war, while the Duke of Ormond with a body of land-forces drove the Spaniards from the caſtles which defended the harbour. Admiral Hopſon having with infinite danger broke through the boom made acroſs the mouth of the harbour, the Engliſh took four galleons and five large men-of-war, and the Dutch five galleons and one man-of-war. Four galleons, with fourteen men-of-war, were deſtroyed, with abundance of plate and other rich effects. W. Long. 8. 21. N. Lat. 42. 3.

VILLA FRANCA, the name of ſeveral towns; one in Piedmont, three miles eaſt of Nice; another of Catalonia, eighteen miles weſt of Barcelona; a third, the capital of St. Michael, one of the Azores; and a fourth, a town of Eſtremadura in Spain, fifty-ſeven miles ſouth-eaſt of Salamanca.

VILLAGE, an aſſemblage of houſes inhabited chiefly by peaſants and farmers, and having no market, whereby it is diſtinguiſhed from a town. The word is French, formed of *vil*, or *vilis*, "low, mean, contemptible:" or rather, from the Latin *villa*, a country-houſe or farm.

VILLAIN, or VILLEIN, in our ancient cuſtoms, denotes a man of ſervile or baſe condition, *viz.* a bond-man or ſervant.

VILLARS (Lewis Hector duke de), marſhal of France, grandee of Spain, &c. and a very brave general, was the ſon of Peter marquis de Villars, of a noble and ancient family. He was at firſt aid-de-camp to Marſhal de Belleſons, his couſin; and diſtinguiſhed himſelf in ſeveral ſieges and battles till the year 1702, when having obtained the victory at Fredlinghem from the Prince of Baden, he was made marſhal of France. The marſhal de Villars took the fort of Kell the year following, and gained a battle at Hochſtet in concert with the Elector of Bavaria. In 1707 he forced the lines of Stolhoffen, and raiſed large contributions from the enemy: but in 1709, he, in conjunction with Marſhal Bouflers, was entirely defeated by the Duke of Marlborough, at the battle of Malplaquet, when Marſhal Villars was wounded at the beginning of the action. In 1712 he gained much glory by forcing the intrenchments at Denain on the Scheld; which was followed by the taking of Marchiennes, Douay, Bouchain, Landau, Friburg, &c. and by the peace concluded at Raſtat, between the emperor and France in 1714. The Marſhal de Villars, who had been plenipotentiary at the treaty of Raſtat, was made preſident of the council of war in 1715, then counſellor of the regency, and miniſter of ſtate. In 1733 he was nominated to command in Italy under the King of Sardinia, and the French king declared him marſhal-general of his camps and armies; a title which had not been granted to any one ſince the Marſhal Turenne, who appears to have been the firſt who was ever honoured with it. The Marſhal de Villars made himſelf maſter of Piſighitona, Milan, Novara, and Tortona. But having opened the following campaign, he fell ſick, and died at Turin, in 1734, aged eighty-two. The Memoirs of M. de Villars have been publiſhed in Holland, the firſt volume of which was written by himſelf.

VILLENAGE, in law. The folk-land or eſtates held in villenage, was a ſpecies of tenure neither ſtrictly feodal, Norman, or Saxon; but mixed and compounded of them all; and which alſo, on account of the heriots that uſually attend it, may ſeem to have ſomewhat Daniſh in its compoſition. Under the Saxon government there were, as Sir William Temple ſpeaks, a ſort of people in a condition of downright ſervitude, uſed and employed in the moſt ſervile works, and belonging, both they, their children, and effects, to the lord of the ſoil, like the reſt of the cattle or ſtock upon it. Theſe ſeem to have been thoſe who held what was called the *folk-land*, from which they were removeable at the lord's pleaſure. On the arrival of the Normans here, it ſeems not improbable, that they, who were ſtrangers to any other than a feodal ſtate, might give ſome ſparks of enfranchiſement to ſuch wretched perſons as fell to their ſhare, by admitting them, as well as others, to the oath of fealty; which conferred a right of protection, and raiſed the tenant to a kind of eſtate ſuperior to

downright ſlavery, but inferior to every other condition. This they called *villenage*, and the tenants *villeins*.

Theſe villeins, belonging principally to lords of manors, were either villeins *regardant*, that is, annexed to the manor or land; or elſe they were *in groſs*, or at large, that is, annexed to the perſon of the lord, and transferable by deed from one owner to another. They could not leave their lord without his permiſſion; but, if they ran away, or were purloined from him, might be claimed and recovered by action, like beaſts or other chattels. They held indeed ſmall portions of land by way of ſuſtaining themſelves and families: but it was at the mere will of the lord, who might diſpoſſeſs them whenever he pleaſed; and it was upon villein ſervices, that is, to carry out dung, to hedge and ditch the lord's demeſnes, and any other the meaneſt offices: and their ſervices were not only baſe, but uncertain both as to their time and quantity.

A villein could acquire no property either in lands or goods: if he purchaſed either, the lord might ſeize them to his own uſe: unleſs he contrived to diſpoſe of them again before the lord had ſeized them, for the lord had then loſt his opportunity.

In many places alſo a fine was payable to the lord, if the villein preſumed to marry his daughter to any one without leave from the lord: and, by the common law, the lord might alſo bring an action againſt the huſband for damages in thus purloining his property. For the children of villeins were alſo in the ſame ſtate of bondage with their parents; whence they were called in Latin *nativi*, which gave riſe to the female appellation of a villein, who was called a *neife*. In caſe of a marriage between a freeman and a neife, or a villein and a freewoman, the iſſue followed the condition of the father, being free if he was free, and villein if he was villein; contrary to the maxim of the civil law, that *partus ſequitur ventrem*. But no baſtard could be born a villein, becauſe by another maxim of our law he is *nullius filius*; and as he can *gain* nothing by inheritance, it were hard that he ſhould *loſe* his natural freedom by it. The law, however, protected the perſons of villeins againſt atrocious injuries of the lord: for he might not kill or maim his villein; though he might beat him with impunity.

Villeins might be enfranchiſed by manumiſſion. In proceſs of time they gained conſiderable ground on their lords; and in particular ſtrengthened the tenure of their eſtates to that degree, that they came to have in them an intereſt in many places full as good, in others better than their lords. For the goodnature and benevolence of many lords of manors having, time out of mind, permitted their villeins and their children to enjoy their poſſeſſions without interruption, in a regular courſe of deſcent, the common law, of which cuſtom is the life, now gave them title to preſcribe againſt their lords: and, on performance of the ſame ſervices, to hold their lands, in ſpite of any determination of the lord's will. For though in general they are ſtill ſaid to hold their eſtates at the will of the lord, yet it is ſuch a will as is agreeable to the cuſtom of the manor; which cuſtoms are preſerved and evidenced by the rolls of the ſeveral courts-baron in which they are entered, or kept on foot by the conſtant immemorial uſage of the ſeveral manors in which the lands lie. And as ſuch tenants had nothing to ſhow for their eſtates but theſe cuſtoms, and admiſſions in purſuance of them, entered on thoſe rolls, or the copies of ſuch entries witneſſed by the ſteward, they now began to be called *tenants by copy of court-roll*, and their tenure itſelf a *copyhold*.

Privileged VILLENAGE, a ſpecies of tenure otherwiſe called *villein-ſocage*. See TENURE. Ancient demeſne conſiſts of thoſe lands or manors which, though now perhaps granted out to private ſubjects, were actually in the hands of the crown in the time of Edward the Confeſſor, or William the Conqueror; and ſo appear to have been, by the great ſurvey in the exchequer, called *doomſday-book*. The tenants of theſe lands, under the crown, were not all of the ſame order or degree. Some of them, as Britton teſtifies, continued for a long time pure and abſolute villeins, dependent on the will of the lord; and common copyholders in only a few points. Others were in a great meaſure enfranchiſed by the royal favour; being only bound in reſpect of their lands to perform ſome of the better ſort of villein-ſervices: but thoſe determinate and certain; as, to plough the king's land for ſo many days, to ſupply his court with ſuch a quantity of proviſions, and the like; all of which are now changed into pecuniary rents: and in conſideration hereof they had many immunities and privileges granted to them; as, to try the right of their property in a peculiar court of their own, called a *court of ancient demeſne*, by a peculiar proceſs denominated a writ of right cloſe: not to pay toll or taxes; not to contribute to the expences of knights of the ſhire; not to be put on juries, and the like.

Theſe tenants therefore, though their tenure be abſolutely copyhold, yet have an intereſt equivalent to a freehold: for though their ſervices were of a baſe and villenous original, yet the tenants were eſteemed in all other reſpects to be highly privileged villeins; and eſpecially for that their ſervices were fixed and determinate, and that they could not be compelled (like pure villeins) to relinquiſh thoſe tenements at the lord's will, or to hold them againſt their own: *et ideo* (ſays Bracton) *dicuntur liberi*.

Lands holding by this tenure are therefore a ſpecies of copyhold, and as ſuch preſerved and exempted from the operation of the ſtatute of Charles II. Yet they differ from common copyholds, principally in the privileges before mentioned; as alſo they differ from freeholders by one eſpecial mark and tincture of villenage, noted by Bracton, and remaining to this day; *viz.* that they cannot be conveyed from man to man by the general common-law conveyances of feoffment, and the reſt; but muſt paſs by ſurrender to the lord or his ſteward, in the manner of common copyholds; yet with this difference, that, in the ſurrenders of theſe lands in ancient demeſne, it is not uſed to ſay, "to hold at the will of their lord," in their copies; but only, "to hold according to the cuſtom of the manor."

VILLI, among botaniſts, a kind of down like ſhort hair, with which ſome trees abound.

VILLIERS (George duke of Buckingham), an ingenious and witty nobleman, whoſe mingled character rendered him at once the ornament and diſgrace, the envy and ridicule, of the court he lived in, was ſon to that famous ſtateſman and favourite of king Charles I. who loſt his life by the hands of lieutenant Felton. He was born in 1627, the year before the fatal cataſtrophe of his father's death. The early parts of his education he received from various domeſtic tutors, after which he was ſome time at the univerſity of Cambridge.

As to his perſonal character, it is impoſſible to ſay any thing in its vindication; for though his ſevereſt enemies acknowledge him to have poſſeſſed great vivacity and a quickneſs of parts peculiarly adapted to the purpoſes of ridicule, yet his warmeſt advocates have never attributed to him a ſingle virtue. His generoſity was profuſeneſs, his wit malevolence, the gratification of his paſſions his ſole aim through life, his very talents caprice, and even his gallantry the mere love of pleaſure. But it is impoſſible to draw his character with equal beauty, or with more juſtice, than in that given of him by Dryden, in his Abſalom and Achitophel, under the name of *Zimri*, to which the reader is referred.

As a writer, however, he ſtands in a quite different point

of view. There we ſee the wit, and forget the libertine.—His poems, which indeed are not very numerous, are capital in their kind; but what will immortalize his memory while language ſhall be underſtood, or true wit reliſhed, is his celebrated comedy of *The Rehearſal*.

VILLOSE, or VILLOUS, ſomething abounding with villi or fibres like ſhort hair; ſuch is one of the coats of the ſtomach.

VINCA, in botany: a genus of plants of the claſs *pentandria*, and order of *monogynia*; and in the natural ſyſtem arranged under the 30th order, *Contortæ*. The corolla is twiſted; there are two erect follicles; the ſeeds are naked. There are five ſpecies; only two of which are natives of Britain: 1. The *major*, great periwinckle. It has a woody, erect ſtem; leaves broader and ſharper pointed; pedicles of the flowers ſtraight, and calyx as long as the tube; otherwiſe like the former. 2. The *minor*, ſmall periwinckle, has a woody, creeping, ſlender, crooked ſtem; leaves long, oval, entire, pointed, oppoſite, gloſſy. Flowers ſingle, on long curved pedicles from the alæ of the leaves, which are large and blue.

ST. VINCENT, an iſland in the Weſt Indies, about forty miles in length, and ten in breadth. This iſland was only inhabited by native Caribbs till, in the latter part of the laſt century, a ſhip from Guinea, with a large cargo of ſlaves, was either wrecked or run aſhore upon the iſland of St. Vincent, into the woods and mountains of which great numbers of the negroes eſcaped, whom the Indians ſuffered to remain. Partly by the acceſſion of runaway ſlaves from Barbadoes, and partly by the children they had by the Indian women, theſe Africans became very numerous; ſo that about the beginning of the laſt century they conſtrained the Indians to retire into the north-weſt part of the iſland. Theſe people, as may be reaſonably ſuppoſed, were much diſſatisfied with this treatment; and complained of it occaſionally both to the Engliſh and to the French, that came to wood and water amongſt them. The latter at length ſuffered themſelves to be prevailed upon to attack theſe invaders. After much deliberation, in the year 1719, they came with a conſiderable force from Martinico, and landing without much oppoſition, began to burn the negro huts, and deſtroy their plantations, ſuppoſing that the Indians would have attacked them in the mountains, which if they had done, the blacks had probably been extirpated, or forced to ſubmit, and become ſlaves. But either from fear or policy, the Indians did nothing, and the negroes ſallying in the night, and retreating to inacceſſible places in the day, deſtroyed ſo many of the French (amongſt whom was Mr. Paulian, major of Martinique, who commanded them), that they were forced to retire. When by this experiment they were convinced that force would not do, they had recourſe to fair means, and by dint of perſuaſions and preſents, patched up a peace with the negroes as well as the Indians, from which they received great advantage. Things were in this ſituation, when captain Uring came with a conſiderable armament to take poſſeſſion of St. Lucia and this iſland, in virtue of a grant from King George I. to the Duke of Montague. When the French had diſlodged this gentleman, by a ſuperior force from St. Lucia, he ſent Captain Braithwaite to try what could be done at the iſland of St. Vincent, in which he was not at all more ſucceſsful. After this the country became a theatre of ſavage hoſtilities between the negroes and the Charaibes, in which it is believed that the former were generally victorious; it is certain that they proved ſo in the end, their numbers, in 1763, being computed at 2200; whereas of the red or native Charaibes, there were not left more than 100 families, and moſt of theſe are by this time ſaid to be exterminated. It is, however, worthy of remark, that the African intruders have adopted moſt of the Charaibean manners and cuſtoms; among the reſt, the practice of flattening the foreheads of their infants; and, perhaps, it was chiefly from this circumſtance that they acquired the appellation of the black Charaibes. St. Vincent being ceded to the Engliſh by the peace of Paris, in the year 1763, the firſt meaſure of the Engliſh government was to diſpoſe of the lands, without any regard to the claims of the Charaibes of either race; which in truth, were conſidered as of no conſequence or validity. This gave riſe to a war with the Charaibes, in the courſe of which, it became the avowed intention of government to exterminate thoſe miſerable people altogether, or by conveying them to a barren iſland on the coaſt of Africa, conſign them over to a lingering deſtruction. By repeated proteſts and repreſentations from the military officers employed in this diſgraceful buſineſs, and the dread of parliamentary enquiry, adminiſtration at length thought proper to deſiſt, and the Charaibes after ſurrendering part of their lands, were permitted to enjoy the remainder unmoleſted. On the 19th of June 1779, St. Vincent ſhared the common fate of moſt of the Britiſh Weſt-Indian poſſeſſions, in that unfortunate war with America, which ſwallowed up all the reſources of the nation, being captured by a ſmall body of troops from Martinico, conſiſting of only 450 men, commanded by a lieutenant in the French navy. It contained at that time ſixty-one ſugar eſtates, 500 acres in coffee, 200 acres in cacao, 400 in cotton, 50 in indigo, and 500 in tobacco, beſides land appropriated to the raiſing proviſions, ſuch as plantains, yams, maize, &c. All the reſt of the country, excepting the few ſpots that had been cleared from time to time by the Charaibes, retained its native woods. St. Vincent contains about 84,000 acres, which are everywhere well watered, but the country is very generally mountainous and rugged; the intermediate valleys, however, are fertile in a high degree, the ſoil conſiſting chiefly of a fine mould, compoſed of ſand and clay, well adapted for ſugar. The extent of country at preſent poſſeſſed by Britiſh ſubjects is 23,605 acres, and about as much more is ſuppoſed to be held by the Charaibes. All the remainder is thought incapable of cultivation or improvement. The governor's ſalary is 2000l. ſterling, one half of which is raiſed within the iſland, the other half is paid him out of the exchequer of Great Britain. The number of inhabitants appears, by the laſt returns to government, to be 1450 whites, and 11,853 negroes. During the preſent war, the Caribs revolted; and, aſſiſted by the French, ſpread deſolation over the whole iſland. By the exertions of the governor, however, and the Britiſh forces in the Weſt Indies, the revolt is in a great meaſure quelled, though it will be long before things are reſtored to their former ſtate. Long 61. W. Greenwich. Lat. 13. 10. N.

VINCI (Leonardo da), an illuſtrious Italian painter, deſcended from a noble Tuſcan family, was born in the caſtle of Vinci near Florence in 1445. He was placed under Andrea Verochia, a celebrated painter in that city; but ſoon ſurpaſſed him and all his predeceſſors ſo much, as to be reputed the maſter of the third or golden age of modern painting. But his ſtudies were far from terminating here; no man's genius was more univerſal; he applied himſelf to arts, to literature, and to the accompliſhments of the body; and he excelled in every thing which he attempted. Lewis Sforza duke of Milan prevailed on him to be director of the academy for architecture he had juſt eſtabliſhed; where Leonardo ſoon baniſhed all the Gothic faſhions, and reduced every thing to the happy ſimplicity of the Greek and Roman ſtyle. By the duke's order, he conſtructed the famous aqueduct that ſupplies the city of Milan with water: this canal goes by the name of *Mortezana*, being above 200 miles in length, and conducts the water of the river Adda quite to the walls of the city. In 1479 he was deſired to conſtruct ſome new device for the

entertainment of Louis XII. of France, who was then to make his entrance into Milan. Leonardo accordingly made a very curious automaton in the form of a lion, which marched out to meet the king, reared up on its hinder legs before him, and opening its breaſt, diſplayed an eſcutcheon with fleurs de lys quartered on it. The diſorders of Lombardy, with the miſfortunes of his patrons the Sforzi, obliging Leonardo to quit Milan, he retired to Florence, where he flouriſhed under the Medici; here he raiſed the envy of Michael Angelo, who was his contemporary; and Raphael, from the ſtudy of his works, acquired his beſt manner of deſigning. At length, on the invitation of Francis I. he removed to France when above 70 years of age; where the journey and change of climate threw him into his laſt ſickneſs: he languiſhed for ſome months at Fontainbleau, where the King came frequently to ſee him; and one day riſing up in his bed to acknowledge the honour done him, he fainted, and Francis ſupporting him, Leonardo died in his arms. His death happened in 1520. Some of his paintings are to be ſeen in England and other countries, but the greateſt part of them are in Florence and France. He compoſed a great number of diſcourſes on curious ſubjects; but none of them have been publiſhed but his treatiſe on the Art of Painting.

VINCULUM, in algebra, a character in form of a line, or ſtroke drawn over a factor, diviſor, or dividend, when compounded of ſeveral letters or quantities to connect them, and ſhews that they are to be multiplied or divided, &c. together by the other terms.

Thus $d \times \overline{a + b - c}$ ſhows that d is to be multiplied into $a + b - c$.

VINE, in botany. See VITIS.

VINEGAR, ACETUM, an agreeable acid and penetrating liquor, prepared from wine, cyder, beer, and other liquors; of conſiderable uſe, both as a medicine and a ſauce. The word is French, *vinaigre;* formed from *vin*, "wine;" and *aigre*, "ſour." See ACETUM, and CHEMISTRY.

The proceſs indicated by Boerhaave for making vinegar is ſtill the moſt frequently uſed. It conſiſts in fixing two caſks in a warm room or place. Two falſe bottoms of baſket-work are fixed at a certain diſtance from the bottom, upon which the refuſe of grapes and vine twigs are placed. One of theſe tuns is filled with wine, and the other only half filled. The fermentation begins in this laſt: and, when it is in full action, it is checked by filling the caſk up with wine out of the other. The fermentation then takes place in the laſt mentioned caſk, that remained half filled; and this is checked in the ſame manner by pouring back the ſame quantity of liquid out of the other: and in this way the proceſs is continued till the vinegar is made, which is uſually in about 15 days. When the fermentation developes itſelf, the liquid becomes heated and turbid: a great number of filaments are ſeen in it; it emits a lively ſmell; and much air is abſorbed, according to the obſervation of the Abbé Rozier. A large quantity of lees is formed, which ſubſides when the vinegar becomes clear. This lees is very analogous to the fibrous matter.

Vinegar is purified by diſtillation. The firſt portions which paſs over are weak; but ſoon afterwards the acetous acid riſes, and is ſtronger the later it comes over in the diſtillation. This fluid is called *diſtilled vinegar;* and is thus cleared of its colouring principle, and the lees, which are always more or leſs abundant. Vinegar may likewiſe be concentrated by expoſing it to the froſt. The ſuperabundant water freezes, and leaves the acid more condenſed.

A pound of the coarſeſt ſugar added to a gallon of water, and placed in the ſun without being corked, will, in the courſe of a few weeks, make very good vinegar. Gooſeberries, apples, or other recent fruits, alſo make very good vinegar.

Eels in VINEGAR. See ANIMALCULE.

VINEYARD, a plantation of vines. The beſt ſituation of a vineyard is on the declivity of a hill facing the ſouth.

VIO (Thomas de). See CAJETAN.

VIOL, a muſical inſtrument of the ſame form with the violin, and, like that, ſtruck with a bow.

VIOLA, in botany: a genus of plants of the claſs *ſyngeneſia*, order *monogynia;* in the natural ſyſtem arranged under the 29th order, *Campanaceæ*. The calyx is pentaphyllous; the corolla five petaled, irregular, with a nectarium behind, horn-ſhaped; the capſule is above the germen, three-valved, monolocular. There are 28 ſpecies; ſix of which are natives of Britain. The moſt important of theſe are, 1. The *paluſtris*, march violet. The leaves are ſmooth, reniform, two or three on each footſtalk: flowers pale blue, ſmall, inodorous. An infuſion of the flowers is an excellent teſt of the preſence of acids and alkalis. 2. The *odorata*, purple ſweet violet, has leaves heart-ſhaped, notched: flowers deep purple, ſingle; creeping ſcions. The flowers of this plant taken in the quantity of a dram or two are ſaid to be gently purgative or laxative, and, according to Bergius and ſome others, they poſſeſs an anodyne and pectoral quality. 3. *Tricolor*, panſies, heart's-eaſe, or three faces under a hood. The ſtems are diffuſe, procumbent, triangular; the leaves oblong, cut at the edges; ſtipulæ dentated: the flowers purple, yellow, and light blue; inodorous. This elegant little plant merits culture in every garden, for the beauty and great variety of its three-coloured flowers; and it will ſucceed any-where in the open borders, or other compartments, diſpoſed in patches towards the front; either by ſowing the ſeed at once to remain, or by putting in young plants previouſly raiſed in a ſeed-bed: they will begin flowering early in ſummer, and will continue ſhooting and flowering in ſucceſſion till winter; and even during part of that ſeaſon in mild weather. The common violet is propagated by parting the roots, ſometimes by ſeed.

VIOLATION, the act of violating, that is, forcing a woman, or committing a rape upon her.—This term is alſo uſed in a moral ſenſe, for a breach or infringement of a law, ordinance, or the like.

VIOLET, in botany. See VIOLA.

VIOLET-*Crab*, in zoology. See CANCER.

VIOLIN, or FIDDLE, a muſical inſtrument mounted with four ſtrings or guts, and ſtruck or played with a bow. The ſtyle and ſound of the violin is the gayeſt and moſt ſprightly of all other inſtruments; and hence it is of all others the fitteſt for dancing. Yet there are ways of touching it, which render it grave, ſoft, languiſhing, and fit for church or chamber muſic. It generally makes the treble or higheſt parts in concerts. Its harmony is from fifth to fifth. Its play is compoſed of baſs, counter-tenor, tenor, and treble; to which may be added, a fifth part: each part has four-fifths, which riſe to a greater ſeventeenth.

VIOLONCELLO, of the Italians, is properly our fifth violin; which is a little baſs violin half the ſize of the common baſs violin, and the ſtrings bigger and longer in proportion: conſequently its ſound is an octave lower than our baſs violin; which has a noble effect in concerts.

VIPER, in zoology. See COLUBER, POISON, and SERPENT; in which laſt article every thing concerning the poiſon of the *viper*, for which we referred from POISON, is already diſcuſſed.

VIRAGO, a woman of extraordinary ſtature and courage; and who, with the female ſex, has the mien and air of a man, and performs the actions and exerciſes of men.

VIRGIL, in Latin Publius Virgilius Maro, the moſt excellent of all the ancient Roman poets, was born Oct. 15, U. C. 684, in the conſulſhip of Pompey and Craſſus, at a village called Andes, not far from Mantua. His father was undoubtedly of low birth and mean circumſtances, but by his induſtry ſo much recommended himſelf to his maſter, that he gave him his daughter, named Maia, in marriage, as a reward of his fidelity. Our poet, diſcovering early marks of a very fine genius, was ſent at twelve years old to ſtudy at Cremona, where he continued till his ſeventeenth year. He was then removed to Milan, and from thence to Naples, being the reſidence of ſeveral teachers of philoſophy and polite learning; and applied himſelf heartily to the ſtudy of the beſt Greek and Roman writers. But phyſic and mathematics were his favourite ſciences, which he cultivated with much care. He learned the Epicurean philoſophy under the celebrated Syro. His acquaintance with Varus, his firſt patron, commenced by his being fellow-ſtudent with him under this philoſopher. We have no certain knowledge of the time and occaſion of Virgil's going to Rome, how his connections with the wits and men of quality began, nor how he was introduced to the court of Auguſtus.

In the warmth of early youth, he famed a noble deſign, of writing an heroic poem "On the Wars of Rome;" but, after ſome attempts, was diſcouraged from proceeding, by the roughneſs and aſperity of the old Roman names. He turned himſelf, therefore, to paſtoral; and, being captivated with the beauty and ſweetneſs of Theocritus, was ambitious to introduce this new ſpecies of poetry among the Romans. His firſt perſormance in this way is ſuppoſed to have been written U. C. 709, the year before the death of Julius Cæſar, when the poet was in his 25th year: it is entitled, "Alexis." Poſſibly "Palæmon" was his ſecond. Mr. Warton places "Silenus" next; which is ſaid to have been publicly recited on the ſtage by Cytheris, a celebrated comedian. Virgil's fifth eclogue is compoſed in alluſion to the death and deification of Cæſar. The battle of Philippi in 712, having put an end to the Roman liberty, the veteran ſoldiers began to murmur for their pay; and Auguſtus, to reward them, diſtributed among them the lands of Mantua and Cremona. Virgil was involved in this common calamity, and applied to Varus and Pollio, who warmly recommended him to Auguſtus, and procured for him his patrimony again. Full of gratitude to Auguſtus, he compoſed the "Tityrus," in which he introduces two ſhepherds: one of them, complaining of the diſtraction of the times, and of the havock the ſoldiers made among the Mantuan farmers; the other, rejoicing for the recovery of his eſtate, and promiſing to honour the perſon who reſtored it to him as a god. But, our poet's joy was not of long continuance; for, we are told, that when he returned to take poſſeſſion of his farm, he was violently aſſaulted by the intruder, and would have certainly been killed by him, if he had not eſcaped by ſwimming haſtily over the Mincio. Upon this unexpected diſappointment, melancholy and dejected, he returned to Rome, to renew his petition; and, during his journey, ſeems to have compoſed his ninth eclogue. The celebrated eclogue, entitled, "Pollio," was compoſed in 714, upon the following occaſion. The conſul Pollio on the part of Anthony, and Mæcenas on the part of Cæſar, had made up the differences between them; by agreeing, that Octavia, half-ſiſter to Cæſar, ſhould be given in marriage to Antony. This agreement cauſed an univerſal joy; and Virgil, in this eclogue, teſtified his. It is dedicated to Pollio by name, who was at that time conſul; and therefore we are ſure of the date of this eclogue, as it is known that he enjoyed that high office in 714. In 715, Pollio was ſent againſt the Parthini, a people of Illyricum; and during this expedition, Virgil addreſſed to him a beautiful eclogue, called "Pharmaceutria." His tenth and laſt eclogue is addreſſed to Gallus.

Being in his 34th year, he retired to Naples; and laid the plan of his inimitable "Georgics," which he undertook at the entreaties of Mæcenas, to whom he dedicated them. They are divided into four books; and the ſubjects of them are particularly ſpecified in the four firſt lines of the firſt book. Corn and ploughing are the ſubject of the firſt book, vines of the ſecond, cattle of the third, and bees of the fourth.

He is ſuppoſed to have been in his 45th year, when he began to write the "Æneid." This poem may very well be conſidered as a political work. Virgil wrote in defence of the new uſurpation of the ſtate; and all that can be offered in his vindication, which however ſeems enough, is, that the Roman government could no longer be kept from falling into a ſingle hand, and that the uſurper he wrote for was as good a one as they could have. But, whatever may be ſaid of his motives for writing it, the poem has in all ages been highly applauded. Auguſtus was eager to peruſe it before it was finiſhed; and entreated him by letters to communicate it. The poet at length complied, and read himſelf the ſixth book to the emperor, when Octavia, who had juſt loſt her ſon Marcellus, the darling of Rome, and adopted ſon of Auguſtus, made one of the audience. Virgil had artfully inſerted a beautiful lamentation for the death of young Marcellus; upon hearing which, Octavia could bear no more, but fainted away, overcome with ſurpriſe and ſorrow. When ſhe recovered, ſhe made the poet a preſent of ten ſeſterces for every line, which amounted in the whole to above 2000l.

The "Æneid" being brought to a concluſion, but not to the perfection our author intended to give it, he reſolved to travel into Greece, to correct and poliſh it at leiſure. Auguſtus, returning victorious from the Eaſt, met with Virgil at Athens, who thought himſelf obliged to attend the emperor to Italy, but the poet was ſuddenly ſeized with a fatal diſtemper, which, being increaſed by the agitation of the veſſel, put an end to his life as ſoon as he landed at Brunduſium. He died September 22d, in his 52d year. He had ordered in his will, that the "Æneid" ſhould be burnt as an unfiniſhed poem; but Auguſtus forbade it, and had it delivered to Varius and Tucca, with the ſtricteſt charge to make no additions, but only to publiſh it correctly. He died with ſuch ſteadineſs and tranquillity, as to be able to dictate his own epitaph. His bones were carried to Naples, according to his earneſt requeſt; and a monument was erected at a ſmall diſtance from the city.

The genuine and undiſputed works of this poet are ten "Eclogues, or Bucolics," four books of "Georgics," and the "Æneid" in twelve books. The "Culex," the "Ceiris," and ſome ſmaller pieces, called "Catalecta," are ſubjoined to ſome editions of his works.

Virgil (Polydore), an Engliſh hiſtorian, born at Urbino in Italy, was ſent in the beginning of the 16th century, by pope Alexander VI. as ſub-collector of the Papal tax, called *Peterpence*, in this kingdom. He had not been long in England before he obtained preferment in the church; for in 1503 he was preſented to the rectory of Church-Langton in the archdeaconry of Leiceſter. In 1507 he was collated to the prebend of Scamleſby in the church of Lincoln; and in the ſame year was made archdeacon of Wells, and prebendary of Hereford. In 1513 he reſigned his prebend of Lincoln, and was collated to that of Oxgate in St. Paul's, London. We are told, that on his preferment to the archdeaconry of Wells, he reſigned the office of ſub-collector to the pope, and determined to ſpend the remainder of his life in England, the Hiſtory of which kingdom he began in the year 1505, at the command of Henry VII. That work coſt him 12 years'

labour. In 1526 he finiſhed his treatiſe on Prodigies. Polydore continued in England during the whole reign of Henry VIII. and part of that of Edward VI. whence it is concluded that he was a moderate Papiſt. In 1550, being now an old man, he requeſted leave to reviſit his native country. He was accordingly diſmiſſed with a preſent of 300 crowns, together with the privilege of holding his preferments to the end of his life. He died at Urbino in the year 1555. As an hiſtorian, he is accuſed by ſome as a malignant ſlanderer of the Engliſh nation; yet Jovius remarks, that the French and Scotch accuſe him of having flattered that nation too much. (See his *Elog.* cap. 135. p. 179). Beſides the above, he wrote, 1. *De rerum inventoribus*; of which an Engliſh tranſlation was publiſhed by Langley in 1663. It was alſo tranſlated into French and Spaniſh. 2. *De prodigiis et fortibus.* 3. *Epiſcoporum Angliæ catalogus.* Manuſcript. 4. *De vita perfecta*, Baſil, 1546, 1553, 8vo. 5. *Epiſtolæ eruditæ*: and ſome other works.

VIRGINIA, one of the United States of America, bounded on the north by Pennſylvania and Maryland, on the eaſt by Maryland, the Cheſapeak, and the Atlantic Ocean, on the ſouth by North Carolina, on the weſt by Kentucky, and on the north-weſt by the river Ohio, which ſeparates it from the Indians; about 300 miles from eaſt to weſt, and 180 from north to ſouth; ſeveral ridges of mountains croſs this country from north to ſouth, a little inclining weſterly as they advance towards the ſouth; they extend from the ſtate of New York as far as Georgia, under different names: in Virginia, they are called the Blue Mountains, North Mountains, Warmſpring or Jackſon's Mountains, Allegany Mountains, and Laurel Mountains; the moſt eaſterly at leaſt one hundred miles from the Atlantic; the ſoil of the land, free from the mountains, is in general tolerably good, and capable of bearing the different kinds of corn and pulſe, cotton, flax, and hemp; and in the marſhy land rice has been lately cultivated. Before the revolution, the chief object was tobacco, but ſince that time corn has more engaged the attention of the Virginia farmers. In the ſouth-weſt parts of the ſtate, near the Kanhaway rivers, are mines of lead: mines of copper alſo have been found, and mines of iron; and in ſeveral places, coals. Marble is found in conſiderable quantities, and limeſtone; and many medicinal ſprings have been diſcovered in different parts. The principal rivers are James river, York, Potomack, Roanoke, and Kanhaway Great and Little. Virginia is divided into eighty-two counties. There are but few towns of conſequence in the ſtate, the principal are Williamſburgh, Norfolk, Alexandria, and Richmond. The number of inhabitants, in the year 1790, amounted to 747,610. By the declaration of rights, in May 1776, a free toleration of religious worſhip is allowed to all: the principal denominations of Chriſtians are epiſcopalians who are the moſt ancient ſettlers, preſbyterians, methodiſts, and baptiſts. Before the war with England, the Virginians imported almoſt the whole of their clothing, of which they now manufacture three-fourths: the manufacture of iron and lead are both very conſiderable, but agriculture ſeems to be the principal employment. In the year 1586, Sir Walter Raleigh procured ſeveral merchants and gentlemen to advance large ſums of money towards carrying on the deſign he had formed, of making farther diſcoveries in the Weſt Indies: and, in the year following, he obtained letters patent from the queen, to poſſeſs, plant, and enjoy for himſelf and ſuch perſons as he ſhould nominate, themſelves, and their ſucceſſors, all ſuch lands, territories, &c. as they ſhould diſcover not in the poſſeſſion of any Chriſtian nation. In April following, the merchants and gentlemen, by Sir Walter's directions, fitted out two ſmall veſſels, under the command of Captain Philip Amidas, and Captain Arthur Barlow, two of Sir Walter's ſervants, who knowing no better courſe, ſailed away to the Canaries; from thence to the Caribbee Iſlands, and croſſing the Gulf of Mexico made the coaſt of Florida. They were ſo ignorant of navigation, that, by the computation of able ſeamen, they went above a thouſand leagues out of their way. Their voyage, however, was proſperous and they anchored in an inlet by the Roanoke. They landed upon certain iſlands on the coaſt, between Cape Fear and the Bay of Cheſapeak. They ſaw none of the natives till the third day after their landing, when they eſpied three in a canoe. One of them went aſhore, and waited without any ſigns of fear till the Engliſh rode to him. He ſpoke much to them in his own language, and then went boldly aboard their veſſels. They gave him a ſhirt, a hat, wine and meat, with which he was much pleaſed. Having attentively viewed every thing, he went away; and within half an hour, he had loaded his canoe with fiſh, which he brought and divided between the ſhip and the bark. The next day ſeveral canoes came, and in one of them the king's brother. His name was Granganameo; the king was called Wingina, and the country Wingandacoa. The king himſelf, at that time, lay at his chief town ill of the wounds which he had lately received in a battle. Granganameo, leaving his canoes at ſome diſtance, went to the point of land where the Engliſh had gone to the Indian the day before. Having ſpread a mat, he ſat down upon it; and when the Engliſh came to him well armed, he ſhowed no fear, but made ſigns to them to ſit down, ſtroaking his own head and breaſt, and then theirs, to expreſs his love. The natives were a proper well-proportioned people, very civil in their behaviour, and highly reſpectful to Granganameo; for none of them ſat down, or ſpoke a word in his preſence, except four; on whom the Engliſh alſo beſtowed preſents. But Granganameo took them all from them, and made ſigns that every thing belonged to him. After ſome ſmall traffic, he went away, but returning in two days, he ate and drank very merrily with them. Not long after, he brought his wife and children on board. After this there came down from all parts great numbers of people, with leather, coral, and divers kind of dyes. But when Granganameo was preſent, none durſt trade but himſelf, and thoſe who wore red copper on their heads as he did. He would have given a bag of pearls for a ſuit of armour; but the Engliſh refuſed, as not regarding them, that they might thereby the better learn where they grew. He was very juſt to his promiſe, for they often truſted him, and he never failed to come within his day to the place which he promiſed. He commonly ſent the Engliſh every day a brace of bucks, rabbits, hares, and fiſh; and ſometimes melons, walnuts, cucumbers, peas, and divers kinds of roots. And the Engliſh, to try the ſtrength and goodneſs of the ſoil, put ſome of their peas into the ground, which grew wonderfully, and were found, in ten days' time, fourteen inches high. They returned to England about the middle of September, carrying with them two of the natives, Manteo and Wancheſe; and their diſcovery was ſo welcome there, that the queen herſelf named the country *Virginia.* The advantageous accounts which theſe firſt adventurers gave of the fertility, pleaſantneſs, and wholeſomeneſs of the country, induced Sir Richard Grenvil himſelf to make a voyage thither the next year: and he accordingly ſet out from Plymouth, the 9th of April, with ſeven ſhips. Having made the uſual circuit of the Canaries and Weſt Indies, where they took two rich Spaniſh prizes, and forced a profitable trade, they fell in with the continent of America, near Cape Fear, and were in great danger of being loſt upon it. But having happily eſcaped, they came to an anchor off the iſland of Wococon, the 26th of May. They immediately ſent to the iſle of Roanoke to Wingina the king: and Mr. Arundel went to the main, with Manteo, who proved, throughout their whole ſtay, very faithful and uſeful to them. Soon after, the

general, Sir Richard Grenvil, went himſelf to the main, with a ſelect body of men, and ranging about, diſcovered ſeveral Indian towns. At one of them the Indians ſtole a ſilver cup, for which they burnt their town, and deſtroyed their corn, and ſo returned to their ſhips at Wococon. At Hatteras, whither they went ſoon after, Granganameo, the king's brother, came aboard the admiral, with Manteo. This is the laſt viſit he made to the Engliſh, for ſome time this year he died, and in him they loſt a ſincere and hearty friend. Sir Richard Grenvil having only made that ſmall excurſion on the continent, returned to England: but he left behind him 108 perſons, as a colony, to keep poſſeſſion of, and inhabit the country. Of theſe he conſtituted Mr. Ralph Lane governor, a military man of note, who was afterwards knighted, and applying himſelf to the ſea-ſervice was of eminent command in the Engliſh navy. With them remained Captain Philip Amidas as admiral, one of the commanders-in-chief in the firſt adventure, Mr. Thomas Harriot, Captain Stafford, Mr. Kendal, with ſeveral others of name in the expedition. This colony choſe Roanoke, an iſland at the mouth of Albemarle Sound, for the place of their habitation, and their chief employment was to reconnoitre and view the country. Their fartheſt diſcovery to the ſouthward, was Secotan, an Indian town, by their reckoning, eighty leagues from Roanoke, lying up between the rivers Pampticoe and Neus, in North Carolina. Diſputes with the Indians and other circumſtances induced Mr. Lane and the reſt to return to England, in the year 1586. Sir Walter Raleigh was not idle at home: he provided a ſhip of 100 tons, and loaded her with plenty of all things neceſſary for the ſettlement: but it being Eaſter before ſhe departed, Mr. Lane and his company had ſhipped themſelves for England in Sir Francis Drake's fleet, a few days before her arrival. Having, therefore, ſpent ſome time in ſeeking them up the country without effect, they returned that ſummer to England, with all their proviſion. About a fortnight after the departure of this ſhip, Sir Richard Grenvil arrived with three ſhips more, well provided; but he neither found that ſhip according to his expectation nor could hear any news of the colony which he, himſelf, had left there the year before. Therefore, after travelling in vain up and down to ſeek them, finding their habitation abandoned, and being unwilling to loſe the poſſeſſion of the country, he landed fifty men on the iſland of Roanoke, plentifully furniſhed with all proviſions for two years, and ſo returned to England. The next year three ſhips were ſent, under the command of Mr. John White, who was appointed governor of the colony, with twelve aſſiſtants, as a council. To theſe Sir Walter Raleigh gave a charter, and incorporated them by the name of the governor and aſſiſtants of the city of Raleigh, in Virginia, with expreſs directions to ſettle at Cheſapeake; which, however uſeful and important, they, nevertheleſs, diſobeyed and neglected. Having taken the old route by the Weſt Indies, they had like to have been caſt away upon Cape Fear, through the error or deſign of Simon Ferdinando. He had been with the Captain Amidas in the firſt expedition; and being made pilot in this, was ſuſpected of a deſign to ruin the whole voyage; but being prevented by the vigilance of Captain Stafford, they arrived all ſafe at Hatteras the 22d of July. Soon after, there aroſe a diſpute between the governor and his aſſiſtants or council, concerning a perſon to be ſent to England to ſolicit ſupplies; all refuſed, except one, who was thought very unequal to the buſineſs; at laſt they unanimouſly pitched upon the governor, as the fitteſt perſon; and having ſigned a paper, teſtifying his unwillingneſs to leave the colony, they at length prevailed upon him, with much importunity, to undertake it. Leaving, therefore, above a hundred perſons on one of the iſlands of Hatteras, to form a plantation, he departed, and after many croſſes and difficulties, got firſt to Ireland, and from thence went to England. At this time the nation was in great commotion, and apprehenſion of the Spaniſh invaſion; however, having laid a plan of operations, and made proper diſpoſitions for the defence of the nation, Sir Walter found leiſure to fit out a ſmall fleet for the relief of the colony, at Biddeford, early the next year, which was put under the command of Sir Richard Grenvil, and only waited for a fair wind; but the alarm of the vaſt and formidable armament, made by the king of Spain, entreating all ſhips of force, then in any readineſs, received orders from the ſtate, to ſtay in their harbours, for the defence of their own country; and Sir Richard Grenvil was perſonally commanded not to depart out of Cornwall; however Governor White laboured ſo ſtrenuouſly with them, that he obtained two ſmall barks, and put to ſea from Biddeford, the 22d of April, 1588; but theſe veſſels, though of little force, being more intent on a gainful voyage, than the relief of the colony, ran in chaſe of prizes; till at laſt, one of them meeting with two ſhips of war, was, after a bloody fight, overcome, boarded, and rifled; in this maimed, ranſacked, and ragged condition, ſhe returned to England in a month's time; and in about three weeks after, the other alſo returned, without performing her intended voyage, to the diſtreſs, and, as it proved, the utter deſtruction of the colony in Virginia, and to the great diſpleaſure of their patron at home: theſe diſappointments gave much vexation to Sir Walter Raleigh, who had, by this time, expended, as we are authentically aſſured, no leſs than forty thouſand pounds upon the enterprize, for which, and other reaſons, Sir Walter Raleigh made an aſſignment to Thomas Smith, with other merchants and adventurers of London, and to Governor White, and other gentlemen, for continuing the plantation of Virginia; but the new aſſignees were not ſo diligent and careful of the buſineſs, as they ought to have been; for it was a year after before any thing was undertaken by them for the relief of the colony: then Mr. White, with three ſhips, ſet ſail from Plymouth; and paſſing by the Weſt Indies, they ſtaid ſome time there, to perform ſome exploits, as they called them, which was to attack and plunder the Spaniards, among whom they got a conſiderable booty. Neither did the colony at all advance before the arrival of Lord Delaware, in the year 1610, from which time it gradually began to flouriſh.

VIRGO, in aſtronomy, one of the ſigns or conſtellations of the zodiac. See Aſtronomy.

VIRGULA Divinitoria, divining rod. See Mine.

VIRTUE, a term uſed in various ſignifications. In the general it denotes power, or the perfection of any thing, whether natural or ſupernatural, animate or inanimate, eſſential or acceſſory. But, in its more proper or reſtrained ſenſe, virtue ſignifies a habit, which improves and perfects the poſſeſſor and his actions. See Moral Philosophy.

VIRTUOSO, an Italian term lately introduced into the Engliſh, ſignifying a man of curioſity and learning, or one who loves and promotes the arts and ſciences. But among us the term ſeems to be appropriated to thoſe who apply themſelves to ſome curious and quaint rather than immediately uſeful art or ſtudy; as antiquaries, collectors of rarities of any kind, microſcopical obſervers, &c.

VISCERA, in anatomy, a term ſignifying the ſame with entrails; including the heart, liver, lungs, ſpleen, inteſtines, and other inward parts of the body.

VISCOUNT *(Vice Comes)*, was anciently an officer under an earl, to whom, during his attendance at court, he acted as deputy to look after the affairs of the country. But the name was afterwards made uſe of as an arbitrary title of honour, without any ſhadow of office pertaining to it, by Henry VI.; when, in the 18th year of his reign, he created John Beau-

mont a peer by the name of *Viſcount Beaumont;* which was the firſt inſtance of the kind. A viſcount is created by patent as an earl is; his title is *Right Honourable;* his mantle is two doublings and a half of plain fur; and his coronet has only a row of pearls cloſe to the circle.

VISCUM, in botany: a genus of plants of the claſs *diœcia*, order *tetrandria*, and in the natural ſyſtem arranged under the 48th order, *Aggregatæ*. The male calyx is quadripartite; the antheræ adhere to the calyx: the female calyx conſiſts of four leaves; there is no ſtyle: the ſtigma is obtuſe. There is no corolla; the fruit is a berry with one ſeed. There are nine ſpecies; only one of which is a native of Britain, viz. the *album*, or common miſſeltoe. It is a ſhrub growing on the bark of ſeveral trees: the leaves are conjugate and elliptical, the ſtem forked; the flowers whitiſh in the alæ of the leaves. This plant was reckoned ſacred among the druids.

VISHNOU, that perſon in the triad of the Bramins who is conſidered as the *preſerver* of the univerſe. *Brahma* is the creator, and *Siva* the deſtroyer: and theſe two, with Viſhnou, united in ſome inexplicable manner, conſtitute *Brahme*, or the ſupreme numen of the Hindoos. See POLYTHEISM.

VISIER, an officer or dignitary in the Ottoman empire, whereof there are two kinds; one called by the Turks *Vizier-azem*, that is, "grand viſier," is the prime miniſter of ſtate in the whole empire. He commands the army in chief, and preſides in the divan or great council. Next to him are ſix other ſubordinate viſiers, called *viſiers of the bench;* who officiate as his counſellors or aſſeſſors in the divan.

VISION, in optics, the act of ſeeing or perceiving external objects by means of the organ of ſight, the eye. See ANATOMY and OPTICS.

VISTULA, or WEISEL, a large river of Poland, which taking its riſe in the mountains ſouth of Sileſia, viſits Cracow, Warſaw, &c. and continuing its courſe northward, falls into the Baltic ſea below Dantzic.

VITAL, in phyſiology, an appellation given to whatever miniſters principally to the conſtituting or maintaining life in the bodies of animals: thus the heart, lungs, and brain, are called *vital parts;* and the operations of theſe parts by which the life of animals is maintained are called *vital functions*.

VITALIANO (Donati), an eminent naturaliſt, was born in Padua the 8th of September, 1717. He ſhowed from his childhood the greateſt inclination for botany and natural hiſtory; and, at the age of twelve years, knew all the medicinal plants, and had made a collection of natural productions. When ſome years older, he profited by the friendſhip of the celebrated Pontedero, and was generouſly furniſhed with books and informations by the living profeſſor Valliſneri, junior. His beſt maſters were, however, his own mountain and maritime peregrinations; which he began in Dalmatia in 1743, and continued for five years. He was choſen for adjutant to the marquis Poleni, public profeſſor of experimental phyſic, and cultivated under ſo great a maſter all the parts of phyſico-mathematics. With him he made a journey to Rome, and there became an intimate friend of Leprotti the papal phyſician, to whom he afterwards dedicated his *Saggio della floria naturale dell' Adriatico;* a work of great merit, which count Ginanni of Ravenna endeavoured to depreciate, though with little ſucceſs. The eſſay of Donati was publiſhed in 1750, and was afterwards tranſlated into French. The fame which our author acquired induced his Sardinian majeſty to appoint him profeſſor of botany and natural hiſtory at Turin. He went there very willingly; made many excurſions among the mountains of Savoy and Genoa, and would have been happy could he always have converſed with the mountaineers, who generally are harmleſs people. The king his maſter ſent him out of the way of his enemies, whoſe envy and hatred his merit alone had raiſed; he commanded him to ſet out on a voyage to Egypt, and from thence to viſit Syria, Paleſtine, Arabia, and the Eaſt Indies, to make obſervations and to collect the rareſt productions of nature. In 1759 he was in Alexandria, ſaw Egypt as far as the great cataract of the Nile, and a great part of Paleſtine, Arabia, and Chaldea; and in all thoſe travels was expoſed to ſuffer the cruel conſequences of a bad choice which he had made of his companions. While he ſtaid at Baſſora, waiting for orders from court, he fell ill of a putrid fever, and died in a few days. The news of his death came to Turin about the end of October 1763. He left in manuſcript two volumes in folio.

VITELLUS, the yolk of an egg. See EGG.

VITIS, in botany: a genus of the claſs *pentandria*, order *monogynia*; and in the natural ſyſtem arranged under the 46th order, *Pectoraccæ*. The petals cohere at the top, and are withered; the fruit is a berry with five ſeeds. There are 11 ſpecies; the moſt important of which is the *vinifera* or common vine, which has naked, lobed, ſinuated leaves. There are a great many varieties; but a recital of their names would be tireſome without being uſeful. All the ſorts are propagated either from layers or cuttings, the former of which is greatly practiſed in England, but the latter is much preferable.

In chooſing the cuttings, you ſhould always take ſuch ſhoots of the laſt year's growth as are ſtrong and well ripened; theſe ſhould be cut from the old vine, juſt below the place where they were produced, taking a knot, or piece of the two years' wood to each, which ſhould be pruned ſmooth; then you ſhould cut off the upper part of the ſhoots, ſo as to leave the cutting about ſixteen inches long. When the piece or knot of old wood is cut at both ends, near the young ſhoot, the cutting will reſemble a little mallet; from whence Columella gives the title of *malleolus* to the vine cuttings. In making the cuttings after this manner, there can be but one taken from each ſhoot; whereas moſt perſons cut them into lengths of about a foot, and plant them all: which is very wrong, for various reaſons too tedious to mention.

When the cuttings are thus prepared, if they are not then planted, they ſhould be placed with their lower part in the ground in a dry ſoil, laying ſome litter upon their upper parts to prevent them from drying: in this ſituation they may remain till the beginning of April (which is the beſt time for planting them); when you ſhould take them out, and waſh them from the filth they have contracted; and if you find them very dry, you ſhould let them ſtand with their lower parts in the water ſix or eight hours, which will diſtend their veſſels, and diſpoſe them for taking root. If the ground be ſtrong and inclined to wet, you ſhould open a trench where the cuttings are to be planted, which ſhould be filled with lime rubbiſh, the better to drain off the moiſture: then raiſe the borders with freſh light earth about two feet thick, ſo that it may be at leaſt a foot above the level of the ground: then you ſhould open the holes at about ſix feet diſtance from each other, putting one good ſtrong cutting into each hole, which ſhould be laid a little ſloping, that their tops may incline to the wall; but it muſt be put in ſo deep, as that the uppermoſt eye may be level with the ſurface of the ground; for when any part of the cutting is left above ground, moſt of the buds attempt to ſhoot, ſo that the ſtrength of the cuttings is divided to nouriſh ſo many ſhoots, which muſt conſequently be weaker than if only one of them grew; whereas, by burying the whole cutting in the ground, the ſap is all employed on one ſingle ſhoot, which conſequently will be much ſtronger; beſides, the ſun and air are apt to dry that part of the cutting which remains above ground, and ſo often prevents their buds from ſhooting.

Having placed the cutting into the ground, fill up the hole gently, preſſing down the earth with your foot cloſe about it, and raiſe a little hill juſt upon the top of the cutting, to cover the upper eye quite over, which will prevent it from drying. Nothing more is neceſſary but to keep the ground clear from weeds, until the cuttings begin to ſhoot: at which time you ſhould look over them carefully, to rub off any ſmall ſhoots, if ſuch are produced, faſtening the firſt main ſhoot to the wall, which ſhould be conſtantly trained up, as it is extended in length, to prevent its breaking or hanging down. You muſt continue to look over theſe once in about three weeks during the ſummer ſeaſon, conſtantly rubbing off all lateral ſhoots which are produced; and be ſure to keep the ground clear from weeds, which, if ſuffered to grow, will exhauſt the goodneſs of the ſoil and ſtarve the cuttings. The Michaelmas following, if your cuttings have produced ſtrong ſhoots, you ſhould prune them down to two eyes. In the ſpring, after the cold weather is paſt, you muſt gently dig up the borders to looſen the earth; but you muſt be very careful, in doing this, not to injure the roots of your vines: you ſhould alſo raiſe the earth up to the ſtems of the plants, ſo as to cover the old wood, but not ſo deep as to cover either of the eyes of the laſt year's wood. After this they will require no farther care until they begin to ſhoot; when you ſhould rub off all weak dangling ſhoots, leaving no more than the two produced from the two eyes of the laſt year's wood, which ſhould be faſtened to the wall. From this time till the vines have done ſhooting, you ſhould look them over once in three weeks or a month, to rub off all lateral ſhoots as they are produced, and to faſten the main ſhoots to the wall as they are extended in length; about the middle or latter end of July, it will be proper to nip off the tops of theſe two ſhoots which will ſtrengthen the lower eyes. During the ſummer ſeaſon you muſt conſtantly keep the ground clear from weeds: nor ſhould you permit any ſort of plants to grow near the vines, which would not only rob them of nouriſhment, but ſhade the lower parts of the ſhoots, and thereby prevent their ripening; which will not only cauſe their wood to be ſpongy and luxuriant, but render it leſs fruitful.

As ſoon as the leaves begin to drop in autumn, you ſhould prune theſe young vines again, leaving three buds to each of the ſhoots, provided they are ſtrong: otherwiſe it is better to ſhorten them down to two eyes if they are good; for it is a very wrong practice to leave much wood upon young vines, or to leave their ſhoots too long, which greatly weakens the roots: then you ſhould faſten them to the wall, ſpreading them out horizontal each way, that there may be room to train the new ſhoots the following ſummer, and in the ſpring the borders muſt be digged as before.

The uſes of the fruit of the vine for making wine, &c. are well known. The vine was introduced by the Romans into Britain, and appears formerly to have been very common. From the name of vineyard yet adhering to the ruinous ſites of our caſtles and monaſteries, there ſeem to have been few in the country but what had a vineyard belonging to them. The county of Glouceſter is particularly commended by Malmſbury in the twelfth century, as excelling all the reſt of the kingdom in the number and goodneſs of its vineyards. In the earlier periods of our hiſtory, the iſle of Ely was expreſsly denominated the *Iſle of Vines* by the Normans. Vineyards are frequently noticed in the deſcriptive accounts of doomſday; and thoſe of England are even mentioned by Bede as early as the commencement of the eighth century.

Doomſday exhibits to us a particular proof that wine was made in England during the period preceding the conqueſt. And after the conqueſt the biſhop of Ely appears to have received at leaſt three or four tuns of wine annually, as tythes, from the produce of the vineyards in his dioceſe; and to have made frequent reſervations in his leaſes of a certain quantity of wine for rent. A plot of land in London, which now forms Eaſt-Smithfield and ſome adjoining ſtreets, was withheld from the religious houſe within Aldgate by four ſucceſſive conſtables of the Tower, in the reigns of Rufus, Henry, and Stephen, and made by them into a vineyard to their great emolument and profit. In the old accounts of rectorial and vicarial revenues, and in the old regiſters of eccleſiaſtical ſuits concerning them, the tithe of wine is an article that frequently occurs in Kent, Surry, and other counties. And the wines of Glouceſterſhire, within a century after the conqueſt, were little inferior to the French in ſweetneſs. The beautiful region of Gaul, which had not a ſingle vine in the days of Cæſar, had numbers ſo early as the time of Strabo. The ſouth of it was particularly ſtocked with them; and they had even extended themſelves into the interior parts of the country: but the grapes of the latter did not ripen kindly. France was famous for its vineyards in the reign of Veſpaſian, and even exported its wines into Italy. The whole province of Narbonne was then covered with vines: and the wine-merchants of the country were remarkable for all the knaviſh dexterity of our modern brewers, tinging it with ſmoke, colouring it (as was ſuſpected) with herbs and noxious dyes, and even adulterating the taſte and appearance with aloes. And, as our firſt vines would be tranſplanted from Gaul, ſo were in all probability thoſe of the Allobroges in Franche Compte. Theſe were peculiarly fitted for cold countries. They ripened even in the froſts of the advancing winter. And they were of the ſame colour, and ſeem to have been of the ſame ſpecies, as the black Muſcadines of the preſent day, which have lately been tried in the iſland, and found to be fitteſt for the climate. Theſe were pretty certainly brought into Britain a little after vines had been carried over all the kingdoms of Gaul, and about the middle of the third century; when the numerous plantations had gradually ſpread over the face of the latter, and muſt naturally have continued their progreſs into the former.

The Romans, even nearly to the days of Lucullus, were very ſeldom able to regale themſelves with wine. Very little was then raiſed in the compaſs of Italy. And the foreign wines were ſo dear, that they were rarely produced at an entertainment; and when they were, each gueſt was indulged only with a ſingle draught. But in the ſeventh century of Rome, as their conqueſts augmented the degree of their wealth, and enlarged the ſphere of their luxury, wines became the object of particular attention. Many vaults were conſtructed, and good ſtocks of liquor depoſited in them. And thus naturally gave encouragement to the wines of the country. The Falernian roſe immediately into great repute; and a variety of others, that of Florence among the reſt, ſucceeded it about the cloſe of the century. And the more weſterly parts of the European continent were at once ſubjected to the arms, and, enriched with the vines, of Italy.

But the ſcarcity of the native, and dearneſs of the foreign wines in that country, ſeveral ages before the conqueſt of Lancaſhire, had called out the ſpirit of invention, and occaſioned the making of factitious wines. Theſe were ſtill continued by the Romans, and naturally taught to the Britons. And they were made of almoſt all the products of the orchard and garden, the pear, the apple, mulberry, ſervis, and roſe. Two of them, therefore, were thoſe agreeable liquors which we ſtill denominate *cyder* and *perry*. The latter would be called *pyrum* by the Romans, and is therefore called *perry* or *pear-water* by us. And the former aſſumed among the

Romans the appellation of *ficera*, which was colloquially pronounced by them *fidera*, as the ſame pronunciation of it among the preſent Italians ſhows; and retains therefore the denomination of *cyder* among ourſelves.

VITREOUS HUMOUR OF THE EYE. See ANATOMY.

VITRIFICATION, in chemiſtry, the converſion of a body into glaſs by means of fire. See GLASS.

VITRIOL, a compound ſalt, formed by the union of iron, copper, or zinc, with the ſulphuric acid. It is of three colours, white, blue, and green, according to the metal.

VITRIOLATED, among chemiſts, ſomething impregnated, or ſuppoſed to be ſo, with vitriol or its acid.

VITRIOLIC ACID. See SULPHURIC *Acid* and CHEMISTRY.

VITRUVIUS POLLIO (Marcus), a very celebrated Roman architect, was, according to the common opinion, born at Verona, and lived in the reign of Auguſtus, to whom he dedicated his excellent treatiſe on architecture, divided into ten books. William Philander's edition of this celebrated work is eſteemed. Claudius Perrault has given an excellent tranſlation of it in French, with learned notes. There are alſo ſeveral Engliſh tranſlations of Vitruvius.

VITUS's DANCE (St.). See MEDICINE.

VIVERRA, THE WEASEL: a genus of quadrupeds belonging to the order of feræ. They have ſix fore-teeth, the intermediate ones being ſhorter, and more than three grinders, and the claws are exſerted. There are twenty-ſeven ſpecies, the principal of which are,

1. The *ichneumon*, with the tail tapering to a point, and the toes diſtant from each other; inhabits Egypt, Barbary, India, and its iſlands. It is there a moſt uſeful animal, being an inveterate enemy to the ſerpents and other noxious reptiles which infeſt the torrid zone: it attacks without dread that moſt fatal of ſerpents the Naja, or Cobra de Capello; and ſhould it receive a wound in the combat, inſtantly retires, and is ſaid to obtain an antidote from a certain herb (according to Sparmann the *ophiorhiza*); after which it returns to the attack, and ſeldom fails of victory: it is a great deſtroyer of the eggs of crocodiles, which it digs out of the ſand; and even kills multitudes of the young of thoſe terrible reptiles: it was not therefore without reaſon that the ancient Egyptians ranked the ichneumon among their deities. This animal is at preſent domeſticated and kept in houſes in India and in Egypt, for it is more uſeful than a cat in deſtroying rats and mice; and grows very tame. It is very active; ſprings with great agility on its prey; will glide along the ground like a ſerpent, and ſeem as if without feet. It ſits up like a ſquirrel, and eats with its fore-feet, catching any thing that is flung to it. It is a great enemy to poultry, and will feign itſelf dead till they come within reach: loves fiſh; draws its prey, after ſucking the blood, to its hole. Its excrements are very fetid; when it ſleeps, it brings its head and tail under its belly, appearing like a round ball, with two legs ſticking out. Rumphius obſerves how ſkilfully it ſeizes the ſerpents by the throat, ſo as to avoid receiving any injury; and Lucan beautifully deſcribes the ſame addreſs of this animal in conquering the Egyptian aſp.

2. The *vulpecula*, or ſtifling weaſel, has a ſhort ſlender noſe; ſhort ears and legs; black body, full of hair; the tail long, of a black and white colour; length from noſe to tail about eighteen inches. It inhabits Mexico, and perhaps other parts of America. This and ſome other ſpecies are remarkable for the peſtiferous, ſuffocating, and moſt fetid vapour they emit from behind, when attacked, purſued, or frightened: it is their only means of defence. Some turn their tail to their enemy, and keep them at a diſtance by a frequent crepitus; and others ejaculate their urine, tainted with the horrid effluvia, to the diſtance of eighteen feet. The purſuers are ſtopped with the terrible ſtench. Should any of this liquor fall into the eyes, it almoſt occaſions blindneſs: if on the clothes, the ſmell will remain for ſeveral days, in ſpite of all waſhing; they muſt even be buried in freſh ſoil, in order to be ſweetened. Dogs that are not true bred, run back as ſoon as they perceive the ſmell: thoſe that have been uſed to it, will kill the animal; but are often obliged to relieve themſelves by thruſting their noſes into the ground. There is no bearing the company of a dog that has killed one for ſeveral days. Profeſſor Kalm was one night in great danger of being ſuffocated by one that was purſued into a houſe where he ſlept; and it affected the cattle ſo, that they bellowed through pain. Another, which was killed by a maid-ſervant in a cellar, ſo affected her with its ſtench, that ſhe lay ill for ſeveral days; all the proviſions that were in the place were ſo tainted, that the owner was obliged to throw them away. Notwithſtanding this, the fleſh is reckoned good meat, and not unlike that of a pig; but it muſt be ſkinned as ſoon as killed, and the bladder taken carefully out. It breeds in hollow trees, or holes under ground, or in clefts of rocks; climbs trees with great agility; kills poultry; eats eggs, and deſtroys young birds.

3. The *zibetha*, or civet-cat, has ſhort rounded ears; the back and ſides cinereous, tinged with yellow, marked with large duſky ſpots diſpoſed in rows; the hair coarſe; that on the top of the body longeſt, ſtanding up like a mane; the tail ſometimes wholly black; ſometimes ſpotted near the baſe; length, from noſe to tail, about two feet three inches; the tail fourteen inches; the body pretty thick. It inhabits India, the Philippine Iſles, Guinea, Ethiopia, and Madagaſcar. The famous drug muſk, or civet, which is produced from an aperture between the privities and the anus, in both ſexes, is ſecreted from certain glands. The perſons who keep them procure the muſk by ſcraping the inſide of this bag twice a-week with an iron ſpatula, and get about a dram each time: but it is ſeldom ſold pure, being generally mixed with ſuet or oil, to make it more weighty. The males yield the moſt, eſpecially when they are previouſly irritated. They are fed, when young, with pap made of millet, with a little fleſh or fiſh; when old, with raw fleſh. In a wild ſtate, they prey on fowl. Theſe animals ſeem not to be known to the ancients: it is probable the drug was brought without their knowing its origin; for it is certain the fine gentlemen in Rome uſed perfumes.

VIVES, in farriery. See FARRIERY.

VIVIPAROUS, in natural hiſtory, an epithet applied to ſuch animals as bring forth their young alive and perfect; in contradiſtinction to thoſe that lay eggs, which are called *oviparous* animals.

UKRAINE, a large country of Europe, lying on the borders of Turkey in Europe, Poland, Ruſſia, and Little Tartary. Its name properly ſignifies a *frontier*. By a treaty between Ruſſia and Poland in 1693, the latter remained in poſſeſſion of all that part of the Ukraine lying on the weſt ſide of the river Dnieper, which is but indifferently cultivated; while the country on the eaſt ſide, inhabited by the Coſſacs, is in much better condition. The Ruſſian part is compriſed in the government of Kiof; and the empreſs of Ruſſia having obtained the Poliſh palatinate of Kiof, by the treaty of partition in 1793, the whole of the Ukraine, on both ſides of the Dnieper, belongs now to that ambitious and formidable power. The principal town is Kiof.

ULCER, in ſurgery. See SURGERY.

ULCER, in farriery. See FARRIERY.

ULEX, in botany: a genus of plants of the claſs of *diadelphia*, and order of *decandria*; and in the natural ſyſtem

arranged under the 32d order, *Papilionaceæ*. The calyx conſiſts of two leaves quinquedentate: pod almoſt covered by the calyx. There are two ſpecies; one of which, the *Europæus*, the furze, gorſe, or whin, is a native of Britain; it is too well known to need deſcription. Its uſes, however, are many; as a fuel where wood and coals are ſcarce; and as hedge-wood upon light barren land: its uſe as horſe provender too ſeems to be fully proved, though not yet eſtabliſhed. See FENCE.

ULIETEA, one of the Society Iſlands, in the South Pacific Ocean. On the eaſt and weſt coaſts of this iſland, are ſome good harbours. The land is hilly, broken, and irregular, except on the ſea coaſt; yet the hills are green and pleaſant, and in many parts abound with wood: the productions and manners of the inhabitants are ſimilar to thoſe of Otaheite. The ſouth extremity of the iſland lies in Long. 181. 20. W. Greenwich. Lat. 16. 55. S.

ULIGINOUS, in agriculture, an appellation given to a moiſt, mooriſh, and fenny ſoil.

ULLAGE, in gauging, is ſo much of a caſk or other veſſel as it wants of being full.

ULM, a free and imperial city of Germany, in the circle of Swabia, ſeated on the river Iller. It is a pretty large place, defended by fortifications; and the inhabitants are Proteſtants. Here the archives of the circle are depoſited, and it carries on a very great trade. The elector of Bavaria became maſter of it, in 1702, by a ſtratagem; but, in 1704, the French being vanquiſhed at the battle of Hochſtet, the Bavarians ſurrendered it by capitulation. The Roman-catholics have but two churches, all the reſt belonging to the Proteſtants. E. Long. 10. 12. N. Lat. 48 25.

ULMUS, in botany: a genus of plants belonging to the claſs of *pentandria*, and order of *digynia*; and in the natural ſyſtem arranged under the 53d order, *Scabridæ*. The calyx is quinquefid; there is no corolla. The fruit is a dry, compreſſed, membranaceous berry. There are three ſpecies, one of which is a native of Britain. The *campeſtris*, common elm. The leaves are rough, oval, pointed, doubly ſerrated, unequal at the baſe. Bark of the trunk cracked and wrinkled. Fruit membranous. The *montana*, or wych elm, is generally reckoned a variety of this ſpecies. All the ſorts of elm may be either propagated by layers or ſuckers taken from the roots of the old trees, the latter of which is generally practiſed by the nurſery-gardeners: but as theſe are often cut up with indifferent roots, they often miſcarry, and render the ſucceſs doubtful; whereas thoſe which are propagated by layers are in no hazard, and always make better roots, and come on faſter than the other, and do not ſend out ſuckers from their roots in ſuch plenty, for which reaſon this method ſhould be more univerſally practiſed. The elm delights in a ſtiff ſtrong ſoil. It is obſervable, however, that here it grows comparatively ſlow. In light land, eſpecially if it be rich, its growth is very rapid; but its wood is light, porous, and of little value, compared with that which grows upon ſtrong land; which is of a cloſer ſtronger texture, and, at the heart, will have the colour, and almoſt the heavineſs and the hardneſs, of iron: on ſuch ſoils the elm becomes profitable, and is one of the trees which ought in preference to all others to engage the planter's attention.

ULSTER, a province of Ireland, containing the northern counties of Donegal, Londonderry, Antrim, Tyrone, Fermanagh, Monaghan, Armagh, Down, and Cavan.

ULTERIOR, in geography is applied to ſome part of a country or province, which, with regard to the reſt of that country, is ſituated on the farther ſide of the river, mountain, or other boundary, which ſeparates the two countries.

ULTRAMARINE, a beautiful blue colour uſed by the painters, prepared from the lapis lazuli by calcination.

ULTRAMONTANE, ſomething beyond the mountains. The term is principally applied in relation to France and Italy, which are ſeparated by the Alps.

ULVA, in botany: a genus of plants of the claſs of *cryptogamia*, and order of *Algæ*. The fructification is incloſed in a diaphanous membrane. There are ſeventeen ſpecies; twelve of which are Britiſh plants. They are all ſeſſile, and without roots, and grow in ditches and on ſtones along the ſea-coaſt. None of them are applied to any particular uſe different from the reſt of the algæ. except perhaps the *umbilicalis*, which in England is pickled with ſalt and preſerved in jars, and afterwards ſtewed and eaten with oil and lemon-juice. This ſpecies, called in Engliſh the *navel laver*, is flat, orbicular, ſeſſile, and coreaceous.

ULUG BEIG, a Perſian prince and learned aſtronomer, was deſcended from the famous Tamerlane, and reigned at Samarcand about forty years; after which he was murdered by his own ſon in 1449. His catalogue of the fixed ſtars, rectified for the year 1434, was publiſhed at Oxford by Mr. Hyde, in 1665. with learned notes. Mr. Hudſon printed in the Engliſh Geography Ulug Beig's Tables of the Longitude and Latitude of Places; and Mr. Greaves publiſhed, in Latin, his Aſtronomical Epochas, at London, in 1650.

ULYSSES, king of Ithaca, the ſon of Laertes, and father of Telemachus, and one of thoſe heroes who contributed moſt to the taking of Troy. After the deſtruction of that city, he wandered for ten years; and at laſt returned to Ithaca, where, with the aſſiſtance of Telemachus, he killed Antinous and other princes who intended to marry his wife Penelope and ſeize his dominions. He at length reſigned the government of his kingdom to his ſon Telemachus; and was killed by Telegonus, his ſon by Circe, who did not know him. This hero is the ſubject of the Odyſſey.

UMBELLA, an UMBEL, in botany: a ſpecies of receptacle; or rather a mode of flowering, in which a number of ſlender footſtalks proceed from the ſame centre, and riſe to an equal height, ſo as to form an even and generally round ſurface at top. See BOTANY.

UMBELLATÆ, the name of a claſs in Ray's and Tournefort's methods, conſiſting of plants whoſe flowers grow in umbels, with five petals that are often unequal, and two naked ſeeds that are joined at top and ſeparated below. The ſame plants conſtitute the 45th order of Linnæus's Fragments of a Natural Method. See BOTANY.

UMBELLIFEROUS PLANTS, are ſuch as have their tops branched and ſpread out like an umbrella.

UMBER, or UMBRE, in natural hiſtory, a foſſil brown or blackiſh ſubſtance, uſed in painting; ſo called from *Ombria*, the ancient name of the duchy of Spoleto in Italy, whence it was firſt obtained; diluted with water, it ſerves to make a dark brown colour, uſually called with us an *hair colour*. Dr. Hill and Mr. da Coſta conſider it as an earth of the ochre kind. It is found in Egypt, Italy, Spain, and Germany; in Cyprus alſo it is found in large quantities; but what we have brought into England is principally from different parts of the Turkiſh dominions. But it might be found in conſiderable plenty alſo in England and Ireland, if properly looked after, ſeveral large maſſes of it having been thrown up in digging on Mendip hills in Somerſetſhire, and in the county of Wexford in Ireland: it is alſo ſometimes found in the veins of lead-ore both in Derbyſhire and Flintſhire.

UMBILICAL, among anatomiſts, ſomething relating to the umbilicus or navel.

UMBRELLA, a moveable canopy, made of ſilk or other cloth ſpread out upon ribs of whale-bone, and ſupported by a ſtaff, to protect a perſon from rain, or the ſcorching beams of the ſun.

UNCIA, in general, a Latin term, denoting the twelfth part of any thing; particularly the twelfth part of a pound, called in Engliſh an *ounce*; or the twelfth part of a foot, called an *inch*.

UNCTION, the act of anointing or rubbing with oil or other fatty matter.

Unction, in matters of religion, is uſed for the character conferred on ſacred things by anointing them with oil. Unctions were very frequent among the Hebrews. They anointed both their kings and high-prieſts at the ceremony of their inauguration. They alſo anointed the ſacred veſſels of the tabernacle and temple, to ſanctify and conſecrate them to the ſervice of God. The unction of kings is ſuppoſed to be a ceremony introduced very late among the Chriſtian princes. It is ſaid that none of the emperors were ever anointed before Juſtinian or Juſtin. The emperors of Germany took the practice from thoſe of the eaſtern empire: King Pepin of France was the firſt who received the unction. In the ancient Chriſtian church, unction always accompanied the ceremonies of baptiſm and confirmation. Extreme unction, or the anointing perſons in the article of death, was alſo practiſed by the ancient Chriſtians, in compliance with the precept of St. James, chap. v. 14th and 15th verſes; and this extreme unction the Romiſh church has advanced to the dignity of a ſacrament. It is adminiſtered to none but ſuch as are affected with ſome mortal diſeaſe, or in a decrepit age. It is refuſed to impenitent perſons, as alſo to criminals. The parts to be anointed are the eyes, the ears, the noſtrils, the mouth, the hands, the feet, and the reins. The laity are anointed in the palms of the hands, but prieſts on the back of it; becauſe the palms of their hands have been already conſecrated by ordination. The oil with which the ſick perſon is anointed repreſents the grace of God, which is poured down into the ſoul, and the prayer uſed at the time of anointing expreſſes the remiſſion of ſins thereby granted to the ſick perſon; for the prayer is this: "By this holy unction, and his own moſt pious mercy, may the Almighty God forgive thee whatever ſins thou haſt committed *by the ſight*," when the eyes are anointed; *by the hearing*, when the ears are anointed; and ſo of the other ſenſes.

UNDECAGON, is a regular polygon of eleven ſides.

UNDECEMVIR, a magiſtrate among the ancient Athenians, who had ten other colleagues or aſſociates joined with him in the ſame commiſſion. The functions of the undecemviri at Athens were much the ſame as thoſe of the late *prevots de marechauſſe* in France. They took care of the apprehending of criminals; ſecured them in the hands of juſtice; and when they were condemned, took them again into cuſtody, that the ſentence might be executed on them. They were choſen by the tribes, each tribe naming its own; and as the number of the tribes after Calliſthenes was but ten, which made ten numbers, a ſcribe or notary was added, which made the number eleven.

UNDERSTANDING. See Metaphysics and Logic.

UNDERWALD, a canton of Switzerland, and the ſixth in rank. It is bounded on the north by the canton of Lucern and by the Lake of the Four Cantons, on the eaſt by the high mountains which ſeparate it from the Canton of Bern, and on the weſt by the canton of Bern. The religion of this canton is the Roman-catholic.

UNDERWOOD, is coppice, or any wood that is not accounted timber.

UNDULATION, in phyſics, a kind of tremulous motion or vibration obſervable in a liquid, whereby it alternately riſes and falls like the waves of the ſea.

UNGUENT, in medicine and ſurgery, a topical remedy or compoſition, chiefly uſed in the dreſſing of wounds or bliſters.

UNICORN, an animal famous among the ancients, and thought to be the ſame with the rhinoceros. See Rhinoceros. Sparmann informs us, that the figure of the unicorn deſcribed by the ancients has been found delineated by the Sneſe Hottentots on the plain ſurface of a rock in Caffraria; and therefore conjectures, that ſuch an animal either does exiſt at preſent in the internal parts of Africa, or at leaſt once did ſo. Father Lobo affirms that he has ſeen it.

Unicorn-*fiſh*. See Monodon.

UNIFORM, denotes a thing to be ſimilar, or conſiſtent either with another thing, or with itſelf, in reſpect of figure, ſtructure, proportion, or the like; in which ſenſe it ſtands oppoſed to diform.

UNIFORMITY, regularity, a ſimilitude or reſemblance between the parts of a whole. Such is that we meet with in figures of many ſides, and angles reſpectively equal, and anſwerable to each other. A late ingenious author makes beauty to conſiſt in uniformity, joined or combined with variety. Where the uniformity is equal in two objects, the beauty, he contends, is as the variety; and where the variety is equal, the beauty is as the uniformity.

Uniformity, is particularly uſed for one and the ſame form of public prayers, and adminiſtration of ſacraments, and other rites, &c. of the church of England, preſcribed by the famous ſtat. 1. Eliz. and 13 and 14 Car. II. cap. 4. called the *Act of Uniformity*. See Liturgy.

UNION, a junction, coalition, or aſſemblage, of two or more different things in one.

Union, or *The Union*, by way of eminence, is more particularly uſed to expreſs the act by which the two ſeparate kingdoms of England and Scotland were incorporated into one, under the title of *The kingdom of Great Britain*. This union, in vain attempted by King James I. was at length effected in the year 1707, 6 Annæ, when 25 articles were agreed to by the parliament of both nations; the purport of the moſt conſiderable being as follows: 1. That on the firſt of May 1707, and for ever after, the kingdoms of England and Scotland ſhall be united into one kingdom, by the name of *Great Britain*. 2. The ſucceſſion to the monarchy of Great Britain ſhall be the ſame as was before ſettled with regard to that of England. 3. The united kingdom ſhall be repreſented by one parliament. 4. There ſhall be a communication of all rights and privileges between the ſubjects of both kingdoms, except where it is otherwiſe agreed. 9. When England raiſes 2,000,000 l. by a land-tax, Scotland ſhall raiſe 48,000 l. 16, 17. The ſtandards of the coin, of weights, and of meaſures, ſhall be reduced to thoſe of England throughout the united kingdoms. 18. The laws relating to trade, cuſtoms, and the excife, ſhall be the ſame in Scotland as in England. But all the other laws of Scotland ſhall remain in force; but alterable by the parliament of Great Britain. Yet with this caution, that laws relating to public policy are alterable at the diſcretion of the parliament; laws relating to private right are not to be altered but for the evident utility of the people of Scotland. 22. Sixteen peers are to be choſen to repreſent the peerage of Scotland in parliament, and 45 members to ſit in the houſe of commons. 23. The 16 peers of Scotland ſhall have all privileges of parliament; and all peers of Scotland ſhall be peers of Great Britain, and rank next after thoſe of the ſame degree at the time of the union, and ſhall have all privileges of peers, except ſitting in the houſe of lords, and voting on the trial of a peer.

Theſe are the principal of the 25 articles of union, which are ratified and confirmed by ſtatute 5 Ann. c. 8. in which

ſtatute there are alſo two acts of parliament recited; the one of Scotland, whereby the church of Scotland, and alſo the four univerſities of that kingdom, are eſtabliſhed for ever, and all ſucceeding ſovereigns are to take an oath inviolably to maintain the ſame; the other of England, 5 Annæ, c. 6. whereby the acts of uniformity of 13 Eliz. and 13 Car. II. (except as the ſame had been altered by parliament at that time), and all other acts then in force for the preſervation of the church of England, are declared perpetual; and it is ſtipulated, that every ſubſequent king and queen ſhall take an oath inviolably to maintain the ſame within England, Ireland, Wales, and the town of Berwick upon Tweed. And it is enacted, that theſe two acts "ſhall for ever be obſerved as fundamental and eſſential conditions of the union."

Ireland has been recently united to Great Britain under certain ſpecific articles, adapted to the convenience and welfare of both countries.

UNISON, in muſic. See INTERVAL.

UNIT, or UNITY, in arithmetic, the number one; or one ſingle individual part of diſcrete quantity.

UNITARIANS, in eccleſiaſtical hiſtory, a name given to thoſe who confine the glory and attribute of divinity to the One only great and ſupreme God, and Father of our Lord Jeſus Chriſt.

UNITED BRETHREN, or UNITAS *Fratrum*, in eccleſiaſtical hiſtory, a church of which an account has been given under the word HERRNHUT. Though the church of the United Brethren is epiſcopal, they conſider epiſcopal ordination as neceſſary to qualify the ſervants of the church for their reſpective functions, they allow to their biſhops no elevation of rank or pre-eminent authority; their church having from its firſt eſtabliſhment been governed by ſynods, conſiſting of deputies from all the congregations; and by other ſubordinate bodies, which they call *conferences*. The ſynods, which are generally held once in ſeven years, are called together by the elders who were in the former ſynod appointed to ſuperintend the whole unity. In the firſt ſitting a preſident is choſen, and theſe elders lay down their office; but they do not withdraw from the aſſembly, for they, together with all biſhops, *ſeniores civiles*, or lay-elders, and thoſe miniſters who have the general care or inſpection of ſeveral congregations in one province, have ſeats in the ſynod without any particular election. The other members are, one or more deputies ſent by each congregation, and ſuch miniſters or miſſionaries as are particularly called to attend. Women approved by the congregations are alſo admitted as hearers; and are called upon to give their advice in what relates to the miniſterial labour among their ſex; but they have no deciſive vote in the ſynod. The votes of all the other members are equal.

In queſtions of importance, or of which the conſequences cannot be foreſeen, neither the majority of votes nor the unanimous conſent of all preſent can decide; but recourſe is had to the *lot*. For adopting this unuſual mode of deciding in eccleſiaſtical affairs, the Brethren allege as reaſons the practices of the ancient Jews and the apoſtles; the inſufficiency of the human underſtanding amidſt the beſt and pureſt intentions to decide for itſelf in what concerns the adminiſtration of Chriſt's kingdom; and their own confident reliance on the comfortable promiſes that the Lord Jeſus will approve himſelf the head and ruler of his church. The *lot* is never made uſe of but after mature deliberation and fervent prayer; nor is any thing ſubmitted to its deciſion, which does not, after being thoroughly weighed, appear to the aſſembly eligible in itſelf.

In every ſynod the inward and outward ſtate of the unity, and the concerns of the congregations and miſſions, are taken into conſideration. If errors in doctrine or deviations in practice have crept in, the ſynod endeavours not only to remove them, but by ſalutary regulations to prevent them for the future. It conſiders how many biſhops are to be conſecrated to fill up the vacancies occaſioned by death; and every member of the ſynod gives his vote for ſuch of the clergy as he thinks beſt qualified. Thoſe who have the majority of votes are taken into the *lot*, and they who are approved are conſecrated accordingly; but by conſecration they are veſted with no ſuperiority over their Brethren, ſince it behoves him who is the greateſt to be the ſervant of all.

Our limits will not permit us to give a ſyſtematic view of the doctrinal tenets of the Brethren. Though they acknowledge no other ſtandard of truth than the ſacred Scriptures, they adhere to the Augſburg Confeſſion, and ſpeak reſpectfully of the thirty-nine articles of the church of England. They profeſs to believe that the kingdom of Chriſt is not confined to any particular party, community, or church; and they conſider themſelves, though united in one body or viſible church, as ſpiritually joined in the bond of Chriſtian love to all who are taught of God, and belong to the univerſal church of Chriſt, however much they may differ in forms, which they deem non-eſſentials. But the reader who wiſhes to have a fuller account of this ſociety of Chriſtians, we muſt refer to *Cranz's Ancient and Modern Hiſtory of the Proteſtant Church of the United Brethren*, printed in London, 1780; and to a work intituled, *An Expoſition of Chriſtian Doctrine as taught in the Proteſtant Church of the United Brethren*, London, 1784.

UNITED PROVINCES of the NETHERLANDS, a republic of Europe, conſiſting of ſeven provinces, which extend 150 miles from N. to S. and 100 from E. to W. They are bounded on the W. and N. by the German Ocean, on the S. by Brabant and the biſhopric of Liege, and on the E. by Germany. They rank in the following order: Guelderland, Holland, Zealand, Utrecht, Frieſland, Overyſſel, and Groningen. Beſides theſe provinces, are the lands of the Generality (including Dutch Brabant, Flanders, and Limburg), in which are the towns of Bois-le-Duc, Breda, Bergen-op-Zoom, Maeſtricht, Venlo, Sluys, and Hulſt. This republic (which is likewiſe called by the general name of Holland) affords a ſtriking proof, that perſevering induſtry is capable of conquering every diſadvantage of climate and ſituation. The air and water are nearly equally bad; the ſoil produces naturally ſcarcely any thing but turf; and the poſſeſſion of this very ſoil is diſputed by the ocean, which, riſing conſiderably above the level of the land, is prevented from overflowing it, only by expenſive dikes. Yet the labours of the patient Dutchman have rendered this ſmall and ſeemingly inſignificant territory, one of the richeſt ſpots in Europe, with reſpect to population and property. In other countries, poſſeſſed of a variety of natural productions, it is not ſurpriſing to find manufacturers employed in augmenting the riches which the bounty of the ſoil beſtows; but to ſee, in a country like Holland, large woollen manufactures, where there are ſcarcely any flocks; numberleſs artiſts employed in metals, where there is not a mine; thouſands of ſaw-mills, where there is ſcarcely a wood; an immenſe quantity of corn exported from a country where there is not agriculture ſufficient to ſupport one half of its inhabitants, is what muſt ſtrike every attentive obſerver with admiration. Among the moſt valuable natural productions of the United Provinces may be reckoned their excellent cattle; and large quantities of madder are exported, chiefly cultivated in Zealand. The moſt conſiderable revenue ariſes from the fiſheries; but theſe are not ſo conſiderable as formerly. The number of veſſels employed in the herring fiſhery, in particular, is reduced from upward of 2000 to leſs than 200; and yet it maintains, even

now, no leſs than 20,000 people. About 100 veſſels are employed in the Greenland fiſhery, and 140 in the cod fiſhery near the Dogger Bank, and near the coaſt of Holland. The Dutch were formerly in poſſeſſion of the carrying trade of almoſt all other trading nations; and were alſo the bankers for all Europe. But theſe advantages did not continue to be ſo lucrative, when the other European nations began to open their eyes ſo far as to employ their own ſhipping in their trade, and to eſtabliſh banks of their own. The Dutch trade, however, is ſtill very great. In conſequence of their vaſt opulence, they ſtill regulate the exchange for all Europe, and their country is, as it were, the univerſal warehouſe of the commodities of every quarter of the globe. Among the monopolies of their Eaſt-India Company, the ſpice trade is the moſt valuable; comprehending cloves, mace, nutmegs, and cinnamon. Their Aſiatic poſſeſſions are the coaſts of the iſland of Java, the capital of which is Batavia, the ſeat of the governor-general of all their Eaſt-India ſettlements; ſome ſettlements on the coaſts of Sumatra, Malabar, and Coromandel; the greateſt part of the Moluccas or Spice Iſlands; ſettlements of factories in the iſland of Celebes, at Surat, and Petra, and in the gulf of Perſia; with Colombo, Trincomale, &c. in Ceylon. In Africa, the Dutch have the Cape of Good Hope, with ſeveral forts and factories in Guinea; in the Weſt Indies, St. Euſtatia, Saba, and Curaçoa; and in South America, the colonies of Iſſequibo, Demerary, Surinam, and Berbice. But they have loſt the Cape and ſome others of theſe in the preſent war. In the United Provinces, the inland trade is greatly facilitated by canals, which croſs the country in every direction. The number of their manufactures is aſtoniſhing. Saardam, a village in North Holland, for inſtance, containing 900 windmills; namely, cornmills, ſaw and paper mills, mills for the making of white lead, &c. Since the year 1579, the Seven United Provinces muſt be conſidered as one political body, united for the preſervation of the whole. In conſequence of the Union (ſee NETHERLANDS) the Seven Provinces guaranty each other's rights; they make war and peace, levy taxes, &c. in their joint capacity; but as to internal government, each province is independent. They ſend deputies (choſen out of the provincial ſtates) to the general aſſembly, called the ſtates-general, which is inveſted with the ſupreme legiſlative power of the confederation. At the head of this government there has uſually been a prince ſtadtholder, who exerciſes a conſiderable part of the executive power. After the death of William II. (the fourth ſtadtholder) in 1667, this office was aboliſhed by the ſtates; but, in 1672, when Lewis XIV. invaded Holland, the moſt violent popular commotions compelled them to repeal the edict; to inveſt William III. prince of Orange, with the office, and to declare it hereditary. On his death, in 1702, it was again aboliſhed; but, in 1745, ſome popular commotions compelled the ſtates, not only to inveſt William IV. prince of Orange, with this office, but again to declare it hereditary in his family. There have conſtantly been two oppoſite parties in the ſtate; one of which, called the patriots, or the Louveſtein party, is averſe, and the other attached to the power of the ſtadtholders. In 1787, a civil war actually commenced, and the ſtadtholder (William V. the preſent prince of Orange) was deprived of the office of captain-general; but he was reſtored, the ſame year, by the interference of Great Britain and Pruſſia. When the whole country, however, was rapidly overrun by the French, in January 1795, the ſtadtholder and his family were compelled to ſeek an aſylum in England; the anti-ſtadtholderian party, now triumphant, proceeded to new-model the government, and, in particular, to aboliſh the ſtadtholderate; and the French, treating the Dutch as an independent ſtate, concluded with them a treaty of alliance, offenſive and defenſive. The Calviniſt religion is eſtabliſhed in the United Provinces; but moſt other Chriſtian ſects, and the Jews, are tolerated. Amſterdam is the capital; but the ſeat of the ſtates-general is at Hague. See SCHELDT.

UNITY, in poetry. There are three unities to be obſerved, viz. the unity of action, that of time, and that of place. In the epic poem, the great, and almoſt the only, unity, is that of the action. Some regard indeed ought to be had to that of time; for that of place there is no room. The unity of character is not reckoned among the unities. See POETRY.

UNIVERSE, a collective name, ſignifying the whole world; or the aſſemblage of heaven and earth, with all things therein. See ASTRONOMY and GEOGRAPHY.

UNIVERSITY, is the name of a corporation formed for the education of youth in the liberal arts and ſciences, and authorized to admit ſuch as have ſtudied in it, to certain *degrees* in different faculties, which not only ſerve as certificates of proficiency in ſcience, but alſo confer on thoſe who obtain them conſiderable privileges within the univerſity, as well as ſome rank in the ſtate without it. Univerſities generally comprehend within them one or more colleges; but this is not always the caſe; for the univerſity of St. Andrew's was in being before either of its colleges was founded, and it would continue in being with all its privileges though both its colleges were levelled with the duſt.

In every univerſity with which we are acquainted, there are four faculties, viz. *Theology, Law, Phyſic,* and the *Arts and Sciences,* comprehending mathematics, natural and moral philoſophy, &c.; and in Oxford, Cambridge, and ſome other univerſities, *Muſic* is conſidered as a fifth faculty. In each of theſe there are two degrees, thoſe of *Bachelor* and *Doctor;* for though in the univerſities of Great Britain and Ireland we have no ſuch degree as *Doctor in Arts and Sciences,* our *Maſter of Arts* anſwers to the degree of *Doctor in Philoſophy,* which is conferred by many of the univerſities on the continent.

Univerſities in their preſent form, and with their preſent privileges, are inſtitutions comparatively modern. They ſprang from the convents of regular clergy, or from the chapters of cathedrals in the church of Rome, where young men were educated for holy orders, in that dark period when the clergy poſſeſſed all the little erudition which was left in Europe. Theſe convents were ſeminaries of learning probably from their firſt inſtitution; and we know with certainty, that in Old Aberdeen there was a monaſtery in which youth were inſtructed in *theology,* the *canon-law,* and the *ſchool philoſophy,* at leaſt 200 years before the Univerſity and King's College were founded. The ſame was doubtleſs the caſe in Oxford and Cambridge, and probably in every town in Europe where there is now a univerſity, which has any claim to be called ancient; for it was not till the more eminent of the laity began to ſee the importance of literature and ſcience, that univerſities diſtinct from convents were founded, with the privilege of admitting to degrees, which conferred ſome rank in civil ſociety. Theſe univerſities have long been conſidered as lay corporations; but as a proof that they had the eccleſiaſtical origin which we have aſſigned to them, it will be ſufficient to obſerve, that the Pope arrogated to himſelf the right of veſting them with all their privileges; and that, prior to the Reformation, every univerſity in Europe conferred its degrees in all the faculties by authority derived from a papal bull.

It is perhaps no improbable conjecture, that the church of Rome derived her idea of academical honours from the Jews, among whom literary diſtinctions extremely ſimilar ſubſiſted before the nativity of our Saviour. Among them, the young

ſtudent, with reſpect to his learning, was called a *diſciple;* from his minority a *junior;* and the *choſen* or *elected,* on account of his election into the number of diſciples. When he had made ſome progreſs in knowledge, and was deemed worthy of a degree, he was by impoſition of hands made חבר, *a companion* to a *Rabbi,* the perſon who officiates uſing this form, *I aſſociate thee,* or, *Be thou aſſociated;* and as ſoon afterwards as he was thought worthy to teach others, the *aſſociate* was raiſed to the rank of *Rabbi.* Whether this proceſs ſuggeſted the idea or not, it has certainly ſome reſemblance to that by which a young man in our univerſities paſſes through the degree of *Bachelor* to that of *Maſter of Arts* or *Doctor.*

The moſt ancient univerſities in Europe are thoſe of Oxford, Cambridge, Paris, Salamanca, and Bologna; and in the two Engliſh univerſities, the firſt-founded colleges are thoſe of *Univerſity, Baliol,* and *Merton,* in the former, and *St. Peter's* in the latter. Oxford and Cambridge, however, were univerſities, or, as they were then called, *ſtudies,* ſome hundreds of years before colleges or ſchools were built in them; for the former flouriſhed as a ſeminary of learning in the reign of Alfred the Great, and the other, could we believe its partial partizans, at a period ſtill earlier. The univerſities of Scotland are four, St. Andrew's, Glasgow, Aberdeen, and Edinburgh. In Ireland there is but one univerſity, viz. that of Dublin, founded by Queen Elizabeth, and very richly endowed.

University-*Courts,* in England. The two univerſities enjoy the ſole juriſdiction, in excluſion of the king's courts, over all civil actions and ſuits whatſoever, where a ſcholar or privileged perſon is one of the parties; excepting in ſuch caſes where the right of freehold is concerned. And then by the univerſity charter they are at liberty to try and determine, either according to the common law of the land, or according to their own local cuſtoms, at their diſcretion; which has generally led them to carry on their proceſs in a courſe much conformed to the civil law. This privilege, ſo far as it relates to civil cauſes, is exerciſed at Oxford in the chancellor's court; the judge of which is the vice-chancellor, his deputy, or aſſeſſor. From his ſentence, an appeal lies to delegates appointed by the congregation; from thence to other delegates of the houſe of convocation; and if they all three concur in the ſame ſentence, it is final, at leaſt by the ſtatutes of the univerſity, according to the rule of the civil law. But if there be any diſcordance or variation in any of the three ſentences, an appeal lies in the laſt reſort to judges delegates appointed by the crown, under the great ſeal in chancery.

As to the juriſdiction of the univerſity courts in criminal matters, the chancellor's court at Oxford, and probably alſo that of Cambridge, hath authority to try all offences or miſdemeanors under the degree of treaſon, felony, or mayhem; and the trial of treaſon, felony, and mayhem, by a particular charter, is committed to the univerſity juriſdiction in another court, namely, the court of the lord high-ſteward of the univerſity. The proceſs of the trial is this. The high-ſteward iſſues one precept to the ſheriff of the county, who thereupon returns a panel of eighteen freeholders; and another precept to the bedells of the univerſity, who thereupon return a panel of eighteen matriculated laymen, *laicos privilegio univerſitatis gaudentes:* and by a jury formed *de meditate,* half of freeholders and half matriculated perſons, is the indictment to be tried; and that in the guildhall of the city of Oxford. And if execution be neceſſary to be awarded in conſequence of finding the party guilty, the ſheriff of the county muſt execute the univerſity proceſs; to which he is annually bound by an oath.

VOCABULARY, in grammar, denotes the collection of the words of a language, with their ſignifications, otherwiſe called a *dictionary, lexicon,* or *nomenclature.* See Dictionary. A vocabularly is properly a ſmaller kind of dictionary, which does not enter ſo minutely into the origin and different acceptations of words.

VOCAL, ſomething that relates to the voice or ſpeech; thus vocal muſic is that ſet to words, eſpecially verſes, and to be performed by the voice; in contradiſtinction to inſtrumental muſic, compoſed only for inſtruments, without ſinging.

VOCATIVE, in grammar, the fifth ſtate or caſe of nouns. See Grammar.

VOETIUS (Giſbert), an eminent divine of the 16th century, was profeſſor of divinity and the oriental tongues at Utrecht, where he was alſo miniſter. He aſſiſted at the ſynod of Dort; and died in 1676, aged eighty-ſeven. He wrote a great number of works; and was the declared enemy of Des Cartes and his philoſophy. His followers are called *Voetians.* Voetius had two ſons, *Daniel* and *Paul,* who alſo wrote ſeveral works. *John Voetius,* the ſon of Paul, was doctor and profeſſor of law at Herborn: he wrote a commentary on the Pandects, which is eſteemed, and other works on law.

VOICE, a ſound produced in the throat and mouth of an animal, by an apparatus of inſtruments for that purpoſe. Voices are either articulate or inarticulate. Articulate voices are thoſe whereof ſeveral conſpire together to form ſome aſſemblage or little ſyſtem of ſounds: ſuch are the voices expreſſing the letters of an alphabet, numbers of which joined together form words. Inarticulate voices are ſuch as are not organized, or aſſembled into words; ſuch is the barking of dogs, the braying of aſſes, the hiſſing of ſerpents, the ſinging of birds, &c. The formation of the human voice, with all the varieties thereof obſerved in ſpeech, muſic, &c. makes a very curious article of inquiry; and the apparatus and organiſm of the parts adminiſtering thereto, is ſomething exceedingly ſurpriſing. Thoſe parts are the trachea or wind-pipe, through which the air paſſes and repaſſes into the lungs; the larynx, which is a ſhort cylindrical canal at the head of the trachea; and the glottis, which is a little oval cleft or chink left between two ſemicircular membranes ſtretched horizontally withinſide the larynx; which membranes, though capable of joining cloſe together, do generally leave an interval, either greater or leſs, between them, called the *glottis.*

Voice, in grammar, a circumſtance in verbs, whereby they come to be conſidered as either active or paſſive, *i. e.* either expreſſing an action impreſſed on another ſubject, as, *I beat;* or receiving it from another, as, *I am beaten.* See Grammar.

Voice, in matters of election, denotes a vote or ſuffrage.

Voice, in oratory. See Declamation, Reading, and Oratory.

VOLANT, in heraldry, is when a bird, in a coat of arms, is drawn flying, or having its wings ſpread out.

VOLATILE, in phyſics, is commonly uſed to denote a mixed body, whoſe integrant parts are eaſily diſſipated by fire or heat; but is more properly uſed for bodies whoſe parts are eaſily ſeparated from each other, and diſperſed in air.

Volatile *Alkali,* in the new French nomenclature *ammoniaca,* one of the three alkaline ſalts. It conſiſts, as Mr. Berthollet and ſeveral other chemiſts have proved, of 807 parts in 1000 of azot, and 193 of hydrogen. Several experiments, publiſhed by Dr. Prieſtley, led the way to this analyſis, though he himſelf did not ſee their reſult. It is chiefly procurable from animal ſubſtances by diſtillation, during which proceſs the azōt and hydrogen neceſſary to its formation unite in proper proportions; it is not however procured pure by this proceſs, being mixed with oil and water, and moſtly ſaturated with carbonic acid. To ſeparate theſe ſubſtances, it is firſt combined with an acid, the muriatic for inſtance, and then

diſengaged from that combination by the addition of lime or pitch. In its greateſt degree of purity it can only exiſt in a gaſſeous form, at leaſt in the common temperature of the atmoſphere. It was at firſt obtained chiefly from urine, and was therefore called *ſal urinæ*; afterwards from horns, eſpecially from thoſe of the hart, hence its name, *ſal cornu cervi*, "hart's horn." See CHEMISTRY.

VOLATILISATION, the art of rendering fixed bodies volatile, or of reſolving them by fire into a fine ſubtle vapour or ſpirit which eaſily diſſipates and flies away. All bodies, even the moſt fixed, as gold, may be volatiſed, either of themſelves, or with the admixture of ſome volatile ſubſtance or ſpirit, by diſtillation or ſublimation.

VOLCANO, a name given to burning mountains, or to vents for ſubterraneous fires. The number of volcanoes with which we are at preſent acquainted is very conſiderable, not much leſs than 100. In Europe there are Ætna, Veſuvius, Hecla, Stromboli, Vulcano; in Aſia, one in Mount Taurus, three in Kamtſchatka, five in Japan, two in the Philippines, and a great number more ſcattered through the iſlands in the South Sea; in Africa, one in Fez, one in the iſland Bourbon, one in Fuego, one of the Cape Verd iſlands; and in America ſeveral in the Andes, Morne Garou in St. Vincent, and two diſcovered by Captain Cook on the weſtern coaſt of North America. There are others, but theſe are beſt known.

It is remarkable that all the volcanoes with which we are acquainted, four or five perhaps excepted, are ſituated at a ſmall diſtance from the ſea. Moſt of them have been burning from time immemorial; ſome few however have burſt out in our time. Volcanoes all occupy the tops of mountains, we find none of them in plains; ſome of them indeed, which are ſituated in the ocean, do not riſe much above the ſurface; but even theſe volcanoes ſeem to be the apices of mountains, the greater part of which are covered by the ſea. The ſubſtances ejected by volcanoes are fixed and inflammable air, water, aſhes, pumice ſtones, ſtones that have undergone no fuſion, and lava. The phenomena which take place during the eruptions of volcanoes have been ſo fully deſcribed already in the articles ÆTNA, HECLA, ICELAND, and VESUVIUS, that any repetition here would be unneceſſary and improper. All that remains, therefore, is to explain the cauſes of volcanoes, or, to ſpeak more properly, to mention the opinions of philoſophers concerning the cauſes of volcanoes; for the real cauſe, we are afraid, after all that has been done, remains ſtill unknown. The moſt elaborate theory that has yet appeared is that of Mr. Houel.

According to him, water is neceſſary for the formation of volcanoes. All volcanoes are near the ſea: they are even extinguiſhed when the ſea retires from them, for we can ſtill perceive the craters of volcanoes in ſeveral lofty inland mountains, which diſcover what they have been formerly. He ſuppoſes that a long ſeries of ages was neceſſary for the formation of a volcano, and that they were all formed under the ſurface of the ſea. The firſt exploſion which laid open the foundations of the deep, would poſſibly be preceded by an earthquake. The waters would be parted by a vaſt globe of burning air, which would iſſue forth with a tremendous noiſe, opening at the ſame time a large and wide vent for the immenſe flame that was to follow; and which, as it iſſued from the bottom of the ſea, would be ſpread over its ſurface by the firſt guſts of wind which followed. A fire which was to burn through thouſands of years, could not be faint or feeble when it was firſt lighted up. Its firſt eruptions therefore have undoubtedly been very violent, and the ejected matter very copious. For a long ſeries of ages it would continue to diſcharge torrents of lava from the boſom of its native earth; and its firſt crater would be compoſed of the fragments of the ſame earth.

Thus, according to our author, the foundations of the burning mountain would be laid in the bottom of the ſea; and even then it would have an hollow cup or crater on the top, ſimilar to that which is to be found on all volcanoes at preſent. But the queſtion now very naturally occurs, by what means was the internal fire preſerved from extinction by the waters of the ocean, which muſt thus have been incumbent upon it? To this he replies, that "The fire, having diſpoſed the ſubſtances in fuſion to make an eruption, next laid open the earth, and emitted as much matter as it could diſcharge, with force ſufficient to overcome the reſiſtance of the column of water which would oppoſe its aſcent; but as the ſtrength of the fire diminiſhed, the matter diſcharged was no longer expelled beyond the mouth; but, by accumulating there, ſoon cloſed up the orifice. Thus only ſmall orifices would be left ſufficient for giving vent to the vapours of the volcano, and from which only ſmall bubbles of air could aſcend to the ſurface of the water, until new circumſtances, ſuch as originally gave occaſion to the eruption of the volcano, again took place in the bowels of the earth, and produced new eruptions either through the ſame or other mouths. The appearance of the ſea over the new-formed volcano, in its ſtate of tranquillity, would then be ſimilar to what it is betwixt the iſlands of Baſilizzo and Pariaria. Columns of air-bubbles are there aſcending at the depth of more than 30 feet, and burſt on their arriving at the ſurface. This air would continue to diſengage itſelf with little diſturbance as long as it iſſues forth only in ſmall quantity, until, at the very inſtant of exploſion, when prodigious quantities, generated in the burning focus, would make their way all at once, and the ſame phenomena which originally took place would again make their appearance."

A volcano, while under water, cannot act preciſely as it does in the open air. Its eruptions, though equally ſtrong, cannot extend to ſo great a diſtance. The lava accumulates in greater quantity round the crater; the ſands, aſhes, and pozzolano, are not carried away by the winds, but are depoſited around its edges, and prevent the marine ſubſtances which are driven that way by the waters from entering. Thus they agglomerate with theſe bodies, and thus a pyramidal mount is formed of all the materials together.

In this manner Mr. Houel ſuppoſes that the mountain was gradually raiſed out of the ſea by the accumulation of lava, &c. at every eruption, and that the cavern of the volcano was gradually enlarged, being driven down into the bottom of the cavern by the continued action of the ſtones which the volcano is conſtantly throwing up; that it was there fuſed, and at laſt thrown out at the top of the mountain to accumulate on its ſides.

The pabulum by which the internal fire is ſupported, Mr. Houel thinks to be ſubſtances contained in the mountain itſelf, together with bitumen, ſulphur, and other inflammable materials which may from time to time flow into the focus of the volcano in a melted ſtate through ſubterraneous ducts, and the exploſions he aſcribes to water making its way in the ſame manner. The water is converted into ſteam, which fills the cavern, and puſhes the melted lava out at the crater; this opinion is corroborated by the copious ſmoke which always precedes an eruption. But, combined with the water, there is always a quantity of other ſubſtances, whoſe effects precede, accompany, or follow the eruptions, and produce all the various phenomena which they diſplay. The eruption of water from Ætna, in the year 1775, proceeded undoubtedly from this cauſe. The ſea, or ſome of the reſervoirs in Ætna, or the adjacent mountains, by ſome means diſcharged a vaſt quan-

tity of water into the focus of the volcano. That water was inſtantly reſolved into vapour, which immediately filled the whole cavern, and iſſued from the mouth of the crater. As ſoon as it made its way into the open atmoſphere, it was condenſed again into water, which ſtreamed down the ſides of the mountain in a dreadful and deſtructive torrent.

Thus we have given a view of Mr. Houel's theory, according to which volcanoes originally began at the bottom of the ſea; and not only the mountain, but all the adjoining country, was formed by ſucceſſive eruptions. It is rather a theory of mountains raiſed by ſubterraneous heat than of volcanoes, and does not attempt to explain the origin of the fire, which is the principal difficulty; neither does his theory account for the immenſe height to which matters are ſometimes thrown during eruptions. This indeed it is impoſſible to account for, without ſuppoſing that the reſiſtance of the air is diminiſhed.

Dr. Woodward and others, indeed, have had recourſe to the hypotheſis of a *central fire*, to which the volcanoes are only ſo many chimneys or ſpiracles; and Dr. Hutton, in his theory of the earth, adopts the ſame opinion; but as it did not immediately concern the ſubject of which he treated, he evades any queſtion concerning its origin, by declaring himſelf ſatisfied of its exiſtence without any enquiry into its origin.

Others, as Dr Liſter, have had recourſe to the well-known experiment of the fermentation of ſulphur and iron, which will take fire when mixed in conſiderable quantity, and moiſtened with water. Pyrites, therefore, which are a natural mixture of theſe two ſubſtances, it is ſuppoſed, may naturally give riſe to volcanoes. Inſtances are indeed adduced, which undeniably prove that theſe ſubſtances will ſpontaneouſly take fire when thrown together in large heaps.

When the matter is properly conſidered, however, it muſt be evident, that neither of theſe hypotheſes can anſwer the purpoſe. The central fire of Dr. Woodward and others is a cauſe too magnificent even for volcanoes. If any ſuch fire is ſuppoſed, we muſt imagine a burning globe in the centre of the earth, whoſe heat is ſufficient to vitrify the moſt ſolid and refractory terreſtrial ſubſtances. But of what dimenſions are we to ſuppoſe this globe? Is it one, two, three, four, or more thouſands of miles in diameter?—Very large indeed it muſt be; for we could ſcarce ſuppoſe that ſtones could be projected even from the depth of 500 miles into the air. But even this ſuppoſition is inadmiſſible; for as the fire of volcanoes is at times exceedingly augmented from ſome cauſe or other, were this cauſe general, as it muſt be in caſe of a burning central globe, the whole number of volcanoes exiſting on earth would be in a ſtate of eruption at once. Beſides, if we were to ſuppoſe a burning globe of 7000 miles in diameter to ſuffer the leaſt dilatation throughout its vaſt bulk, which muſt be the undoubted conſequence of an augmentation of heat from any unknown cauſe, all the volcanoes in the world would not be ſufficient to give vent to it, though they ſhould ſpout forth inceſſant cataracts of lava for centuries together. A diſſolution of the whole globe muſt therefore undoubtedly take place; and though we ſhould leſſen the diameter of our burning globe by 1000 miles, our difficulties will be as far from being removed as before.

Volcanic fire, therefore, cannot originate from any general collection of burning materials diſperſed throughout the vaſt maſs of ſolid earth which lies betwixt the ſurface and the centre. All the volcanoes at preſent in an active ſtate would not be ſuch a vent for that fire as a tobacco-pipe would be to a glaſs-houſe furnace. We muſt have recourſe then to ſome operation by which we know that nature can kindle and extinguiſh fires occaſionally; and if we can ſuppoſe ſuch an operation to take place in the bowels of the earth, we may then reaſonably conclude, that we have diſcovered a cauſe adequate to the production of volcanoes. Such a cauſe, however, cannot be pyrites, ſulphur, or nitre, in any quantity under the ſurface of the earth. It is impoſſible that beds of pyrites can remain for thouſands of years under the ſame part of the ſurface of the earth, be occaſionally inflamed and ejected, and afterwards undergo a renovation, in order to enable them to go through a ſimilar operation. Beſides, neither pyrites nor ſulphur can be inflamed without acceſs of air; which cannot take place in the bowels of the earth; for it muſt be remembered, that the firſt queſtion is concerning the means by which the fire was originally kindled. Moſt writers, however, ſeem to overlook this difficulty, and to be ſolicitous only about the immediate cauſe of the exploſive force, which is generally aſcribed to ſteam of one kind or other. Mr. Houel in general calls it the force of fire, or of ſteam; though he does not enter very particularly into its nature. Mr. Whitehurſt ſays, that it is the force of "fire and water, which is the primary agent in all ſuch operations of nature." He alſo gives a figure, ſhowing how, by means of confined ſteam, a jet, either of hot water or of liquid fire, may be produced. But this applies only to a particular caſe, which we cannot ſuppoſe always to happen; but volcanoes are conſtantly attended with exploſions; nay, ſo great is the tendency of volcanic matters to this violent operation, that many ſtones have been obſerved to burſt in the air like bombs, after they were thrown out of the volcano; and Mr. Houel even informs us, that ſuch have burſt three times during their flight. Water therefore cannot be always the cauſe of volcanic exploſions. When thrown upon melted lead, falts, or eſpecially copper, it explodes indeed with vaſt force With the laſt-mentioned metal it is peculiarly and incredibly violent; inſomuch, that it is ſaid that furnaces have been burſt, and buildings thrown down, by the mere circumſtance of ſome of the workmen ſpitting among the melted metal; and Mr. Whitehurſt calculates the force of aqueous ſteam, when thus ſuddenly and violently heated, to be no leſs than twenty-eight times ſtronger than inflamed gunpowder.

Many philoſophers attempt to account for the origin and continuance of volcanoes by the agency of the electric fluid; but their theory is ſo ill ſupported by facts, that we think it would be improper at preſent to take up room with detailing it.

VOLERY, a great bird-cage, ſo that the birds have room to fly up and down in it.

VOLGA, the largeſt river in Europe, riſes in the foreſt of Volkonſki, about eighty miles from Tver, a town in Ruſſia. This noble river waters ſome of the fineſt provinces in the Ruſſian empire, and at laſt falls into the Caſpian Sea by ſeveral mouths, below Aſtracan.

VOLITION, the act of willing. See METAPHYSICS.

VOLLEY, a military ſalute, made by diſcharging a great number of fire-arms at the ſame time.

VOLONES, in Roman antiquity, ſlaves who in the Punic war voluntarily offered their ſervice to the ſtate, which is the reaſon of the appellation; upon which they were admitted to citizenſhip, as none but freemen could be ſoldiers.

VOLT, in the manege, a round or circular tread; and hence, by the phraſe *to make volts*, is underſtood a gate of two treads, made by a horſe going ſidewiſe round a centre, in ſuch a manner that theſe two treads make parallel tracts; one larger, made by the fore-feet, and another ſmaller made by the hind feet; the croup approaching towards the centre, and the ſhoulders bearing out.

VOLTAIRE (Francis Arouet de), a celebrated French author, was born at Paris, February 20, 1694. His father, Francis Arouet, was *ancien notaire au Chatelet*, and treaſurer of the chamber of accounts, his mother, Mary-Margaret Daumart. At the birth of this extraordinary man, who lived

to the age of eighty-five years and ſome months, there was little probability of his being reared, and for a conſiderable time he continued remarkably feeble. In his earlieſt years he diſplayed a ready wit and a ſprightly imagination; and, as he ſaid of himſelf, made verſes before he was out of his cradle. He was educated, under Father Poré, in the college of Louis the Great; and ſuch was his proficiency, that many of his eſſays are now exiſting, which, though written when he was between twelve and fourteen, ſhow no marks of infancy. The famous Ninon de l'Enclos, to whom this ingenious boy was introduced, left him a legacy of 2000 livres to buy him a library. Having been ſent to the equity ſchools on his quitting college, he was ſo diſguſted with the dryneſs of the law, that he devoted himſelf entirely to the muſes. He was admitted into the company of the Abbé Cheaulieu, the marquis de la Fare, the Duke de Sully, the grand Prior of Vendôme, Marſhal Villars, and the Chevalier du Bouillon; and caught from them that eaſy taſte and delicate humour which diſtinguiſhed the court of Louis XIV. Voltaire had early imbibed a turn for ſatire; and, for ſome Philippics againſt the government, was impriſoned almoſt a year in the Baſtile. He had before this period produced the tragedy of *Oedipus*, which was repreſented in 1718 with great ſucceſs; and the Duke of Orleans happening to ſee it performed, was ſo delighted, that he obtained his releaſe from priſon. The poet waiting on the duke to return thanks: "Be wiſe (ſaid the duke), and I will take care of you." "I am infinitely obliged (replied the young man); but I intreat your royal highneſs not to trouble yourſelf any further about my lodging or board."

He began his *Henriade* before he was eighteen. Having one day read ſeveral cantos of this poem on a viſit to his intimate friend, the young preſident de Maiſons, he was ſo teaſed with objections, that he loſt patience, and threw his manuſcript into the fire. The preſident, Henaut, with difficulty reſcued it. "Remember," ſaid Mr. Henaut to him, in one of his letters, "it was I that ſaved the Henriade, and that it coſt me a handſome pair of ruffles." Some years after, ſeveral copies of this poem having got abroad, while it was only a ſketch, an edition of it was publiſhed, with many chaſms, under the title of *The League*. Inſtead of fame and friends, the author gained only enemies and mortification, by this firſt edition. The bigots took fire at it, and the poet was conſidered as highly criminal for praiſing Admiral Coligny and Queen Elizabeth. Endeavours were even uſed to get the piece ſuppreſſed; but this ſtrange deſign proved abortive. His chagrin, on this occaſion, firſt inſpired him with the thought of viſiting England, in order to finiſh the work, and republiſh it in a land of liberty. He was right; for King George I. and more particularly the Princeſs of Wales, afterwards queen of England, raiſed an immenſe ſubſcription for him. Their liberality laid the foundation of his fortune; for on his return to France, in 1728, he put his money into a lottery eſtabliſhed by M. Desfortes, comptroller-general of the finances. The adventurers received a rent charge on the *Hotel-de-Ville* for their tickets; and the prizes were paid in ready money; ſo that if a ſociety had taken all the tickets, it would have gained a million of livres. He joined with a numerous company of adventurers, and was fortunate.

His *Lettres Philoſophiques*, abounding in bold expreſſions and indecent witticiſms againſt religion, having been burnt by a decree of the parliament of Paris, and a warrant being iſſued for apprehending the author in 1733, Voltaire very prudently withdrew; and was ſheltered by the Marchioneſs du Chatelet, in her caſtle of Cirey, on the borders of Champagne and Lorrain, who entered with him on the ſtudy of the ſyſtem of Leibnitz, and the Principia of Newton. A gallery was built, in which Voltaire formed a good collection of natural hiſtory, and made an infinite number of experiments on light and electricity. He laboured in the mean time on his Elements of the Newtonian Philoſophy, then totally unknown in France, and which the numerous admirers of Des Cartes were very little deſirous ſhould be known. In the midſt of theſe philoſophic purſuits he produced the tragedy of *Alzira*. He was now in the meridian of his age and genius, as was evident from the tragedy of *Mahomet*, firſt acted in 1741; but it was repreſented to the procureur-general, as a performance offenſive to religion; and the author, by order of Cardinal Fleury, withdrew it from the ſtage. *Merope*, played two years after, 1742, gave an idea of a ſpecies of tragedy, of which few models had exiſted. It was at the repreſentation of this tragedy that the pit and boxes were clamorous for a ſight of the author; yet it was ſeverely criticiſed when it came from the preſs. He now became a favourite at court, through the intereſt of Madame d'Etiole, afterwards Marchioneſs of Pampadour. He was appointed a gentleman of the bed-chamber in ordinary, and hiſtoriographer of France. He had frequently attempted to gain admittance into the Academy of Sciences, but could not obtain his wiſh, till 1746, when he was the firſt who broke through the abſurd cuſtom of filling an inaugural ſpeech with the fulſome adulation of Richelieu; an example ſoon followed by other academicians. From the ſatires occaſioned by this innovation, he felt ſo much uneaſineſs, that he was glad to retire with the Marchioneſs du Chatelet to Luneville, in the neighbourhood of King Staniſlaus. The marchioneſs dying in 1749, Voltaire returned to Paris, where his ſtay was but ſhort. The King of Pruſſia now gave Voltaire an invitation to live with him, which he accepted towards the end of Auguſt, 1750. On his arrival at Berlin, he was immediately preſented with the *Order of Merit*, the *key of chamberlain*, and a *penſion* of 20,000 livres. From the particular reſpect that was paid to him, his time was now ſpent in the moſt agreeable manner; his apartments were under thoſe of the king, whom he was allowed to viſit at ſtated hours, to read with him the beſt works of either ancient or modern authors, and to aſſiſt his majeſty in the literary productions by which he relieved the cares of government. But a diſpute which aroſe between him and Maupertuis ſoon brought on his diſgrace. Maupertuis was at ſome pains to have it reported at court, that one day while General Manſtein happened to be in the apartments of M. de Voltaire, who was then tranſlating into French, The Memoirs of Ruſſia, compoſed by that officer, the king, in his uſual manner, ſent a copy of verſes to be examined, when Voltaire ſaid to Manſtein, "Let us leave off for the preſent, my friend; you ſee the king has ſent me his dirty linen to waſh, I will waſh yours another time." A ſingle word is ſometimes ſufficient to ruin a man at court; Maupertuis imputed ſuch a word to Voltaire, and ſucceeded. It was about this very time that Maupertuis publiſhed his very ſtrange Philoſophical Letters; and M. de Voltaire did not fail to heighten, with his utmoſt powers of raillery, every thing which he found, or could make, ridiculous, in the projects of M. Maupertuis, who was careful to unite his own cauſe with that of the king: Voltaire was conſidered as having failed in reſpect to his majeſty; and therefore, in the moſt reſpectful manner, he returned to the king his chamberlain's key, and the croſs of his Order of Merit, accompanied with four lines of verſe, in which he, with great delicacy, compares his ſituation to that of a jealous lover, who ſends back the picture of his miſtreſs. The king returned the key and the ribbon; but they were not followed by an immediate reconciliation. Voltaire ſet out to pay a viſit to her highneſs the Ducheſs of Gotha, who honoured him with her friendſhip as long as ſhe lived. While he remained at Go-

tha, Maupertuis employed all his batteries againſt him; Voltaire was arreſted by the king's orders, but afterwards releaſed.

He now ſettled near Geneva; but afterward being obliged to quit that republic, he purchaſed the caſtle of Ferney in France, about a league from the lake of Geneva. It was here that he undertook the defence of the celebrated family of Calas; and it was not long before he had a ſecond opportunity of vindicating the innocence of another condemned family of the name of *Sirven*. It is ſomewhat remarkable, that in the year 1774, he had the third time a ſingular opportunity of employing that ſame zeal which he had the good fortune to diſplay in the fatal cataſtrophe of the families of Calas and Sirven.

In this retreat M. Voltaire continued long to enjoy the pleaſures of a rural life, accompanied with the admiration of a vaſt number of wits and philoſophers throughout all Europe. Wearied at length, however, with his ſituation, or yielding to the importunities of friends, he came to Paris about the beginning of the year 1778, where he wrote a new tragedy called *Irene*. By this time his underſtanding ſeems to have been impaired, either through the infirmities of age, or continued intoxication by the flattery of others; and he ridiculouſly ſuffered himſelf to be crowned in public with laurel in teſtimony of his great poetical merit. He did not long ſurvive this farce: for having overheated himſelf with receiving viſits, and exhauſted his ſpirits by ſupplying a perpetual fund of converſation, he was firſt ſeized with a ſpitting of blood; and at laſt becoming reſtleſs in the night-time, he was obliged to uſe a ſoporific medicine. Of this he unluckily one night took ſo large a doſe, that he ſlept thirty-ſix hours, and expired a very ſhort time after awakening from it.

VOLUME, in matters of literature, a book or writing of a juſt bulk to be bound by itſelf. The name is derived from the Latin *volvere*, "to roll up;" the ancient manner of making up books being in rolls of bark or parchment. See Book.

VOLUNTARY, in muſic, a piece played by a muſician extempore, according to his fancy. This is often uſed before he begins to ſet himſelf to pay any particular compoſition, to try the inſtrument, and to lead him into the key of the piece he intends to perform.

VOLUNTEERS, perſons who, of their own accord, either for the ſervice of their prince, or out of the eſteem they have for their general, ſerve in the army without being enliſted, to gain honour and preferment, by expoſing themſelves in the ſervice. Such are the volunteers who have been long known in the army; but the preſent age has witneſſed whole regiments of volunteers arming themſelves for a ſtill more laudable purpoſe—to fight *pro aris et focis*, for every thing that is dear to honeſt men.

VOLVOX, in zoology; a genus of animals belonging to the order of *vermes infuſoria*. The body is round, ſimple, and pellucid. There are ten ſpecies, all of which live in water.

VOLUSENUS. See Wilson.

VOLUTA, in natural hiſtory; a genus of animals belonging to the claſs and order of *vermes teſtacea*. There are 144 ſpecies. The animals are of the ſlug kind; the ſhell is unilocular and ſpiral; the aperture narrow and without a beak: the columella plaited.

VOLUTE, in architecture, a kind of ſpiral ſcroll uſed in the Ionic and Compoſite capitals, whereof it makes the principal characteriſtic and ornament.

VOMICA, in medicine, an abſceſs of the lungs. See Medicine.

Nux Vomica, in pharmacy, a flat compreſſed round fruit, of the breadth of a ſhilling, or ſomewhat more, and of about the thickneſs of a crown-piece. It is the nucleus of a fruit of an Eaſt-Indian tree, the wood of which is the *lignum columbrinum* of the ſhops. Some have preſcribed ſmall doſes of the nux vomica as a ſpecific againſt a gonorrhœa, and others againſt quartan agues. But we have ſo many good and ſafe medicines for all theſe purpoſes, that there ſeems no occaſion for our having recourſe to ſuch as theſe, which ſhow ſo many ſigns of miſchief.

VOMIT. See Emetic.

VOMITING, a retrograde ſpaſmodic motion of the muſcular fibres of the œſophagus, ſtomach, and inteſtines, attended with ſtrong convulſions of the muſcles of the abdomen and diaphragm; which, when gentle, create a nauſea; when violent, a vomiting.

VOORN, one of the iſlands of Holland, bounded by the river Maes, which divides it from the continent and the iſland of Ilemunde, on the north; by the ſea called the *Bies-boſch*, on the eaſt; by another branch of the Maes, which divides it from the iſlands of Gorce and Overflackee, on the ſouth; and by the German Sea on the weſt: being about twenty-four miles long, and five broad.

VORTEX, in meteorology, a whirlwind, or ſudden, rapid, and violent motion of the air in gyres, or circles. *Vortex* is alſo uſed for an eddy or whirlpool; or a body of water, in certain ſeas or rivers, which runs rapidly round, forming a ſort of cavity in the middle.

Vortex, in the Carteſian philoſophy, is a ſyſtem or collection of particles of matter moving the ſame way, and round the ſame axis.

VORTICELLO. See Microscope.

VOSSIUS (John Gerard), one of the moſt learned and laborious writers of the 17th century, was of a conſiderable family in the Netherlands; and was born in 1577, in the Palatinate, near Heidelberg, at a place where his father, John Voſſius, was miniſter. He became well ſkilled in polite literature, hiſtory, and ſacred and profane antiquities, and was made director of the college of Dort. He was at length made profeſſor of eloquence and chronology at Leyden, from whence he was called in 1633 to Amſterdam, to fill the chair of a profeſſor of hiſtory. He died in 1649. He wrote many learned works, of which a complete edition has been printed at Amſterdam, in 9 vols folio.

Vossius (Iſaac), a man of great parts and learning, the ſon of John Gerard Voſſius, was born at Leyden in 1618. He had no other tutor but his father, and employed his whole life in ſtudying: his merit recommended him to a correſpondence with Queen Chriſtina of Sweden; he made ſeveral journeys into Sweden by her order, and had the honour to teach her the Greek language. In 1670 he came over to England, where King Charles made him canon of Windſor; though he knew his character well enough to ſay, That there was nothing that Voſſius refuſed to believe, except the Bible. He appears indeed by his publications, which are neither ſo uſeful nor ſo numerous as his father's, to have been a moſt credulous man, while he afforded many circumſtances to bring his religious faith in queſtion. He died at Windſor caſtle in 1688.

VOTE, the ſuffrage or reſolve of each of the members of an aſſembly, where any affair is to be carried by a majority; but more particularly uſed for the reſolves of the members of either houſe of parliament.

VOTIVE medals, thoſe on which are expreſſed the vows of the people for the emperors or empreſſes. See Medal.

VOW, a ſolemn and religious promiſe or oath. See Oath. The uſe of vows is found in moſt religions. They make up a

conſiderable part of the Pagan worſhip, being made either in conſequence of ſome deliverance, under ſome preſſing neceſſity, or for the ſucceſs of ſome enterprize. Among the Jews, all vows were to be voluntary, and made by perſons wholly in their own power; and if ſuch perſon made a vow in any thing lawful and poſſible, he was obliged to fulfil it. If he appointed no particular time for accompliſhing his vow, he was bound to do it inſtantly, leſt by delay he ſhould prove leſs able, or be unwilling, to execute his promiſe. Among the Romaniſts, a perſon is conſtituted a religious by taking three vows; that of poverty, chaſtity, and obedience. Vows, among the *Romans*, ſignified ſacrifices, offerings, preſents, and prayers made for the Cæſars, and emperors, particularly for their proſperity and the continuance of their empire. Theſe were at firſt made every five years, then every fifteen, and afterwards every twenty, and were called *quinquennalia, decennalia*, and *vicennalia*.

VOWEL, in grammar, a letter which affords a complete ſound of itſelf, or a letter ſo ſimple as only to need a bare opening of the mouth to make it heard, and to form a diſtinct voice. The vowels are ſix in number, viz. A, E, I, O, U, Y.

Vowel (John). See Hooker.

UPHOLSTER, Upholsterer, or *Upholder*, a tradeſman that makes beds, and all ſorts of furniture thereunto belonging, &c.

UPLAND, denotes high ground, or, as ſome call it, *terra firma*, by which it ſtands oppoſed to ſuch as is mooriſh, marſhy, or low.

Upland, a province of Sweden, bounded on the north-eaſt by the Baltic Sea, on the ſouth by the ſea of Sudermania, and on the weſt by Weſtmania and Geſtricia, from which it is ſeparated by the river Dela. It is about ſeventy miles in length and forty-five in breadth, and contains mines of iron and lead. Stockholm is the capital.

UPSAL, a rich and conſiderable city of Sweden, in Upland, with a famous univerſity, and an archbiſhop's ſee. The town is pretty large, and as ſtraight as a line: but moſt of the houſes are of wood, covered with birch-bark, with turf on the top. On an eminence, to the ſouth of the town, is a ruined caſtle. Thoſe that view the town from hence would take it to be a garden, whoſe ſtreets repreſent the alleys; and the houſes, which are covered with turf, the graſs-plats. It was formerly the reſidence of the kings, and is now the uſual place where they are crowned. It is ſeated on the river Sala, over which there are two bridges. It is twenty-ſeven miles north-weſt of Stockholm. E. Long. 17. 48. N. Lat. 59. 52.

UPUPA, in ornithology; a genus belonging to the order of *Picæ*. The beak is arcuated, convex, and ſomething blunt; the tongue is obtuſe, triangular, entire, and very ſhort; and the feet are fitted for walking. There are ten ſpecies; one of which, the *epops*, hoopoe, or dung-bird, is frequently ſeen in Britain. It may be readily diſtinguiſhed from all others that viſit this iſland by its beautiful creſt, which it can erect or depreſs at pleaſure. It is in length fifteen inches; the bill is black, two inches and a half long, ſlender, and incurvated; the irides are hazel: the creſt conſiſts of a double row of feathers; the higheſt about two inches long; the tips are black, their lower part of a pale orange colour: the neck is of a pale reddiſh brown; the breaſt and belly white; the leſſer coverts of the wings are of a light brown; the back, ſcapulars, and wings, croſſed with broad bars of white and black; the rump is white; the tail conſiſts of only ten feathers, white marked with black, in form of a creſcent, the horns pointing towards the end of the feathers. The legs are ſhort and black; the exterior toe is cloſely united at the bottom to the middle toe.

According to Linnæus, it takes its name from its note, which has a ſound ſimilar to the word; or it may be derived from the French *huppe*, or "creſted:" it breeds in hollow trees, and lays two aſh-coloured eggs: it feeds on inſects, which it picks out of ordure of all kinds. Dr. Pallas affirms, that it breeds in preference in putrid carcaſes; and that he had ſeen the neſt of one in the privy of an uninhabited houſe, in the ſuburbs of Tzaritzyn. Ovid ſays that Tereus was changed into this bird.

UR (anc. geog.), a citadel of Meſopotamia, ſituated between the Tigris and Niſibis; taken by ſome for Ur of the Chaldees, the reſidence of Abraham. What ſeems to confirm this is, that from Ur to Haran, the other reſidence of the patriarch, the road lies directly for Paleſtine. And it is no objection that Ur is ſaid to be in Meſopotamia: becauſe the parts next the Tigris were occupied by the Chaldeans, as ſeems to be confirmed from Acts vii. 2, 4. It is called *Orche*, in Strabo; *Orchoe*, in Ptolemy.

URALLIAN Chain, a range of mountains which form part of the boundaries of Aſia, and anciently known by the name of *Riphæi Montes*. See Riphæi *Montes*, &c.

URANIA, in fabulous hiſtory, one of the nine Muſes, was ſuppoſed to preſide over aſtronomy. She is commonly repreſented in an azure robe, crowned with ſtars, and ſupporting a large globe with both hands.

URANIUM, a foſſil found at Johangeorgenſtad in Saxony, and at Joachimſtal in Bohemia, and is, by the miners, called *Pechblend*. M. Werner, a German mineralogiſt, being convinced that it was not a blend, gave it the name of *Terram Ochraceum Piceum*, and thought it contained the tungſtic acid combined with iron: but M. Klaproth is of a contrary opinion, and maintains that it is very different from wolfram. There are (he ſays) two varieties of pechblend: the one is of a dark grey colour, with very little brilliancy, the particles of which have the form of a flattened conchoid; it is not very hard, and, when triturated, becomes a black powder: its mean ſpecific gravity is 7,5. The other is diſtinguiſhed by its black colour, though it ſometimes aſſumes a reddiſh tint: its ſurface is more brilliant than that of the former, and reſembles pit-coal; it is alſo leſs hard; and the black powder, to which it is reduced by trituration, has a greeniſh hue. This kind is generally diſcovered in compact maſſes, lying between ſtrata of a micaceous ſchiſt, which is found to be decompounded. In the internal parts of this ſtone, it is not uncommon to meet with veins of a peculiar yellow metallic earth. The pechblend is ſoluble in the nitric and in the nitro-muriatic acids, partially ſo in the muriatic, but not at all in the ſulphuric. From theſe ſolutions, the unſaturated ferruginous pruſſiat of potaſh, or phlogiſticated alkali, precipitates the metallic ſubſtance, which then reſembles kermes mineral in colour. This, when it does not unite in flakes, but is uniformly diffuſed in the ſolution, may be conſidered as one of the moſt diſtinguiſhing characters of the pechblend; another is, that the precipitates, effected by the volatile and fixed alkalis, are yellow; the fixed cauſtic alkalis giving it a lemon colour, the aerated a like yellow. This yellow oxyd, or calx, cannot be fuſed with alkalis. As this foſſil cannot be claſſed either among the zinc or iron ores, and is very different from tungſtein, M. Klaproth propoſes to give to it the appellation of *Uranium*; and he diſtributes it into the following ſpecies:

1. *Uranium ſulphuratum* (*a*) Dark grey, often exhibiting traces of Galena. (*b*) Black, reſembling pit-coal.

2. *Uranium Ochraceum*. Brimſtone colour, lemon colour, deep yellow, reddiſh brown.

3. *Uranium Spathoſum.* (*a*) Tinged with green by copper. (*b*) Yellow. This is the green mica or chalcolithe.

URANOSCOPUS, in ichthyology, a genus of fiſhes belonging to the order of *jugulares*. The head is large, rough, and depreſſed, the upper jaw being ſhorter than the under one; there are ſix dentated rays in the membrane of the gills; and the anus is in the middle of the body. There are two ſpecies, one of which is found in the Mediterranean Sea.

RAPHAEL D'URBINO. See RAPHAEL.

URCHIN, in zoology. See ECHINUS.

URETERS, in anatomy. See ANATOMY.

URETHRA, in anatomy. See ANATOMY.

URIM *and* THUMMIM, among the ancient Hebrews, a certain oracular manner of conſulting God, which was done by the high prieſt dreſſed in his robes, and having on his pectoral or breaſt-plate. Various have been the ſentiments of commentators concerning the urim and thummim. Joſephus, and ſeveral others, maintain, that it meant the precious ſtones ſet in the high-prieſt's breaſt-plate, which by extraordinary luſtre made known the will of God to thoſe who conſulted him. Spencer believes that the urim and thummim were two little golden figures ſhut up in the pectoral as in a purſe, which gave reſponſes with an articulate voice. In ſhort, there are as many opinions concerning the urim and thummim as there are particular authors that wrote about them. The ſafeſt opinion, according to Broughton, ſeems to be, that the words *urim* and *thummim* ſignify ſome divine virtue and power annexed to the breaſt-plate of the high-prieſt, by which an oraculous anſwer was obtained from God when he was conſulted by the high-prieſt; and that this was called *urim* and *thummim*, to expreſs the clearneſs and perfection which theſe oracular anſwers always carried with them; for urim ſignifies "light," and thummim "perfection:" theſe anſwers not being imperfect and ambiguous, like the heathen oracles, but clear and evident. The uſe made of the urim and thummim was to conſult God in difficult caſes relating to the whole ſtate of Iſrael; and ſometimes in caſes relating to the king, the ſanhedrim, the general of the army, or ſome other great perſonage.

URINAL, in medicine, a veſſel fit to receive and hold urine, and uſed accordingly for the convenience of ſick perſons. It is uſually of glaſs, and crooked.

URINAL, in chemiſtry, is an oblong glaſs veſſel, cloſed for making ſolutions, and ſo called from its reſemblance to the glaſſes in which urine is ſet to ſettle for the inſpection of the phyſician.

URINE, a ſerous and ſaline fluid, ſeparated from the blood, and carried by the emulgent arteries to the kidneys, from whence it deſcends to the bladder by the ureters, and is from time to time emitted thence by the canal of the urethra. See ANATOMY. For the analyſis of urine, ſee CHEMISTRY, vol. II. p. 465.

URN, a kind of a vaſe, of a roundiſh form, but biggeſt in the middle, like the common pitchers, now ſeldom uſed but in the way of ornament over chimney-pieces, in beaufets, &c. The great uſe of urns among the ancients, was to preſerve the aſhes of the dead after they were burnt; for which reaſon they were called *cinerariæ*, and *urnæ cinerariæ*, and were placed ſometimes under the tomb-ſtone whereon the epitaph was cut; and ſometimes in vaults in their own houſes. Urns were alſo uſed at their ſacrifices to put liquid things in.

UROGALLUS, in ornithology. See TETRAO.

URSA, in aſtronomy, the name of two conſtellations in the northern hemiſphere.

URSULINES, in church-hiſtory, an order of nuns, founded originally by St. Angela of Breſcia, in the year 1537; and ſo called from St. Urſula, to whom they were dedicated.

URSUS, the BEAR: a genus of quadrupeds belonging to the order of *Feræ*. There are ſix fore-teeth in the upper jaw, alternately hollow in the inſide, and ſix in the under jaw, the two lateral ones being lobated. The dog-teeth are ſolitary and conical; the eyes are furniſhed with a nictitating membrane; the noſe is prominent; and there is a crooked bone in the penis. There are eight *ſpecies*; the principal of which are,

1. *Arctos*, the black bear, has ſtrong, thick, and clumſy limbs; very ſhort tail; large feet; body covered with very long and ſhaggy hair, various in its colour; the largeſt are of a ruſty brown; the ſmalleſt of a deep black: ſome from the confines of Ruſſia black, mixed with white hairs, called by the Germans, *ſilver bear*; and ſome (but rarely) are found in Tartary of a pure white. It inhabits the northern parts of Europe and Aſia; the Alps of Switzerland, and Dauphine; Japan and Ceylon; North America and Peru. The brown bears are ſometimes carnivorous, and will deſtroy cattle, and eat carrion; but their general food is roots, fruits, and vegetables: they will rob the fields of peaſe; and, when they are ripe, pluck great quantities up, beat the peaſe out of the huſks on ſome hard place, eat them, and carry off the ſtraw: they will alſo, during winter, break into the farmer's yard, and make great havock among his ſtock of oats; they are alſo particularly fond of honey. The fleſh of a bear in autumn, when they are exceſſively fat, by feeding on acorns, and other maſt, is delicate food; and that of the cubs ſtill finer; but the paws of the old bears are reckoned the moſt exquiſite morſel; the fat white, and very ſweet; the oil excellent for ſtrains and old pains. The latter end of autumn, after they have fattened themſelves to the greateſt degree, the bears withdraw to their dens, where they continue for a great number of days in total inactivity and abſtinence from food, having no other nouriſhment than what they get by ſucking their feet, where the fat lodges in great abundance: their retreats are either in cliffs of rocks, in the deepeſt receſſes of the thickeſt woods, or in the hollows of ancient trees, which they aſcend and deſcend with ſurpriſing agility: as they lay in no winter proviſions, they are in a certain ſpace of time forced from their retreats by hunger, and come out extremely lean: multitudes are killed annually in America, for the ſake of their fleſh or ſkin; which laſt makes a conſiderable article of commerce.

2. *Maritimus*, the polar or white bear, has a long head and neck: ſhort round ears; great teeth; the hair long, ſoft, and white, tinged in ſome parts with yellow; growing to a vaſt ſize; the ſkins of ſome being thirteen feet long. See Plate 2.

This animal is confined to the coldeſt part of the globe; it has been found as far as navigators have penetrated northwards, above lat. 80. The frigid climes only ſeem adapted to its nature; for we do not learn from any authority that it is met with farther ſouth than Newfoundland. Its bounds in reſpect to longitude are alſo very limited; being an animal unknown except on the ſhores of Hudſon's Bay, Greenland, and Spitzbergen, on one ſide, and thoſe of Nova Zembla on the other; for ſuch as have appeared in other parts have been brought there involuntarily on floating iſlands of ice; ſo that the intermediate countries of Norway and Iceland are acquainted with them but by accident. We cannot trace them farther eaſt than Nova Zembla; though the frozen ſea, that is continued from thence as far as the

land of Tſchukſchi, that lies above Kamtſchatka, is equally ſuited to their nature. The late hiſtories of thoſe countries are ſilent in reſpect to them.

During ſummer, the white bears are either reſident on iſlands of ice, or paſſing from one to another: they ſwim admirably, and can continue that exerciſe ſix or ſeven leagues, and dive with great agility. They bring two young at a time: the affection between the parents and them is ſo ſtrong, that they would die rather than deſert one another. Their winter retreats are under the ſnow, in which they form deep dens, ſupported by pillars of the ſame. They feed on fiſh, ſeals, and the carcaſes of whales, and on human bodies, which they will greedily tear up: they ſeem very fond of human blood; and are ſo fearleſs as to attack companies of armed men, and even to board ſmall veſſels. When on land, they live on birds and their eggs; and allured by the ſcent of ſeals' fleſh, often break into and plunder the houſes of the Greenlanders: their greateſt enemy in the brute creation is the morſe, with whom they have terrible conflicts, but are generally worſted, the vaſt teeth of the former giving it a ſuperiority. The fleſh is white, and ſaid to taſte like mutton: the fat is melted for train oil, and that of the feet uſed in medicine: but the liver is very unwholeſome, as three of Barentz's ſailors experienced, who fell dangerouſly ill on eating ſome of it boiled. One of this ſpecies was brought over to England a few years ago; it was very furious, almoſt always in motion, roared loud, and ſeemed very uneaſy, except when cooled by having pailfuls of water poured on it.

3. The *luſcus*, or wolverene, has a black ſharp-pointed viſage; ſhort rounded ears, almoſt hid in the hairs; the ſides of a yellowiſh brown, which paſſes in form of a band quite over the hind part of the back, above the tail; the legs are very ſtrong, thick and ſhort, of a deep black: the whole body is covered with very long and thick hair, which varies in colour according to the ſeaſon. It inhabits Hudſon's Bay and Canada, as far as the ſtraits of Michilimakinac; is found under the name of the *glutton* in the north parts of Europe and Aſia, being a native of the moſt rigorous climates.

It is a moſt voracious animal, and ſlow of foot; ſo is obliged to take its prey by ſurpriſe. In America it is called the *beaver-eater*, watching thoſe animals as they come out of their houſes, and ſometimes breaking into their habitations, and devouring them. It often lurks on trees, and falls on the quadrupeds that paſs under; will faſten on the horſe, elk, or ſtag, and continue eating a hole into its body, till the animal falls down with the pain; or elſe will tear out its eyes: no force can diſengage it; yet ſometimes the deer in their agony have been known to deſtroy it, by running their head violently againſt a tree. It devours the iſatis, or white fox; ſearches for the traps laid for the ſables and other animals; and is often beforehand with the huntſmen, who ſuſtain great loſſes by the glutton: authors have pretended that it feeds ſo voraciouſly, that at length it is in danger of burſting; and that it is obliged to eaſe itſelf of its load, by ſqueezing it out between two trees.

In a wild ſtate, it is vaſtly fierce; a terror to both wolf and bear, which will not prey on it when they find it dead, perhaps on account of its being ſo very fetid, ſmelling like a pole-cat: it makes a ſtrong reſiſtance when attacked; will tear the ſtock from the gun, and pull the traps it is caught in to pieces. Notwithſtanding this, it is capable of being tamed, and of learning ſeveral tricks. It burrows, and has its den under ground. The ſkin is ſold in Siberia for 4s. or 6s.; at Jakutſk for 12s.: and ſtill dearer at Kamtſchatka, where the women dreſs their hair with its white paws, which they eſteem a great ornament. The fur is greatly eſteemed in Europe: that of the north of Europe and Aſia, whoſe ſkins are ſometimes to be ſeen in the furriers' ſhops, is much finer, blacker, and more gloſſy than that of the wolverene, or American kind. The glutton has by ſome authors been confounded with the hyæna.

4. The *lotor*, or raccoon, has the upper part of the body covered with hair, aſh-coloured at the root, whitiſh in the middle, and tipped with black; tail very buſhy, annulated with black; toes black, and quite divided.—It inhabits the warm and temperate parts of America: is found alſo in the mountains of Jamaica, and in the iſles of Maria, between the ſouth point of California and Cape Corientes, in the South Sea: is eaſily made tame, very good natured, and ſportive; but as unlucky as a monkey. It is almoſt always in motion; and very inquiſitive, examining every thing with its paws. It makes uſe of them as hands; ſits up to eat; is extremely fond of ſweet things, and ſtrong liquors, and will get exceſſively drunk. It has all the cunning of a fox; and very deſtructive to poultry; but will eat all ſorts of fruits, green corn, &c. At low water it feeds much on oyſters, and will watch their opening, and with its paw ſnatch out the fiſh; it ſometimes is caught in the ſhell, and kept there till drowned by the coming in of the tide: it is alſo fond of crabs. It climbs very nimbly up trees. It is hunted for its ſkin; the fur is next to that of the beaver for making hats.

5. The *meles*, or common badger, is an animal of a very clumſy make, with ſhort thick legs, long claws on the fore feet, and a fetid white matter exuding from the orifice below the tail. It inhabits moſt parts of Europe, as far north as Norway and Ruſſia, and the ſtep or deſert beyond Orenburgh, in the Ruſſian Aſiatic dominions, north of the Caſpian Sea: inhabits alſo China, and is often found in the butchers' ſhops in Pekin, the Chineſe being fond of them; but a ſcarce animal in moſt countries. It ſeldom appears in the day: confines itſelf much to its hole; is indolent and ſleepy; generally very fat; feeds by night; eats roots, fruits, graſs, inſects, and frogs; but is not carnivorous: it runs ſlowly; when overtaken, it comes to bay, and defends itſelf vigorouſly; its bite is dangerous. It burrows under ground; makes ſeveral apartments, but forms only one entrance from the ſurface. It is hunted during night for the ſkin, which ſerves for piſtol furniture; the hairs for making bruſhes to ſoften the ſhades in painting. Its fleſh makes good bacon.

URTICA, in botany: a genus of plants of the claſs of *monœcia*, and order of *tetrandria*; and in the natural ſyſtem claſſed under the 53d order, *Scabridæ*. The ſmall flower has a calyx of four leaves; no corolla; a nectarium minute, central, urn-faſhioned. The female a bivalve calyx; and a ſingle, oval gloſſy ſeed. There are twenty-eight *ſpecies*; three of which are Britiſh plants. 1. The *pilulifera*, Roman nettle, has a ſtalk branched, two or three feet high. Leaves oppoſite, oval, ſerrated, ſtinging. Fruit globoſe. 2. The *urens*, leſs ſtinging nettle, has a ſtem a foot high. Leaves roundiſh, deeply ſerrated, oppoſite, burning. The ſtings are very curious microſcopic objects: they conſiſt of an exceedingly fine pointed, tapering, hollow ſubſtance, with a perforation at the point, and a bag at the baſe. When the ſpring is preſſed upon, it readily perforates the ſkin, and at the ſame time forces up ſome of the acrimonious liquor contained in the bag into the wound. 3. The *dioica*, common nettle, has a ſquare firm ſtem, three or four feet high. Leaves heart-ſhaped, long-pointed, ſerrated, beſet with ſtings. Flowers in long

catkins. The aculei, or ſtings of the nettle, have a ſmall bladder at their baſe full of a burning corroſive liquor: when touched, they excite a bliſter, attended with a violent itching pain, though the ſting does not appear to be tubular, or perforated at the top, nor any viſible liquor to be infuſed into the puncture made by it in the fleſh. It ſeems certain, however, that ſome of this liquor is inſinuated into the wound, though inviſibly, ſince the ſtings of the dried plant excite no pain.

Nettle-tops in the ſpring are often boiled and eaten by the common people inſtead of cabbage-greens. In Arran, and other iſlands, a rennet is made of a ſtrong decoction of nettles: a quart of ſalt is put to three pints of the decoction, and bottled up for uſe. A common ſpoonful of this liquor will coagulate a large bowl of milk very readily and agrecably. The ſtalks of nettles are ſo like in quality to hemp, that in ſome parts of Europe and Siberia they have been manufactured into cloth, and paper has been made of them. The whole plant, particularly the root, is eſteemed to be diuretic, and has been recommended in the jaundice and nephritic complaints. The roots boiled will dye yarn of a yellow colour. The larvæ, or caterpillars, of many ſpecies of butterflies, feed on the green plant; and ſheep and oxen will readily eat the dried.

URTICA-*Marina*. See ANIMAL-*Flower*.

USANCE, in commerce, is a determined time fixed for the payment of bills of exchange, reckoned either from the day of the bills being accepted, or from the day of their date; and thus called becauſe regulated by the uſage and cuſtom of the places whereon they are drawn.

USE, in law, the profit or benefit of lands and tenements; or a truſt and confidence repoſed in a perſon for the holding of lands, &c. that he to whoſe uſe the truſt is made ſhall receive the profits.

USHANT, an iſland of France, fifteen miles weſt of the coaſt of Britanny, at the entrance of the Britiſh Channel.

USHER (James), archbiſhop of Armagh, one of the moſt illuſtrious prelates in the 17th century, as well with reſpect to his piety and other virtues, as his uncommon erudition, was born in Dublin in 1580, and it is ſaid that two of his aunts taught him to read, though they were both born blind. Dublin college being finiſhed in 1593, he was one of the three firſt ſtudents admitted into it. He made ſo ſwift a progreſs in his ſtudies, that at eighteen years of age he was able to diſpute with Henry Fitz-Simon, a famous Jeſuit, who challenged all the Proteſtant clergy; and defended his cauſe ſo well in the caſtle of Dublin, that he made him repent his challenge. He was ordained prieſt in 1601; and ſoon after was appointed to preach conſtantly before the court at Chriſt-church in Dublin, on Sundays in the afternoon. In 1603 he was ſent over to England with Dr. Luke Challoner, in order to purchaſe books for the library of Dublin. In 1607 he took the degree of bachelor of divinity; ſoon after, he was made chancellor of St. Patrick's cathedral, and the ſame year was choſen profeſſor of divinity, when he made choice of Bellarmine's controverſies for the ſubject of his lectures. Some years after, he made it a conſtant cuſtom to come over to England once in three years, ſpending one month of the ſummer at Oxford, another at Cambridge, and the reſt of the time at London. In 1612 he took the degree of doctor of divinity; at the latter end of the year 1620 he was promoted to the biſhopric of Meath, and in 1625 was made archbiſhop of Armagh. In the adminiſtration of his archbiſhopric he acted in a very exemplary manner, and endeavoured to reform the clergy and officers in the eccleſiaſtical courts. In 1640 he came over to England with his family, with an intention ſoon to return to Ireland: but was prevented by the rebellion which broke out there in 1641; and in that rebellion he was plundered of every thing, except his library, which was in England, and ſome furniture in his houſe at Drogheda. His majeſty, therefore, conferred on him the biſhopric of Carliſle, to be held *in commendam*: the revenues of which were greatly leſſened by the Scots and Iriſh armies quartering upon it; but when all the lands belonging to the biſhoprics in England were ſeized by the parliament, they voted him a penſion of 400l. *per annum*, though he never received it above once or twice. He afterwards removed to Oxford; and, in 1643, was nominated one of the aſſembly of divines at Weſtminſter, but refuſed to ſit amongſt them; which, together with ſome of his ſermons at Oxford, giving offence to the parliament, they ordered his ſtudy of books, of conſiderable value, to be ſeized; but by the care of Dr. Featly, one of the aſſembly, they were ſecured for the primate's uſe. The king's affairs declined; and Oxford being threatened with a ſiege, he left that city, and retired to Cardiff in Wales, to the houſe of Sir Timothy Tyrrel, who had married his only daughter, and was then governor and general of the ordnance. He was afterwards invited to London by the Counteſs of Peterborough. In 1647 he was choſen preacher in Lincoln's-Inn; and during the treaty in the Iſle of Wight, he was ſent for by the king, who conſulted him about the government of the church. The death of his majeſty ſtruck him with great horror. The Counteſs of Peterborough's houſe, where the primate then lived, being juſt over againſt Charing Croſs, ſeveral of her gentlemen and ſervants went up to the leads of the houſe, whence they could plainly ſee what was acting before Whitehall. As ſoon as his majeſty came upon the ſcaffold, ſome of the houſehold told the primate of it; and aſked him, whether he would ſee the king once more before he was put to death. He was at firſt unwilling, but at laſt went up: where, as the ceremonial advanced, the primate grew more and more affected; and, when the executioners in vizards began to put up the king's hair, he ſwooned away. He died of a pleuriſy in 1655; and was ſolemnly buried at Weſtminſter, in St. Eraſmus's chapel. He publiſhed. 1. *Britannicarum Eccleſiarum Antiquitates*. 2. *Polycarpi et Ignatii Epiſtolæ, Græce Latine*, &c. 3. Annals of the Old and New Teſtament, in Latin. 4. *De Græce Septuaginta interpretum Verſione Syntagma*; and many other books which are eſteemed. A conſiderable number of his works ſtill remain in manuſcript.

USHER, an officer or ſervant who has the care and direction of the door of a court, hall, chamber, or the like.

USHER *of the Black Rod*, the eldeſt of the gentlemen uſhers, daily waiters at court, whoſe duty is to bear the rod before the king at the feaſt of St. George, and other ſolemnities.

USK, a river of Wales, which riſes on the weſt of Brecknockſhire, and runs ſouth-eaſt through that county and Monmouthſhire, falling into the mouth of the Severn.

USQUEBAUGH, a ſtrong compound liquor, chiefly taken by way of dram. There are ſeveral different methods of making this liquor; but the following is eſteemed one of the beſt: To two gallons of brandy, or other ſpirits, put a pound of Spaniſh liquorice, half a pound of raiſins of the ſun, four ounces of currants, and three of ſliced dates; the tops of baum, mint, ſavory, thyme, and the tops of the flowers of roſemary, of each two ounces; cinnamon and mace, well bruiſed, nutmegs, anniſeeds, and coriander-ſeeds, bruiſed likewiſe, of each four ounces; of citron or lemon, and orange-peel, ſcraped, of each an ounce: let all theſe infuſe forty-eight hours in a warm place, often ſhaking them together; then let them ſtand in a cool place for a week: after which the clear liquor is to be decanted off, and to it is to be put an equal quantity of neat white port, and a gallon of canary;

after which it is to be ſweetened with a ſufficient quantity of double-refined ſugar.

USTION, in pharmacy, the preparing of certain ſubſtances by burning them.

USUFRUIT, in the civil law, the uſe or enjoyment of any lands or tenements; or the right of receiving the fruits and profits of an inheritance, or other thing, without a power of alienating or changing the property thereof.

USURIOUS CONTRACT, is any bargain or contract whereby a man is obliged to pay more intereſt for money than the ſtatute allows.

USURPATION, in law, is an injurious uſing or enjoyment of a thing for continuance of time, that belongs of right to another.

USURY, an unlawful contract upon the loan of money, to receive the ſame again with exorbitant increaſe. Under the article INTEREST, it was obſerved, that by ſtatute 37 Hen. VIII. c. 9. the rate of intereſt was fixed at 10l. *per cent. per annum:* which the ſtatute 13 Eliz. c. 8. confirms, and ordains, that all brokers ſhall be guilty of a *præmunire* that tranſact any contracts for more, and the ſecurities themſelves ſhall be void. The ſtatute 21 Jac. I. c. 17. reduced intereſt to 8l. *per cent.*; and it having been lowered in 1650, during the uſurpation, to 6l. *per cent.* the ſame reduction was re-enacted after the Reſtoration by ſtatute 12 Car. II. c 13. and, laſtly, the ſtatute 12 Annæ, ſt. 2. c. 16. has reduced it to 5l. *per cent.* Wherefore not only all contracts for taking more are in themſelves totally void, but alſo the lender ſhall forfeit treble the money borrowed. Alſo if any ſcrivener or broker takes more than 5s. *per cent.* procuration-money, or more than 12 d. for making a bond, he ſhall forfeit 20l. with coſts, and ſhall ſuffer impriſonment for half a year.

UTERUS, in anatomy. See ANATOMY.

UTICA (anc. geog.), a town of Africa Propria, on the Mediterranean: a Tyrian colony, and older than Carthage (Sil. Italicus); its name, according to Bochart, denoting *old:* reckoned ſecond to it; but after the deſtruction of Carthage, became the capital and centre of all the Roman tranſactions in Africa, according to Strabo; who adds, that it ſtood on the ſame bay with Carthage, at one of the promontories called *Apollonium*, bounding the bay on the weſt ſide, the other to the eaſt called *Hermeia*, being at Carthage. It became famous by the death of Cato, who thence was called *Uticenſis*.

UTRECHT, one of the United Dutch States, which, excepting in one ſmall ſtrip of land to the northward, and bordering on the Zuder Sea, is wholly environed by Holland and Guelderland: it enjoys a good air, and, in moſt parts, the ſoil is very fruitful; to the eaſtward, it is, indeed, a high and ſterile country, conſiſting either of ſandy hills, or ſmall eminences, which are, in general, over-run with woods; and weſtward the country perfectly reſembles Holland, being for the moſt part rich meadow, though in many parts full of turf grounds. In the ſtate of Utrecht, are ſeventy towns and villages. Its ſtates are compoſed of the clergy, the nobility, and the towns; of theſe the former are merely nominals. The ſecond claſs is compoſed of the nobility, who, on account of their manors, are called to the aſſembly of the ſtates. The third claſs conſiſts of the deputies of the five towns of Utrecht, Amersfoort, Wyk, Rhenen, and Montfoort, but more particularly of the firſt; nay, in conſultations, that city even aſſerts that the other four towns have only one vote; and ſo far is certain, that Utrecht can control the ſentiments of the reſt; but the reſolutions taken by it, may not be traverſed by the others. This country, together with Overyſſel, once conſtituted the temporal dominion of the biſhop of Utrecht, the firſt of whom was Willibrord, who being collated at Rome in the year 696, by Pope Sergius, founded the church of Wiltenburg or Utrecht: its prelate was elected by the five chapters of the latter, who were alſo not without ſome ſhare in the government; but Henry of Bavaria, the laſt biſhop, who held that office jointly with the eccleſiaſtical juriſdiction, being a man of a turbulent ſpirit, drew on him frequent tumults, and at length the principal of his ſubjects entered into a ſecret league with Charles duke of Guelderland, who marched out an armed force againſt him; and the latter being unable to withſtand the duke, in 1528, ſold his whole dioceſe or temporal dominion, together with the abſolute ſovereignty thereof, to the Emperor Charles V. who annexed it as a lordſhip to the eſtates of the houſe of Auſtria, under which it continued till the reign of his ſon Philip II. when, in 1579, by its alliance with the other Netherland provinces, who aſſerted their liberty, it became a free ſtate. The above-mentioned biſhop Henry of Bavaria, had three ſucceſſors as biſhop of Utrecht, of whom Frederick baron Schenk of Tautenberg, was in 1559, by King Philip II. created archbiſhop, and the biſhops of Leiwarden, Deventer, Groningen, Haarlem, and Middleburg, made his ſuffragans; but ſince the above, all the biſhops of Utrecht have forfeited all ſhare in the temporal government. The college of the deputies of this ſtate conſiſts of twelve members, each claſs of the ſtates ſending four; the chamber of accounts is under the direction of four commiſſioners; and the provincial court of juſtice is compoſed of a preſident, ſix ordinary and three extraordinary aſſeſſors; to the aſſembly of the States-General it ſends three deputies, that is to ſay, one from each claſs of its ſtates. The Calviniſt congregations are divided into three claſſes, namely, into thoſe of Utrecht, Amersfoort, and Rhenen, with Wyk, and the number of miniſters here, is ſeventy-nine, the ſynod is held once a-year at Utrecht. The Roman-catholics have above thirty churches in this ſtate. The Lutherans, the Remonſtrants, and the Anabaptiſts, are but few.

UTRECHT, a city, and capital of the ſtate ſo called; in Latin *Ultrajectum, Trajectum Inferius, Trajectum, Utricenſium, Antonina Civitas*, which laſt name was given it from Antoninus, a Roman ſenator, by whom it was built, in the time of Nero; and Trajectum ad Rhenum, to diſtinguiſh it from Maeſtricht, which was called *Trajectum ad Moſam*. It is a handſome, large, and rich city, ſituated on the ancient Rhine. The Wiltes ruined it, and left nothing but the caſtle, which they called *Wiltenbourg*. In the year 718, Clotaire king of France rebuilt it, and firſt called it Utrecht, from the word *Trecht*, which ſignifies paſſage, becauſe it was the grand paſſage over the Rhine, before that river had changed its bed. It was enlarged, and ſurrounded with walls about the year 934, by Balderic de Cleves, the fifteenth biſhop. Its figure is oval, and is about a league and a quarter in circumference, beſides four large fauxbourgs; but though fortified with ſome baſtions and half-moons, it is not ſtrong. The emperor Charles V. when he became maſter of the ſigniory and city of Utrecht, in the year 1529, built a chateau, which he called *Vrebourg*, or the *château of Peace*; and in the year 1546, celebrated a chapter of the order of the Golden Fleece, in the cathedral church, when Maximilian king of Bohemia, and afterwards emperor, Coſmo duke of Florence, Albert duke of Bavaria, Emanuel Philibert duke of Savoy, and eighteen other lords, were inſtalled knights. The dome, or the cathedral church, it is ſaid, was firſt built in the year 630, by King Dagobert I. and St. Willebrord made it an abbey church, and ſoon after it became a cathedral. It was rebuilt by Adelboldee, the nineteenth biſhop, and by him conſecrated in the year 1024, in the preſence of the emperor, Henry II. the

Duke of Brabant, the Comptes of Holland, Gueldres, Cleves, and Cuyck, and twelve biſhops. In the year 1224 it was again begun to be rebuilt by Henry de Vianen, the thirty-eighth biſhop, and finiſhed by his ſucceſſors. The height of the tower is three hundred and eighty-eight feet, and from the top, in a clear day, fifteen or ſixteen cities may be ſeen. The cathedral was at firſt dedicated to St. Thomas, afterwards to St. Martin. The church of Notre-Dame, commonly called *Buur-Kerck*, and Engliſh church, has a ſmall library, which contains ſome ancient manuſcripts; the other pariſhes are St. James, St. Nicholas, and St. Gertrude. It has likewiſe hoſpitals for orphans, foundlings, &c. Before the reformation, it had many religious houſes. The magiſtracy is compoſed of a grand bailly, two burgomaſters, twelve echevins, a treaſurer, an intendant of buildings, a preſident, three commiſſioners of finances, and a ſenator, which are changed every year on the 12th of October, and hold their aſſemblies in the town-houſe, which is a handſome ſtructure. On the 13th of January 1577, the troops of the States-General beſieged the Spaniards in the caſtle, and obliged them to ſurrender; the Count de Boſſu, who was then in the intereſt of the Hollanders, ordered the caſtle to be razed, on the fourth of September, in the ſame year. In the year 1672, the French made themſelves maſters of it; and his moſt Chriſtian majeſty entered it in ſtate, in the month of July, accompanied by the Duke of Orleans, and the Duke of Monmouth; but on the 13th of November, the Duke of Luxemburg, who had been appointed governor, abandoned the city and the whole province, after having compelled them to pay four hundred and fifty thouſand livres. The principal ſtreets are cut through with canals, two of which run through the whole city, namely, the Vaert, and the new Gracht, over which there are thirty-five bridges. Theſe are the principal canals of the town, and the buildings on the banks of the new Gracht are magnificent. The market-place is very large, and the centre of ſeveral handſome ſtrects. The houſes are of brick, and many of them ſtately; they have in general good cellars, which they cannot have in the ſtate of Holland, the ground there being too marſhy. Without the town there are beautiful rows of trees, to which the Engliſh have given the name of the Mall, by reaſon of their having ſome reſemblance to St. James's-Park. This place was the ſeat of an archbiſhop, before it fell into the Proteſtants' hands, and had four collegiate churches, two commanderies, and ſeveral abbeys, which have been all ſecularized by the States, and applied to other uſes. As it ſtands in a very healthful air, it is frequented by perſons of diſtinction, who have very fine houſes in this city. The univerſity is very famous, and attracts a great number of foreigners, among the reſt ſome Engliſh, who reſort hither for their education. It was originally only a public ſchool, founded by David of Burgundy, biſhop of Utrecht; but in the year 1636 it was converted into an univerſity by the States. The univerſity is ſubject to the magiſtrates of the city, and has not a great many privileges to boaſt of. The ſtudents wear their ordinary dreſs, and board in private houſes in the town, for there are ſcarcely any endowed colleges in Holland. Here the ſtates of the province aſſemble to take cognizance of the affairs of the whole province. There is a public library, well ſtocked with books in all branches of learning. The town-houſe is a very noble building. The painters' hall abounds with fine pieces: they have alſo a phyſic garden, but of no great note. The town is famous for the treaty of union, ſigned in 1579, between the Seven Provinces, which laid the foundation of the republic; as likewiſe for the treaty of peace, ſigned here in 1713, between France and the Grand Allies. Utrecht gave birth to Pope Adrian VI. whoſe houſe they always ſhow to foreigners, and to the celebrated Ann Mary Schurman, ſo admired in the laſt century for her learning: eighteen miles ſouth-ſouth-eaſt Amſterdam. Long. 22. 32. E. Ferro. Lat. 52. 6. N.

UTRICULARIA, in botany: a genus of plants of the claſs of *diandria*, and order of *monogynia*; and in the natural ſyſtem arranged under the 24th order, *Corydales*. The calyx is ringent, with a nectarium reſembling a ſpur; the corolla diphyllous and equal; the capſule unilocular. There are nine ſpecies; two of which are natives of Britain. They have been applied to no particular uſe.

UVA URSI. See ARBUTUS.

VULCAN, in Pagan worſhip, the god of ſubterraneous fire and metals, was the ſon of Jupiter and Juno; and was ſaid to be ſo remarkably deformed, that his father threw him down from heaven to the iſle of Lemnos, in which fall he broke his leg, and there he ſet up his forge, and taught men how to ſoften and poliſh braſs and iron. Thence he removed to the Liparian iſles, near Sicily, where, by the aſſiſtance of the Cyclops, he made Jupiter's thunderbolts, and armour for the other gods. Notwithſtanding the deformity of his perſon, he had a paſſion for Minerva, and by Jupiter's conſent made his addreſſes to her, but without ſucceſs. He was, however, more fortunate in his ſuit to Venus; who, after her marriage, choſe Mars for her gallant; when Vulcan expoſed them to the ridicule of the other gods, by taking them in a net.

VULGATE, a very ancient Latin tranſlation of the Bible, and the only one acknowledged by the church of Rome to be authentic. See BIBLE.

VURNERARY, in medicine, an epithet formerly given to remedies ſuppoſed to poſſeſs virtues for the cure of wounds and ulcers.

VULTURE, a genus of birds belonging to the order of *Accipitres*. The beak is ſtraight and crooked at the point; the head has no feathers; on the fore-part being only naked ſkin; and the tongue is generally bifid. There are twenty-one ſpecies. The moſt remarkable are,

1. *Gryphus*, the condor, which is not only the largeſt of this genus, but perhaps of all others which are able to fly. The accounts of authors in regard to the ſtrength of this bird, and its extent of wing, are various. From nine to eighteen feet from the tip of one wing to that of the other has been mentioned; and one gives it ſtrength ſufficient to carry off ſheep, and boys of ten years old; while another ventures to affirm, that it can lift an elephant from the ground high enough to kill it by the fall! However, the account given in Cook's Voyage is very nearly, if not preciſely, the truth, as two birds of this kind are now in the muſeum of Mr. Parkinſon, and are probably male and female. The firſt of theſe has an extent of wing ſomewhat under eleven feet. The bill is ſtrong, moderately hooked, and blunt at the tip, which is white, the reſt of it being of a duſky colour. On the top of the head runs a kind of carunculated ſubſtance, ſtanding up like the comb of a cock. The head and neck are ſlightly covered with brown down, in ſome parts nearly bare, and here and there a carunculated part, as in the neck of a turkey. The lower part of the neck is ſurrounded with a ruff of a pure white and hairy kind of feathers. The upper parts of the body, wing, and gird, are black, except that the middle wing coverts have whitiſh ends, and the greater coverts half black half white. The nine or ten firſt quills are black, the reſt white, with the tips only black; and when the wings are cloſed, producing the appearance of the bird having the back white; giving occaſion to Molina, in his Hiſtory of Chili, to ſay, that the back was white. The under

parts of the body are rather ſlightly covered with feathers; but thoſe of the thighs are pretty long. The legs are ſtout and brown; claws black and blunt.

The ſecond bird chiefly differs in not having the leaſt appearance of a comb or creſt, but ſmooth for the moſt part, except where the head and neck are covered with down. The ruff on the lower part of the neck is not ſo full and conſpicuous; but as to the colour of the plumage, the difference is not worth noticing. It is not impoſſible that this laſt may prove to be a young male, for Molruc expreſsly ſays, that the female is ſmaller than the male, of a brown colour, and has no ruff about the neck, only a ſmall tuft at the back part.

Theſe birds are ſaid to make their neſts among the inacceſſible rocks, and to lay two white eggs, larger than thoſe of a turkey; are very deſtructive to ſheep, and will in troops often attempt calves; in which caſe, ſome of them firſt pick out the eyes, whilſt others attack the poor animal on all ſides, and ſoon tear him to pieces. This gives riſe to the following ſtratagem, uſed by the peaſants of Chili: one of them wraps himſelf up in the hide of a freſh killed ſheep or ox, and lies ſtill on the ground; the condor, ſuppoſing it to be lawful prey, flies down to ſecure it, when the perſon concealed lays hold of the legs of the bird, his hands being well covered with gloves; and immediately his comrades, who are concealed at a diſtance, run in, and aſſiſt to ſecure the depredator, by falling on him with ſticks till they have killed him. See Plate 2.

2. The *percnopterus*, or Egyptian vulture. The appearance of this bird is as horrid as can well be imagined, viz. the face is naked and wrinkled; the eyes are large and black; the beak black and hooked; the talons large, and extending ready for prey; and the whole body polluted with filth: theſe are qualities enough to make the beholder ſhudder with horror. Notwithſtanding this, the inhabitants of Egypt cannot be enough thankful to Providence for this bird. All the places round Cairo are filled with the dead bodies of aſſes and camels; and thouſands of theſe birds fly about, and devour the carcaſes before they putrify and fill the air with noxious exhalations. The inhabitants of Egypt, and after them Maillet in his Deſcription of Egypt, ſay, that they yearly follow the caravan to Mecca, and devour the filth of the ſlaughtered beaſts, and the carcaſes of the camels which die on the journey. They do not fly high, nor are they afraid of men. If one is killed, all the reſt ſurround him in the ſame manner as do the royſton crows; they do not quit the places they frequent, though frightened by the exploſion of a gun, but immediately return thither. Maillet imagines this bird to be the ibis of the ancients: but it is ſcarcely to be imagined, that a wiſe nation ſhould pay ſuch honours to an unclean, impure, and rapacious bird, which was not perhaps ſo common before the Egyptians filled the ſtreets with carcaſes. If the ibis is to be found, it muſt certainly be looked for in the order of grallæ of Linnæus; and we imagine it to be the white ſtork *(Ardea cicona)*, which is ſo common in Egypt. The Arabians call it *rochæme;* the French living in Egypt, give it the name of *chapon de Pharaon*, or *de Mahometh*.

3. The *aura*, or carrion vulture, according to Mr. Latham, is about the ſize of a turkey, though it varies in ſize in different parts. The bill is white; the end black; irides bluiſh ſaffron colour. The head, and part of the neck, are bare of feathers; and of a red, or rather rufous colour. The ſides of the head warted, not unlike that of a turkey. The whole plumage is brown black, with a purple and green gloſs in different reflections; but in ſome birds, eſpecially young ones, greatly verging to dirty brown. The feathers of the quills and tail are blacker than the reſt of the body. The legs are fleſh-colour; the claws black.

This bird is very common in the Weſt Indies, and both in North and South America. It feeds on dead careaſes, ſnakes, &c. like moſt of this genus; which makes the ſmell of it very offenſive. In general, it is very tame in its wild ſtate, but particularly ſo when trained up from being young. This our author experienced in two birds ſent home from Jamaica. They were ſuffered to run wild about the garden, and were alert and briſk during the ſummer months; but impatient of the leaſt cold; for a rainy day, with the ſlighteſt degree of cold, obliged them to creep for ſhelter. In the Weſt Indies, they rooſt together of nights, in vaſt numbers, like rooks in this country. They are reckoned a moſt uſeful animal in the places where they reſort; which ſecures their ſafety, added to a penalty for killing one, which is in force in Jamaica, and other iſlands of the Weſt Indies.

4. The *ſagittarius*, or ſecretary, is a moſt ſingular ſpecies, being particularly remarkable from the great length of its legs; which at firſt ſight would induce one to think it belonged to waders: but the characters of the vulture are ſo ſtrongly marked throughout, as to leave no doubt to which claſs it belongs. The bird, when ſtanding erect, is full three feet from the top of the head to the ground. The bill is black, ſharp, and crooked, like that of an eagle; the head, neck, breaſt, and upper parts of the body, are of a bluiſh aſh-colour: the legs are very long, ſtouter than thoſe of a heron, and of a brown colour; claws ſhortiſh, but crooked, not very ſharp, and of a black colour; from the hind-head ſprings a number of long feathers, which hang looſe behind like a pendent creſt; theſe feathers ariſe by pairs, and are longer as they are lower down on the neck; this creſt the bird can erect or depreſs at pleaſure; it is of a dark colour, almoſt black; the webs are equal on both ſides, and rather curled; and the feathers, when erected, ſomewhat incline towards the neck; the two middle feathers of the tail twice as long as any of the reſt. This ſingular ſpecies inhabits the internal parts of Africa, and is frequently ſeen at the Cape of Good Hope. It is alſo met with in the Philippine iſlands.

The deſcription was taken by Mr. Latham from three that were alike, which he ſaw in England alive ſome years ſince; two of which are now in the Leverian muſeum. From confinement they had loſt their two long tail feathers; but this want was ſupplied by ſome accurate drawings by Sir Joſeph Banks, taken from the life at the Cape.

As to the manners of this bird, it is on all hands allowed that it principally feeds on rats, lizards, ſnakes, and the like; and that it will become familiar: whence Sonnerat is of opinion, that it might be made uſeful in ſome of our colonies, if encouraged, towards the deſtruction of thoſe peſts. They call it at the Cape of Good Hope *ſlangeater*, i. e. ſnake eater. A great peculiarity belongs to it, perhaps obſerved in no other; which is, the faculty of ſtriking forwards with its legs, never backwards. Dr. Solander ſaw one of theſe birds take up a ſnake, ſmall tortoiſe, or ſuch like, in its claws; when daſhing it from thence againſt the ground with great violence, if the victim was not killed at firſt, it repeated the operation till that end was anſwered; after which it ate it up quietly. Dr. J. R. Forſter mentioned a further circumſtance, which he ſays was ſuppoſed to be peculiar to this bird; that ſhould it by any accident break the leg, the bone would never unite again.

UVULA, in anatomy. See ANATOMY.

UZ, or UTZ, the country and place of reſidence of Job. In the genealogy of the patriarchs there are three perſons called *Uz*, either of which might give this diſtrict its name. The firſt was the grandſon of Sem, by his ſon Aram (Gen. xxii. 23.), who, according to Joſephus, occupied the Trachonitis, and Damaſcus, to the north of Paleſtine: but Job was

among the ſons of the Eaſt. Another *Uz* was the ſon of Nahor, Abraham's brother (Gen. x. 21.), who appears to have removed, after paſſing the Euphrates, from Haran of Meſopotamia to Arabia Deſerta. The third *Uz* was a Horite, from mount Seir (Gen. xxxvi. 28.), and thus not of Eber's poſterity. Now the queſtion is, from which of theſe Job's country, Uz, took its name? Not from the firſt, as is already ſhown; nor from the ſecond, becauſe his country is always called *Seir*, or *Edom*, never *Uz*; and then called a *ſouth*, not an *eaſt*, country, in Scripture. It therefore remains, that we look for the country and place of reſidence of Job in Arabia Deſerta; for which there was very probable reaſons. The plunderers of Job are called *Chaldeans* and *Sabeans*, next neighbours to him. Theſe Sabeans came not from Arabia Felix, but from a nearer Sabe in Arabia Deſerta (Ptolemy); and his friends, except Eliphaz the Themanite, were of Arabia Deſerta.

UZBECK TARTARY. See TARTARY.

W.

W A G

W, or w, is the 21ſt letter of our alphabet; and is compoſed, as its name implies, of two v's. It was not in uſe among the Hebrews, Greeks, or Romans; but chiefly peculiar to the northern nations, the Teutones, Saxons, Britons, &c. But ſtill it is not uſed by the French, Italians, Spaniards, or Portugueſe, except in proper names, and other terms borrowed from languages in which it is originally uſed, and even then it is ſounded like the ſingle v. This letter is of an ambiguous nature; being a conſonant at the beginning of words, and a vowel at the end. It may ſtand before all the vowels except *u*; as *water*, *wedge*, *winter*, *wonder*: it may alſo follow the vowels *a*, *e*, *o*, and unites with them into a kind of double vowel, or diphthong; as in *ſaw*, *few*, *cow*, &c. It alſo goes before *r*, and follows *ſ* and *th*; as in *wrath*, *ſwear*, *thwart*: it goes before *h* alſo, though in reality it is ſounded after it; as in *when*, *what*, &c. In ſome words it is obſcure, as in *ſhadow*, *widow*, &c.

WAAG, a river of Hungary, which riſes in the Carpathian mountains, and falls into the Danube oppoſite to the iſland of Schut.

WAAL, a river of the United Netherlands, being one of the branches of the Rhine, which runs from eaſt to weſt, through Guelderland, paſſing by Nimeguen, Tiel, Bommel, and Gorcum; and, uniting with the Maes, falls into the German Sea below the Briel.

WACHENDORFIA, in botany: a genus of plants of the claſs of *triandria*, and order of *monogynia*; and arranged in Linnæus's Natural Method of Claſſification under the 6th order, *Inſatæ*. The corolla is hexapetalous, unequal, and ſituated below the germen; the capſule trilocular and ſuperior. There are four ſpecies; none of which are natives of Britain.

WADD, or WADDING, is a ſtopple of paper, hay, ſtraw, or the like, forced into a gun upon the powder, to keep it cloſe in the chamber; or to put up cloſe to the ſhot, to keep it from rolling out.

WAFERS, for ſealing letters, are made thus: Take very fine flour, mix it with glair of eggs, iſinglaſs, and a little yeaſt; mingle the materials; beat them well together; ſpread the batter, being made thin with gum-water, on even tin plates, and dry them in a ſtove; then cut them out for uſe. You may tinge the paſte with vermilion for red; indigo or verditer, &c. for blue; ſaffron, turmerics, or gamboge, &c. for yellow.

WAGER *of Law*. See (*Wager of*) LAW.

WAGER *of Battel*. See (*Wager of*) BATTEL.

W A I

WAGGON, a wheel carriage, of which there are various forms, accommodated to the different uſes they are intended for. The common waggon conſiſts of the ſhafts or rods, being the two pieces which the hind horſe bears up; the welds; the ſlotes, or croſs pieces, which hold the ſhafts together; the boliſter, being that part on which the fore-wheels and the axle-tree turn in wheeling the waggon acroſs the road; the cheſt or body of the waggon, having the ſtaves or rails fixed thereon; the bales, or hoops which compoſe the top; the tilt, the place covered with cloth, at the end of the waggon. See MECHANICS.

WAGTAIL, in ornithology. See MOTACILLA.

WAIFS, BONA WAVIATA, are goods ſtolen, and waived or thrown away by the thief in his flight, for fear of being apprehended. Theſe are given to the king by the law, as a puniſhment upon the owner for not himſelf purſuing the felon, and taking away his goods from him. And therefore if the party robbed do his diligence immediately to follow and apprehend the thief (which is called *making freſh ſuit*), or do convict him afterwards, or procure evidence to convict him, he ſhall have his goods again. Waived goods do alſo not belong to the king till ſeized by ſomebody for his uſe; for if the party robbed can ſeize them firſt, though at the diſtance of twenty years, the king ſhall never have them. If the goods are hid by the thief, or left any-where by him, ſo that he had them not about him when he fled, and therefore did not throw them away in his flight; theſe alſo are not *bona waviata*, but the owner may have them again when he pleaſes. The goods of a foreign merchant, though ſtolen and thrown away in flight, ſhall never be waifs: the reaſon whereof may be, not only for the encouragement of trade, but alſo becauſe there is no wilful default in the foreign merchant's not purſuing the thief, he being generally a ſtranger to our laws, our uſages, and our language.

WAIGATS STRAITS, ſituated between Nova Zembla and Ruſſia, through which the Dutch ſailed to the north, as high as 75°, in order to diſcover a north-eaſt paſſage to China and the Eaſt Indies.

WAINSCOT, in building, the timber-work that ſerves to line the walls of a room, being uſually made in pannels, and painted, to ſerve inſtead of hangings.

WAIVE, in law, a woman that is put out of the protection of the law. She is called *waive*, as being forſaken of the law; and not *outlaw* as a man is; by reaſon women cannot be of the decenna, and are not ſworn in leets to the king, nor to

the law, as men are; who are therefore within the law; whereas women are not, and ſo cannot be outlawed, ſince they were never within it.

WAKE, the print or track impreſſed by the courſe of a ſhip on the ſurface of the water. It is formed by the reunion of the body of water which was ſeparated by the ſhip's bottom whilſt moving through it; and may be ſeen to a conſiderable diſtance behind the ſtern, as ſmoother than the reſt of the ſea. Hence it is uſually obſerved by the compaſs, to diſcover the angle of lee-way. A ſhip is ſaid to be in the wake of another when ſhe follows her on the ſame track, or a line ſuppoſed to be formed on the continuation of her keel. Two diſtant objects obſerved at ſea are called in the wake of each other, when the view of the fartheſt is intercepted by the neareſt; ſo that the obſerver's eye and the two objects are all placed upon the ſame right line.

WAKE is the eve-feaſt of the dedication of churches, which is kept with feaſting and rural diverſions. The learned Mr. Whitaker, in his Hiſtory of Manchеſter, hath given a particular account of the origin of wakes and fairs. He obſerves, that every church at its conſecration received the name of ſome particular ſaint: this cuſtom was practiſed among the Roman Britons, and continued among the Saxons; and in the council of Cealchythe, in 816, the name of the denominating ſaint was expreſsly required to be inſcribed on the altars, and alſo on the walls of the church, or on a tablet within it. The feaſt of this ſaint became of courſe the feſtival of the church. Thus Chriſtian feſtivals were ſubſtituted in the room of the idolatrous anniverſaries of heatheniſm: accordingly, at the firſt introduction of Chriſtianity among the Jutes of Kent, Pope Gregory the Great adviſed what had been previouſly done among the Britons, viz. Chriſtian feſtivals to be inſtituted in the room of the idolatrous, and the ſuffering day of the martyr whoſe relics were repoſited in the church, or the day on which the building was actually dedicated, to be the eſtabliſhed feaſt of the pariſh. Both were appointed and obſerved; and they were clearly diſtinguiſhed at firſt among the Saxons, as appears from the laws of the Confeſſor, where the *dies dedicationis*, or *dedicatio*, is repeatedly diſcriminated from the *propria feſtivitas ſancti*, or *celebratio ſancti*. They remained equally diſtinct to the Reformation; the dedication-day in 1536 being ordered for the future to be kept on the firſt Sunday in October, and the feſtival of the patron ſaint to be celebrated no longer. The latter was, by way of pre-eminence, denominated the *church's holiday*, or its peculiar feſtival; and while this remains in many pariſhes at preſent, the other is ſo utterly annihilated in all, that Biſhop Kennet (ſays Mr. Whitaker) knew nothing of its diſtinct exiſtence, and has attributed to the day of dedication what is true only concerning the ſaint's day. Thus inſtituted at firſt, the day of the tutelar ſaint was obſerved, moſt probably by the Britons, and certainly by the Saxons, with great devotion. And the evening before every ſaint's day, in the Saxon-Jewiſh method of reckoning the hours, being an actual hour of the day, and therefore like that appropriated to the duties of public religion, as they reckoned Sunday from the firſt to commence at the ſun-ſet of Saturday; the evening preceding the church's holiday would be obſerved with all the devotion of the feſtival. The people actually repaired to the church, and joined in the ſervices of it; and they thus ſpent the evening of their greater feſtivities in the monaſteries of the North, as early as the concluſion of the ſeventh century.

Theſe ſervices were naturally denominated from their late hours *wæccan* or *wakes*, and *vigils* or *eves*. That of the anniverſary at Rippon, as early as the commencement of the eighth century, is expreſsly denominated the *vigil*. But that of the church's holiday was named *cyric wæccan*, or church-wake, the church-vigil, or church-eve. And it was this commencement of both with a wake, which has now cauſed the days to be generally preceded with vigils, and the church-holiday particularly to be denominated the *church-wake*. So religiouſly was the eve and feſtival of the patron ſaint obſerved for many ages by the Saxons, even as late as the reign of Edgar, the former being ſpent in the church, and employed in prayer. And the wakes, and all the other holidays in the year, were put upon the ſame footing with the octaves of Chriſtmas, Eaſter, and of Pentecoſt. When Gregory recommended the feſtival of the patron ſaint, he adviſed the people to erect booths of branches about the church on the day of the feſtival, and to feaſt and be merry in them with innocence. Accordingly, in every pariſh, on the returning anniverſary of the ſaint, little pavilions were conſtructed of boughs, and the people indulged in them to hoſpitality and mirth. The feaſting of the ſaint's day, however, was ſoon abuſed; and even in the body of the church, when the people were aſſembled for devotion, they began to mind diverſions, and to introduce drinking. The growing intemperance gradually ſtained the ſervice of the vigil, till the feſtivity of it was converted, as it now is, into the rigour of a faſt. At length they too juſtly ſcandalized the Puritans of the laſt century, and numbers of the wakes were diſuſed entirely, eſpecially in the eaſt and ſome weſtern parts of England; but they are commonly obſerved in the north, and in the midland counties.

This cuſtom of celebrity in the neighbourhood of the church, on the days of particular ſaints, was introduced into England from the continent, and muſt have been familiar equally to the Britons and Saxons; being obſerved among the churches of Aſia in the ſixth century, and by thoſe of the weſt of Europe in the ſeventh. And equally in Aſia and Europe on the continent, and in the iſlands, theſe celebrities were the cauſes of thoſe commercial marts which we denominate *fairs*. The people reſorted in crowds to the feſtival, and a conſiderable proviſion would be wanted for their entertainment. The proſpect of intereſt invited the little traders of the country to come and offer their wares; and thus, among the many pavilions for hoſpitality in the neighbourhood of the church, various booths were erected for the ſale of different commodities. In large towns, ſurrounded with populous diſtricts, the reſort of the people to the wakes would be great, and the attendance of traders numerous; and this reſort and attendance conſtitute a fair.—Baſil expreſsly mentions the numerous appearance of traders at theſe feſtivals in Aſia, and Gregory notes the ſame cuſtom to be common in Europe. And as the feſtival was obſerved on a feria or holiday, it naturally aſſumed to itſelf, and as naturally communicated to the mart, the appellation of *feria* or fair. Indeed ſeveral of our moſt ancient fairs appear to have been uſually held, and have been continued to our time, on the original church-holidays of the places: beſides, it is obſervable, that fairs were generally kept in church-yards, and even in the churches, and alſo on Sundays, till the indecency and ſcandal were ſo great as to need reformation.

Wake-ROBIN. See ARUM.

WALACHIA, a province of Turkey in Europe, bounded on the north by Moldavia and Tranſylvania, on the eaſt and ſouth by the river Danube, and on the weſt by Tranſylvania. It is 225 miles in length, and 125 in breadth; and was ceded to the Turks by the treaty of Belgrade, in 1739. It abounds in good horſes and cattle; and there are mines of ſeveral kinds. The ſoil is ſo fertile, that it is capable of producing any thing; and there are good paſtures, with

wine, oil, and all manner of European fruits. The inhabitants are chiefly of the Greek church.

WALCHEREN, an iſland of the Low-countries, and one of the principal of thoſe of Zealand; ſeparated from Dutch Flanders by the mouth of the Scheld It is about nine miles in length, and eight in breadth; and though it lies low, has good arable and paſture land. The chief town of this iſland and the whole province is Middleburg.

WALDEN, a town of Eſſex, commonly called *Saffron Walden*, with a market on Saturdays, and two fairs on Midlent Saturday for horſes, and November 1ſt for cows. It is remarkable for the plenty of ſaffron that grows about it. This town was incorporated by Edward VI. and is governed by a mayor and 24 aldermen. It is 27 miles north-weſt by north of Chelmsford, and 43 north-eaſt of London. E. Long. 0. 20. N. Lat 52. 4.

WALDENSES. See WALDO.

WALDO, a merchant of Lyons in the latter part of the 12th century, who applying himſelf to the ſtudy of the Scriptures, and finding no warrant there for ſeveral of the Romiſh doctrines, particularly that of tranſubſtantiation, publicly oppoſed them. His followers, who from him were called *Waldenſes*, being chaſed from Lyons, ſpread over Dauphine and Provence; upon which Philip II. is ſaid to have razed 300 gentlemen's ſeats, and deſtroyed ſeveral walled towns, to ſtop their growth: but this, inſtead of ſuppreſſing, ſpread them over a great part of Europe. The articles of their faith, which they drew up and dedicated to the king of France, agreed in moſt points with thoſe of the preſent Proteſtants. In the year 1200, thoſe of them who dwelt in the province of Albigeois in Languedoc, from whence they were called *Albigenſes*, ſtood upon their defence; upon which Philip drove them into Bohemia, Savoy, and England. The cruſade againſt them is ſaid to have conſiſted of 500,000 men, who wore their croſſes on their breaſts, to diſtinguiſh themſelves from thoſe who went to the Holy Land, and wore them on their ſhoulders.

WALES *(Principality of)*, a country conſtituting a part of Great Britain: is bounded on the north and weſt by the Iriſh Sea, on the eaſt by the Engliſh counties of Cheſter, Salop, Hereford, and Monmouth, and on the ſouth by the river Severn and the Briſtol Channel; about 150 miles from north to ſouth, and from 50 to 80 in breadth from eaſt to weſt. The country is mountainous, but not barren, producing all the neceſſaries of life; the air is good, the cattle and ſheep are numerous, but ſmall: in the mountains are found ores of various metals, freeſtone, limeſtone, and coal. It is divided into North and South Wales, each containing ſix counties. To North Wales belong Angleſea, the counties of Caernarvon, Denbigh, Flint, Merioneth, and Montgomery. In South Wales are the counties of Brecknock, Caermarthen Cardigan, Glamorgan, Pembroke, and Radnor. The county of Monmouth, which formerly belonged to Wales, was detached from the principality, and annexed to England, in the reign of Henry VIII. The preſent inhabitants are deſcendants from the ancient Britons, who were driven out of England by the Saxons, and they have preſerved their ancient language; and, in many inſtances, the manners of their anceſtors. Previous to the arrival of the Britons, Wales was inhabited by people named Demetes, Ordovices, and Silures. The Britons, indignant of the Saxon yoke, found an aſylum among the mountains of Wales, and forming themſelves into different ſtates, were long governed by independent kings, till in the reign of Edward I. The laſt prince, Lewellin, being vanquiſhed and ſlain in the year 1283, it was united to England: the Welch, though unable to reſiſt the ſuperior force of Edward, ſubmitted to the Engliſh dominion with extreme reluctance; and it was not till ſome ages elapſed, that the animoſity which had long ſubſiſted between the two nations was totally extinguiſhed. To accelerate that period, and render the conqueſt more ſecure, Edward had recourſe to acts of barbarous, but not ineffectual policy. Senſible that nothing contributed to keep alive the enthuſiaſm for national honour ſo much as the bards of the country, whoſe employment it was to rehearſe at all feſtivals the glorious deeds of their anceſtors, Edward ordered them to be put to death. A ſubſequent expedient practiſed by him for the purpoſe of reconciling the Welch to his government, was of a nature far more conciliating. It is ſaid, that, aſſembling the natives of the country, he promiſed to give them for their prince a Welchman by birth, and one who could ſpeak no other language. This popular addreſs being received with acclamations of joy, he inveſted in the principality his ſecond ſon, Edward, then an infant, who had been born at Caernarvon. The death of his eldeſt ſon, Alphonſo, happening ſoon after, young Edward alſo became heir of the Engliſh monarchy, and united both nations under one government. Since that time, the eldeſt ſon of the king of England has always been created Prince of Wales.

New WALES. See *New* BRITAIN.

New South-WALES. See *New* HOLLAND.

Prince of WALES. See ROYAL *Family*.

WALKING *Leaf*. See MANTIS *Syciſolia*.

WALL, in architecture, the principal part of a building, as ſerving both to incloſe it, and to ſupport the roof, floors, &c.—Walls are diſtinguiſhed into various kinds, from the matter whereof they conſiſt; as plaſtered or mud-walls, brick-walls, ſtone-walls, flint or boulder-walls, and boarded-walls. See ARCHITECTURE.

WALLACE (Sir William), a gallant general of the Scots, who endeavoured to reſcue his country from the Engliſh yoke; but being taken priſoner, he was unjuſtly tried by the Engliſh laws, condemned, and executed as a traitor to Edward I. in 1304.

WALLACHIA. See WALACHIA.

WALLER (Edmund), a celebrated Engliſh poet, was the ſon of Robert Waller, eſq. of Agmondeſham in Buckinghamſhire, by Anne, the ſiſter of the great Hamden, who diſtinguiſhed himſelf ſo much in the beginning of the civil wars. He was born in 1605; and his father dying when he was very young, the care of his education fell to his mother, who ſent him to Eaton ſchool. He was afterwards ſent to King's college in Cambridge, where he muſt have been very aſſiduous in his ſtudies, ſince, at ſixteen or ſeventeen years of age, he was choſen into the laſt parliament of King James I. and ſerved as burgeſs for Agmondeſham. He began to exerciſe his poetical talent ſo early as the year 1623; as appears from his verſes "upon the danger his majeſty (being prince) eſcaped in the road of St. Andero;" for there Prince Charles, returning from Spain that year, had like to have been caſt away. It was not, however, Mr. Waller's wit, his fine parts, or his poetry, that ſo much occaſioned him to be firſt publicly known, as his carrying off the daughter and ſole heireſs of a rich citizen, againſt a rival whoſe intereſt was eſpouſed by the court. It is not known at what time he married his firſt lady; but he was a widower before he was 25, when he began to have a paſſion for Sacharilſa, which was a fictitious name for the lady Dorothy Sidney, daughter to the earl of Leiceſter, and afterwards wife to the earl of Sunderland. He was now known at court, careſſed by all who had any reliſh for wit and polite literature; and was one of the famous club of which Lord Falkland, Mr. Chillingworth, and other eminent men, were members. He was returned burgeſs for Agmondeſham in the parliament which met in April 1640 An intermiſſion of parliaments having diſguſted the nation, and raiſed

jealouſies againſt the deſigns of the court, which would be ſure to diſcover themſelves whenever the king came to aſk for a ſupply, Mr. Waller was one of the firſt who condemned the preceding meaſures. He ſhowed himſelf in oppoſition to the court, and made a ſpeech in the houſe on this occaſion; from which we may gather ſome notion of his general principles in government; wherein, however, he afterwards proved very variable and inconſtant. He oppoſed the court alſo in the long parliament which met in November following, and was choſen to impeach Judge Crawley, which he did in a warm and eloquent ſpeech, July 16th, 1641. This ſpeech was ſo highly applauded, that 20,000 copies of it were ſold in one day. In 1642 he was one of the commiſſioners appointed by the parliament to preſent their propoſitions of peace to the king at Oxford. In 1643 he was deeply engaged in a deſign to reduce the city of London and the Tower to the ſervice of the king; for which he was tried and condemned, together with Mr. Tomkins his brother-in-law, and Mr. Challoner. The two latter ſuffered death; but Mr. Waller obtained a reprieve: he was, however, ſentenced to ſuffer a year's impriſonment, and to pay a fine of 10,000l. After this, he became particularly attached to Oliver Cromwell, upon whom he wrote a very handſome panegyric. He alſo wrote a noble poem on the death of that great man.

At the Reſtoration, he was treated with great civility by Charles II. who always made him one of the party in his diverſions at the duke of Buckingham's and other places. He wrote a panegyric upon his majeſty's return; which being thought to fall much ſhort of that he had before written on Oliver Cromwell, the king one day aſked him in raillery, "How is it, Waller, that you wrote a better encomium on Cromwell than on me?" "May it pleaſe your majeſty," anſwered he, "we poets generally ſucceed beſt in fiction." He ſat in ſeveral parliaments after the Reſtoration, and continued in the full vigour of his genius to the end of his life, his natural vivacity bearing him up, and making his company agreeable to the laſt. He died of a dropſy in 1687, and was interred in the church-yard of Beaconſfield, where a monument is erected to his memory. Mr. Waller has been honoured as the moſt elegant and harmonious verſifier of his time, and a great refiner of the Engliſh language. The beſt edition of his works, containing poems, ſpeeches, letters, &c. is that publiſhed in quarto by Mr. Fenton in 1730.

WALLIS (Dr. John), a celebrated mathematician, was educated at Cambridge; where he became fellow of Queen's College, and continued ſo till, by his marriage, he vacated his fellowſhip. In 1640 he received holy orders, and became chaplain to the Lady Vere. While he lived in this family, he cultivated the art of deciphering; and it is ſaid, that the elector of Brandenburgh, for whom he explained ſeveral letters written in ciphers, ſent him a gold chain and medal. In 1643 he publiſhed, "Truth tried; or, Animadverſions on the Lord Brooke's Treatiſe, called *The Nature of Truth*, &c." The next year he was choſen one of the ſcribes or ſecretaries to the aſſembly of divines at Weſtminſter. Dr. Peter Turner, Savilian profeſſor of geometry in Oxford, being ejected by the parliament-viſitors in 1649, Mr. Wallis was appointed to ſucceed him in that place. In 1653 he publiſhed at Oxford a Grammar of the Engliſh Tongue in Latin. In 1655 he entered the liſts with Mr. Hobbes; and their controverſy laſted a conſiderable time. In 1657 the Doctor publiſhed his Mathematical Works. Upon the death of Dr. Langbaine, he was choſen cuſtos archivorum of the univerſity. After the Reſtoration he met with great reſpect, the king himſelf entertaining a favourable opinion of him on account of ſome ſervices he had done both to his royal father and himſelf. He was therefore confirmed in his places, admitted one of the king's chaplains in ordinary, and appointed one of the divines empowered to review the book of Common-prayer. He complied with the terms of the act of uniformity, and continued a ſteady conformiſt till his death. He was one of the firſt members of the Royal Society, and correſponded with many learned men. In 1697 the curators of the univerſity preſs at Oxford thought it for the honour of the univerſity to collect the mathematical works of the doctor, which had been printed ſeparately, ſome in Latin, ſome in Engliſh, and publiſhed them all together in the Latin tongue, in 3 vols. folio. He died in 1703. Beſides the works above mentioned, he publiſhed many others.

WALLOONS, a name for the inhabitants of a conſiderable part of the Netherlands, viz. Artois, Hainault, Namur, Luxemburgh, and part of Flanders and Brabant.

WALNUT-TREE, in botany. See JUGLANS.

WALPOLE (Sir Robert), earl of Orford, was born at Houghton in Norfolk, Sept. 6, 1674, and educated on the foundation at Eton School. Thence he was elected to King's College, Cambridge, and admitted in 1681; but, ſucceeding to the family eſtate by the death of his elder brother, he reſigned his fellowſhip. In 1700 he was choſen member of parliament for King's-Lynn, and repreſented that borough in ſeveral ſucceeding parliaments. In 1705 he was nominated one of the council to Prince George of Denmark, lord high-admiral of England. In 1707, appointed ſecretary at war; and, in 1709, treaſurer of the navy. In 1710, upon the change of the miniſtry, he was removed from all his poſts, and held no place afterwards during the queen's reign. In 1711 he was voted by the Houſe of Commons guilty of an high breach of truſt, and notorious corruption in his office of ſecretary at war; and it was reſolved, that he ſhould be committed to the Tower, and expelled the houſe.

The borough of Lynn re-elected him; and, though the houſe declared the election void, yet they perſiſted in the choice. In the well-known debate, relating to Steele for publiſhing the "Criſis," he greatly diſtinguiſhed himſelf in behalf of liberty, and added to the popularity he had before acquired. The ſchiſm-bill too ſoon after gave him a fine opportunity of exerting his eloquence, and of appearing in the character of the champion of civil and religious liberty. On the death of the queen, a revolution of politics took place, and the Whig party prevailed both at court and in the ſenate. Walpole had before recommended himſelf to the houſe of Hanover, by his zeal for its cauſe, when the Commons conſidered the ſtate of the nation with regard to the Proteſtant ſucceſſion; and he had now the honour to procure the aſſurance of the houſe to the new king (which attended the addreſs of condolence and congratulation) "That the Commons would make good all parliamentary funds." It is therefore not to be wondered at, that his promotion ſoon took place after the king's arrival; and that in a few days he was appointed receiver and paymaſter-general of all the guards and garriſons, and of all other the land forces in Great-Britain, paymaſter of the Royal Hoſpital at Chelſea, and likewiſe a privy-counſellor. On the opening of a new parliament, a committee of ſecrecy was choſen, to enquire into the conduct of the late miniſtry, of which Walpole was appointed chairman; and, by his management, articles of impeachment were read againſt the Earl of Oxford, Lord Bolingbroke, the Duke of Ormond, and the Earl of Strafford. The eminent ſervice he was thought to have done the nation and the crown, by the vigorous proſecution of thoſe miniſters, who were deemed the chief inſtruments of the peace, was ſoon rewarded by the extraordinary promotions of firſt commiſſioner of the treaſury, and chancellor and under-treaſurer of the exchequer.

In two years' time, a misunderstanding appeared amongst his majesty's servants; and it became evident, that the interest of Secretary Stanhope and his adherents began to outweigh that of the exchequer, and that Walpole's power was visibly on the decline. King George had purchased of the King of Denmark the duchies of Bremen and Verden, which his Danish majesty had gained by conquest from Charles XII. of Sweden. The Swedish hero, enraged to see his dominions publicly set to sale, conceived a resentment against the purchaser, and formed a design to gratify his revenge on the electorate of Hanover. Upon a message sent to the House of Commons by the king, Secretary Stanhope moved for a supply, to enable his majesty to concert such measures with foreign princes and states, as might prevent any change or apprehensions from the designs of Sweden for the future. This occationed a warm debate, in which it was remarkable that Walpole kept a profound silence. The country party insisted, that such a proceeding was contrary to the act of settlement. They insinuated, that the peace of the empire was only a pretence, but that the security of the new acquisitions was the real object of this unprecedented supply; and they took occasion to observe too, that his majesty's own ministers seemed to be divided. But Walpole thought proper on this surmise to speak in favour of the supply, which was carried by a majority of four voices only. In a day or two, he resigned all his places to the king; and, if the true cause of his defection from the court had been his disapprobation of the measures then pursuing, we must acknowledge his conduct in this instance to have been noble and praise-worthy. But they who consider the intrigues of party, and that he spoke in favour of these measures, will find little room to suppose, that his resignation proceeded from any attachment to liberty, or love of his country. He resigned most probably with a view to be restored with greater plenitude of power: and the number of his friends, who accompanied him in his resignation, prove it to have been a mere factious movement.

On the day of his resignation, he brought in the famous sinking-fund bill: he presented it as a country gentleman; and said, he hoped it would not fare the worse for having two fathers, and that his successor (Mr. Stanhope) would bring it to perfection. His calling himself the father of a project, which hath since been so often employed to other purposes than were at first declared, gave his enemies frequent opportunity for satire and ridicule; and it hath been sarcastically observed, that the father of this fund appeared in a very bad light, when viewed in the capacity of a nurse. In the course of the debates on this bill, a warm contest arose between Walpole and Stanhope: on some severe reflections thrown upon him, the former lost his usual serenity of temper, and replied with great warmth and impetuosity. The acrimony on both sides produced unbecoming expressions, the betraying of private conversation, and the revealing a piece of secret history, viz. "the scandalous practice of selling places and reversions."

In the next session of parliament, Walpole opposed the ministry in every thing; and even Wyndham or Shippen did not exceed him in patriotism. Upon a motion in the house for continuing the army, he made a speech of above an hour long, and displayed the danger of a standing army, in a free country, with all the powers of eloquence. Early in 1720, the rigour of the patriot began to soften, and the complaisance of the courtier to appear; and he was again appointed paymaster of the forces, and several of his friends were found soon after in the list of promotions. No doubt now remained of his entire conversion to court measures; for, before the end of the year, we find him pleading as strongly for the forces required by the war-office, as he had before declaimed against them, even though at this time the same pretences for keeping them on foot did not exist.

It was not long before he acquired full ministerial power, being appointed first lord-commissioner of the treasury, and chancellor of the exchequer: and, when the king went abroad in 1723, he was nominated one of the lords-justices for the administration of government, and was sworn sole secretary of state. About this time, he received another distinguished mark of the royal favour; his eldest son, then on his travels, being created a peer, by the title of Baron Walpole, of Walpole. In 1725 he was made knight of the bath; and, the year after, knight of the garter. The measures of his administration, during the long time he remained prime or rather sole minister, have been often canvassed with all the severity of critical inquiry. It is difficult to discern the truth through the exaggerations and misrepresentations of party; and we shall leave it to the impartial historian to set it in a proper light. Though he had been called "The Father of Corruption" (which, however, he was not, but certainly a great improver of it), and is said to have boasted that he knew every man's price; yet, in 1742, the opposition prevailed, and he was not any longer able to carry a majority in the House of Commons. He now resigned all his places, and fled for shelter behind the throne. But there is so little appearance of his credit receiving any diminution, that he was soon after created Earl of Orford, and most of his friends and dependents continued in their places. The king too granted him a pension of 4000l. in consideration of his long and faithful services. He died in 1745, aged seventy-one.

About the end of Queen Anne's reign, and the beginning of George the First, he wrote the following pamphlets: 1. "The Sovereign's Answer to the Gloucestershire Address." The sovereign meant Charles duke of Somerset, so nick-named by the Whigs. 2. "Answer to the Representation of the House of Lords on the State of the Navy, 1709." 3. "The Debts of the Nation stated and considered, in four Papers, 1710." 4. "The Thirty-Five Millions accounted for, 1710." 5. "A Letter from a foreign Minister in England to Monsieur Petteum, 1710." 6. "Four Letters to a Friend in Scotland upon Sacheverell's Trial;" falsely attributed in the General Dictionary to Mr. Maynwaring. 7. "A short History of the Parliament." 8. "The South-Sea Scheme considered." 9. "A Pamphlet against the Peerage-Bill, 1719." 10. "The Report of the Secret Committee, June 9, 1715."

WALRUS, in zoology. See TRICHECUS.

WALSH (William), an English critic and poet, the son of Joseph Walsh, esq. of Abberley in Worcestershire, was born about the year 1660. He became a gentleman-commoner of Wadham College, Oxford, but left the university without taking a degree. His writings are printed among the works of the Minor Poets, printed in 1749. He was made gentleman of the horse in Queen Anne's reign; and died in 1708. He was the friend of Mr. Dryden and of Mr. Pope; the former of whom esteemed him the best critic then living; and Mr. Pope has celebrated his character in the Essay on Criticism.

WALSINGHAM, a town of Norfolk, with a market on Fridays, and a fair on Whit-Monday, for horses and pedlar's ware. It is seated not far from the sea; and in former times was famous for its college of canons, and was greatly frequented by pilgrims who went to pay their devotions to the image of the Virgin Mary at the chapel, where there are two fine springs, called the *Virgin Mary's wells*. Not many years ago there were found here 100 urns full of ashes by a husbandman, which were supposed to be those which the Ro-

mans filled with the aſhes of the dead. It is 22 miles north-weſt of Norwich, and 117 north-north-eaſt of London. E. Lon. 0. 53. N. Lat. 52. 56.

WALSINGHAM (Thomas), an Engliſh Benedictine monk of the monaſtery of St. Alban's, about the year 1440. He applied himſelf to the hiſtory and antiquity of his country, in quality of hiſtoriographer to the king; and compoſed the Hiſtory of King Henry VI. with other works.

WALSINGHAM (Sir Francis), miniſter and ſecretary of ſtate during the reign of Queen Elizabeth, and one of the greateſt politicians of his time, was deſcended from a noble and ancient family at Chiſlehurſt. After having made great progreſs in his ſtudies at Cambridge, he was twice ſent ambaſſador to France, and at his return to England was employed in the moſt important affairs; became ſecretary of ſtate, and was one of the commiſſioners for the trial of Mary queen of Scotland. Sir Francis was undoubtedly one of the moſt refined politicians and moſt penetrating ſtateſmen that any age ever produced. He had an admirable talent, both in diſcovering and managing the ſecret receſſes of the heart. He had his ſpies in moſt courts in Chriſtendom, and allowed them a liberal maintenance; for it was his maxim, That knowledge cannot be bought too dear. In 1587 the king of Spain having made vaſt preparations, which ſurprized, and kept all Europe in ſuſpence, Walſingham employed his utmoſt endeavours for the diſcovery of that important ſecret; and accordingly procured intelligence from Madrid, that the king had informed his council of his having diſpatched an expreſs to Rome, with a letter written with his own hand to the pope, acquainting him with the true deſign of his preparations, and begging his bleſſings upon him; which for ſome reaſons he could not diſcloſe till the return of the courier. The ſecret being thus lodged with the pope, Walſingham, by means of a Venetian prieſt, whom he retained at Rome as a ſpy, got a copy of the original letter, which was ſtolen out of the pope's cabinet by a gentleman of the bed-chamber, who took the key out of the pope's pocket while he ſlept. After this, by his dexterous management, he cauſed the Spaniards' bills to be proteſted at Genoa, which ſhould have ſupplied them with money for their extraordinary preparations; and by this means he happily retarded this formidable invaſion for a whole year. In ſhort, he ſpent his whole time and faculties in the ſervice of Queen Elizabeth; on which account her majeſty was heard to ſay, "That in diligence and ſagacity he exceeded her expectations." However, after all his eminent ſervices to his country, this great man gave a remarkable proof at his death, which happened on the 6th of April, 1590, how far he preferred the public intereſt to his own, he being ſo poor, that, excepting his library, which was a very fine one, he had ſcarcely effects enough to defray the expence of his funeral. His principal works are, 1. Memoirs and Inſtructions for the uſe of Ambaſſadors, with his Letters and Negociations. 2. Political Memoirs.

WALTHERIA, in botany: a genus of plants in the claſs *monodelphia*, and order *triandria*; and in the natural ſyſtem arranged under the 37th order, *Columniferæ*. There is only one piſtillum, and the capſule is unilocular, bivalved, and monoſpermous. There are three ſpecies, none of which are natives of Britain.

WALTON (Bryan), biſhop of Cheſter, a learned Engliſh divine, who gained great reputation by his edition of the Polyglot Bible, with his Prolegomena in the beginning; which is more exact, ſays Father Simon, than any other which had been publiſhed on that ſubject. He died in 1661.

WAMPUM, the money uſed by the North-American Indians. It is much uſed in all their treaties as a ſymbol of friendſhip. It is made of a ſhell of a particular ſpecies of VENUS.

WAPENTAKE, is the ſame with what we call a *hundred*; eſpecially uſed in the north countries beyond the river Trent. The word ſeems to be of Daniſh original, and to be ſo called for this reaſon: when firſt this kingdom, or part thereof, was divided into wapentakes, he who was the chief of the wapentake or hundred, and whom we now call a *high conſtable*, as ſoon as he entered upon his office, appeared in a field on a certain day on horſeback with a pike in his hand, and all the chief men of the hundred met him there with their lances, and touched his pike; which was a ſign that they were firmly united to each other by the touching their weapons. But Sir Thomas Smith ſays, that anciently muſters were made of the armour and weapons of the ſeveral inhabitants of every wapentake; and from thoſe that could not find ſufficient pledges for their good abearing, their weapons were taken away and given to others; from whence he derives the word.

WAR, a great evil; but inevitable, and oftentimes neceſſary. If he who firſt reduced to rules the art of deſtroying his fellow-creatures, had no end in view but to gratify the paſſions of princes, he was a monſter, whom it would have been a duty to ſmother at his birth: but if his intention was the defence of perſecuted virtue, or the puniſhment of ſucceſsful wickedneſs, to curb ambition, or to oppoſe the unjuſt claims of ſuperior power, mankind ought to erect altars to his memory.

War, in the laſt caſe, is the moſt neceſſary and uſeful of all the ſciences: the various kinds of knowledge which ought to furniſh the mind of a ſoldier are not without great difficulty to be attained. Of moſt other ſciences the principles are fixed, or at leaſt they may be aſcertained by the aſſiſtance of experience; there needs nothing but diligence to learn them, or a particular turn of mind to practiſe them. Philoſophy, mathematics, architecture, and many others, are all founded upon invariable combinations. Every man, even of a narrow underſtanding, may remember rules, apply them properly, and ſometimes draw juſt conſequences from them: but the ſcience of war branches out into ſo many particulars; it takes in ſo many different parts; there are ſo many reflections neceſſary to be made, ſo many circumſtances and caſes to be brought together; that it is only by a continual application, grounded upon the love of his duty, and an inclination to his profeſſion, that any man can attain it.

To march an army in every ſort of country, whether open, woody, or mountainous; to know how to form a camp in all thoſe countries, with which the general muſt be thoroughly acquainted in order to do it with ſecurity; to make a proper diſpoſition for a battle, whether with a view to the poſture of the enemy, or to the ſituation of the country; to foreſee events which depend in a manner upon chance; to be capable of making a good retreat on proper occaſions; to direct the forages without fatiguing or expoſing the troops; to ſend out detachments with precaution; to conduct the convoys in ſafety; to know how to canton an army; to eſtabliſh magazines in places, both ſafe and within reach of the army, ſo that it ſhall never be in want of ſubſiſtence;—theſe are the great ends of the military ſcience.

It is commonly thought ſufficient for a military man to know how to obey; and it is alſo ſuppoſed that the ſucceſs of a day cannot be dubious, if a general joins the confidence of the ſoldiers to perſonal courage, a cool head, and a knowledge of the country.

It is true that, in caſes of perplexity, many generals have in a great meaſure owed to their own capacity, and the confi-

dence their ſoldiers have repoſed in them, the advantages they have gained over the enemy; and confidence will always be repoſed by the ſoldiers in that general in whom they perceive coolneſs united with courage. At the battle of Cannæ, when Giſco ſeemed to be much aſtoniſhed at the ſuperiority of the enemy's number, Hannibal anſwered him cooly, "There is, Giſco, a thing ſtill more ſurpriſing, of which you take no notice." Giſco aſking him what it was, "It is (replied Hannibal) that in all that great crowd there is not one man whoſe name is *Giſco*." Plutarch obſerves, that this coolneſs of Hannibal greatly animated the Carthaginians, who could not imagine that their general would joke at ſo important a time, without being certain of overcoming his enemies.

Although bravery and courage are the moſt eſſential qualifications of a ſubordinate officer, yet he ſhould not be deficient in thoſe which are required in a general, and which have been already mentioned; obedience to the orders delivered to him is no longer a virtue than whilſt he comprehends and knows the intention of them. War, ſays a celebrated author, is a buſineſs which, like all others, muſt be learned; it ſuppoſes ſome qualities to be born with us, and demands others which are to be acquired: but ſince all theſe qualities muſt have the original ſource in genius, a man who propoſes war for his profeſſion, ſhould never engage in it without having conſulted his natural bent, or without knowing the particular turn and power of his mind. Ability, whether in a general or an officer, is the effect of his genius, quickened by a natural liking to his buſineſs.

A quick eye, which is of great importance to a ſoldier, is natural to ſome, and in them it is the effect of genius; others acquire it by ſtudy or experience; he who knows how to command himſelf, and has courage enough to keep himſelf cool on the moſt urgent occaſions, has the readieſt and quickeſt eye. A quick, hot-headed man, however brave, ſees nothing; or if he does, it is confuſedly, and generally too late.

It is this quick eye which enables a general to judge of an advantageous poſt, of a manœuvre to be made, and of a good diſpoſition for the troops, whether with reſpect to that of the enemy, or to the ſituation and nature of the country.

The quick eye is no other than that penetrating genius which lets nothing eſcape it. A general who knows how to unite this quality with perpetual coolneſs, never is in want of expedients; he will ſee how thoſe events, which to any other would be the preſage of his own defeat, may end in the overthrow of his enemies.

The choice of the general officers depends upon this genius, which diſcovers every thing; they ought to be the right hand of the general, and as capable of commanding the army as himſelf. Whatever good diſpoſitions a general may make, they muſt prove ineffectual if not ſeconded by the general officers under his command; he cannot be every-where, neither can he foreſee all exigencies that may ariſe. He is obliged to give only general orders; it is therefore the buſineſs of thoſe who command under him to know how to take the advantage of a wrong movement of the enemy; to take upon them to attack, or ſuſtain the troops which are engaged; and, as circumſtances vary, to make them advance towards the enemy, either to keep him back or to attack him.

But the qualities already mentioned would be uſeleſs, if order and diſcipline were not ſeverely obſerved: the moſt numerous and beſt compoſed army would ſoon become little elſe than a body of rangers, who being only united by the hope of booty, would ſeparate as ſoon as that motive ceaſed; and truſting each to his own head, or indulging his own humour, would be cut in pieces party by party: ſo that if the general does not keep up ſubordination (the ſoul and ſtrength of diſcipline), his army will be nothing more than a troop of Tartars acting more from the hope of plunder than the deſire of glory. What art and what genius is there not requiſite to maintain this ſubordination? Too much ſeverity diſguſts the ſoldier, and renders him mutinous; too much indulgence ſinks him into indolence, and makes him neglect his duty; licentiouſneſs cauſes that ſubordination to ſeem burdenſome, which ſhould never in any degree be given up: he loſes that reſpect, and often that confidence, which he ſhould have with regard to his officer; and indulgence often makes a well-diſciplined body become a ſet of ſluggards, who march againſt their will, and who, on the moſt preſſing emergencies, think only on their own ſafety.

Beſides theſe qualities, which are eſſential to a general, and which all who would attain that rank ought of courſe to have, there are ſtill many others neceſſary to make a great man. A general who would merit the title of a hero, ought to unite in himſelf, all civil, military, and political excellence. It is by this that he will eaſily attain to make war with ſucceſs: nothing will eſcape him; he will know without difficulty the genius of every country, and of the nations which compoſe the enemy's army, the abilities of the generals who command, and the nature of the troops under them; he knows that he may venture a motion with ſome troops that he would not dare to attempt with others that are equally brave. One nation is vehement, fiery, and formidable in the firſt onſet; another is not ſo haſty, but of more perſeverance: with the former, a ſingle inſtant determines ſucceſs; with the latter, the action is not ſo rapid, but the event is leſs doubtful.

No man is born a general, although he brings into the world with him the ſeeds of thoſe virtues which makes a great man: Cæſar, Spinola, Turenne, the great Condé, and ſome others, ſhowed, even in their earlieſt years, ſuch qualities as ranked them above other men; they carried within them the principles of thoſe great virtues which they drew forth to action by profound ſtudy, and which they brought to perfection by the help of practice: thoſe who came after them, with perhaps fewer natural talents, have by ſtudy rendered themſelves worthy of being compared to them. Cæſar and all conquerors had this advantage, that they were able to make their own opportunities, and always acted by their own choice. A man may be a good general without being a Marlborough or a Turenne: ſuch geniuſes are ſcarcely ſeen once in an age; but the more they are raiſed above the reſt of mankind, the more they ought to excite emulation. It is by endeavouring to ſurpaſs the intellects of the ſecond rate; it is by ſtriving to equal the moſt ſublime, that the imitation of them is to be attained. This paſſion in a ſoldier is neither pride nor preſumption; it is virtue; and it is by this only that he can hope to be ſerviceable to the ſtate, and add to the glory of his king and country.

How much ſoever the honour of commanding armies may be ſought after, it degrades him who is not worthy of it; this rank, ſo much deſired, borders on the two extremes of glory and ignominy. A military man who labours to make himſelf capable of commanding, is not to be blamed; his ambition is noble: by ſtudying the art of commanding, he learns that of obeying and of executing. But it is aſtoniſhing in the higheſt degree to ſee ſoldiers thinking only on preferment, and neglecting the ſtudy of their buſineſs. It is perhaps leſs ſurpriſing if we ſee others, without having been tried, propoſing to themſelves to command in chief; becauſe ſuch attempts ſuppoſe in the projector an abſurd temerity, founded on a profound ignorance of the talents he ought to have, and the virtues which he has not. Such boldneſs is the character of a man whoſe mind is too narrow to perceive his

danger: we ſhould rather approve the timidity that ſuffers itſelf to be dejected by terror, ſince it ſhows at leaſt that he knows to what hazards he is expoſed: both one and the other are blameable: modeſty is the only proper quality of a ſoldier; it gives ſplendour to virtue, it argues diffidence of himſelf, and deſire of arriving at perfection.

The title of general would be leſs tempting, if proper attention was paid to the qualities it requires, and the duties it impoſes; it would then appear a very honourable, but painful burden. The moſt firm and intrepid genius might be diſcouraged, merely by thinking that on the conduct of a general depends the fate of the ſtate, the glory of his prince's arms, and his own reputation.

Our predeceſſors have gone to a conſiderable length in detailing all that is neceſſary to be known in the ART of WAR: but in this we ſhall not imitate them; not merely becauſe our limits do not allow of that extenſion which the ſubject would require to be treated to any good purpoſe, but becauſe the *utility* of ſuch an article would be extremely limited.

Man-of-War Bird. See PELICANUS.

War-Cry was formerly cuſtomary in the armies of moſt nations, when juſt upon the point of engaging. Sometimes they were only tumultuous ſhouts, or horrid yells, uttered with an intent to ſtrike terror into their adverſaries; ſuch as is now uſed by the Indians in America, called the *war-whoop.*

WARBLES, in farriery. See FARRIERY.

WARBURTON (William), an Engliſh prelate of gigantic abilities, was born at Newark-upon-Trent, in the county of Nottingham, Dec. 24, 1698. His father was George Warburton, an attorney, and town-clerk of the place in which this his eldeſt ſon received his birth and education. His mother was Elizabeth, the daughter of William Hobman, an alderman of the ſame town, and his parents were married about the year 1696. The family of Dr. Warburton came originally from the county of Cheſter, where his great grandfather reſided. His grandfather, William Warburton, was the firſt that ſettled at Newark; where he practiſed the law, and was coroner of the county of Nottingham. George Warburton, the father, died about the year 1706, leaving his widow and four children, two ſons and two daughters, of which the ſecond ſon George died young; but of the daughters one ſurvived her brother. The biſhop received the early part of his education under Mr. Weſton, then maſter of Okeham ſchool in Rutlandſhire, and afterwards vicar of Campden in Glouceſterſhire; in which he was ſucceeded by his ſon, both from the gift of the earl of Gainſborough. His original deſignation was to the ſame profeſſion as that of his father and grandfather, and he was accordingly placed clerk to an attorney, with whom he remained until he was qualified to engage in buſineſs upon his own account. He was then admitted to one of the courts at Weſtminſter, and for ſome years continued the employment of an attorney and ſolicitor at the place of his birth. The ſucceſs he met with as a man of buſineſs was probably not great. It was certainly inſufficient to induce him to devote the reſt of his life to it: and it is probable, that his want of encouragement might tempt him to turn his thoughts towards a profeſſion in which his literary acquiſitions would be more valuable, and in which he might more eaſily purſue the bent of his inclination. He appears to have brought from ſchool more learning than was requiſite for a practiſing lawyer. This might rather impede than forward his progreſs, as it has been generally obſerved, that an attention to literary concerns, and the buſtle of an attorney's office, with only a moderate ſhare of buſineſs, are wholly incompatible. It is therefore no wonder that he preferred retirement to noiſe, and relinquiſhed what advantages he might expect from continuing to follow the law. It has been ſuggeſted by an ingenious writer, that he was for ſome time uſher to a ſchool. In 1724 his firſt work appeared, under the title of "Miſcellaneous Tranſlations in Proſe and Verſe, from Roman Poets, Orators, and Hiſtorians," 12mo. It is dedicated to his early patron, Sir Robert Sutton, and ſeems to have laid the foundation of his firſt eccleſiaſtical preferment. At this period it is probable he had not abandoned his profeſſion, though it is certain he did not attend to it much longer. About Chriſtmas 1726, he came to London, and while there was introduced to Theobald, Concanen, and others of Mr. Pope's enemies, with whoſe converſation he was extremely pleaſed. It was at this time that he wrote a letter to Concanen, dated Jan. 2, 1726, which, by accident, falling into the hands of the late Dr. Akenſide, was produced to moſt of that gentleman's friends, and by that means became the ſubject of much ſpeculation. About this time he alſo communicated to Theobald ſome notes of Shakſpeare, which afterwards appeared in that critic's edition of our great dramatic poet. In 1727 his ſecond work, entitled, "A Critical and Philoſophical Inquiry into the Cauſes of Prodigies and Miracles, as related by Hiſtorians," &c. was publiſhed in 12mo. and was alſo dedicated to Sir Robert Sutton. He was at this time in orders; and on the 25th of April, 1728, had the honour to be in the king's liſt of Maſters of Arts, created at Cambridge, on his majeſty's viſit to that univerſity. In June, the ſame year, he was preſented by Sir Robert Sutton to the rectory of Burnt Broughton, in the dioceſe of Lincoln; a living worth 200l. a-year, which he retained till his death, at which he ſpent a conſiderable part of his middle-life in a ſtudious retirement, devoted entirely to letters, and there planned, and in part executed, ſome of his moſt important works. Several years elapſed, after obtaining this preferment, before Mr. Warburton appeared again in the world as a writer. In 1736 he exhibited a plan of a new edition of Velleius Paterculus, which he printed in the "Bibliothêque Britannique, ou Hiſtoire des Ouvrages des Savans de la Grande Bretagne, pour les Mois Juillet, Août, & Sep. 1736. A la Haye." The deſign never was completed. It was in this year that he may be ſaid to have emerged from the obſcurity of a private life into the notice of the world. The firſt publication which rendered him afterwards famous now appeared, under the title of "The Alliance between Church and State; or, the Neceſſity and Equity of an eſtabliſhed Religion and a Teſt Law, demonſtrated from the Eſſence and End of Civil Society, upon the fundamental Principles of the Law of Nature and Nations." In three parts: the firſt, treating of a civil and religious ſociety; the ſecond, of an eſtabliſhed church; and the third, of a teſt law, 8vo. At the end was announced the ſcheme of "The Divine Legation of Moſes," in which he had at this time made a conſiderable progreſs. The firſt volume of this work was publiſhed in January 1737-8, and met with a reception which neither the ſubject, nor the manner in which it was treated, ſeemed to authorize. It was, as the author afterwards obſerved, fallen upon in ſo outrageous and brutal a manner, as had been ſcarcely pardonable, had it been "The Divine Legation of Mahomet."—It produced ſeveral anſwers, and ſo much abuſe from the authors of "The Weekly Miſcellany," that in leſs than two months he was conſtrained to defend himſelf, in "A Vindication of the Author of the Divine Legation of Moſes, from the Aſperſions of the Country Clergyman's Letter in the Weekly Miſcellany of February 14, 1737-8," 8vo. Mr. Warburton's extraordinary merit had now attracted the

notice of the heir apparent to the crown, in whoſe immediate ſervice we find him, in June 1738, when he publiſhed "Faith working by Charity to Chriſtian Edification; a Sermon, &c." The "Eſſay on Man" had been now publiſhed ſome years; and it is univerſally ſuppoſed that the author had, in the compoſition of it, adopted the philoſophy of lord Bolingbroke, whom on this occaſion he had followed as his guide, without underſtanding the tendency of his principles. In 1738 M. de Crouſaz wrote ſome remarks on it, accuſing the author of ſpinoſiſm and naturaliſm: which falling into Mr. Warburton's hands, he publiſhed a defence of the firſt epiſtle, and ſoon after of the remaining three, in ſeven letters, of which ſix were printed in 1739, and the ſeventh in June 1740, under the title of "A Vindication of Mr. Pope's Eſſay on Man, by the Author of the Divine Legation." The opinion which Mr. Pope conceived of theſe defences, as well as of their author, will be beſt ſeen in his letters. In conſequence, a firm friendſhip was eſtabliſhed between them, which continued with undiminiſhed fervour until the death of Mr. Pope, who, during the remainder of his life, paid a deference and reſpect to his friend's judgment and abilities, which will be conſidered by many as almoſt bordering on ſervility. In 1741 the ſecond volume of "The Divine Legation," in two parts, containing books IV. V. VI. was publiſhed: as was alſo a ſecond edition of the "Alliance between Church and State." In the ſummer of that year, Mr. Pope and Mr. Warburton, in a country ramble, took Oxford in their way, where they parted; Mr. Pope, after one day's ſtay, going weſtward; and Mr. Warburton, who ſtayed a day after him to viſit Dr. Conybeare, then dean of Chriſt-church, returning to London. On that day the vice-chancellor, Dr. Leigh, ſent a meſſage to his lodgings, with the uſual compliment, to know if a doctor's degree in divinity would be acceptable to him; to which ſuch an anſwer was returned as ſo civil a meſſage deſerved. About the ſame time, Mr. Pope had the like offer made him of a doctor's degree in law, which he ſeemed diſpoſed to accept, until he learnt that ſome impediment had been thrown in the way of his friend's receiving the compliment intended for him by the vice-chancellor. He then abſolutely refuſed that propoſed to himſelf. Both the degrees were therefore laid aſide; and the univerſity of Oxford loſt ſome reputation by the conduct of this buſineſs, being thus deprived of the honour of two names, which certainly would have reflected much credit on the ſociety in which they were to have been enrolled. Mr. Pope's affection for Mr. Warburton was of ſervice to him in more reſpects than merely increaſing his fame. He introduced and warmly recommended him to moſt of his friends, and among the reſt to Ralph Allen, eſq. of Prior-Park, whoſe niece he ſome years afterwards married, and whoſe great fortune at length came to his only ſon. In conſequence of this introduction, we find Mr. Warburton at Bath in 1742. There he printed a ſermon, which had been preached at the Abbey-church, on the 24th of October, for the benefit of Mr. Allen's favourite charity, the General-hoſpital, or Infirmary. To this ſermon, which was publiſhed at the requeſt of the governor, was added, "A ſhort Account of the Nature, Riſe, and Progreſs, of the General-Infirmary at Bath." In this year alſo, he printed a diſſertation on the origin of books of chivalry, at the end of Jarvis's preface to a tranſlation of Don Quixote.

In 1742 Mr. Warburton publiſhed "A Critical and Philoſophical Commentary on Mr. Pope's Eſſay on Man. In which is contained a Vindication of the ſaid Eſſay from the Miſrepreſentations of Mr. de Reſnel, the French Tranſlator, and of Mr. de Crouſaz, Profeſſor of Philoſophy and Mathematics in the Academy of Lauſanne, the Commentator." It was at this period, when Mr. Warburton had the entire confidence of Mr. Pope, that he adviſed him to complete the Dunciad, by changing the hero and adding to it a fourth book. This was accordingly executed in 1742, and publiſhed early in 1743, in 4to. with notes by our author, who, in conſequence of it, received his ſhare of the ſatire which Mr. Cibber liberally beſtowed on both Mr. Pope and his annotator. In the latter end of the ſame year, he publiſhed complete editions of "The Eſſay on Man," and "The Eſſay on Criticiſm;" and from the ſpecimen which he there exhibited of his abilities, it may be preſumed, Mr. Pope determined to commit the publication of thoſe works which he ſhould leave to Mr. Warburton's care. At Mr. Pope's deſire, he about this time reviſed and corrected the "Eſſay on Homer," as it now ſtands in the laſt edition of that tranſlation. The publication of "The Dunciad," was the laſt ſervice which our author rendered Mr. Pope in his life-time. After a lingering and tedious illneſs, the event of which had been long foreſeen, this great poet died on the 30th of May, 1744; and by his will, dated the 12th of the preceding December, bequeathed to Mr. Warburton one half of his library, and the property of all ſuch of his works already printed as he had not otherwiſe diſpoſed of or alienated, and all the profits which ſhould ariſe from any edition to be printed after his death; but at the ſame time directed, that they ſhould be publiſhed without any future alterations. In 1744, his aſſiſtance to Dr. Z. Grey was handſomely acknowledged in the preface to Hudibras. "The Divine Legation of Moſes," had now been publiſhed ſome time, and various anſwers and objections to it had ſtarted up from different quarters. In this year, 1744, Mr. Warburton turned his attention to theſe attacks on his favourite work: and defended himſelf in a manner which, if it did not prove him to be poſſeſſed of much humility or diffidence, at leaſt demonſtrated, that he knew how to wield the weapons of controverſy with the hand of a maſter. Sept. 5, 1745, the friendſhip between him and Mr. Allen was more cloſely cemented, by his marriage with Miſs Tucker, who ſurvived him, and became afterwards the wife of the Rev. Mr. Smith. At this juncture the kingdom was under a great alarm, occaſioned by the rebellion breaking out in Scotland. Thoſe who wiſhed well to the then eſtabliſhed government, found it neceſſary to exert every effort which could be uſed againſt the invading enemy. The clergy were not wanting on their part; and no one did more ſervice than Mr. Warburton, who printed three very excellent and ſeaſonable ſermons at this important criſis. The laſt of theſe involved him in a new controverſy with Dr. Stebbing. Notwithſtanding his great connections, his acknowledged abilities, and his eſtabliſhed reputation; a reputation founded on the durable baſis of learning, and upheld by the decent and attentive performance of every duty incident to his ſtation; yet we do not find that he received any addition to the preferment given him in 1728, by Sir Robert Sutton (except the chaplainſhip to the Prince of Wales) until April 1746, when he was unanimouſly called by the Society of Lincoln's-Inn to be their preacher. In November he publiſhed "A Sermon preached on the Thankſgiving appointed to be obſerved the 9th of October, for the Suppreſſion of the late unnatural Rebellion, 1746," in 8vo. In 1747 appeared his edition of "Shakſpeare, and his "Preface to Clariſſa;" and, in the ſame year he publiſhed, 1. "A Letter from an Author to a Member of Parliament, concerning Literary Property," in 8vo. 2. "Preface to Mrs. Cockburn's Remarks upon the Principles and Reaſonings of Dr. Rutherford's Eſſay on the Nature and Obligations of Virtue, &c." in 8vo. 3. Pre-

face to a Critical Inquiry into the Opinions and Practice of the Ancient Philoſophers, concerning the Nature of a Future State, and their Method of teaching by double Doctrine" (by Mr. Towne), 1747, in 8vo. 2d edition. In 1748, a third edition of "The Alliance between Church and State; corrected and enlarged." In 1749 a very extraordinary attack was made on the moral character of Mr. Pope, from a quarter whence it could be the leaſt expected. "His guide, philoſopher, and friend," Lord Bolingbroke, publiſhed a book which he had formerly lent Mr. Pope in MS. The preface to this work, written by Mr. Mallet, contained an accuſation of Mr. Pope's having clandeſtinely printed an edition of his lordſhip's performance without his leave or knowledge. A defence of the poet ſoon after made its appearance, which was univerſally aſcribed to Mr. Warburton, and was afterwards owned by him: it ſoon afterwards produced an abuſive pamphlet. About this time, the publication of Dr. Middleton's "Inquiry concerning the Miraculous Powers," gave riſe to a controverſy, which was managed with great warmth and aſperity on both ſides, and not much to the credit of either party. On this occaſion, Mr. Warburton publiſhed an excellent performance, written with a degree of candour and temper, which, it is to be lamented, he did not always exerciſe. The title of it was, "Julian; or, a Diſcourſe concerning the Earthquake and fiery Eruption which defeated the Emperor's Attempt to rebuild the Temple at Jeruſalem, 1750," in 8vo. In 1751 he gave the public his edition of "Mr. Pope's Works," with notes, in nine vols. 8vo. and in the ſame year printed "An Anſwer to a Letter to Dr. Middleton, &c." in 8vo. and "An Account of the Prophecies of Ariſe Evans, the Welſh Prophet, in the laſt Century:" the latter of which pieces afterwards ſubjected him to much ridicule. In 1753 Mr. Warburton publiſhed the firſt volume of a courſe of ſermons preached at Lincoln's-Inn; and this, in the ſubſequent year, was followed by a ſecond. After the public had been ſome time promiſed Lord Bolingbroke's works, they were about this time printed. The known abilities and infidelity of this nobleman had created apprehenſions in the minds of many people of the pernicious effects of his doctrines; and nothing but the appearance of his whole force could have convinced his friends, how little there was to be dreaded from arguments againſt religion ſo weakly ſupported. The perſonal enmity, which had been excited many years before between the peer and our author, had occaſioned the former to direct much of his reaſoning againſt two works of the latter. Many anſwers were ſoon publiſhed, but none with more acuteneſs, ſolidity, and ſprightlineſs, than, "A View of Lord Bolingbroke's Philoſophy, in two Letters to a Friend, 1754." The third and fourth letters were publiſhed in 1753, with another edition of the two former; and, in the ſame year, a ſmaller edition of the whole; which, though it came into the world without a name, was univerſally aſcribed to Mr. Warburton, and afterwards publicly owned by him. At this advanced period of his life, that preferment which his abilities might have claimed, and which had hitherto been withheld, ſeemed to be approaching towards him. In Sept. 1754, he was appointed one of his majeſty's chaplains in ordinary, and in the next year was preſented to a prebend in the cathedral of Durham, on the death of Dr. Mangey. About the ſame time, the degree of doctor of divinity was conferred on him by Dr. Herring, then archbiſhop of Canterbury; and a new impreſſion of "The Divine Legation" having been called for, he printed a fourth edition of the firſt part of it, corrected and enlarged, divided into two volumes, with a dedication to the Earl of Hardwicke. The ſame year appeared "A Sermon preached before his Grace, Charles, Duke of Marlborough, Preſident, and the Governors of the Hoſpital for the Small-Pox and for Inoculation, at the Pariſh-Church of St. Andrew, Holborn, on Thurſday, April 24, 1755," in 4to.; and, in 1756, "A Sermon preached on the laſt public Faſt-Day, at Lincoln's-Inn-Chapel," in 4to. In 1757, a pamphlet was publiſhed, called, "Remarks on Mr. David Hume's Eſſay on the Natural Hiſtory of Religion;" which is ſaid to have been compoſed of marginal obſervations made by Dr. Warburton on reading Mr. Hume's book; and which gave ſo much offence to the author animadverted upon, that he thought it of importance enough to deſerve particular mention in the ſhort account of his life. Oct. 11, in this year, our author was advanced to the deanery of Briſtol; and in 1758, republiſhed the ſecond part of "The Divine Legation," divided into two parts. At the latter end of next year, Dr. Warburton received the honour ſo juſtly due to his merit, of being (on the 22d of December) dignified with the mitre, and promoted to the vacant ſee of Glouceſter. He was conſecrated on the 20th of Jan. 1760; and on the 30th of the ſame month preached before the Houſe of Lords. In the next year he printed "A rational Account of the Nature and End of the Sacrament of the Lord's Supper," in 12mo. In 1762 he publiſhed "The Doctrine of Grace, &c." in 2 vols. 12mo. and in the ſucceeding year drew upon himſelf much illiberal abuſe from ſome writers of the popular party, on occaſion of his complaint in the Houſe of Lords, Nov. 15, 1763, againſt Mr. Wilkes, for putting his name to certain notes on the infamous "Eſſay on Woman." In 1765, another edition of the ſecond part of "The Divine Legation" was publiſhed, as volumes III. IV. and V. the two parts printed in 1755 being conſidered as volumes I. and II. It was this edition which produced the well-known controverſy between him and Dr. Lowth. On this occaſion was publiſhed "The Second Part of an Epiſtolary Correſpondence between the Biſhop of Glouceſter and the late Profeſſor of Oxford, without an Imprimatur, i. e. without a Cover to the violated Laws of Honour and Society, 1766," in 8vo. In 1766 he gave a new edition of "The Alliance between Church and State," and "A Sermon preached before the Incorporated-Society for the Propagation of the Goſpel in Foreign Parts; at the Anniverſary-Meeting in the Pariſh-Church of St. Mary-le-Bow, Friday, Feb. 21," in 8vo. The next year produced a third volume of his "Sermons;" and with this, and a ſingle "Sermon preached at St. Lawrence Jewry, Thurſday, April 30, 1767, before his Royal Highneſs, Edward, Duke of York, Preſident, and the Governors of the London-Hoſpital, &c." in 4to. he cloſed his literary labours. His faculties continued unimpaired for ſome time after this period; and in 1769 he gave conſiderable aſſiſtance to Mr. Ruffhead, in his "Life of Mr. Pope." He loſt an only ſon a little before his own death, which was in June 1779, in the 81ſt year of his age. A neat marble monument has been lately erected in the cathedral of Glouceſter, with an inſcription.

WARD (Dr. Seth), an Engliſh prelate, chiefly famous for his knowledge in mathematics and aſtronomy, was born at Buntingford in Hertfordſhire, about the year 1617. He was admitted of Sidney-college, Cambridge, where he applied with great vigour to his ſtudies, particularly to the mathematics, and was choſen fellow of his college. He was involved not a little in the conſequences of the civil war, but ſoon after the Reſtoration obtained the biſhopric of Exeter; in 1667 he was tranſlated to Salisbury; and in 1671 was made chancellor of the order of the garter; he was the firſt Proteſtant biſhop that enjoyed that honour, and he procured it to be annexed to the ſee of Salisbury. Biſhop

Ward was one of thoſe unhappy perſons who have the misfortune to ſurvive their ſenſes, which happened in conſequence of a fever ill cured; he lived to the Revolution, without knowing any thing of the matter, and died in 1690. He was the author of ſeveral Latin works in mathematics and aſtronomy, which were thought excellent in their day; but their uſe has been ſuperſeded by later diſcoverics and the Newtonian philoſophy.

Ward (Dr. John), was the ſon of a diſſenting miniſter, and born at London in 1679. He for ſome years kept a ſchool in Tenter-alley, Moorfields; but rendered himſelf ſo eminent in the ſtudy of antiquity, that in 1720 he was choſen profeſſor of rhetoric in Greſham-college; in 1723, during the preſidency of Sir Iſaac Newton, he was elected a fellow of the Royal Society; and in 1752, one of the vice-preſidents, in which office he was continued to his death. He was elected one of the truſtees of the Britiſh Muſeum in 1753, and died at Greſham-college in 1758. The work for which he is beſt known, is his Lives of the Profeſſors of Greſham-college; which is a conſiderable addition to the hiſtory of learning in our country. His Lectures on Oratory were publiſhed after his death, in two volumes, 8vo.

Ward, is variouſly uſed in our old books: a ward in London is a diſtrict or diviſion of the city, committed to the ſpecial charge of one of the aldermen; and in London there are twenty-ſix wards, according to the number of the mayor and aldermen, of which every one has his ward for his proper guard and juriſdiction. A foreſt is divided into wards; and a priſon is called a *ward*. Laſtly, the heir of the king's tenant, that held *in capite*, was termed a *ward* during his nonage; but this wardſhip is taken away by the ſtatute 12 Car. II. c. 24.

Ward-*Hook*, or *Wadd-hook*, in gunnery, a rod or ſtaff, with an iron end turned ſerpentwiſe, or like a ſcrew, to draw the wadding out of a gun when it is to be unloaded.

WARDEN, or Guardian, one who has the charge or keeping of any perſon, or thing, by office. Such is the warden of the Fleet, the keeper of the Fleet priſon; who has the charge of the priſoners there, eſpecially ſuch as are committed from the court of Chancery for contempt.

WARDHUYS, a port of Norwegian Lapland, 120 miles ſouth-eaſt of the North Cape. E. Long. 31. 12. N. Lat. 70. 23.

WARDMOTE, in London, is a court ſo called, which is kept in every ward of the city: anſwering to the *curiata comitia* of Rome.

WARDROBE, a cloſet or little room adjoining to a bedchamber, ſerving to diſpoſe and keep a perſon's apparel in; or for a ſervant to lodge in, to be at hand to wait, &c. The Wardrobe, in a prince's court, is an apartment wherein his robes, wearing apparel, and other neceſſaries, are preſerved under the care and direction of proper officers.

In Britain, the *Maſter or Keeper of the Great* Wardrobe, was an officer of great antiquity and dignity. High privileges and immunities were conferred on him by King Henry VI. which were confirmed by his ſucceſſors; and King James I. not only enlarged them, but ordained that this office ſhould be a corporation or body politic for ever.

It was the duty of this office to provide robes for the coronations, marriages, and funerals, of the royal family; to furniſh the court with hangings, cloths of ſtate, carpets, beds, and other neceſſaries; to furniſh houſes for ambaſſadors at their firſt arrival; cloths of ſtate, and other furniture, for the lord-lieutenant of Ireland, and all his majeſty's ambaſſadors abroad; to provide all robes for foreign knights of the garter; robes for the knights of the garter at home; robes and all other furniture for the officers of the garter; coats for kings, heralds, and purſuivants at arms; robes for the lords of the treaſury, and chancellor of the exchequer, &c. livery for the lord chamberlain, grooms of his majeſty's privy chamber, officers of his majeſty's robes; for the two chief juſtices, for all the barons of the exchequer, and ſeveral officers of theſe courts; all liveries for his majeſty's ſervants, as yeoman of the guard, and wardens of the Tower, trumpeters, kettle-drummers, drummers, and fifes; the meſſengers, and all belonging to the ſtables, as coachmen, footmen, littermen, poſtilions, and grooms, &c. all the king's coaches, chariots, harneſſes, ſaddles, bits, bridles, &c. the king's watermen, game-keepers, &c. alſo furniture for the royal yachts, and all rich embroidered tilts, and other furniture for the barges.

Beſides the maſter or keeper of the wardrobe, who had a ſalary of 2000l. there was his deputy, who had 150l. and comptroller and a patent clerk, each of whom has a ſalary of 300l. Beſides many other inferior officers and ſervants, who were all ſworn ſervants to the king.

There was likewiſe a removing wardrobe, who had its own ſet of officers, and ſtanding wardrobe-keepers at St. James's, Windſor Caſtle, Hampton Court, Kenſington, and Somerſet Houſe; but the whole of the wardrobe eſtabliſhment was aboliſhed by act of parliament in 1782, and the duty of it in future to be done by the lord chamberlain.

WARDSHIP, in chivalry, one of the incidents of tenure by knight-ſervice. See Feodal *Syſtem*, Knight *Service*, and Tenure.

Upon the death of a tenant, if the heir was under the age of twenty-one, being a male, or fourteen being a female, the lord was entitled to the wardſhip of the heir, and was called the *guardian in chivalry*. This wardſhip conſiſted in having the cuſtody of the body and lands of ſuch heir, without any account of the profits, till the age of twenty-one in males, and ſixteen in females. For the law ſuppoſed the heir-male unable to perform knight-ſervice till twenty-one; but as for the female, ſhe was ſuppoſed capable at fourteen to marry, and then her huſband might perform the ſervice. The lord therefore had no wardſhip, if at the death of the anceſtor the heir-male was of the full age of twenty-one, or the heir-female of fourteen: yet if ſhe was then under fourteen, and the lord once had her in ward, he might keep her ſo till ſixteen, by virtue of the ſtatute of Weſtminſter, 1. 3 Edw I. c. 22. the two additional years being given by the legiſlature for no other reaſon but merely to benefit the lord.

This wardſhip, ſo far as it related to land, though it was not nor could be part of the law of feuds, ſo long as they were arbitrary, temporary, or for life only; yet when they became hereditary, and did conſequently often deſcend upon infants, who by reaſon of their age could neither perform nor ſtipulate for the ſervices of the feud, does not ſeem upon feudal principles to have been unreaſonable. For the wardſhip of the land, or cuſtody of the feud, was retained by the lord, that he might out of the profits thereof provide a fit perſon to ſupply the infant's ſervices till he ſhould be of age to perform them himſelf. And if we conſider a feud in its original import, as a ſtipend, fee, or reward for actual ſervice, it could not be thought hard that the lord ſhould withhold the ſtipend ſo long as the ſervice was ſuſpended. Though undoubtedly to our Engliſh anceſtors, where ſuch ſtipendary donation was a mere ſuppoſition or figment, it carried abundance of hardſhip; and, accordingly, it was relieved by the charter of Henry I. which took this cuſtody from the lord, and ordained that the cuſtody, both of the land and the children, ſhould belong to the widow or

next of kin. But this noble immunity did not continue many years.

The wardſhip of the body was a conſequence of the wardſhip of the land; for he who enjoyed the infant's eſtate was the propereſt perſon to educate and maintain him in his infancy: and alſo in a political view, the lord was moſt concerned to give his tenant a ſuitable education, in order to qualify him the better to perform thoſe ſervices which in his maturity he was bound to render.

When the male heir arrived to the age of twenty-one, or the heir female to that of ſixteen, they might ſue out their livery or *ouſterlemain*; that is, the delivery of their lands out of their guardian's hands. For this they were obliged to pay a fine, namely, half-a-year's profits of the land: though this ſeems expreſsly contrary to *magna charta*. However, in conſideration of their lands having been ſo long in ward, they were excuſed all reliefs, and the king's tenants alſo all primer ſeiſins. In order to aſcertain the profits that aroſe to the crown by theſe fruits of tenure, and to grant the heir his livery, the itinerant juſtices, or juſtices in eyre, had it formerly in charge to make inquiſition concerning them by a jury of the county, commonly called an *inquiſitio poſt mortem*; which was inſtituted to enquire (at the death of any man of fortune) the value of his eſtate, the tenure by which it was holden, and who, and of what age, his heir was; thereby to aſcertain the relief and value of the primer ſeiſin, or the wardſhip and livery accruing to the king thereupon. A manner of proceeding that came in proceſs of time to be greatly abuſed, and at length an intolerable grievance; it being one of the principal accuſations againſt Empſon and Dudley, the wicked engines of Henry VII. that by colour of falſe inquiſitions they compelled many perſons to ſue out livery from the crown, who by no means were tenants thereunto. And afterwards a court of wards and liveries was erected, for conducting the ſame enquiries in a more ſolemn and legal manner.

When the heir thus came of full age, provided he held a knight's fee, he was to receive the order of knighthood, and was compellable to take it upon him, or elſe pay a fine to the king. For in thoſe heroical times no perſon was qualified for deeds of arms and chivalry who had not received this order, which was conferred with much preparation and ſolemnity. We may plainly diſcover the footſteps of a ſimilar cuſtom in what Tacitus relates of the Germans, who, in order to qualify their young men to bear arms, preſented them in a full aſſembly with a ſhield and lance; which ceremony is ſuppoſed to have been the original of the feodal knighthood. This prerogative, of compelling the vaſſals to be knighted, or to pay a fine, was expreſsly recogniſed in parliament by the ſtatute *de militibus*, 1 Edw. II.; was exerted as an expedient for raiſing money by many of our beſt princes, particularly by Edw. VI. and Queen Elizabeth; but this was the occaſion of heavy murmurs when exerted by Charles I.: among whoſe many misfortunes it was, that neither himſelf nor his people ſeemed able to diſtinguiſh between the arbitrary ſtretch and the legal exertion of prerogative. However, among the other conceſſions made by that unhappy prince before the fatal recourſe to arms, he agreed to diveſt himſelf of this undoubted flower of the crown; and it was accordingly aboliſhed by ſtatute 16 Car. I. c. 20.

WARE, a town of Hertfordſhire, with a market on Tueſdays, and a fair on the laſt Tueſday in April, and Tueſday before St. Matthew's day (Sep. 21.), for horſes and other cattle. It is a large, well frequented, and well inhabited thoroughfare town, ſeated on the river Lea, twenty-one miles north of London. It carries on a great trade in malt and corn, which they are continually ſending in large quantities to London. E. Long. 0. 3. N. Lat. 51. 50.

WARN, in law, is to ſummon a perſon to appear in a court of juſtice.

WARP, in the manufactures, a name for the threads, whether of ſilk, wool, linen, hemp, &c. that are extended lengthwiſe on the weaver's loom; and acroſs which the workman, by means of his ſhuttle, paſſes the threads of the woof, to form a cloth, riband, fuſtian, or the like.

WARP, a ſmall rope employed occaſionally to remove a ſhip from one place to another, in a port, road, or river. And hence,

To WARP, is to change the ſituation of a ſhip, by pulling her from one part of a harbour, &c. to ſome other, by means of warps, which are attached to buoys; to anchors ſunk in the bottom; or to certain ſtations upon the ſhore, as poſts, rings, trees, &c. The ſhip is accordingly drawn forwards to thoſe ſtations, either by pulling on the warps by hand, or by the application of ſome purchaſe, as a tackle, windlaſs, or capſtern, upon her deck. When this operation is performed by the ſhip's leſſer anchors, theſe machines, together with their warps, are carried out in the boats alternately towards the place where the ſhip is endeavouring to arrive: ſo that when ſhe is drawn up cloſe to one anchor, the other is carried out to a competent diſtance before her, and being ſunk, ſerves to fix the other warp, by which ſhe is farther advanced. Warping is generally uſed when the ſails are unbent, or when they cannot be ſucceſsfully employed, which may either ariſe from the unfavourable ſtate of the wind, the oppoſition of the tide, or the narrow limits of the channel.

WARRANT, is a power and charge to a conſtable or other officer to apprehend a perſon accuſed of any crime. It may be iſſued in extraordinary caſes by the privy-council, or ſecretaries of ſtate; but moſt commonly it is iſſued by juſtices of the peace. This they may do in any caſes where they have a juriſdiction over the offence, in order to compel the perſon accuſed to appear before them; for it would be abſurd to give them power to examine an offender, unleſs they had alſo power to compel him to attend and ſubmit to ſuch examination. And this extends to all treaſons, felonies, and breaches of the peace; and alſo to all ſuch offences as they have power to puniſh by ſtatute. Before the granting of the warrant, it is fitting to examine upon oath the party requiring it, as well to aſcertain that there is a felony or other crime actually committed, without which no warrant ſhould be granted; as alſo to prove the cauſe and probability of ſuſpecting the party againſt whom the warrant is prayed.

This warrant ought to be under the hand and ſeal of the juſtice; ſhould ſet forth the time and place of making, and the cauſe for which it is made; and ſhould be directed to the conſtable, or other peace-officer, or it may be to any private perſon by name. A general warrant to apprehend all perſons ſuſpected, without naming or particularly deſcribing any perſon in ſpecial, is illegal and void for its uncertainty; for it is the duty of the magiſtrate, and ought not to be left to the officer, to judge of the ground of ſuſpicion. Alſo a warrant to apprehend all perſons guilty of ſuch a crime, is no legal warrant; for the point upon which its authority reſts, is a fact to be decided on a ſubſequent trial; namely, whether the perſon apprehended thereupon be guilty or not guilty. When a warrant is received by the officer, he is bound to execute it, ſo far as the juriſdiction of the magiſtrate and himſelf extends. A warrant from any of the juſtices of the court of king's bench extends over all the

kingdom, and is teſted or dated *England:* but a warrant of a juſtice of the peace in one county, muſt be backed, that is, ſigned, by a juſtice of another county, before it can be executed there. And a warrant for apprehending an Engliſh or Scotch offender, may be indorſed in the oppoſite kingdom, and the offender carried back to that part of the united kingdom in which the offence was committed.

WARRANTY, Warrantia, in law, a promiſe, or covenant, by deed, made by the bargainer for himſelf and his heirs, to warrant and ſecure the bargainee and his heirs, againſt all men, for enjoying the thing agreed on or granted between them.

WARREN (Sir Peter), an admiral, diſtinguiſhed by his virtue, learning, and undaunted courage, was deſcended from an ancient family in Ireland, and received a ſuitable education to qualify him for a command in the royal navy, in which he ſerved for ſeveral years with great reputation; but the tranſaction which placed his great abilities in their full light, was the taking of Louiſbourg in the year 1745, when he was appointed commodore of the Britiſh ſquadron ſent on that ſervice. He joined the fleet of tranſports from Boſton in Canſo-bay on the 25th of April, having under his command the Superb of 60, and the Launceſton and Eltham of 40 guns; he was afterwards joined by ſeveral other men-of-war ſent from England, and took poſſeſſion of Louiſbourg on the 17th of June. The French, exaſperated at this loſs, were conſtantly on the watch to retake it; and in 1747 fitted out a large fleet for that purpoſe, and at the ſame time another ſquadron to proſecute their ſucceſs in the Eaſt Indies. Theſe ſquadrons ſailed at the ſame time; but the views of the French were rendered abortive by the gallant Admiral Anſon and Sir Peter Warren, who had been created rear-admiral, who with a large fleet of ſhips fell in with the French, defeated the whole fleet, and took the greateſt part of the men-of-war. This was the laſt ſervice Sir Peter rendered to his country as a commander in the Britiſh fleet; for a peace being concluded in the ſucceeding year, the fleet was laid up in the ſeveral harbours. He was now choſen one of the repreſentatives in parliament for Weſtminſter; and in the middle of his popularity he paid a viſit to Ireland, his native country, where he died of an inflammatory fever in 1752, ſincerely lamented by all ranks of people; and an elegent monument of white marble was erected to his memory in Weſtminſter abbey.

Warren, is a franchiſe or place privileged by preſcription or grant from the king, for the keeping of beaſts and fowls of the warren; which are hares and coneys, partridges, pheaſants, and ſome add quails, woodcocks, and water-fowl, &c. Theſe being *feræ naturæ*, every one had a natural right to kill as he could: but upon the introduction of the foreſt laws at the Norman conqueſt, theſe animals being looked upon as royal game, and the ſole property of our ſavage monarchs, this franchiſe of free-warren was invented to protect them, by giving the grantee a ſole and excluſive power of killing ſuch game, ſo far as his warren extended, on condition of his preventing other perſons. A man therefore that has the franchiſe of warren, is in reality no more than a royal game-keeper: but no man, not even a lord of a manor, could by common law juſtify ſporting on another's ſoil, or even on his own, unleſs he had the liberty of free warren. This franchiſe is almoſt fallen into diſregard ſince the new ſtatutes for preſerving the game; the name being now chiefly preſerved in grounds that are ſet apart for breeding hares and rabbits. There are many inſtances of keen ſportſmen in ancient times, who have ſold their eſtates, and reſerved the free-warren, or right of killing game, to themſelves: by which means it comes to paſs that a man and his heirs have ſometimes free-warren over another's ground.

A warren may lie open; and there is no neceſſity of incloſing it as there is of a park. If any perſon offend in a free-warren, he is puniſhable by the common law, and by ſtatute 21 Edw. III. And if any one enter wrongfully into any warren, and chaſe, take, or kill, any coneys without the conſent of the owner, he ſhall forfeit treble damages, and ſuffer three months' impriſonment, &c. by 22 and 23 Car. II. c. 25. When coneys are on the ſoil of the party, he hath a property in them by reaſon of the poſſeſſion, and action lies for killing them; but if they run out of the warren and eat up a neighbour's corn, the owner of the land may kill them, and no action will lie.

WARSAW, a large city of Poland, the capital of that country, and of the province of Maſovia. It is built partly in a plain, and partly on a gentle aſcent riſing from the banks of the Viſtula, which is about as broad as the Thames at Weſtminſter, but very ſhallow in ſummer. This city and its ſuburbs occupy a vaſt extent of ground, and are ſuppoſed to contain 70,000 inhabitants, among whom are a great number of foreigners. The whole has a melancholy appearance, exhibiting the ſtrong contraſt of wealth and poverty, luxury and diſtreſs, which pervades every part of this unhappy country. The ſtreets are ſpacious, but ill paved; the churches and public buildings are large and magnificent; the palaces of the nobility are numerous and ſplendid; but the greateſt part of the houſes, particularly in the ſuburbs, are mean and ill-conſtructed wooden hovels.—Warſaw is 160 miles ſouth-eaſt by ſouth of Dantzic, 130 north-north-eaſt of Cracow, and 300 north-eaſt by north of Vienna. E. Long. 21. 6. N. Lat. 50. 14.

WART, a ſmall knotty kind of tumor which moſt frequently riſes on the ſkin of the hands. Many ridiculous cures have been ſuggeſted for them by old women, and theſe have been kept in countenance by the *ſpontaneous diſappearance* of warts, which frequently happens. When a remedy is thought neceſſary, touching them once a day with *Tincture of muriated Iron* is a very good one.

WARWICK, the capital of Warwickſhire in England, and from which this county derives its name. It is very ancient, and ſuppoſed by Camden to be the place called by the Romans *Præſidium*, where the Dalmatian horſe were poſted. It ſtands on a rock of free-ſtone, of which all the public edifices in the town are built. At the Norman invaſion it was a conſiderable place; and had many burgeſſes, of whom twelve were obliged by their tenure to accompany the king in his wars. It is ſupplied with water brought in pipes from ſprings half a mile from the town, beſides what it derives from the wells within it made in the rock: and it is eaſily kept clean, by being ſituated upon a declivity. Four ſtreets, from the four cardinal points of the compaſs, meet in the centre of the town. The principal public buildings are St. Mary's, a very ſtately edifice, an hoſpital, a town-houſe of free-ſtone, three charity ſchools, and a noble bridge over the Avon. It has had ſeveral charters; but is governed at preſent by a mayor, twelve brethren, twenty-four burgeſſes, &c. It is a very handſome populous town, and gives title of earl to the family of the Grevilles. W. Long. 1. 36. N. Lat. 52. 20.

WASH, among diſtillers, the fermentable liquor uſed by the malt diſtillers. See Brewery.

WASHING, in painting, is when a deſign, drawn with a pen or crayon, has ſome one colour laid over it with a pencil, as Indian ink, biſtre, or the like, to make it appear the more natural, by adding the ſhadow of prominences, apertures, &c. and by imitating the particular matters whereof the thing is ſuppoſed to conſiſt. Thus they waſh with a pale red, to imitate brick and tile; with a pale Indian blue, to imitate

water and ſlate; with green, for trees and meadows; with ſaffron or French berries, for gold or braſs; and with ſeveral colours for marbles.

WASHING *of Ores*, the purifying an ore of any metal, by means of water, from earths and ſtones, which would otherwiſe render it difficult of fuſion.

WASHINGTON, a city of North America, now building for the metropolis of the United States. It is ſeated at the junction of the rivers Potomac and the Eaſtern Branch, extending about four miles up each, including a tract of territory ſcarcely to be exceeded, in point of convenience, ſalubrity, and beauty, by any in the world. This territory, which is called *Columbia*, lies partly in the ſtate of Virginia, and partly in that of Maryland, and was ceded by theſe two ſtates to the United States of America, and by them eſtabliſhed to be the ſeat of government after the year 1800. It is divided into ſquares or grand diviſions, by ſtreets running due north, and ſouth, and eaſt, and weſt, which form the ground-work of the plan. However, from the Capitol, the preſident's houſe, and ſome of the important areas in the city, run diagonal ſtreets, from one material object to another, which not only produce a variety of charming proſpects, but remove the inſipid ſameneſs which renders ſome other great cities unpleaſing. The great leading ſtreets are all 160 feet wide, including a pavement of ten feet, and a gravel walk of thirty feet planted with trees on each ſide, which will leave eighty feet of paved ſtreet for carriages. The reſt of the ſtreets are in general 110 feet wide, with a few only ninety feet, except North, South, and Eaſt Capitol ſtreets, which are 160 feet. The diagonal ſtreets are named after the reſpective ſtates compoſing the Union, while thoſe running north and ſouth are, from the Capitol eaſt-ward, named *Eaſt Firſt-ſtreet, Eaſt Second-ſtreet*, &c. and thoſe weſt of it are in the ſame manner called *Weſt Firſt-ſtreet, Weſt Second-ſtreet*, &c. Thoſe running eaſt and weſt are from the Capitol northward named *North A ſtreet, North B-ſtreet*, &c. and thoſe ſouth of it are called *South A-ſtreet, South B-ſtreet*, &c. The ſquares or diviſions of the city amount to 1150. The rectangular ſquares generally contain from three to ſix acres, and are divided into lots of from forty to eighty feet in front, and their depth from about 110 to 300 feet, according to the ſize of the ſquare. The irregular diviſions produced by the diagonal ſtreets are ſome of them ſmall, but generally in valuable ſituations. Their acute points are all to be cut off at forty feet, ſo that no houſe in the city will have an acute corner. All the houſes muſt be of brick or ſtone. The area for the Capitol (or houſe for the legiſlative bodies) is ſituated upon the moſt beautiful eminence in the city, about a mile from the Eaſtern Branch, and not much more from the Potomac, commanding a full view of every part of the city, as well as a conſiderable extent of the country around. The preſident's houſe will ſtand upon a riſing ground, not far from the banks of the Potomac, poſſeſſing a delightful water proſpect, with a commanding view of the Capitol, and ſome other material parts of the city.

The city being ſituated upon the great poſt road, exactly equidiſtant from the northern and ſouthern extremities of the Union, and nearly ſo from the Atlantic Ocean to the river Ohio, upon the beſt navigation, and in the midſt of the richeſt commercial territory in America, commanding the moſt extenſive internal reſources, is by far the moſt eligible ſituation for the reſidence of congreſs; and it is now preſſing forward, by the public-ſpirited enterprize, not only of the people of the United States, but alſo of foreigners.

WASP, in zoology. See VESPA.

WATCH, in the art of war, a number of men poſted at any paſſage, or a company of the guards who go on the patrole.

WATCH, in the navy, the ſpace of time wherein one diviſion of a ſhip's crew remains upon deck, to perform the neceſſary ſervices, whilſt the reſt are relieved from duty, either when the veſſel is under ſail or at anchor. The length of the ſea-watch is not equal in the ſhipping of different nations. It is always kept four hours by our Britiſh ſeamen, if we except the dog-watch, between four and eight in the evening, that contains two reliefs, each of which are only two hours on deck. The intent of this is to change the period of the night-watch every twenty-four hours; ſo that the party watching from eight till twelve in one night, ſhall watch from midnight till four in the morning on the ſucceeding one. In France the duration of the watch is extremely different, being in ſome places ſix hours, and in others ſeven or eight; and in Turky and Barbary it is uſually five or ſix hours. A ſhip's company is uſually claſſed into two parties; one of which is called the *ſtarboard* and the other the *larboard* watch. It is, however, occaſionally ſeparated into three diviſions, as in a road, or in particular voyages. In a ſhip of war the watch is generally commanded by a lieutenant, and in merchant-ſhips by one of the mates; ſo that if there are four mates in the latter, there are two in each watch; the firſt and third being in the larboard, and the ſecond and fourth in the ſtarboard watch: but in the navy, the officers who command the watch uſually divide themſelves into three parties, in order to lighten their duty.

WATCH, is alſo uſed for a ſmall portable movement, or machine, for the meaſuring of time; having its motion regulated by a ſpiral ſpring. Watches, ſtrictly taken, are all ſuch movements as ſhow the parts of time; as clocks are ſuch as publiſh it, by ſtriking on a bell, &c. But commonly the name *watch* is appropriated to ſuch as are carried in the pocket; and *clock* to the large movements, whether they ſtrike the hour or not. See CLOCK.

The invention of ſpring or pocket watches belongs to the preſent age. It is true, we find mention made of a watch preſented to Charles V. in the hiſtory of that prince: but this, in all probability, was no more than a kind of clock to be ſet on a table, ſome reſemblance whereof we have ſtill remaining in the ancient pieces made before the year 1670. There was alſo a ſtory of a watch having been diſcovered in Scotland belonging to King Robert Bruce; but this we believe has turned out altogether apocryphal. The glory of this very uſeful invention lies between Dr. Hooke and M. Huyghens; but to which of them it properly belongs, has been greatly diſputed; the Engliſh aſcribing it to the former, and the French, Dutch, &c. to the latter. Mr. Derham, in his Artificial Clockmaker, ſays roundly, that Dr. Hooke was the inventor; and adds, that he contrived various ways of regulation. One way was with a loadſtone: another with a tender ſtraight ſpring, one end whereof played backwards and forwards with the balance; ſo that the balance was to the ſpring as the bob to a pendulum, and the ſpring as the rod thereof: a third method was with two balances, of which there were divers ſorts; ſome having a ſpiral ſpring to the balance for a regulator, and others without. But the way that prevailed, and which continues in mode, was with one balance, and one ſpring running round the upper part of the verge thereof: though this has a diſadvantage, which thoſe with two ſprings, &c. were free from; in that a ſudden jerk, or confuſed ſhake, will alter its vibrations, and put it in an unuſual hurry.

The time of theſe inventions was about the year 1658; as appears, among other evidences, from an inſcription on one of the double-balance watches preſented to King Charles II. *viz.* Rob. Hooke *inven.* 1658. T. Tompion *fecit*, 1675. The invention preſently got into reputation, both at home and abroad; and two of them were ſent for by the dauphin of

France. Soon after this, M. Huygens's watch with a ſpiral ſpring got abroad, and made a great noiſe in England, as if the longitude could be found by it. It is certain, however, that his invention was later than the year 1673, when his book *ae Horol. Oſcillat.* was publiſhed; wherein he has not one word of this, though he has of ſeveral other contrivances in the ſame way.

One of theſe the Lord Brouncker ſent for out of France, where M. Huygens had got a patent for them. This watch agreed with Dr. Hooke's in the application of the ſpring to the balance; only M. Huygens's had a longer ſpiral ſpring, and the pulſes and beats were much ſlower. The balance, inſtead of turning quite round, as Dr. Hooke's, turns ſeveral rounds every vibration.

Mr. Derham ſuggeſts, that he has reaſon to doubt M. Huygens's fancy firſt was ſet to work by ſome intelligence he might have of Dr. Hooke's invention from Mr. Oldenburg, or ſome other of his correſpondents in England; and this, notwithſtanding Mr. Oldenſworth's attempt to vindicate himſelf in the Philoſophical Tranſactions, appears to be the truth. Huygens invented divers other kinds of watches, ſome of them without any ſtring or chain at all; which he called, particularly, *pendulum watches*.

Striking WATCHES are ſuch as, beſides the proper watch-part for meaſuring of time, have a clock-part for ſtriking the hours, &c.

Repeating WATCHES, are ſuch as by pulling a ſtring, &c. repeat the hour, quarter, or minute, at any time of the day or night.—This repetition was the invention of Mr. Barlow, and firſt put in practice by him in larger movements or clocks about the year 1676. The contrivance immediately ſet the other artiſts to work, who ſoon contrived divers ways of effecting the ſame. But its application to pocket-watches was not known before King James the Second's reign; when the ingenious inventor above mentioned, having directed Mr. Thompſon to make a repeating watch, was ſoliciting a patent for the ſame. The talk of a patent engaged Mr. Quare to reſume the thoughts of a like contrivance, which he had had in view ſome years before: he now effected it; and being preſſed to endeavour to prevent Mr. Barlow's patent, a watch of each kind was produced before the king and council; upon trial of which, the preference was given to Mr. Quare's. The difference between them was, that Barlow's was made to repeat by puſhing in two pieces on each ſide the watch-box; one of which repeated the hour, and the other the quarter: whereas Quare's was made to repeat by a pin that ſtuck out near the pendant, which being thruſt in (as now it is done by thruſting in the pendant itſelf), repeated both the hour and quarter with the ſame thruſt.

Of the Mechaniſm of a WATCH, properly ſo called. Watches, as well as clocks, are compoſed of wheels and pinions, and a regulator to direct the quickneſs or ſlowneſs of the wheels, and of a ſpring which communicates motion to the whole machine. But the regulator and ſpring of a watch are vaſtly inferior to the weight and pendulum of a clock, neither of which can be employed in watches. In place of a pendulum, therefore, we are obliged to uſe a balance (Pl. 32. vol IX. fig. 1.) to regulate the motion of a watch; and a ſpring (fig. 2.) which ſerves in place of a weight, to give motion to the wheels and balance.

The wheels of a watch, like thoſe of a clock, are placed in a frame formed of two plates and four pillars. Fig. 3. repreſents the inſide of a watch, after the plate (fig. 4.) is taken off. A is the barrel which contains the ſpring (fig. 2.); the chain is rolled about the barrel, with one end of it fixed to the barrel A (fig. 5.), and the other to the fuſee B.

When a watch is wound up, the chain which was upon the barrel winds about the fuſee, and by this means the ſpring is ſtretched; for the interior end of the ſpring is fixed by a hook to the immoveable axis about which the barrel revolves; the exterior end of the ſpring is fixed to the inſide of the barrel, which turns upon an axis. It is therefore eaſy to perceive, how the ſpring extends itſelf, and how its elaſticity forces the barrel to turn round, and conſequently obliges the chain which is upon the fuſee to unfold and turn the fuſee; the motion of the fuſee is communicated to the wheel C (fig. 5.); then, by means of the teeth, to the pinion *c*, which carries the wheel D; then to the pinion *d*, which carries the wheel E; then to the pinion *e*, which carries the wheel F; then to the pinion *f*, upon which is the balance-wheel G, whoſe pivot runs in the pieces A called the *potance*, and B called a *follower*, which are fixed on the plate fig. 4. This plate, of which only a part is repreſented, is applied to that of fig. 3. in ſuch a manner that the pivots of the wheels enter into holes made in the plate fig. 3. Thus the impreſſed force of the ſpring is communicated to the wheels: and the pinion *f* being then connected to the wheel F, obliges it to turn (fig. 5.) This wheel acts upon the palettes of the verge 1, 2 (fig. 1.), the axis of which carries the balance HH (fig. 1.) The pivot I, in the end of the verge, enters into the hole *c* in the potance A (fig. 4.) In this figure the palettes are repreſented; but the balance is on the other ſide of the plate, as may be ſeen in fig. 6. The pivot 3 of the balance enters into a hole of the cock BC (fig. 7.), a perſpective view of which is repreſented in fig. 8. Thus the balance turns between the cock and the potance *c* (fig. 4), as in a kind of cage. The action of the balance-wheel upon the palettes 1, 2 (fig 1.), is the ſame with what we have deſcribed with regard to the ſame wheel in the clock; *i. e.* in a watch, the balance-wheel obliges the balance to vibrate backwards and forwards like a pendulum. At each vibration of the balance a palette allows a tooth of the balance-wheel to eſcape; ſo that the quickneſs of the motion of the wheels is entirely determined by the quickneſs of the vibrations of the balance; and theſe vibrations of the balance and motion of the wheels are produced by the action of the ſpring.

But the quickneſs or ſlowneſs of the vibrations of the balance depend not ſolely upon the action of the great ſpring, but chiefly upon the action of the ſpring *a*, *b*, *c*, called *the ſpiral ſpring* (fig. 9.), ſituated under the balance H, and repreſented in perſpective (fig. 6.) The exterior end of the ſpiral is fixed to the pin *a* (fig. 9.) This pin is applied near the plate in *a* (fig. 6.); the interior end of the ſpiral is fixed by a peg to the centre of the balance. Hence if the balance is turned upon itſelf, the plates remaining immoveable, the ſpring will extend itſelf, and make the balance perform one revolution. Now, after the ſpiral is thus extended, if the balance be left to itſelf, the elaſticity of the ſpiral will bring back the balance, and in this manner the alternate vibrations of the balance are produced.

In fig. 5. all the wheels above deſcribed are repreſented in ſuch a manner, that you may eaſily perceive at firſt ſight how the motion is communicated from the barrel to the balance.

In fig. 10. are repreſented the wheels under the dial-plate by which the hands are moved. The pinion *a* is adjuſted to the force of the prolonged pivot of the wheel D (fig. 5.), and is called a *cannon pinion*. This wheel revolves in an hour. The end of the axis of the pinion *a*, upon which the minute-hand is fixed, is ſquare; the pinion (fig. 10.) is indented into the wheel *b*, which is carried by the pinion *a*. Fig. 11. is a wheel fixed upon a barrel, into the cavity of which the pinion *a* enters, and upon which it turns freely. This wheel revolves in twelve hours, and carries along with it the hour-hand. For a full account of the principles upon which

watches and all time-keepers are conſtructed, we muſt refer our readers to a ſhort treatiſe, entitled *Thoughts on the Means of Improving Watches*, by Thomas Mudge.

WATCH-*glaſſes*, in a ſhip, are glaſſes employed to meaſure the period of the watch, or to divide it into any number of equal parts, as hours, half-hours, &c. ſo that the ſeveral ſtations therein may be regularly kept and relieved, as at the helm, pump, look-out, &c.

WATCHING, in medicine, is when the patient cannot ſleep. In fevers it is a dangerous ſymptom, and if long continued ends in a delirium.

WATER, a well-known fluid, diffuſed through the atmoſphere, and over the ſurface of the globe, and abounding in a certain proportion in animals, vegetables, and minerals. The uſes of water are ſo univerſally known, that it would be ſuperfluous to enumerate them in this article. It is eſſential to animal and vegetable life; it makes eaſy the intercourſe between the moſt diſtant regions of the world; and it is one of the moſt uſeful powers in the mechanic arts. It is often found combined with various ſubſtances, and is then frequently beneficial in curing or alleviating diſeaſes. Thoſe properties of water which fit it for anſwering mechanical purpoſes are explained in other articles of this Work (ſee HYDROSTATICS, PNEUMATICS, RESISTANCE, and RIVERS); but for an account of the celebrated diſcovery of the compoſition of water, and the various ſubſtances which are often found chemically united with it, ſee CHEMISTRY, vol. II. p. 407.

The ancient philoſophers conſidered water as one of the four elements. During the age of the alchymiſts, when it was believed that different ſubſtances could be converted into gold, it was alſo an opinion, adopted by many, that water could be changed into earth. Even ſo late as the time of Mr. Boyle this ſentiment was not laid aſide. He relates, that a friend of his, by diſtilling a quantity of water an hundred times, found at length that he had got ſix-tenths of the firſt quantity in earth: whence he concludes, that the whole water, by further proſecuting the operation, might be converted into earth. Others have made experiments to the ſame purpoſe, and ſeemingly with the ſame ſucceſs; but the deception is now found out. Water has the power of corroding the hardeſt bodies, even glaſs itſelf, by long digeſtion, eſpecially when aſſiſted by heat; and hence thoſe who have made the experiments juſt mentioned have been themſelves deceived, by ſuppoſing the earth which really came from the containing veſſel to come from the water.

Margraaf made ſeveral experiments to determine whether water be tranſmutable into earth, and found that after every diſtillation a ſediment was left. Lavoiſier repeated Margraaf's experiments, and gave the explanation which we alluded to, that the ſediment conſiſted of portions of the glaſs ſeparated by the water. Dr. Black goes ſtill farther: he ingeniouſly ſuppoſes, that the alkali, which is an eſſential ingredient in the compoſition of glaſs, unites with the water, and makes the glaſs ſwell, and thus occaſions ſmall portions of it to be detached.

Of late it has been diſcovered that charcoal poſſeſſes many unexpected properties, and, among others, that of preſerving water from corruption, and of purifying it after it has been corrupted. Mr. Lowitz, whoſe experiments on charcoal have been publiſhed in Crell's Chemical Journal, has turned his attention to this ſubject in a memoir read to the Economical Society of Peterſburg. He found that the effect of charcoal was rendered much more ſpeedy by uſing along with it ſome ſulphuric acid. One ounce and a half of charcoal in powder, and 24 drops of concentrated ſulphuric acid (oil of vitriol), are ſufficient to purify three pints and a half of corrupted water, and do not communicate to it any ſenſible acidity. This ſmall quantity of acid renders it unneceſſary to uſe more than a third part of the charcoal powder which would otherwiſe be wanted; and the leſs of that powder is employed, the leſs is the quantity of water loſt by the operation, which, in ſea-voyages, is an object worthy of conſideration. In proportion to the quantity of acid made uſe of, the quantity of charcoal may be diminiſhed or augmented. All acids produce nearly the ſame effects: neutral ſalts alſo, particularly nitre and ſea-ſalt, may be uſed, but ſulphuric acid is preferable to any of theſe; water which is purified by means of this acid, and charcoal, will keep a longer time than that which is purified by charcoal alone. When we mean to purify any given quantity of corrupted water, we ſhould begin by adding to it as much powder of charcoal as is neceſſary to deprive it entirely of its bad ſmell. To aſcertain whether that quantity of powdered charcoal was ſufficient to effect the clarification of the ſaid water, a ſmall quantity of it may be paſſed through a linen bag, two or three inches long; if the water, thus filtrated, ſtill has a turbid appearance, a freſh quantity of powdered charcoal muſt be added, till it is become perfectly clear: the whole of the water may then be paſſed through a filtering bag, the ſize of which ſhould be proportioned to the quantity of water. If ſulphuric acid, or any other, can be procured, a ſmall quantity of it ſhould be added to the water, before the charcoal powder.

The cleaning of the caſks in which water is to be kept in ſea-voyages ſhould never be neglected: they ſhould be well waſhed with water and ſand, or with any other ſubſtance capable of removing the mucilaginous particles, and afterwards a quantity of charcoal-duſt ſhould be applied. A ſtill better method perhaps would be to rinſe them with a pretty ſtrong ſolution of oil of vitriol and water, which will entirely deprive them of the muſty or putrid ſmell they may have contracted.

Sea-WATER. See SEA-*Water*.

WATER-*Carts:* carriages conſtructed for the purpoſe of watering the roads for ſeveral miles round London; a precaution abſolutely neceſſary near the metropolis, where, from ſuch a vaſt daily influx of carriages and horſes, the duſt would otherwiſe become quite inſufferable in hot dry weather. Pumps are placed at proper diſtances to ſupply theſe carts.

WATER-*Ordeal* See ORDEAL.

WATER, among jewellers, is properly the colour or luſtre of diamonds and pearls. The term, though leſs properly, is ſometimes uſed for the hue or colour of other ſtones.

WATER-*Bellows*. See *Machines for blowing Air into* FURNACES.

WATER-*Colours*, in painting, are ſuch colours as are only diluted and mixed up with gum-water, in contradiſtinction to oil-colours. See COLOUR-*Making*.

WATER-*Gang*, a channel cut to drain a place by carrying off a ſtream of water.

WATER-*Hen*. See PARRA.

WATER-*Line of a Ship*, certain horizontal lines ſuppoſed to be drawn about the outſide of a ſhip's bottom, cloſe to the ſurface of the water in which ſhe floats. They are accordingly higher or lower upon the bottom, in proportion to the depth of the column of water required to float her.

WATER-*Logged*, the ſtate of a ſhip when, by receiving a great quantity of water into the hold, by leaking, &c. ſhe has become heavy and inactive upon the ſea, ſo as to yield without reſiſtance to the efforts of every wave ruſhing over her decks. As, in this dangerous ſituation, the centre of gravity is no longer fixed, but fluctuating from place to place, the ſtability of the ſhip is utterly loſt: ſhe is therefore almoſt totally deprived of the uſe of her ſails, which would operate to overſet her, or preſs the head under water. Hence there is no reſource for the crew, except to free her by the pumps, or to abandon her by the boats as ſoon as poſſible.

WATER-*Sail*, a ſmall ſail ſpread occaſionally under the lower ſtudding-ſail, or driver-boom, in a fair wind and ſmooth ſea.

WATER-*Ouzel*. See TURDUS.

WATER-*Spout*, an extraordinary meteor conſiſting of a large maſs of water collected into a ſort of column, and moved with rapidity along the ſurface of the ſea.

The beſt account of the water-ſpout which we have met with is in the Phil. Tranſ. Abridged, vol. viii, as obſerved by Mr. Joſeph Harris, May 21, 1732, about ſunſet, lat. 32° 30′ N. long. 9° E. from Cape Florida. "When firſt we ſaw the ſpout (ſays he), it was whole and entire, and much of the ſhape and proportion of a ſpeaking trumpet; the ſmall end being downwards, and reaching to the ſea, and the big end terminated in a black thick cloud. The ſpout itſelf was very black, and the more ſo the higher up. It ſeemed to be exactly perpendicular to the horizon, and its ſides perfectly ſmooth, without the leaſt ruggedneſs. Where it fell the ſpray of the ſea roſe to a conſiderable height, which made ſomewhat the appearance of a great ſmoke. From the firſt time we ſaw it, it continued whole about a minute, and till it was quite diſſipated about three minutes. It began to waſte from below, and ſo gradually up, while the upper part remained entire, without any viſible alteration, till at laſt it ended in the black cloud above: upon which there ſeemed to fall a very heavy rain in that neighbourhood.—There was but little wind, and the ſky elſewhere was pretty ſerene."

Water-ſpouts have by ſome been ſuppoſed to be merely electrical in their origin; particularly by Signior Beccaria, who ſupported his opinion by ſome experiments. But if we attend to the ſucceſſive phenomena neceſſary to conſtitute a complete water-ſpout through their various ſtages, we ſhall be convinced, that recourſe muſt be had to ſome other principle in order to obtain a complete ſolution.

Dr. Franklin, in his Phyſical and Meteorological Obſervations, ſuppoſes a water-ſpout and a whirlwind to proceed from the ſame cauſe; their only difference being, that the latter paſſes over the land, and the former over the water. This opinion is corroborated by M. de la Pryme, in the Philoſophical Tranſactions, where he deſcribes two ſpouts obſerved at different times in Yorkſhire, whoſe appearances in the air were exactly like thoſe of the ſpouts at ſea, and their effects the ſame as thoſe of real whirlwinds.

A fluid moving from all points horizontally towards a centre, muſt at that centre either mount or deſcend. If a hole be opened in the middle of the bottom of a tub filled with water, the water will flow from all ſides to the centre, and there deſcend in a whirl: but air flowing on or near the ſurface of land or water, from all ſides towards a centre, muſt at that centre aſcend; becauſe the land or water will hinder its deſcent.

The doctor, in proceeding to explain his conceptions, begs to be allowed two or three poſitions, as a foundation for his hypotheſis. 1. That the lower region of air is often more heated, and ſo more rarefied, than the upper, and by conſequence ſpecifically lighter. The coldneſs of the upper region is manifeſted by the hail, which ſometimes falls from it in warm weather. 2. That heated air may be very moiſt, and yet the moiſture ſo equally diffuſed and rarefied as not to be viſible till colder air mixes with it; at which time it condenſes and becomes viſible. Thus our breath, although inviſible in ſummer, becomes viſible in winter.

Theſe circumſtances being granted, he preſuppoſes a tract of land or ſea, of about 60 miles in extent, unſheltered by clouds and unrefreſhed by the wind, during a ſummer's day, or perhaps for ſeveral days without intermiſſion, till it becomes violently heated, together with the lower region of the air in contact with it; ſo that the latter becomes ſpecifically lighter than the ſuperincumbent higher region of the atmoſphere, wherein the clouds are uſually floated: he ſuppoſes alſo that the air ſurrounding this tract has not been ſo much heated during thoſe days, and therefore remains heavier. The conſequence of this, he conceives, ſhould be, that the heated lighter air ſhould aſcend, and the heavier deſcend; and as this riſing cannot operate throughout the whole tract at once, becauſe that would leave too extenſive a vacuum, the riſing will begin preciſely in that column which happens to be lighteſt or moſt rarefied; and the warm air will flow horizontally from all parts of this column, where the ſeveral currents meeting, and joining to riſe, a whirl is naturally formed, in the ſame manner as a whirl is formed in a tub of water, by the deſcending fluid receding from all ſides of the tub towards the hole in the centre.

And as the ſeveral currents arrive at this central riſing column, with a conſiderable degree of horizontal motion, they cannot ſuddenly change it to a vertical one; therefore as they gradually, in approaching the whirl, decline from right to curve or circular lines, ſo, having joined the whirl, they aſcend by a ſpiral motion: in the ſame manner as the water deſcends ſpirally through the hole in the tub before mentioned.

Laſtly, as the lower air neareſt the ſurface is more rarefied by the heat of the ſun, it is more impreſſed by the current of the ſurrounding cold and heavy air which is to aſſume its place, and conſequently its motion towards the whirl is ſwifteſt, and ſo the force of the lower part of the whirl ſtrongeſt, and the centrifugal force of its particles greateſt. Hence the vacuum which encloſes the axis of the whirl ſhould be greateſt near the earth or ſea, and diminiſh gradually as it approaches the region of the clouds, till it ends in a point.

This circle is of various diameters, ſometimes very large.

If the vacuum paſſes over water, the water may riſe in a body or column therein to the height of about 32 feet. This whirl of air may be as inviſible as the air itſelf, though reaching in reality from the water to the region of cool air, in which our low ſummer thunder-clouds commonly float; but it will ſoon become viſible at its extremities. The agitation of the water under the whirling of the circle, and the ſwelling and riſing of the water in the commencement of the vacuum, renders it viſible below. It is perceived above by the warm air being brought up to the cooler region, where its moiſture begins to be condenſed by the cold into thick vapour, and is then firſt diſcovered at the higheſt part, which being now cooled, condenſes what riſes behind it, and this latter acts in the ſame manner on the ſucceeding body; where, by the contact of the vapours, the cold operates faſter in a right line downwards, than the vapours themſelves can climb in a ſpiral line upwards: they climb however; and as by continual addition they grow denſer, and by conſequence increaſe their centrifugal force, and being riſen above the concentrating currents that compoſe the whirl, they fly off, and form a cloud.

It ſeems eaſy to conceive how, by this ſucceſſive condenſation from above, the ſpout appears to drop or deſcend from the cloud, although the materials of which it is compoſed are all the while aſcending. The condenſation of the moiſture contained in ſo great a quantity of warm air as may be ſuppoſed to riſe in a ſhort time in this prodigiouſly rapid whirl, is perhaps ſufficient to form a great extent of cloud; and the friction of the whirling air on the ſides of the column may detach great quantities of its water, diſperſe them into drops, and carry them up in the ſpiral whirl mixed with the air. The heavier drops may indeed fly off, and fall into a ſhower about the ſpout; but much of it will be broken into vapour, and yet remain viſible.

As the whirl weakens, the tube may apparently ſeparate in the middle; the column of water ſubſiding, the ſuperior condenſed part drawing up to the cloud. The tube or whirl of

air may nevertheleſs remain entire, the middle only becoming inviſible, as not containing any viſible matter.

Dr. Lindſay, however, in ſeveral letters publiſhed in the Gentleman's Magazine, has controverted this theory of Dr. Franklin, and endeavoured to prove, that water-ſpouts and whirlwinds are diſtinct phenomena; and that the water which forms the water-ſpout, does not aſcend from the ſea, as Dr. Franklin ſuppoſes, but deſcends from the atmoſphere. Our limits do not permit us to inſert his arguments here, but they may be ſeen in the Gentleman's Magazine, vol. li. p. 559, 615; vol. liii. p. 1025; and vol. lv. p. 594. We cannot avoid obſerving, however, that he treats Dr. Franklin with a degree of aſperity to which he is by no means entitled, and that his arguments, even if concluſive, prove nothing more than that ſome water-ſpouts certainly do deſcend; which Dr. Franklin hardly ever ventured to deny. There are ſome very valuable diſſertations on this ſubject by Profeſſor Wilcke of Upſal.

Water-*Works*. See Hydrostatics, Mechanics, and River, under which we have given all that is eſſentially neceſſary on the ſubject. We ſhall here however introduce, from the ſpecification of the patent, an account of certain new methods of giving an independent moving power to all machines, by means of hydraulic engines; and alſo of conſtructing and employing ſeparately ſeveral of their parts, ſuch as wheels, piſtons, and apparatus for reducing friction, upon new principles.

The author, Count de Thiville, declares his invention to conſiſt in the application of certain hydroſtatical principles not at all or but little known till now, which, contrary to the laws of ſtatics in ſolid bodies, give to incompreſſible fluids the property of riſing almoſt ſpontaneouſly above the place from which they have fallen.

"Without accounting for the cauſes (ſays he), I will confine myſelf to effects founded on experiments, and give ſome ſpecimens of theſe principles, and of the conſequences reſulting therefrom. Let fig. 1. in Pl. 4. be an empty tube, and ſtopped at bottom or top air-tight. If it be immerſed into water, and ſuddenly opened, the fluid will riſe to *a*, fall to *b*, riſe again to *c*, and ſo on till it fix itſelf at *d*; which is the level of the fluid. Let fig. 2. be a vertical ſection of a cheſt faſtened in a large reſervoir or pond. Let the front part *a b* revolving at *i* be in the poſition *i* 2, if it fall ſuddenly at *i* 3, the water will riſe above its level, and a portion will flow out of the cheſt. Let the front part *a b*, in the ſituation *i* 4, be counterpoiſed by a pendulum V O, in ſuch a manner that, either at work or at reſt, the gravity of V O be in the ſame conſtant ratio with the gravity of *a b*, then the leaſt poſſible power impelling on O, will communicate motion to *a b* by the rods B and X, which have a common centre at V. If the motion is alternate and regular, *a b* going up and down from 3 to 5, the water will riſe as before, and enter an upper reſervoir *q*; beſides the front part *a b* ſtriking or impelling on the ſurface of the fluid at *r*, will form a wave, which will be able to raiſe a body Y, immerſed at ſome diſtance, and the water withdrawing will abandon the body to its own weight, which effect may be productive of a power. If the water is prevented from going out of the cheſt, by the front part being lengthened as at *c*, this front part being alternatively and gradually loaded with, and unloaded from, the weight of water, will produce a gradual and diſpoſable power, which will be ſtill greater if the cheſt be ſituated out of the reſervoir, communicating with it by its back part only. If an empty veſſel K intercept that communication, the valve at 7 being ſuddenly opened, the water will riſe to 9. If 7 be ſhut, and the valve 6 opened at the moment the front part *a b* falls from *i* 2, to *i* 3, 9 will fall in 8, and ſo on, ſo that if a body is immerſed in the veſſel K, it will produce power by going freely up and down. Let a cheſt, fig. 3. with an aperture *x* in its circular bottom, be placed in a reſervoir; if that cheſt be ſuſpended like a pendulum at A, or bearing like a cradle on fixed beams *a b*, or like a mangle on the top of rollers *c d* without centres; if I move the cheſt alternately and regularly in any of thoſe manners, or otherwiſe, the water will alternately riſe out of the cheſt, and enter the upper reſervoirs *y* and *z*. If the ſurrounding water be found an obſtacle to the motion, the cheſt may be placed out of the reſervoir, and be ſupplied by a ſyphon above, or a flexible pipe under the cheſt, as ſeen at *q* and *j*, fig. 5. That pipe correſponding with the aperture *x*, fig. 3. Four or more of theſe cheſts, *a*, fig. 4. may likewiſe be eſtabliſhed on a floating circular timber-work with apertures at *a*, the intervals *b* between the cheſts being empty and inacceſſible to the water, as ſeen in the ſection fig. 4. No. 2. Then if a circular and alternate motion from 1 to 2 round the point A, be given, the water will riſe and flow in the parts *c*, which belong to an upper reſervoir *d*. Let fig. 5. be a cheſt with flat or circular bottom hanging at *y*, to a beam *y z*, turning at X upon ſtandards B. At *z* hangs another cheſt P ten feet high, and only a few inches thick, immerſed in the water, X *y* being to X *z* as one to ten. If A contains 100 cubic feet of water, P ought to contain little leſs than 10 feet. The bottom of A being nearly level to the ſurface *l* of the reſervoir; if the water enters gradually in A, the cheſt will deſcend in O, and raiſe P to S. P being ſuſpended at *x*, and ſo contrived that its upper part when filled be ſomewhat heavier, and when empty ſomewhat lighter, than its under part, the conſequence will be, that when P is diſengaged it turns at *x*, diſcharges its water into R, and takes again its former upright ſituation. But it muſt be obſerved, that of whatever materials P may be conſtructed, it muſt loſe a great part of its weight when in water, for inſtance, 100 pounds. In order to remedy that real diſadvantage, I fix in the building a veſſel I, containing 100 pounds of water on a ſurface only a few inches deep. To that veſſel is fixed an upright pipe 2, united by a flexible pipe at 3 to another pipe 4, tied upon the part X *z* of the beam. Another pipe 5 containing 100 pounds of water is faſtened to the curved part of the beam; by that means the gravity which P loſes gradually, entering into water, is repaired gradually by the water entering the pipe 5, ſo that an inverſe ratio ſubſiſts conſtantly between P and 5. When A is arrived and faſtened at O, the ſluice or ſhuttle *a* of the reſervoir, and that *b* of the cheſt is opened, the front part T figs. 5. and 6. upon which the water acts by its lateral preſſure being diſengaged, falls with an increaſing power according to what has been ſaid at fig. 2.; a rope or chain *c* fixed in K, turns a wheel H by means of a hook *i*, which catches the teeth of a ratchet *m*, one of the veſſels 5 is raiſed in *l*, turns in *x*, and makes the ſame effect as P, fig. 6."

"If (continues the Count) I can raiſe a large quantity of water, for inſtance, at the height of one foot only, by the means ſeen in figs. 2. 3. and 4. I can employ this water as an immediate power, acting on a common water-wheel; but the power which I can derive from the gravity of A, fig. 5. being in the order of an arithmetical progreſſion, cannot act on machinery but by the mediate aſſiſtance of P, which raiſes the water to nearly five feet. I diſpoſe accordingly an overſhot breaſt-wheel, figs. 7. 8. and 9. in ſuch a manner that the water be conveyed in one or two rows of buckets *l*, by one ſingle or double trough *b*; the water enters the buckets at *x*; they are ſituated contrary to the uſual way; and their lower part is narrower than the upper part as ſeen in fig. 9.; the ſide parts are beveled or inclined ſo as to leave between them an interval *a*, fig. 9. by which the water is diſcharged when each bucket is arrived at X, fig. 7. only, which diſpoſition increaſes conſider-

ably the power of the wheel; but in order to produce the beſt effect, the reſiſtance ariſing from friction ought to be reduced as much as poſſible; to that effect let A, figs. 7. 8. and 10. be a cheſt traverſed by the gudgeon *b* of a wheel, to that gudgeon is fixed a hollow cylinder *d*; if the cheſt be filled with an incompreſſible fluid, and if beſides the cylinder diſplace a volume of that fluid, equal to the weight which in the uſual way is ſupported by the gudgeon, that weight will be totally tranſported from the gudgeon to the fluid, and the friction ariſing from gravity will be totally reduced. Inſtead of the cylinder *d* being fixed to the axis, it may be independent; the iron axis or even the wooden axletree, in that caſe turning on its periphery as ſeen in A 2, and A 3, figs. 8. and 11. If a wheel be to revolve horizontally like a millſtone, the cylinder ought to be fixed either at the under part, or at the top of the axis. Theſe wheels, whichever of them I employ, muſt be provided with a cog-wheel which turns a pinion, the axle of which is a crank, or another pinion with teeth upon half part only of its circumference; which teeth, catching alternately the upper and under teeth of a double rake, give the vibration to the cheſts or front parts by rods, which means are already well known. The power which is deſtined to put in motion theſe different machines, deſcribed in figs. 2. 3. 4. 5. and 6. ought to be conſidered only as a regulator which gives the neceſſary velocity, engages and diſengages at pleaſure by any known means, and increaſes the effect in giving a regular and iſochronal motion."

The following obſervations are annexed by the patentee.

" From what has juſt been ſaid in my ſpecification above, it may be concluded that the application of the foregoing principles may vary *ad infinitum*. At what height, in what quantity, and at what expence of power, can the water be raiſed, are likewiſe liable to great variations, and can only be aſcertained by experiment on large ſcales, and in open water. Some parts of the objects above ſpecified have already had a ſort of publicity. About two years ago, I offered to the Royal Society a *Memoir on Friction, and on the Means of reducing it.*

" The object of that memoir was to prove, by experiments, that, between fluids and ſolid bodies immerſed in them, there is neither friction nor abſolute reſiſtance. This principle, it is true, is in direct oppoſition to the doctrine adopted by the learned in philoſophy. I made likewiſe an application, to demonſtrate that the problem of a perpetual motion, though inconſiſtent with the laws of mechanics, was to be reſolved by the *phenomena naturæ*; and that, if it was poſſible to borrow from nature the materials with which it acts, and conſequently to produce effects ſimilar to thoſe which daily occur to our eyes, the problem would be reſolved. The ideas contained in my firſt memoir on friction having been deemed inadmiſſible, *à fortiori*, ſuch an idea as that now in agitation ſhould be put aſide; yet as an obſerver who has ſpent much time in conſidering the ſubject, I take the liberty to ſay, to thoſe who maintain that *there is friction and abſolute reſiſtance in fluids*, they conſequently know what is the quantity of them under certain data. To ſuch I beg leave to propoſe the following problems:

" *Friction in fluids.* 1. Let A fig. 12. be a cylindric foot of ſolid matter, the weight of which is only one grain leſs than an equal volume of water, conſequently about fifty pounds weight, that cylinder is ſupported by B. Let V repreſent the requiſite power, to ſubdue the reſiſtance which friction oppoſes to motion; which reſiſtance, according to the admitted doctrine, is about a third of the weight.

" 2. Let another cylinder of the ſame matter and diameter be ten feet long, *ceteres paribus:* let the requiſite power be repreſented by X.

" 3. Let both apparatus be totally immerſed in water, the power in that new ſituation being repreſented by Y if the length is one foot, and by Z if it is ten feet.

" What are the ratios between V and Y, between X and Z, and between Y and Z?

" *Reſiſtance of Fluids.* 1. Let a cubic foot in the ſame circumſtances as before, *i. e.* weighing about ſixty-three pounds, be freely immerſed in water, the power to move it, either horizontally or perpendicularly, be repreſented by X.

" 2. Let another ſolid body be ten feet long, *ceteris paribus.* The power repreſented by Y.

" 3. Let another ſolid be two feet every way, *i. e.* eight cubic feet, *ceteris paribus.* The power repreſented by Z.

" What are the reſpective ratios between X Y and Z?"

The count uſes the expreſſion of abſolute reſiſtance, to indicate that the velocity of the bodies in motion, or their reſpective velocities, have no relation at all with the power, which ought to be conſidered only as deſtined to ſubdue the reſiſtance, without any regard to time, *i. e.* whether the effect takes place in the ſpace of two hours, or in that of two ſeconds.

" *Perpetual Motion.* Without prejudging any thing upon the principles," ſays the count, " I have introduced in my ſpecification, which principles I conſider as a theorem from which every one may draw the corollaries; I will confine myſelf within the limits I have preſcribed, and propoſe the following problem. Let A, fig. 13. be a wheel or cylinder turning on its gudgeon *b*, *ccc* is an aſſemblage of ſheets of any material or ſtuff; theſe ſheets paſs between thin plates or wires faſtened in a fixed box *i i*, at *o o* they paſs freely between ſmall cylinders or rollers, turning in another fixed box V. Inſtead of being ſo ſeparated, they may be preſſed cloſe to each other by paſſing between two rollers *u u*; thus the apparatus being ſo diſpoſed, and the level of the water being as at *d e*, I ſay the phenomenon of ſpontaneous aſcent of fluids in capillary tubes or ſpaces, ought to take place between the ſheets at *i i*; and it ought not to do ſo at *o o*, or at *u u*, by their being too cloſe to, or too diſtant from, each other. That being eſtabliſhed, I repreſent by Y the power acquired by the aſcent of the fluid at *i i*; I repreſent by Z the mechanical reſiſtance, occaſioned by the rubbing of the ſheets againſt the cylinders at *o o*, or by their preſſure at *u u*. Now I aſk how, and at what point, the laws which preſide over the phenomena of nature at *i i*, and thoſe which regulate the mechanical effect at *o o*, or *u u*, coincide ſo as to determine a conſtant ratio between the power and the reſiſtance; and finally, what is the ratio between Y and Z?

" It is obvious, that if Z be greater than, or equal to, Y, the machine will remain immoveable. If on the contrary Y is greater than Z, the machine once put in motion will never ſtop.

" I abſtain from any comment on the foregoing problems. I muſt only add, that I do not think I am too ſanguine in my expectations, in announcing that a candid and impartial examination of my doctrine may be productive of ſome advantage to the ſciences: and that the arts will derive a great benefit from a proper application of the principles which I have eſtabliſhed in the foregoing ſpecification. That doctrine and thoſe principles are explained at full length in a treatiſe, and in different memoirs which I have compoſed, and intend to publiſh, on hydroſtatics, and on the motion and reſiſtance of fluids; in which I have carefully avoided all ſcientific calculations, formulæ, &c. and have ſubmitted all my hypotheſes to the teſt of experiment. I ſhall ſubmit thoſe philoſophical opuſcules to the inveſtigation of the learned in natural philoſophy, as ſoon as a good verſion from the pen of an abler tranſlator than I am ſhall be completed."

Note relating to figs. 7. 8. and 9. "Independently of the advantages reſulting from the wheel fig. 7. loſing no water at all, another advantage, which is not evident at firſt ſight, deſerves to be explained. To that effect, let A, fig. 14. repreſent the actual way of filling the buckets; and B, the method I am how propoſing. If theſe two buckets are placed at equal diſtance from a common centre of gravity C, and filled with the ſame quantity of water, it is obvious that, by the poſition of that water in the buckets, B acts more powerfully than A, and conſequently will overpower it upon that centre. If, beſides, the impulſe or ſhock of the water on ſuch wheels is worth being reckoned, that impulſe acting at *b b*, at a greater diſtance from the common centre than at *a a*, its power will conſequently be greater."

Note relating to figs. 5. and 6. "Four, ſix, or more cheſts either rectilinear or curvilinear, acting as ſeen in figs. 5. and 6. may be diſpoſed as two or three pair of ſcales. The rods which communicate the motion may be engaged or diſengaged at pleaſure, ſo that when one ſcale of the firſt pair is in motion to be emptied, the other ſcale is at reſt; the firſt ſcale of the ſecond pair is acting by its gradual gravity, and falling from A to O, and the other ſcale is empty, and riſing from O to A, and ſo on. The whole ought to be ſo calculated that the water may ſucceſſively, and almoſt without interruption, flow out of one of the upright cheſts P, and that the moving power has only one cheſt to move. It is underſtood that the wheels intended to be the moving power belong to any machinery, ſuch as corn or paper-mills, pump-work, or any other machine whatever.

"The following allegations, if they turn out to be founded on facts, will prove much in favour of my opinion, that there is no friction between fluids and ſolid bodies. If a copper-bottomed ſhip is examined (which I never had an opportunity to do) as ſoon as it arrives from a long voyage, I think it will be ſeen, 1, That the metallic brightneſs has been reſtored to the copper by the inceſſant percuſſion of the water. 2, That, that effect is the greateſt on the parts which are the neareſt to the ſurface of the water. 3, That it decreaſes in proportion to the diſtance from that ſurface. 4, That on all the parts which form the bottom of the ſhip (at which parts the friction, if any, ought to be more ſtrongly felt, owing as much to their almoſt horizontal ſituation, as to the column of water bearing heavier upon them, in the ratio of its depth), the copper is totally covered with verdegris, conſequently has experienced no friction at all; ſince an inceſſant motion, during ſix months or more, has not been able to produce an effect equal to that which could have been attained by ſlightly rubbing with the finger during a few minutes. 5, If a piece of copper be taken from the part near the ſurface of the water, and another near the keel, it will be found that the firſt has loſt of its original thickneſs, and that the ſecond has loſt nothing but by the chemical operation of the acid of the water acting upon the copper. If theſe aſſertions be confirmed by facts, they will be ſtrong arguments againſt the ſupporters of the doctrine of friction in fluids."

Under the name of WATER-WORKS, may be comprehended almoſt every hydraulic ſtructure or contrivance; ſuch as, canals, conduits, locks, mills, water-engines, &c. But they may be conveniently arranged under two general heads, *1ſt*, Works which have for their object the conducting, raiſing, or otherwiſe managing of water; and, *2dly*, Works which derive their efficacy from the impulſe or other action of water. The firſt claſs comprehends the methods of ſimply conducting water in aqueducts or in pipes for the ſupply of domeſtic conſumption or the working of machinery. It comprehends alſo the methods of procuring the ſupplies neceſſary for theſe purpoſes, by means of pumps, water or fire engines. It alſo comprehends the ſubſequent management of the water thus conducted, whether in order to make the proper diſtribution of it according to the demand, or to employ it for the purpoſe of navigation, by lockage, or other contrivances.—And in the proſecution of theſe things many ſubordinate problems will occur, in which practice will derive great advantages from a ſcientific acquaintance with the ſubject. The ſecond claſs of water-works is of much greater variety, comprehending almoſt every kind of hydraulic machine; and would of itſelf fill volumes. Many of theſe have already occurred in various articles of this Dictionary. In deſcribing or treating them, we have tacitly referred the diſcuſſion of their general principles, in which they all reſemble each other, to ſome article where they could be taken in a connected body, ſuſceptible of general ſcientific diſcuſſion, independent of the circumſtances which of neceſſity introduced the particular modifications required by the uſes to which the ſtructures were to be applied.

WATERFORD, a city and ſea-port of Ireland, in a county of the ſame name, with a biſhop's ſee. It is the ſecond place in the kingdom, and is a wealthy, populous city, enjoying many ample privileges. The ſtreets are narrow, and the air is not very healthy; but it has an excellent harbour, ſeated as well for trade as any in the world, and ſhips of the greateſt burden may ride at the quay. It ſtands on the river Sure, eight miles north of St. George's Channel, twenty-ſix ſouth of Kilkenny, and ſeventy-five ſouth by weſt of Dublin. W. Long. 6. 54. N. Lat. 52. 18.

WATERFORD, a county of Ireland, forty-ſix miles in length, and twenty-five in breadth: bounded on the ſouth by St. George's Channel; on the weſt by Cork; on the north by the river Sure, which ſeparates it from Tipperary and Kilkenny; and on the eaſt by Waterford Haven, which parts it from Wexford. It contains ſeventy-one pariſhes. It is a fine country, very pleaſant and rich, and the principal place is of the ſame name.

WATERING, in the manufactures, is to give a luſtre to ſtuffs, &c. by wetting them lightly with gum-water, and then paſſing them through the preſs or calender whether hot or cold. The gum-water ought to be pure, thin, and clear, otherwiſe the folds of the ſtuff will all ſtick together: the operation muſt alſo be performed when the water is very hot, that it may penetrate.

WATERING *Meadows*. See MEADOWS.

WATERLAND (Dr. Daniel), a learned Engliſh divine, who diſtinguiſhed himſelf greatly in theological controverſies, was born in 1683 at Waſely in Lincolnſhire, of which place his father was rector. He had his academical learning at Magdalen College, Cambridge, where he drew up a uſeful tract, which went through ſeveral editions, entitled, *Advice to a Young Student, with a Method of Study for the firſt four Years*. In 1713 he became maſter of the college, was ſoon after appointed chaplain to George I. and in 1720 preached the firſt courſe of lectures founded by Lady Moyer in defence of our Lord's divinity. He went through ſeveral promotions: and at the time of his death in 1740 was canon of Windſor, archdeacon of Middleſex, and vicar of Twickenham. Beſides his controverſial writings, he publiſhed two volumes of ſermons.

WATLING-STREET. See WAY.

WATSON (Dr. Robert), an elegant hiſtorian, was born at St. Andrew's, in Scotland, about the year 1730. He was the ſon of an apothecary of that place, who was alſo a brewer. Having gone through the uſual courſe of languages and philoſophy at the ſchool and univerſity of his native place, and alſo entered on the ſtudy of divinity, a deſire of being acquainted with a larger circle of literati, and of improving himſelf in every branch of knowledge, carried him, firſt to the

univerſity of Glaſgow, and afterwards to that of Edinburgh, where he delivered lectures on rhetoric; and met with the countenance, approbation, and friendſhip of Lord Kames, Mr. Hume, with other men of genius and learning.

At this time he had become a preacher; and a vacancy having happened in one of the churches of St. Andrew's, he offered himſelf a candidate for that living, but was diſappointed. He afterwards obtained a patent from the crown, conſtituting him profeſſor of rhetoric and belles-lettres; and read to his ſtudents a courſe of metaphyſics and logics on the moſt enlightened plan. By his hiſtory of Philip II. Dr. Watſon attained in his life-time a conſiderable degree of celebrity; and his hiſtory of Philip III. publiſhed after his death, has added to his fame. Of his laſt performance, however, he has only completed the four firſt books; the two laſt were written by the editor of his manuſcript, at the deſire of the guardians of his children.

On the death of Principal Tulideph, Dr. Watſon, through the Earl of Kinnoull, was appointed his ſucceſſor; in which ſtation he lived only a few years. He married the daughter of Mr. Shaw, profeſſor of divinity in St. Mary's College, St. Andrew's, and by this lady he had five daughters, who ſurvived him.

WATTS (Dr. Iſaac), a learned and eminent diſſenting miniſter, was born at Southampton in 1674, of parents eminent for piety, and conſiderable ſufferers for conſcience-ſake. In 1690 he was ſent up to London for academical education under the tuition of the Reverend Mr. Thomas Rowe; and in 1696 was himſelf engaged as tutor to the ſon of Sir John Hartopp, baronet, at Stoke Newington. He began to preach in 1698, and met with general acceptance; and after officiating for three years as an aſſiſtant to the Rev. Dr. Iſaac Chauncy, he ſucceeded in his paſtoral charge in 1702, and continued to preſide over that church as long as he lived. Though his whole income did not amount to an hundred a-year, he allotted one third of it to the poor. He died in 1748. His numerous works have rendered his name famous among people of every denomination, both in this and other countries, and they have been tranſlated into a variety of languages. His Lyric Poems, his Pſalms and Hymns, and his Divine Songs for Children, are a ſufficient proof of his poetical talents, and have had an amazing number of editions. His logic and philoſophy have been much admired. He alſo wrote works upon a variety of other ſubjects, and printed ſeveral volumes of his ſermons. He was admired for the mildneſs and benevolence of his diſpoſition and the ſweetneſs of his manners. After his death, his works were collected, and publiſhed in ſix volumes quarto.

WAVE, in philoſophy, a cavity in the ſurface of water, or other fluids, with an elevation aſide thereof. The waves of the ſea are of two kinds, natural and accidental. The natural waves are thoſe which are exactly proportioned in ſize to the ſtrength of the wind, whoſe blowing gives origin to them. The accidental waves are thoſe occationed by the wind's reacting upon itſelf by repercuſſion from hills and mountains, or high ſhores, and by the waſhing of the waves themſelves; otherwiſe of the natural kind, againſt rocks and ſhoals: all theſe caſes give the waves an elevation, which they can never have in their natural ſtate. For the height of the waves, and ſtilling them by means of oil, ſee SEA.

WAVED, in heraldry, is ſaid of a bordure, or any ordinary or charge, in a coat of arms, having its outlines indented in manner of the riſing and falling of waves: it is uſed to denote, that the firſt of the family in whoſe arms it ſtands, acquired its honours by ſea-ſervice.

WAVING, in the ſea-language, is the making ſigns to a veſſel to come near or keep off.

WAX, or *Bees* WAX, in natural hiſtory, a firm and ſolid ſubſtance, moderately heavy, and of a fine yellow colour, formed by the bees from the pollen of flowers. See APIS. The beſt ſort is that of a lively yellow colour, and an agreeable ſmell, ſomewhat like that of honey: when new, it is toughiſh, yet eaſy to break; but by age it becomes harder and more brittle, loſes its fine colour, and in a great meaſure its ſmell.

It appears that wax and the pollen have for their baſis a fat oil, which paſſes to the ſtate of reſin by its combination with oxygene. If the nitric or muriatic acid be digeſted upon fixed oil for ſeveral months, it paſſes to a ſtate reſembling wax. Wax, by repeated diſtillations, affords an oil which poſſeſſes all the properties of volatile oils. It is reduced into water and carbonic acid by combuſtion. The colouring matter of wax is inſoluble in water and in alcohol.

Fixed alkalis diſſolve wax, and render it ſoluble in water. It is this ſaponaceous ſolution which forms the punic wax. It may be uſed as the baſis of ſeveral colours; and may be made into an excellent paſte for waſhing the hands. Ammoniac likewiſewiſe diſſolves it; and as this ſolvent is evaporable, it ought to be preferred when it is propoſed to uſe the wax as a varniſh.

From the common yellow wax, by bleaching, is formed white wax, ſometimes called, very improperly, *virgin-wax*. The greater the ſurface is in proportion to the quantity, the ſooner and more perfectly this operation is performed. The uſual way is to melt the wax in hot water; when melted, they preſs it through a ſtrainer of tolerably fine linen, and pour it into round and very ſhallow moulds. When hardened by cooling, it is taken out and expoſed to the ſun and air, ſprinkling it now and then with water, and often turning it: by this means it ſoon becomes white. The beſt ſort is of a clear and almoſt tranſparent whiteneſs, dry, hard, brittle, and of an agreeable ſmell, like that of the yellow wax, but much weaker.

The common yellow wax is of very great uſe both in medicine and in many of the arts and manufactures. It has been ſometimes given internally in dyſenteries and eroſions of the inteſtines; but its great uſe is in the making ointments and plaſters, and the greater part of thoſe of the ſhops owe their conſiſtence to it. The white wax is alſo an ingredient in ſome of the cerates and ointments of the ſhops; and is uſed in making candles, and in many of the nicer arts and manufactures where wax is required.

Sealing-WAX, or *Spaniſh*-WAX, is a compoſition of gum lac, melted and prepared with reſins, and coloured with ſome ſuitable pigment. There are two kinds of ſealing-wax in uſe; the one hard, intended for ſealing letters, and other ſuch purpoſes, the other ſoft, deſigned for receiving the impreſſions of ſeals of office to charters, patents, and ſuch written inſtruments. The beſt hard red ſealing-wax is made by mixing two parts of ſhell-lac, well powdered, and reſin and vermilion, powdered, of each one part, and melting this combined powder over a gentle fire: and when the ingredients ſeem thoroughly incorporated, working the wax into ſticks. Seed-lac may be ſubſtituted for the ſhell-lac; and inſtead of reſin, boiled venice turpentine may be uſed. A coarſer, hard, red ſealing-wax may be made, by mixing two parts of reſin, and of ſhell-lac, or vermilion and red-lead, mixed in the proportion of one part of the vermilion to two of the red-lead, of each one part; and proceeding as in the former preparation. For a cheaper kind, the vermilion may be omitted, and the ſhell-lac alſo, for very coarſe uſes. Wax of other colours is made by ſubſtituting other colouring matters for vermilion, as verditer for blue, ivory black for black wax. For uncoloured, ſoft ſealing wax, take of bees-wax, one pound; of tur-

pentine, three ounces; and of olive-oil one ounce; place them in a proper veſſel over the fire, and let them boil for ſome time; and the wax will be then fit to be formed into rolls or cakes for uſe. For red, black, green, blue, yellow, and purple ſoft ſealing-wax, add to the preceding compoſition an ounce or more of any ingredients directed above for colouring the hard ſealing-wax, and ſtir the maſs till the colouring ingredients be incorporated with the wax.

WAX-*Work*, the repreſentation of the faces, &c. of perſons living or dead; made by applying plaſter of Paris in a kind of paſte, and thus forming a mould containing the exact repreſentation of the features. Into this mould melted wax is poured, and thus a kind of maſks is formed; which being painted and ſet with glaſs eyes, and the figures dreſſed in their proper habits, they bear ſuch a reſemblance that it is difficult to diſtinguiſh between the copy and the original.

WAY, a paſſage or road. The Roman ways are divided into conſular, prætorian, military, and public; and of theſe we have four remarkable ones in England: the firſt Watling-ſtreet, or Watheling-ſtreet, leading from Dover to London, Dunſtable, Touceſter, Atterſton, and the Severn, extending as far as Angleſea in Wales. The ſecond, called *Ikenild* or *Ikenild ſtreet*, ſtretches from Southampton over the river Iſis at Newbridge; thence by Camden and Lichfield; then paſſes the Derwent near Derby, and ends at Tinmouth. The third, called *Foſſe-way*, becauſe in ſome places it was never perfected, but lies as a large ditch, leads from Cornwall through Devonſhire, by Tethbury, near Stow in the Wolds; and beſide Coventry to Leiceſter, Newark, and ſo to Lincoln. The fourth, called *Erming*, or *Erminage ſtreet*, extends from St. David's, in Wales, to Southampton.

WAY *Covert, Gang, Hatch.* See COVERT-*Way*, GANG, &c.

WAY *of a Ship*, is ſometimes the ſame as her rake, or run forward or backward: but this term is moſt commonly underſtood of her ſailing.

WAY-*Leaves*, in the coal buſineſs. See COALERY.

Rights of WAYS, in law. This may be grounded on a ſpecial permiſſion; as when the owner of the land grants to another a liberty of paſſing over his grounds, to go to church, to market, or the like: in which caſe the gift or grant is particular, and confined to the grantee alone; it dies with the perſon: and if the grantee leaves the country, he cannot aſſign over his right to any other; nor can he juſtify taking another perſon in his company. A way may be alſo by preſcription; as if all the owners and occupiers of ſuch a farm have immemorially uſed to croſs another's ground: for this immemorial uſage ſuppoſes an original grant, whereby a right of way thus appurtenant to land may clearly be created. A right of way may alſo ariſe by act and operation of law; for if a man grants me a piece of ground in the middle of his field, he at the ſame time tacitly and impliedly gives me a way to come at it; and I may croſs his land for that purpoſe without treſpaſs. For when the law doth give any thing to one, it giveth impliedly whatſoever is neceſſary for enjoying the ſame. By the law of the twelve tables at Rome, where a man had the right of way over another's land, and the road was out of repair, he who had the right of way might go over any part of the land he pleaſed: which was the eſtabliſhed rule in public as well as private ways. And the law of England, in both caſes, ſeems to correſpond with the Roman.

WAYFARING TREE. See VIBURNUM.

WAYWODE, is properly a title given the governors of the chief places in the dominions of the Czar of Muſcovy. The palatines, or governors of provinces in Poland, alſo bear the quality of *waywodes*, or *waiwodes*. The Poles likewiſe call the princes of Wallachia and Moldavia *waywodes*; as eſteeming them no other than on the foot of governors; pretending that Wallachia and Moldavia are provinces of Poland. Everywhere elſe theſe are called *hoſpodars*. Du Cange ſays, that the name *waywode* is uſed in Dalmatia, Croatia, and Hungary, for a general of an army: and Leunclavius, in his Pandects of Turkey, tells us, it uſually ſignifies *captain* or *commander*.

WEANING, putting a child away from the breaſt, and bringing it to uſe common food.

WEAR, or WEER, a great ſtank or dam in a river, fitted for the taking of fiſh, or for conveying the ſtream to a mill. New wears are not to be made, or others altered, to the nuiſance of the public, under a certain penalty. See RIVER.

WEARING, or VEERING, in ſeamanſhip. See SEAMANSHIP.

WEASEL, in zoology. See MUSTELA.

WEATHER, the ſtate or diſpoſition of the atmoſphere, with regard to moiſture or drought, heat or cold, wind or calm, rain, hail, froſt, ſnow, fog, &c. See ATMOSPHERE, RAIN, HEAT, WIND, HAIL, FROST, &c. As it is in the atmoſphere that all plants and animals live and breathe, and as that appears to be the great principle of moſt animal and vegetable productions, alterations, &c. there does not ſeem any thing, in all philoſophy, of more immediate concernment to us than the ſtate of the weather. In effect, all living things are only aſſemblages, or bundles of veſſels, whoſe juices are kept moving by the preſſure of the atmoſphere; and which by that motion maintain life. So that any alterations in the rarity or denſity, the heat, purity, &c. of that muſt neceſſarily be attended with proportionable ones in theſe. What great, yet regular alterations, a little change of weather makes in a tube filled with mercury, or ſpirit of wine, or in a piece of ſtring, &c. every body knows, in the common inſtance of barometers, thermometers, hygrometers, &c. and it is owing partly to our inattention, and partly to our unequal, intemperate courſe of living, that we do not feel as great and as regular ones in the tubes, chords, and fibres of our own bodies.

It is certain, a great part of the brute creation have a ſenſibility, and ſagacity, this way, beyond mankind; and yet, without any means or diſpoſition thereto, more than we; except that their veſſels, fibres, &c. being, in other reſpects, in one equable habitude; the ſame or a proportionable cauſe from without, has always a like or proportionable effect on them; that is, their veſſels are regular barometers, &c. affected only from one external principle; viz. the diſpoſition of the atmoſphere; whereas ours are acted on by divers from within, as well as without: ſome of which check, impede, and prevent, the action of others.

We know of nothing more wanting than a juſt theory of the weather, on mechanical principles. But, in order to that, a complete hiſtory of the weather will be required. If regiſters were carefully kept in divers parts of the globe, for a good ſeries of years, we ſhould be enabled to determine the directions, breadth, and bounds of the winds, and of the weather they bring with them; the correſpondence between the weather of divers places, and the dependence between one ſort and another at the ſame place. In time, no doubt, we might learn to foretel divers great emergencies; as, extraordinary heats, rains, froſts, droughts, dearths, plagues and other epidemical diſeaſes, &c.

The members of our Royal Society, the French Academy of Sciences, and many authors of note, have made conſiderable eſſays this way, and the practice of keeping meteorological journals has, of late years, become very general. For

inſtructions and examples pertaining to this ſubject, ſee Phil. Tranſ. vol. lxv. part ii. art. 16.

Eraſ. Bartholin. has obſervations of the weather for every day throughout the year 1671. Mr. W. Merle made the like at Oxford, for ſeven years, with a very remarkable care and accuracy. Dr. Plott did the ſame at the ſame place, for the year 1684. Mr. Hillier, at Cape Corſe, for the years 1686, 1687. Mr. Hunt, &c. at Greſham College, for the years 1695, 1696. Dr. Derham, at Upminſter in Eſſex, for the years 1691, 1692, 1697, 1698, 1699, 1703, 1704, 1705. Mr. Townley, in Lancaſhire, in 1697, 1698. Mr. Cunningham, at Emin in China, for the years 1698, 1699, 1700, 1701. Mr. Locke, at Oats in Eſſex, 1692. Dr. Scheuchzer, at Zurich, in 1708: and Dr. Tilly, at Piſa, the ſame year. See the Phil. Tranſactions.

The form of Dr. Derham's obſervations afford a good ſpecimen of a journal of this kind; obſerving that he notes the ſtrength of the winds, by 0, 1, 2, 3, &c. and the quantity of rain as it fell through a tunnel, in pounds and centeſimals.

Day.	Hour.	Weather.	Wind.		Barometer.		Rain.
27	7	Fair.	S. W.	2	29	37	1 52
	12	Rain.	S. W. by W.	5	29	34	
	9	Stormy.		0	29	88	0 29

We have ſeveral ſchemes for keeping meteorological journals or diaries of the weather, extant in the Philoſophical Tranſactions, the Medical Eſſays of Edinburgh, and in other books. The Ephemerides Ultrajectinæ may alſo be conſulted. The inſtruments requiſite for ſuch journal, are a barometer, thermometer, anemoſcope, and ombrometer, which ſee in their proper places.

As a ſpecimen of the uſe of ſuch hiſtories, we ſhall add ſome general remarks, drawn from them by Dr. Derham; and, 1. That foggy weather makes the mercury riſe in the barometer, as well as the north wind. The cauſe, he ſuggeſts, probably enough, to be the acceſſion of the load of vapour to the former weight of the atmoſphere. Miſling weather he likewiſe obſerves to have the like effect. 2. The cold and heats in England and Switzerland begin and end nearly about the ſame time: nay, and any remarkable weather, eſpecially if it continue any while, affects one place as well as the other. 3. That the remarkably cold days in June, anno 1708, were found, in Switzerland to precede ours, commonly by about five days, or more; and that the remarkable heats in the following months began to abate in both places about the ſame time; only ſomewhat ſooner here than there. 4. That though the winds in both places frequently agree, yet they oftener differ. 5. That the barometer is always lower at Zurich than at Upminſter, by ſometimes one, and ſometimes above two Engliſh inches; but the common difference is about half an inch. Which may be ſolved either by ſuppoſing Zurich ſituate one-fourth of a mile higher above the level of the ſea than Upminſter; or elſe, by ſuppoſing that part of the terraqueous globe, as lying near the line, to be higher, and more diſtant from the centre than ours is, which lies nearer the pole. 6. That the barometers generally riſe and fall together at far diſtant places: though this agreement of the barometer is not ſo conſtant between Zurich and Upminſter, as in places nearer home; viz. at London and Paris; where, again, the agreement is not ſo great as between Upminſter and Lancaſhire. 7. That the variations of the barometer are greateſt as the places are nearcſt the pole. Thus, *e. gr.* the mercury at London has a greater range by two or three lines than at Paris; and at Paris a greater than at Zurich. In ſome places near the equinoctial, there is ſcarce any variation at all. See BAROMETER. 8. That the rain in Switzerland and Italy is much greater in quantity, throughout the year, than that in Eſſex, yet the rains are more frequent, *i. e.* there are more rainy days, in Eſſex, than at either of thoſe places. For the proportion of the annual rains that fall in ſeveral places and ſeaſons, ſee RAIN. 9. That cold contributes greatly to rain; and that, apparently, by condenſing the ſuſpending vapours, and making them deſcend. Thus, very cold months, or ſeaſons, are generally followed immediately by very rainy ones; and cold ſummers are always wet ones. 10. That high ridges of mountains, as the Alps, and the ſnows with which they are covered, not only affect the neighbouring places by the cold, rains, vapours, &c. they produce; but even diſtant countries, as England, often partake of their effects. Thus, the extraordinary colds, December, 1708, and the relaxations thereof, were felt in Italy and Switzerland, ſeveral days before they reached us: an indication, Dr. Derham thinks, that they were derived from them to us. See a collection of ingenious obſervations, and meteorological conjectures by Dr. Franklin, in his Experiments, &c. p. 182, &c. See EVAPORATION, RAIN, and WIND.

Prognoſticks of the WEATHER. We do not here mean to obtrude the idle, arbitrary obſervations of fanciful people upon our readers; but ſhall confine ourſelves to what has a viſible foundation in the nature of things.

1. Then, "a thick, dark ſky, laſting for ſome time, without either ſun or rain, always becomes firſt fair, then foul," *i. e.* it changes to a fair clear ſky, before it turns to rain. This the Rev. Mr. Clarke obſerved, who kept a regiſter of the weather for thirty years, ſince put into Dr. Derham's hands by his grandſon the learned Dr. S. Clarke: he ſays, he ſcarce ever knew it to fail; at leaſt when the wind was in any of the eaſterly points; but Dr. Derham has obſerved the rule to hold good, be the wind where it will. And the cauſe is obvious. The atmoſphere is replete with vapours, which, though ſufficient to reflect and intercept the ſun's rays from us, yet want denſity to deſcend; and while the vapours continue in the ſame ſtate, the weather will do ſo too. Accordingly, ſuch weather is generally attended with moderate warmth, and with little or no wind to diſturb the vapours, and a heavy atmoſphere to ſuſtain them; the barometer being commonly high. But when the cold approaches, and, by condenſing, drives the vapours into clouds or drops, then way is made for the ſun-beams; till the ſame vapours, being by farther condenſation formed into rain, fall down in drops.

2. "A change in the warmth of the weather is generally followed by a change of the wind." Thus, the northerly and ſoutherly winds, commonly eſteemed the cauſes of cold and warm weather, are really the effects of the cold or warmth of the atmoſphere; of which Dr. Derham aſſures us he has had ſo many confirmations, that he makes no doubt of it. Thus, it is common to ſee a warm ſoutherly wind ſuddenly changed to the north, by the fall of ſnow or hail; or to ſee the wind, in a cold froſty morning, north, when the ſun has well warmed the earth and air, wheel towards the ſouth; and again turn northerly or eaſterly in the cold evening.

3. "Moſt vegetables expand their flowers and down in ſun-ſhiny weather; and towards the evening, and againſt rain, cloſe them again; eſpecially at the beginning of their flowering, when their ſeeds are tender and ſenſible." This is viſible enough in the down of dandelion, and other downs; and eminently in the flowers of pimpernel; the opening and ſhutting of which, Gerard (Herb lib. ii.) obſerves, are the countryman's *weather-wiſer*, whereby he foretels the weather of the following day. The rule is, if the flowers be cloſe ſhut up

betokens rain, and foul weather: if they be ſpread abroad, fair weather. "*Eſt & alia* (arbor in Tylis) *ſimilis, foliоſior tamen, roſeique floris; quem noctu comprimens, aperire incipit ſolis exortu, meridie expandit. Incolæ dormire eum dicunt.*" Plin. Nat. Hiſt. lib. xii. cap. 11. The ſtalk of trefoil, Lord Bacon obſerves, ſwells againſt rain, and grows more upright: and the like may be obſerved, though not ſo ſenſibly, in the ſtalks of moſt other plants. He adds, that in the ſtubble-fields there is found a ſmall red flower, called by the country people *pimpernel*; which, opening in a morning, is a ſure indication of a fine day. See *Sleep of* PLANTS.

That vegetables ſhould be affected by the ſame cauſes that affect the weather, is very conceivable; if we conſider them as ſo many hygrometers, and thermometers, conſiſting of an infinite number of tracheæ, or air-veſſels; by which they have an immediate communication with the air, and partake of its moiſture, heat, &c. Theſe tracheæ are very viſible in the leaf of the ſcabioſe, vine, &c.

Hence it is, that all wood, even the hardeſt and moſt ſolid, ſwells in moiſt weather; the vapours eaſily inſinuating into the pores thereof; eſpecially of that which is lighteſt and drieſt. And hence we derive a very extraordinary uſe of wood, viz. for breaking rocks for millſtones. The method at the quarries is this. Having cut a rock into a cylinder, they divide that into ſeveral leſs cylinders, by making holes at proper diſtances round the great one; the holes they fill with ſo many pieces of ſallow wood, dried in an oven, which, in moiſt weather, becoming impregnated with the humid corpuſcules of the air, ſwell; and, like wedges, break or cleave the rock into ſeveral ſtones.

Predictions of the WEATHER from the barometer and moon. See BAROMETER and moon.

WEATHER, in ſea-language, is uſed as an adjective, and applied by mariners to every thing lying to windward of a particular ſituation: thus, a ſhip is ſaid to have the weather-gage of another, when ſhe is farther to windward. Thus alſo, when a ſhip under ſail preſents either of her ſides to the wind, it is then called the *weather-ſide* or *weather-board*; and all the rigging and furniture ſituated thereon are diſtinguiſhed by the ſame epithet, as the *weather-ſhrouds*, the *weather-lifts*, the *weather-braces*, &c.

To WEATHER, in ſea-language, is to ſail to windward of ſome ſhip, bank, or head-land.

WEATHER-*Cock*, a moveable vane, in form of a cock, or other ſhape, placed on high, to be turned round according to the direction of the wind, and point out the quarter from whence it blows.

WEATHER-*Glaſs*. See BAROMETER.

WEATHERING, among ſailors, ſignifies the doubling or ſailing by a head-land or other place.

WEAVING, the art of working a web of cloth, ſilk, or other ſtuff, in a loom with a ſhuttle. For an idea of the manner in which this is performed, ſee CLOTH.

WEAVING-*Loom*, a machine for weaving cloth, ſilk, &c. by raiſing the threads of the warp in order to throw in the ſhoot, and ſtrike it cloſe. Of theſe there are various kinds, diſtinguiſhed by the different ſorts of cloths, ſtuffs, ſilks, &c. in which they are employed; and which are chiefly diſtinguiſhed by the number and variety of the threads they raiſe in order to work the warp, either plain or in figures, by making more or leſs of the woof or ſhoot appear through the warp. In order to give a general idea of weaving, we ſhall here deſcribe the parts of the common weaver's loom. See Plate 5. fig. 1. in which *e f, e f*, are the front poſts, and *g, g*, the back poſts of the loom; *l l l, m m, m m*, are the *lams* in their place at Q, or, as they are called in ſome parts of Scotland, the *hiddles*, and in others the *ſlaves*. They are compoſed of ſtrong threads, ſtretched between two horizontal bars, an upper and a lower. The threads of one lam are ſo diſpoſed as to paſs between the upper threads of the warp, while they admit the lower threads to paſs through loops or ſmall holes in them, and the diſpoſition of the threads of the other lam is ſuch, that while they paſs between the lower threads of the warp, they admit the upper threads to paſs through the ſmall holes juſt mentioned. The lams are ſuſpended from the croſs-bar or *lam-bearer* HH, by means of ropes *n, n*, paſſing from the upper bars of the *lams* over the pulleys at EE, and balanced by weights at the other ends. From the lower bar of each *lam* or *hiddle* a rope paſſes to the *treadles* or moveable bars at O O; ſo that when a foot preſſes a treadle, the lam faſtened to it ſinks, while the other riſes by means of the balancing weight ſuſpended from the pulley at E. The workman then throws in the woof by means of the ſhuttle, and cloſes it by one or two ſtrokes of the *lay* or *batten*, of which WB, WB, are called the *ſwords*, CC the *cap*, or in Scotland the upper *ſhell*, DD the *block* or under *ſhell*, and PP the *reed* or *comb* contained between theſe ſhells. LL is the bench on which the workmen ſit; for the loom which our figure repreſents is conſtructed for weaving cloth of ſuch a breadth as to require two workmen, who have their quills in a box *d* on the middle of the bench on which they ſit. Between the workmen's bench and the *batten* or *lay* is the *breaſt-bar* I, I, a ſmooth ſquare beam, in which there is an opening to let the web through as it is wove. From this opening the web SS paſſes to the *knee-roll* or *web-beam* GG, round which it is rolled by means of the ſpokes, viſible in the figure, and kept from being unrolled by a wheel with teeth and clench, viſible likewiſe in the figure. In ſome looms the web paſſes from the knee-roll to the wooden frame X, to be dried as it is wove. Oppoſite to the breaſt-bar, and on the other ſide of the *batten* or *lay*, is the *cane-roll* or *yarn-beam*, on which the warp is rolled when put into the loom, and from which it is gradually unrolled as the work proceeds. TT are bobbins filled with yarn of the warp to mend ſuch threads of it as may be broke in the weaving; and B *b*, B *b*, are clues of the ſame kind of yarn with the borders of the warp, to mend ſuch threads as may there be broken.

Fig. 2. repreſents the common ſhuttle with the vacuity in the middle, in which the quill with the woof is placed on a ſpindle or axis. As this ſhuttle is thrown with one hand in at one ſide of the warp, and received with the other hand at the other ſide, it is obvious, that when the web is of a breadth too great for a man to reach from one ſide of it to the other, two workmen muſt be employed and much time loſt. To remedy this inconveniency, a new ſhuttle has, in this country, been lately brought into very general uſe, and called the *flying ſhuttle*, becauſe it flies through the warp with wonderful rapidity on two ſteel rollers RR (fig. 3.) This ſhuttle is not thrown with the hand, but moved backwards and forwards by a very ſimple piece of machinery, of which fig. 4. will give the reader a ſufficiently accurate conception. To each end of the *batten* or *lay* L is faſtened a kind of open box B, *b*, with the bottom or horizontal ſide exactly on a level with the threads of the warp of the intended web. In each of theſe boxes is a vertical piece of wood D, *d*, of conſiderable thickneſs, called a *driver*. This driver is moved eaſily on an iron ſpindle or axis from one end of the box to the other by means of a ſlender rope CCCD, and a handle H is ſeen in the figure. When the weaver is to begin his work, he lays the ſhuttle on its rollers in the box B with the iron tip T (fig. 3.), touching, or almoſt touching, the driver D (fig. 4.) Then moving the handle H, with a ſudden jerk, towards the box *b*, the driver D forces the ſhuttle with a rapid motion through the warp till it ſtrikes *d*, which is impelled by the ſtroke to the further end of the box *b*. The two drivers D and *d* have

now changed their poſitions in their reſpective boxes; ſo that the driver which was at the front of its box before, is now at the farther end of it, and *vice verſa*. Then by a ſudden jerk of the hand towards B the ſhuttle is driven back till it ſtrike D; and thus is the work continued without the weaver having occaſion ever to ſtretch his arms from one margin of the web to the other. That the ſhuttle may not, by the unſteadineſs of the workman's hand, be driven *zig-zag* through the warp or out of the place in which it ought to move, the guiding or driving rope CCCD is made to paſs through ſmooth holes or loops C, C, at the ends of the ropes EC, EC, ſuſpended either from the croſs-bar on the top of the loom or from the ſwords of the batten.

WEB, a ſort of tiſſue or texture formed of threads interwoven with each other; ſome whereof are extended in length, and called the *warp*; others are drawn acroſs, and called the *woof*.

WEDGE, one of the mechanical powers. See MECHANICS.

WEDNESDAY, the fourth day of the week, ſo called from a Saxon idol named *Woden*, ſuppoſed to be Mars, worſhipped on this day.

Aſh-WEDNESDAY, the firſt day of Lent, ſo called from the cuſtom obſerved in the ancient Chriſtian church of penitents expreſſing their humiliation at this time, by appearing in ſack-cloth and aſhes.

WEED, a common name for all rank and wild herbs, that grow of themſelves, to the detriment of other uſeful herbs they grow among.

WEED, in the miner's language, denotes the degeneracy of a load or vein of fine metal into an uſeleſs marcaſite.

WEEDS, alſo denote a peculiar habit, worn by the relicts of perſons deceaſed, by way of mourning.

WEEK, in chronology, a diviſion of time compriſing ſeven days. See PLANETARY *Days* and SABBATH.

Paſſion-WEEK, or the *Holy* WEEK, is the laſt week in Lent, wherein the church celebrates the myſtery of our Saviour's death and paſſion.

WEEK or WYCK, in geography, a parliament and port-town of Scotland, in the ſhire of Caithneſs. W. Long. 3. 2. N. Lat. 58. 30.

WEEKS *Ember*. See EMBER.

Feaſt of WEEKS. See PENTECOST.

WEEVEL, *Method of deſtroying*. See GRANARY.

WEEVER, in ichthyology. See TRACHINUS.

WEEVIL, in zoology, a ſpecies of curculio. See CURCULIO.

WEIGH, a weight of cheeſe, wool, &c. containing 256 pounds avoirdupois. Of corn, the weigh contains 40 buſhels; of barley or malt, ſix quarters. In ſome places, as Eſſex, the weigh of cheeſe is 300 pounds.

WEIGHING, the act of examining a body in the balance to find its weight.

WEIGHING *Anchor*, is the drawing it out of the ground it had been caſt into, in order to ſet ſail, or quit a port, road, or the like.

WEIGHT, in phyſics, a quality in natural bodies, whereby they tend downwards towards the centre of the earth. Or, weight may be defined in a leſs limited manner, to be a power inherent in all bodies whereby they tend to ſome common point, called the *centre of gravity*, or, to ſpeak more accurately, to one another: and that with a greater or leſs velocity, as they are more or leſs denſe, or as the medium they paſs through is more or leſs rare. See MECHANICS.

WEIGHT, in commerce, denotes a body of a known weight appointed to be put in the balance againſt other bodies whoſe weight is required.

The ſecurity of commerce depending, in a good meaſure, on the juſtneſs of weights, which are uſually of lead, iron, or braſs, moſt nations have taken care to prevent the falſification thereof, by ſtamping or marking them by proper officers, after being adjuſted by ſome original ſtandard. Thus, in England, the ſtandard of weights is kept in the exchequer by a particular officer, called the *clerk of the market*.

Weights may be diſtinguiſhed into ancient and modern.

I. ANCIENT WEIGHTS.

1. Thoſe of the ancient Jews, reduced to the Engliſh troy weight, will ſtand as in the following table:

		lb.	oz.	dwt.	gr.
Shekel		0	0	9	$2\frac{5}{7}$
60	Maneh	2	3	6	$10\frac{2}{7}$
3000	50 Talent	113	10	1	$10\frac{2}{7}$

2. Roman weights, reduced to Engliſh troy weight, will ſtand as in the following table:

										oz.	dwt.	gr.
Lentes										0	0	$0\frac{85}{144}$
4	Siliquæ									0	0	$3\frac{1}{24}$
12	3	Obolus								0	0	$9\frac{1}{24}$
24	6	2	Scriptulum							0	0	$18\frac{3}{12}$
72	18	6	3	Drachma						0	2	$6\frac{9}{12}$
96	24	8	4	$1\frac{1}{3}$	Sextula					0	3	$0\frac{6}{7}$
144	36	12	6	2	$1\frac{1}{2}$	Sicilicus				0	4	$13\frac{5}{7}$
192	48	16	8	$2\frac{2}{3}$	2	$1\frac{1}{3}$	Duella			0	6	$1\frac{5}{7}$
576	144	48	24	8	6	4	3	Uncia		0	18	$5\frac{1}{7}$
6912	1728	576	288	96	72	48	36	12	Libra	10	18	$13\frac{5}{7}$

The Roman ounce is the Engliſh avoirdupois ounce, which they divided into 7 denarii, as well as 8 drachmas.

3. *Attic Weights.*

		Engliſh Troy Weight. lb.	oz.	dwt.	gr.
Drachma		0	0	2	16,9
100	Mina	1	1	10	20
6000	60 Talent	67	7	5	0

II. MODERN WEIGHTS.

1. *Engliſh Weights.*—Mr. Renardſon, in a paper publiſhed in the Philoſophical Tranſactions, has proved, that at firſt there was but one weight in England, and that this was the avoirdupois. Troy weight was introduced in the time of Henry VII.: at preſent, both the troy and avoirdupois weights are uſed in England. Troy weight ſeems to have derived its name from *Troyes*, a town in France, where a celebrated fair was kept. It is uſed for weighing gold, ſilver, jewels, ſilk, and all liquors. The avoirdupois is uſed for weighing other things

TABLE *of Troy Weight, as uſed by the Goldſmiths, &c.*

Grains.			
24	Penny-weight.		
480	20	Ounce.	
5760	240	12	Pound.

Apothecaries.

Grains.				
20	Scruple. ℈			
60	3	Dram. ʒ		
480	24	8	Ounce. ℥	
5760	288	96	12	Pound.

The troy pound in Scotland, which by ſtatute is to be the ſame as the French pound, is commonly ſuppoſed equal to 15 ounces and three quarters troy Engliſh weight, or 7560 grains. But by a mean of the ſtandards kept by the dean-of-guild of Edinburgh, it weighs $7599\frac{2}{32}$ or 7600 grains.

TABLE *of Avoirdupois Weight.*

Drams.					
16	An ounce.				
256	16	A pound.			
7168	448	28	A quarter.		
28672	1792	112	4	A hundred.	
573440	35840	2240	80	20	A ton.

The avoirdupois pound is equal to 7004 troy grains, the avoirdupois ounce to 437,75 grains; and it follows of conſequence, that the troy pound is to the avoirdupois pound as 88 to 107 nearly; for as 88 to 107, ſo is 5760 to 7003,636: that the troy ounce is to the avoirdupois ounce as 80 to 73 nearly; for as 80 to 73, ſo is 480 to 438. An avoirdupois pound is equal to 1lb. 2 oz. 11 dwts. 20 gr. troy: a troy ounce is equal to 1 oz. 1,55 dr. avoirdupois; an avoirdupois dram contains 27,34375 grains; 175 troy pounds are equal to 144 avoirdupois pounds.

The moneyers have a peculiar ſubdiviſion of the grain troy: thus,

The { Grain, Mite, Droit, Periot } into { 20 Mites. 24 Droits. 20 Periots. 24 Blanks. }

The Engliſh weights are uſed in the United Provinces of America.

2. *French Weights.*—Different weights were formerly uſed in moſt of the different provinces of France: we believe that they have lately undergone ſeveral alterations. Be that as it may, a knowledge of the ancient weights of that country is of importance on account of the books in which they are uſed. The Paris pound contains 16 ounces, and is divided two ways.

Grains.					
24	Penny-weight.				
72	3	Gros.			
576	24	8	Ounce.		
4608	192	64	8	Marc.	
9216	384	128	16	2	Pound.

Half-ounce.						
2	Ounce.					
4	2	Half-quarter pound.				
8	4	2	Quarter-pound.			
16	8	4	2	Half-pound.		
32	16	8	4	2	Pound.	
3200	1600	800	400	200	100	Quintal.

The weights of the firſt diviſion are uſed to weigh gold, ſilver, and the richer commodities; and the weights of the ſecond diviſion for commodities of leſs value.

The Paris 2 marc, or pound weight, is equal to 7560 grains troy, and the Paris ounce equal to 472,5 grains troy.

	lb.	oz.	dwt.	gr.	
The Paris pound =	1	3	15	0	troy
The Paris ounce =	0	0	19	16,5	troy.

A grain troy = 1,2186507 of a Paris grain.

But the pound was not the ſame throughout France. At Lyons, *e. gr.* the city pound was only 14 ounces; ſo that 100 Lyons pounds made only 86 Paris pounds. But beſide the city pound, they had another at Lyons for ſilk, containing 15 ounces. At Toulouſe, and throughout the Upper Languedoc, the pound was 13 ounces and a half of Paris weight. At Marſeilles, and throughout Provence, the pound was $13\frac{1}{2}$ ounces of Paris weight. At Rouen, beſide the common Paris pound and marc, they had the weight of the vicomte; which was 16 ounces, a half, and five-ſixths of the Paris weight. The weights enumerated under the two articles of Engliſh and French weights are the ſame that are uſed throughout the greateſt part of Europe; only under ſomewhat different names, diviſions, and proportions.

French weights are uſed in all the French American ſettlements.

3. *Dutch Weights.*—The weight uſed in Amſterdam, and all over Holland, is called *Troy weight*, and is exactly the ſame with that uſed at Bruſſels. The Dutch weights are as follows:

Deuſkens.						
2	Troyken.					
4	2	Vierling.				
16	8	4	As.			
512	256	128	32	Angle.		
10240	5120	2560	640	20	Ounce.	
81920	40960	20480	5120	160	8	Marc.

The marc is equal, according to M. Tillet, to 4620 French grains.

The Amſterdam pound uſed in commerce is divided into 16 ounces, 32 loots, or 128 drachms. This pound contains 2 marcs troy, and ought therefore to weigh only 10240 *as*: but it weighs 10280; ſo that it is a little heavier than the troy pound of Amſterdam: 256 lb. of commerce are equal to 257 lb. troy of Holland. Two different pounds are uſed by apothecaries; the one containing 2 marcs, the other only $1\frac{1}{2}$. The

firſt is called *arſenic* pound weight; it contains 16 ounces, the ounce 8 drachms, the drachm 8 ſcruples, the ſcruple 20 grains. The ſecond is called the *apothecary's* pound; it is divided into 12 ounces, or 24 loots. Three arſenic pounds are equal to 4 apothecary's pounds.

The Dutch ſtone -	= 8 commercial lb.
The Liſpundt, or Ll.	= 15
The hundred weight	= 100
The Schippondt, or Sch. lb.	= 300

4. *Spaniſh Weights.*—The marc of Caſtile, uſed for weighing gold and ſilver, is divided as follows:

Grains (gold weight).							
$1\frac{1}{2\,4}$	Grain (ſilver weight).						
12	$11\frac{3}{5}$	Tomine (gold weight).					
$12\frac{1}{2}$	12	$1\frac{1}{2\,4}$	Tomine (ſilver weight).				
$37\frac{1}{2}$	36	$3\frac{1}{8}$	3	Adarme.			
75	72	$6\frac{1}{4}$	6	2	Ochava.		
96	$92\frac{4}{5}$	8	$7\frac{1}{2}\frac{7}{5}$	$2\frac{1}{2}\frac{4}{5}$	$1\frac{7}{2\,5}$	Caſtellano.	
600	576	50	48	16	8	$6\frac{1}{4}$	Ounce.
4800	4608	400	384	128	64	50	8 Marc.

The marc, according to Tillet, is equal to 7 oz. 4 gros, 8 grains French, which is equal to 4785 *as* of Holland. One hundred marcs of Caſtile = about $92\frac{1}{2}$ marcs of Holland; 100 marcs of Holland = 107 marcs of Caſtile. Medicines are ſold by the ſame marc; but it is divided differently, containing 8 ounces, 64 drachms, 192 ſcruples, 384 obolos, 1152 caracteras, 4608 grains.

The Spaniſh commercial pound is divided into two marcs, called *marcs of Tego*, each of which is equal to the marc of Caſtile. This pound is divided into 16 ounces, 256 adarmes, 9,216 grains.

5. *Weights of Portugal.*—The Liſbon marc for aſſaying ſilver conſiſts of 12 deniers, and the denier of 24 grains. The marc of Portugal for weighing gold and ſilver is equal, according to Tillet, to 7 ounces, $3\frac{1}{2}$ gros, and 34 grains French, which makes 4776 *as* of Holland; ſo that it is exactly the ſame with the Liſbon pound. It is divided into 8 ounces, 64 outavas, 192 ſcruples, 4608 grains.

The pound conſiſts of 2 marcs, 16 ounces, or 96 outavas. The arroba of 32 lb. the quintal of 4 arrobas, or 128 lb. 100 Oporto pounds make $87\frac{1}{6}$ pounds of commerce of Amſterdam.

6. *Weights of Italy.—Genoa.* Two kinds of weights are uſed at Genoa, the *peſo groſſo* (heavy weight), and the *peſo ſottile* (light weight): the latter is uſed for weighing gold and ſilver, the former for other things. The pound of the peſo ſottile is equal, according to Tillet, to 1 marc, 2 ounces, $2\frac{1}{2}$ gros, 30 grains French. It is divided into 8 ounces, the ounce into 24 deniers, and the denier into 24 grains. The pound of the peſo groſſo is equal to 1 marc, 2 ounces, 3 gros, 5 grains, French. It is divided into 12 ounces:

The cantaro	= 100 lbs. peſo groſſo.
The rubbo	= 25 lbs.
The rotolo	= $1\frac{1}{2}$ lb.
100 lbs. peſo groſſo	= $64\frac{1}{3}$ lb. of commerce of Amſterdam.
100 lbs. peſo ſottile	= 129 marcs troy of Holland.

Rome. The Roman pound conſiſts of 12 ounces, the ounce of 24 deniers, the denier of 24 grains. The Roman pound, according to Tillet, is equal to 1 marc, 3 ounces, $\frac{1}{2}$ gros, 14 grains, French.

Venice. The marc for weighing gold and ſilver contains 8 ounces, 32 quarti, 1152 carati, or 4608 grani. An hundred marcs of Venice = $97\frac{1}{3}$ marcs troy of Holland, 100 marcs of Holland = 103 of Venice. In Venice they alſo uſe a *peſo groſſo* and *peſo ſottile*. 100 lbs. peſo groſſo = $94\frac{4}{5}$ commercial lbs. of Amſterdam. 100 lbs. peſo ſottile = $61\frac{1}{2}$ ditto.

7. *Swediſh Weights.*—The marc for weighing gold and ſilver is equal to 16 lods, 64 quentins, or 4384 as The pound of 32 lods, uſed for weighing food, is equal, according to Tillet, to 1 marc, 5 ounces, 7 gros, 8 grains French, which makes $8848\frac{1}{2}$ as troy of Holland. This anſwers exactly to the weight of the different pounds, as fixed in Sweden, viz. 8848 as = the pound for weighing articles of food; $7821\frac{7\,9}{1\,2\,5}$ as = marc uſed in the mines; $7450\frac{3}{1\,2\,5}$ as = marc uſed in towns and in the country; $7078\frac{2}{5}$ as = marc uſed for weighing iron; 7416 as = pound uſed in medicine.

The ſkippund	= 400 lbs. for weighing food.
The centner	= 120 lbs.
The waag	= 165 lbs.
The ſten	= 32 lbs.
The Swediſh as	= 1 as of Holland troy.

8. *German Weights.—Vienna.* The marc of Vienna for weighing gold and ſilver is divided into 16 loths, 64 quintals, or 256 deniers or pfenings; the loth into 4 quintals, or 16 pfenings. This marc, according to Tillet, is equal to 1 marc, 1 ounce, 1 gros, 16 grains, French, = 5831 as troy Holland. The pound of Vienna is divided into 2 marcs, or 4 viertings; the mark into 8 ounces, 16 loths, 64 quintals, or 266 pfenings.

Hamburgh. The marc for aſſaying gold is divided into 24 carats; the carat into 12 grains. The marc for ſilver is divided into 16 loths, and the loth into 18 grains. Theſe marcs conſiſt each of 288 grains, and are therefore equal. This marc, uſed in Hamburgh for gold and ſilver, is the marc of Cologne, which is equal, according to Tillet, to 7 ounces, 5 gros, $7\frac{3}{4}$ grains, French, = 4866 as troy of Holland. It is divided into 8 ounces, 16 loths, 64 quentins, 256 pfenings, 4352 eſches, or 65536 richt pfenings-theile. The apothecary pound uſed in Hamburgh, and almoſt all Germany, is divided into 12 ounces, 96 drachms, 288 ſcruples, or 5760 grains; an ounce is equal to 621 as of Holland. The pound of commerce is equal, according to Tillet, to 10085 as of Holland; for half a pound is equal to 7 ounces, 7 gros, 23 grains, French. This pound is divided into 16 ounces, 32 loths, 128 quentins, or 512 pfenings.

9. *Ruſſian Weights.*—The berckowitz = 400 lbs.
The poud - - = 40 lbs.

The pound is divided into 32 loths, or 96 ſolotnuks. One hundred Ruſſian lbs. = $106\frac{1}{2}$ marcs, or $82\frac{4}{5}$ lbs. of Amſterdam. One hundred lbs. of commerce of Amſterdam = $120\frac{3}{4}$th lbs of Ruſſia.

10. *Weights uſed in the ſeveral parts of Aſia, the Eaſt-Indies, China, Perſia, &c.*—In Turkey, at Smyrna, &c. they uſe the batman, or bittemant, containing $7\frac{1}{2}$ eccos; the occo contains 4 chekys or pounds, each of which, according to Tillet, is equal to 1 marc 2 oz. 3 gros, 28 gr. French. The Turkiſh weights are divided as follows:

Cantaras.	Barmans	Occos.	Rotolos.	Chekis.	Meſcals.	Drachms.
1 =	$7\frac{1}{2}$ =	44 =	100 =	176 =	$1173\frac{1}{3}$ =	17600
	1 =	6 =	$13\frac{1}{11}$ =	24 =	1600 =	2400
		1 =	$2\frac{1}{11}$ =	4 =	$266\frac{2}{3}$ =	400
			1 =	$1\frac{1}{2\,8}$ =	$117\frac{1}{3}$ =	176
				1 =	$66\frac{2}{3}$ =	100
					1 =	$1\frac{1}{2}$

At Aleppo there are three ſorts of rottos; the firſt 720 drachms, making about 7 pounds Engliſh, and ſerving to

weigh cottons, galls, and other large commodities; the ſecond is 680 drachms, uſed for all ſilks but white ones, which are weighed by the third rotto of 700 drachms. At Seyda the rotto is 600 drachms.

The other ports of the Levant not named here, uſe ſome of theſe weights, particularly the occa or ocqua, the rottoli, and rotto.

The Chineſe weights are the piece for large commodities; it is divided into 100 catis, or cattis; though ſome ſay into 125; the cati into 16 taels, or tales; each tael equivalent to $1\frac{1}{3}$ of an ounce Engliſh, or the weight of 1 rial and $\frac{1}{12}$, and containing 12 mas, or maſſes, and each mas 10 condrins. So that the Chineſe piece amounts to 137 pounds Engliſh avoirdupois, and the cadi to 1 pound 8 ounces. The picol for ſilk containing 66 catis and $\frac{2}{4}$; the bahar, bakaire, or barr, containing 300 catis.

Tonquin has alſo the ſame weights, meaſures, &c. as China. Japan has only one weight, viz. the cati; which, however, is different from that of China, as containing 20 taels. At Surat, Agra, and throughout the ſtates of the Great Mogul, they uſe the man, or maund, whereof they have two kinds; the king's man, or king's weight; and the man ſimply; the firſt uſed for the weighing of common proviſions, containing 40 ſeers, or ſerres; and each ſeer a juſt Paris pound. The common man, uſed in the weighing of merchandiſe, conſiſts likewiſe of 40 ſeers, but each ſeer is only eſtimated at 12 Paris ounces, or $\frac{3}{4}$ of the other ſeer.

The man may be looked upon as the common weight of the Eaſt-Indies, though under ſome difference of name, or rather of pronunciation; it being called *mao* at Cambaya and in other places *mein*, and *maun*. The ſeer is properly the Indian pound, and of univerſal uſe; the like may be ſaid of the bahar, tael, and catti, above mentioned.

The weights of Siam are the piece, containing two ſhans or cattis; but the Siameſe catti is only half the Japaneſe, the latter containing 20 taels, and the former only 10; though ſome make the Chineſe catti only 16 taels, and the Siameſe 8. The tael contains 4 baats or ticals, each about a Paris ounce; the baat 4 ſelings or mayons; the mayon 2 fouangs; the fouang 4 payes; the paye 2 clams; the ſompaye half a fouang.

It is to be obſerved, that theſe are the names of their coins as well as weights; ſilver and gold being commodities there ſold, as other things, by their weights.

In the iſle of Java, and particularly at Bantam, they uſe the gantan, which amounts to near 3 Dutch pounds. In Golconda, at Viſapour, and Goa, they have the ſuratelle, containing 1 pound 14 ounces Engliſh; the mangalis, or mangelin, for weighing diamonds and precious ſtones, weighing at Goa 5 grains, at Golconda, &c. $5\frac{1}{2}$ grains. They have alſo the rotolo, containing $14\frac{1}{4}$ ounces Engliſh; the metricol, containing the ſixth part of an ounce; the wall for piaſtres and ducats, containing the 73d part of a rial.

In Perſia they uſe two kinds of batmans or mans; the one called *cahi* or *cheray* which is the king's weight, and the other *batman of Tauris*. The firſt weighs 13 pounds 10 ounces Engliſh; the ſecond $6\frac{1}{2}$ pounds. Its diviſions are the ratel, or a 16th; the derhem, or drachm, which is the 50th; the meſchal, which is half the derhem; the dung, which is the ſixth part of the meſchal, being equivalent to 6 carat grains; and, laſtly, the grain, which is the fourth part of the dung. They have alſo the vakie, which exceeds a little our ounce; the ſahcheray, equal to the 1170th part of the derhem; and the toman, uſed to weigh out large payments of money without telling; its weight is that of 50 abaſſis.

11. *Weights at Cairo in Egypt.*—Almoſt every kind of goods has its own weight; theſe are regulated by the cantaren or principal weight.

	Rotels.
The ordinary cantaren, or hundred weight, weighs	100
The cantaren of quickſilver and tin - -	102
coffee, wine, and iron - -	105
ivory - - -	100
almonds and other fruits -	115
woods for dyeing - -	120
arſenic and other drugs -	125
minium and cinnabar -	130
gum-arabic, aloes, and other aromatics - - -	133

The rotel or rotoli is nearly equal to the pound of Marſeilles; 108 lbs. of Marſeilles are equal to 110 rotels. The Marſeilles pound conſiſts of 13 ounces of Paris; ſo that 100 lbs. of Marſeilles are equal to 81 lbs. Paris, and 100 lbs. Paris = 123 lbs. of Marſeilles.

We ſhall ſubjoin here Mr. Ferguſon's table for comparing the Engliſh avoirdupois pound with foreign pounds:—

London pound	1,0000	Hamburgh	1,0865
Antwerp	1,04	Liſbon	1,135
Amſterdam	1,1111	Leghorn	0,75
Abeville	1,0989	Norimberg	1,1363
Ancona	0,78	Naples	0,71
Avignon	0,8928	Paris	1,1235
Bourdeaux	1,0989	Prague	1,2048
Bologna	0,8	Placentia	0,72
Bruges	1,0204	Rochelle	0,8928
Calabria	0,73	Rome	0,7874
Calais	0,9345	Rouen	1,1089
Dieppe	1,0989	Seville	0,9259
Dantzic	0,862	Toulouſe	0,8928
Ferrara	0,75	Turin	0,82
Flanders	0,9433	Venice	1,06
Geneva	1,07	Vienna	1,23
Genoa, groſs	0,7		

In order to ſhow the proportion of the ſeveral weights uſed throughout Europe, we ſhall add a reduction of them to one ſtandard, viz. the London pound.

The 100 lb. of England, Scotland, and Ireland, are equal to

lb.	oz.	
91	8	of Amſterdam, Paris, &c.
96	8	of Antwerp or Brabant.
88	0	of Rouen, the viſcounty weight.
106	0	of Lyons, the city weight.
90	9	of Rochelle.
107	11	of Toulouſe and Upper Languedoc.
113	0	of Marſeilles or Provence.
81	7	of Geneva.
93	5	of Hamburgh.
89	7	of Francfort, &c.
96	1	of Leipſic, &c.
137	4	of Genoa.
132	11	of Leghorn.
153	11	of Milan.
152	0	of Venice.
154	10	of Naples.
97	0	of Seville, Cadiz, &c.
104	13	of Portugal.
96	5	of Leige.
112	$\frac{2}{3}$	of Ruſſia.
107	$\frac{1}{4}$	of Sweden.
89	$\frac{1}{2}$	of Denmark.

A curious weighing machine was ſome time ago invented by M. Hanin of Paris, whereby the weights of the principal countries in Europe, and the relative proportions they bear to each

other, are ſhown at one view. For this he received a bounty of 20 guineas from the Society inſtituted at London for the Encouragement of Arts, Manufactures, and Commerce. We ſhall inſert a deſcription and figure of this ingenious machine.

In Pl. 3. fig. 1. repreſents the back of the machine, which being ſuſpended by the ring A, and a weight hung to the hook B, the ſpring C, C, C, made faſt by ſtrong ſcrews at *g*, is drawn downwards; and the bar D, having a rack thereon at *e*, turns the pinion *f*, in proportion to the weight of the body hanging thereto. Fig. 2. ſhows the face of the machine, on which are a number of concentric circles, and the weights of ſeveral countries of Europe engraved thereon, as expreſſed by the words on a line with them. In the centre of this face is a ring fixed to the ſmall plate, turned by the pinion *f*, ſhown at fig. 1. From this ring a hand projects, which, by the turning of the pinion, points to ſuch part of the circle as is marked with the weight, hung to the hook B; and thereby ſhows what weight of any of the countries mentioned, is equal to the pounds troy of London, which are engraved on the outer circle, or to the pounds avoirdupois, which are engraved on the ſecond circle, and ſo of the reſt. A ſlider moves on the hand, which may be brought to any of the circles at pleaſure, in order to point out the relative weight with greater preciſion.

In the ſame plate we have alſo given, at the requeſt of a correſpondent, the *quadrant* ſcale, which is an invention for weighing goods without weights. It ſurpaſſes the STEELYARD in weighing to a greater nicety; being leſs liable to be out of order, and having no trouble of ſhifting the weight; as, directly on the goods being put into the ſcale, the index ſhews the weight of them. The ſizes are from 7 lb. to 150 lb but they may be made to any ſize; and ſo as to weigh to 2 oz. very exactly. In the plate, A ſhows the frame made of braſs. B a ſtrong ſpring ſcrewed to the frame near the nut F, to which hangs the ſcale C by the hook D, which being drawn downwards by the goods in the ſcale, raiſes the index E. F a nut to regulate the index in caſe of variation. G the hook to hang it up by.

Many attempts have been made to introduce an uniformity of weights and meaſures into the commercial world; but hitherto they have all failed. The accompliſhment of ſuch an undertaking would be of infinite advantage to mankind, and certainly claims the moſt ſerious attention of thoſe who by their ſituation can alone bring it about. The undertaking is indeed difficult, but ſurely not impoſſible. Something of this kind has lately been attempted in France; and if it ſucceed, as the method is ſimple, and exceedingly well adapted for calculation, it ſurely deſerves to be imitated.

WEIGHT *of Air*. See PNEUMATICS.

Regulation of WEIGHTS *and Meaſures*, is a branch of the king's prerogative. See PREROGATIVE and MEASURE. As weight and meaſure are things in their nature arbitrary and uncertain, it is therefore expedient that they be reduced to ſome fixed rule or ſtandard: which ſtandard it is impoſſible to fix by any written law or oral proclamation; for no man can, by words only, give another an adequate idea of a foot rule, or a pound weight. It is therefore neceſſary to have recourſe to ſome viſible, palpable, material ſtandard; by forming a compariſon with which all weights and meaſures may be reduced to one uniform ſize; and the prerogative of fixing this ſtandard, our ancient law veſted in the crown, as in Normandy it belonged to the duke. This ſtandard was originally kept at Wincheſter: and we find in the laws of King Edgar, near a century before the conqueſt, an injunction that the one meaſure, which was kept at Wincheſter, ſhould be obſerved throughout the realm. Moſt nations have regulated the ſtandard of meaſures of length by compariſon with the parts of the human body; as the palm, the hand, the ſpan, the foot, the cubit, the ell (*ulna* or arm), the pace, and the fathom. But as theſe are of different dimenſions in men of different proportions, our ancient hiſtorians inform us, that a new ſtandard of longitudinal meaſure was aſcertained by King Henry the Firſt; who commanded that the *ulna*, or ancient ell, which anſwers to the modern yard, ſhould be made of the exact length of his own arm. And one ſtandard of meaſure of length being gained, all others are eaſily derived from thence; thoſe of greater length by multiplying, thoſe of leſs by dividing, that original ſtandard. Thus, by the ſtatute called *compoſitio ulnarum et perticarum*, five yards and an half make a perch; and the yard is ſubdivided into three feet, and each foot into twelve inches; which inches will be each of the length of three grains of barley. Superficial meaſures are derived by ſquaring thoſe of length; and meaſures of capacity by cubing them. The ſtandard of weights was originally taken from corns of wheat, whence the loweſt denomination of weights we have is ſtill called a *grain*; 32 of which are directed, by the ſtatute called *compoſitio menſuarum*, to compoſe a penny-weight, whereof 20 make an ounce, 12 ounces a pound, and ſo upwards. And upon theſe principles the firſt ſtandards were made; which, being originally ſo fixed by the crown, their ſubſequent regulations have been generally made by the king in parliament. Thus, under King Richard I. in his parliament holden at Weſtminſter, A.D. 1197, it was ordained that there ſhould be only one weight and one meaſure throughout the kingdom, and that the cuſtody of the aſſize, or ſtandard of weights and meaſures, ſhould be committed to certain perſons in every city and borough; from whence the ancient office of the king's aulnager ſeems to have been derived, whoſe duty it was, for a certain fee, to meaſure all cloths made for ſale, till the office was aboliſhed by the ſtatute 11th and 12th William III. c. 20. In King John's time this ordinance of King Richard was frequently diſpenſed with for money; which occaſioned a proviſion to be made for enforcing it, in the great charters of King John and his ſon. Theſe original ſtandards were called *pondus regis*, and *menſura domini regis*, and are directed by a variety of ſubſequent ſtatutes to be kept in the exchequer chamber, by an officer called the *clerk of the market*, except the wine gallon, which is committed to the city of London, and kept in Guildhall.

By the articles of union, the Engliſh ſtandards are eſtabliſhed over all Great Britain; but the force of cuſtom is ſo ſtrong, that the Scottiſh ſtandards are ſtill univerſally retained for many purpoſes. Likewiſe a variety of local weights and meaſures are uſed in particular places of both countries, which differ from the general ſtandards of either.

WELD, or WOLD, in botany. See RESEDA.

WELDING-HEAT, in ſmithery, a degree of heat given to iron, &c. ſufficient to make the ſurfaces of two pieces incorporate upon being beaten together with a hammer.

WANMANNIA, in botany: a genus of plants of the claſs *octandria*, order *monogynia*, and arranged in the natural claſſification with thoſe plants the order of which is doubtful. The calyx is four-leaved, the corolla has four petals, and the capſule is bilocular and biroſtrated. There are four ſpecies, none of which are natives of Britain.

WELL, a hole under ground, uſually of a cylindrical figure, and walled with ſtone and mortar: its uſe is to collect the water of the ſtrata around it.

WELL, an apartment formed in the middle of a ſhip's hold to incloſe the pumps, from the bottom to the lower deck. It is uſed as a barrier to preſerve thoſe machines from being damaged by the friction or compreſſion of the materials contained in the hold, and particularly to prevent the entrance of ballaſt, &c. by which the tubes would preſently be choked,

and the pumps rendered incapable of ſervice. By means of this incloſure, the artificers may likewiſe more readily deſcend into the hold, in order to examine the ſtate of the pumps, and repair them as occaſion requires.

WELL-*room of a Boat*, the place in the bottom where the water lies, between the ceiling and the platform of the ſtern-ſheets, whence it is thrown out into the ſea with a ſcoop.

Burning-WELL. See BURNING-*Springs*.

WELL *of a Fiſhing-veſſel*, an apartment in the middle of the hold, which is entirely detached from the reſt, being lined with lead on every ſide, and having the bottom thereof penetrated with a competent number of ſmall holes, paſſing alſo through the ſhip's floor; ſo that the ſalt-water running into the well is always kept as freſh as that in the ſea, and yet prevented from communicating itſelf to the other parts of the hold.

WELL-*hole*, in building, is the hole left in a floor for the ſtairs to come up through.

WELLS, a city of Somerſetſhire, and ſee of a biſhop; the biſhop of Bath being alſo that of Wells.—It is ſuppoſed to take its name from the many ſprings and wells that are near it. It is not very large; but is adorned with handſome buildings, both public and private. Its cathedral is a very beautiful ſtructure, adorned with images and carved ſtone-work. The biſhop's palace joins to the cathedral; and on the other ſide are the houſes for the prebendaries. In the market-place is a fine market-houſe, ſupported by pillars. It is governed by a mayor, and ſends two members to parliament. The chief manufacture is knit hoſe. W. Long. 2. 37. N. Lat. 51. 12.

WEN, a tumor or excreſcence ariſing on different parts of the body, and containing a cyſtus or bag filled with ſome peculiar kind of matter. See NÆVUS.

WEREGILD, the price of *homicide*; paid partly to the king for the loſs of a ſubject, partly to the lord whoſe vaſſal he was, and partly to the next of kin of the perſon ſlain.

WERST, WURST, or *Verſt*, a Ruſſian meaſure equal to 3500 Engliſh feet. A degree of a great circle of the earth contains about 104 werſts and a half.

WERTURIAN or URALIAN *Mountains*, a famous chain of mountains forming part of the boundary of Aſia. It begins diſtinctly (for it may be traced interruptedly farther ſouth) near the town of Kungur, in the government of Kaſan, inlati tude 57. 20.; runs north, and ends oppoſite to the Waygatz ſtrait, and riſes again in the iſle of *Nova Zemlja*. The Ruſſians alſo call this range *Semennoi Poias*, or, *the girdle of the world*; from a ſuppoſition that it encircled the univerſe. Theſe were the *Riphæi montes: Pars mundi damnata a natura rerum, et denſa merſa caligine*; of which only the ſouthern part was known to the ancients, and that ſo little as to give riſe to numberleſs fables. Beyond theſe were placed the happy *Hyperborei*, a fiction moſt beautifully related by Pomponius Mela. Moderns have not been behindhand in exaggerating ſeveral circumſtances relative to theſe noted hills. Yſbrand Ides, who croſſed them in his embaſſy to China, aſſerts that they are 5000 toiſes or fathoms high; others, that they are covered with eternal ſnow. The laſt may be true in their more northern parts; but in the uſual paſſages over them, they are free from it three or four months.

The heights of part of this chain have been taken by M. l'Abbé d'Auteroche; who, with many aſſurances of his accuracy, ſays, that the height of the mountain Kyria near Solikamſkaia, in latitude 60°, does not exceed 471 toiſes from the level of the ſea, or 286 from the ground on which it ſtands. But, according to M. Gmelin, the mountain Pauda is much higher, being 752 toiſes above the ſea. From Peterſburg to this chain is a vaſt plain, mixed with certain elevations or platforms, like iſlands in the midſt of an ocean. The eaſtern ſide deſcends gradually to a great diſtance into the wooded and moraſſy Siberia, which forms an immenſe inclined plain to the Icy Sea. This is evident from all the great rivers taking their riſe on that ſide, ſome at the amazing diſtance of latitude 46°; and, after a courſe of above 27 degrees, falling into the Frozen Ocean, in latitude 73. 30. The Yaik alone, which riſes near the ſouthern part of the eaſtern ſide, takes a ſouthern direction, and drops into the Caſpian Sea. The Dwina, the Peczora, and a few other rivers in European Ruſſia, ſhew the inclined plane of that part. All of them run to the Northern Sea; but their courſe is comparatively ſhort. Another inclination directs the Dnieper and the Don into the Euxine, and the vaſt Wolga into the Caſpian Sea.

WESLEY (JOHN), one of the moſt extraordinary characters that ever exiſted, whether we conſider him as a various and voluminous writer, a zealous and indefatigable preacher, or the founder of the moſt numerous ſect in the chriſtian world, was the ſon of the Rev. Samuel Weſley, rector of Epworth, in the iſle of Axholme, in Lincolnſhire, and was born in that village in the year 1703.

In the year 1713 he was entered a ſcholar at the Charter-houſe in London, where he continued ſeven years, under the tuition of the celebrated Dr. Walker, and of the Rev. Andrew Tooke, author of "The Pantheon." Being elected to Lincoln College, Oxford, he became a fellow of that college about the year 1725, took the degree of maſter of arts in 1726, and was joint tutor with the Rev. Dr. Hutchins, the rector. He diſcovered, very early, an elegant turn for poetry: ſome of his gayer poetical effuſions are proofs of a lively fancy and a fine claſſical taſte; and ſome tranſlations from the Latin poets, while at college, are allowed to have great merit. He had early a ſtrong impreſſion, like Count Zinzendorf, of his deſignation to ſome extraordinary work. This impreſſion received additional force from ſome domeſtic incidents; all which his active fancy turned to his own account. His wonderful preſervation from a fire when a child, naturally tended to cheriſh the idea of his being deſigned by Providence to accompliſh ſome purpoſe or other, that was out of the ordinary courſe of human events.

The reading of the writing of Mr. William Law, the celebrated author of "Chriſtian Perfection," and of "A Serious Addreſs to the Chriſtian World," contributed, moreover, to lead Mr. John Weſley, and his brother Charles, with a few of their young fellow-ſtudents, into a more than common ſtrictneſs of religious life. They received the ſacrament of the Lord's Supper every week; obſerved all the faſts of the church; viſited the priſons; roſe at four in the morning; and refrained from all amuſements. From the exact method in which they diſpoſed of every hour, they acquired the appellation of Methodiſts, by which their followers have been ever ſince diſtinguiſhed.

The boundaries of this iſland were ſoon deemed by Mr. Weſley too confined for a zeal which diſplayed the piety of an apoſtle, and of an intrepidity to which few miſſionaries had been ſuperior. In 1735 he embarked for Georgia, one of our colonies, which was, at that time, in a ſtate of political infancy; and the great object of this voyage was to preach the goſpel to the Indian nations in the vicinity of that province. He returned to England in 1737. Of his ſpiritual labours, both in this country and in America, he himſelf has given a very copious account, in a ſeries of "Journals," printed at different periods. Theſe Journals drew our laborious preacher into a controverſy with Dr. George Lavington, biſhop of Exeter, and Dr. William Warburton, biſhop of Glouceſter.

On his return from Georgia, Mr. Weſley paid a viſit to

Count Zinzendorf, the celebrated founder of the ſect of Moravians, or Herrnhuters, at Herrnuth, in Upper Luſatia. In the following year he appeared again in England, and with his brother Charles, at the head of the Methodiſts. He preached his firſt field ſermon at Briſtol, on the 2d of April, 1738, from which time his diſciples continued to increaſe. In 1741 a ſerious altercation took place between him and Mr. Whitefield. In 1744, attempting to preach at an inn at Taunton, he was regularly ſilenced by the magiſtrates. Although he chiefly reſided, for the remainder of his life, in the metropolis, he occaſionally travelled through every part of Great Britain and Ireland, eſtabliſhing congregations in each kingdom. In 1750 he married a lady, from whom he was afterward ſeparated. By this lady, who died in 1781, he had no children.

It has been juſtly obſerved of Mr. Weſley, that his labours were principally devoted to thoſe who had no inſtructor; to the highways and hedges; to the miners in Cornwall, and the colliers in Kinſwood. Theſe unhappy creatures married and buried among themſelves, and often committed murders with impunity before the Methodiſts ſprung up. By the humane and active endeavours of Mr. Weſley and his brother Charles, a ſenſe of decency, morals, and religion, was introdueed into the loweſt claſſes of mankind; the ignorant were inſtructed, the wretched relieved, and the abandoned reclaimed. His perſonal influence was greater perhaps than that of any other private gentleman in any country. He died March 2, 1791, aged 88, having preached the Wedneſday before at Leatherhead in Surrey.—His works, as already obſerved, are very voluminous, and conſiſt of various ſubjects, Theology, Hiſtory, Biography, Philoſophy, Medicine, &c.

WEST (Gilbert), ſon of the reverend Dr. Weſt and of a ſiſter of Sir Richard Temple, afterwards Lord Cobham, was educated at Eton and at Oxford, with a view to the church; but obtaining from his uncle a commiſſion either in a regiment of dragoons or dragoon guards, entered into the army, where he continued till his appointment into the office of Lord Townſhend, ſecretary of ſtate, with whom he attended the king to Hanover. He was nominated clerk-extraordinary of the privy-council in May 1729; ſoon after which he married, and ſettled at Wickham in Kent, where he devoted himſelf to learning, and to piety. For his "Obſervations on the Reſurrection," which appeared in 1747, he received from Oxford, by diploma, the degree of LL.D. March 30, 1748. In 1749 firſt appeared his tranſlation of "Pindar's Odes." He was very often viſited by Lyttelton and Pitt. His income was not large; and his friends endeavoured, but without ſucceſs, to obtain an augmentation. In time, however, his revenue was improved; he lived to have one of the lucrative clerkſhips of the privy-council in 1752, and Mr. Pitt at laſt had it in his power to make him treaſurer of Chelſea Hoſpital. In 1755 he loſt his only ſon, and died himſelf the year following, on the 26th of March.

West, one of the cardinal points of the horizon, diametrically oppoſite to the eaſt; and ſtrictly defined the interſection of the prime vertical with the horizon on that ſide the ſun ſets in.

WESTMINSTER, a city which forms the weſt part of the capital of Britain, but has a government diſtinct from the reſt. This city had its name from the ſituation of its abbey, anciently called a *minſter*, in reſpect of that of St. Paul. That part properly called the city of Weſtminſter, comprehending the pariſhes of St. John and St. Margaret, was once an iſland formed by the Thames, called *Thorney iſland*, from the thorns with which it was over-run; and the abbey that ſtood in it, Thorney-abbey. The liberties of Weſtminſter contain the ſeveral pariſhes of St. Martin in the Fields, St. James's, St. Anne, St. Paul Covent-garden, St. Mary le Strand, St. Clement Danes, St. George Hanover Square, and the precinct of the Savoy. The government, both of the city and liberties, is under the juriſdiction of the dean and chapter of Weſtminſter, in civil as well as eccleſiaſtical affairs; and their authority extends to the precinct of St. Martin le Grand, by Newgate-ſtreet, and in ſome towns of Eſſex, that are exempted from the juriſdiction of the biſhop of London and the archbiſhop of Canterbury; but the management of the civil part has, ever ſince the reformation, been in the hands of laymen, elected from time to time, and confirmed by the dean and chapter. The chief of theſe laymen are the high-ſteward, the deputy-ſteward, and the high-bailiff, who hold their offices for life. There are alſo ſixteen burgeſſes and their aſſiſtants, out of which are elected two head-burgeſſes, one for the city, and the other for the liberties. Another officer is the high-conſtable, who has all the other conſtables under his direction.

WESTMORELAND, a county of England, bounded on the north and north-weſt by Cumberland; on the ſouth and ſouth-eaſt by Yorkſhire; and on the ſouth and ſouth-weſt by Lancaſhire. Its extent from north-eaſt to ſouth, is 40 miles, and its breadth from the eaſt projection to that in the weſt, 42. It is generally divided into the baronies of Kendal and Weſtmoreland; the former is very mountainous, but the latter is a large champaign country. Theſe are the only principal diviſions of this county, which contains eight market-towns and twenty-ſix pariſhes. It lies partly in the dioceſe of Cheſter, and partly in that of Carliſle. The earl of Thanet is hereditary ſheriff of the county, which ſends only four members to parliament. The air is clear, ſharp, and ſalubrious, the natives being ſeldom troubled with diſeaſes, and generally living to old age. The ſoil is various; that on the mountains is very barren, while that in the valleys is fertile, producing good corn and graſs, eſpecially in the meadows near the rivers. In the hilly parts on the weſtern borders it is generally believed there are vaſt quantities of copper ore, and veins of gold; ſome mines of copper are worked, but moſt of the ore lies ſo deep that it will not anſwer the expence. This county yields the fineſt ſlate; and abundance of excellent hams are cured here. The principal rivers are, the Eden, the Lone, and the Ken. It has alſo ſeveral fine lakes, the principal of which is Winander Mere, or Windermere-water. In the foreſt of Martindale, to the ſouth of Ulls-water, the breed of red deer ſtill exiſts in a wild ſtate.—Appleby is the county town.

WESTPHALIA, a duchy of Germany, bounded to the eaſt by the biſhopric of Paderborn, and the territories of Waldeck and Heſſe; to the ſouth by the counties of Witgenſtein and Naſſau, and the duchy of Berg; to the north by the biſhopric of Munſter and the county of Lippe. It is about 40 miles in length and 30 in breadth. The lower part of it is very fruitful, yielding plenty of corn and cattle, and ſome ſalt-ſprings. The higher affords iron-ore, calamine, lead, copper, ſome ſilver and gold, fine woods, cattle, game, fiſh, with a little corn. The rivers, that either paſs through the duchy or along its borders, are the Rahr, the Lenne, the Bigge, the Dimel, and the Lippe. There are twenty-eight towns in it, beſides boroughs and cloiſters. The provincial diets are held at Arenſberg. In the year 1180, the Emperor Fred. I. made a donation of this duchy to the archbiſhopric of Cologne, which was confirmed by ſucceeding emperors; and in 1638, the laſt duke of Arenſberg ceded to it alſo the county of Arenſberg. The duchy is governed at preſent by a bailiff, under the archbiſhop, and is divided into the Hellwege, the Haarſtrank, and the Surland; or otherwiſe into the Ruden, the Werl, the Bilſtein, and the Brilon quarters.

WESTPHALIA, one of the circles of Germany: anciently the people inhabiting between the Weſer and the Rhine, were called *Weſtphalians*; and hence that tract got the name of *Weſtphalia*: but the circle of that name is of a larger extent, being ſurrounded by the circle of Burgundy, or the Auſtrian Netherlands, the United Provinces, and the North Sea, with the circles of the Upper and Lower Rhine, and compriſing a great many different ſtates.

The ſummoning princes and directors of the circle of Weſtphalia, are the biſhops of Munſter, alternately with the electors of Brandenburg and Palatine, as dukes of Cleve and Juliers. The archives belonging to it were before the preſent war (1797) kept at Duſſeldorp. Its quota of men and money is ſomewhat more than the ninth part of the whole ſum granted by the empire. With reſpect to religion, it is partly Proteſtant and partly Catholic; but the Proteſtants predominate, and are, at leaſt the greater part of them, Calviniſts. The air of this country is not reckoned very wholeſome, and towards the north is extremely cold in winter. The ſoil in general is marſhy and barren; yet there is ſome good corn and paſture land: but the fruit is chiefly uſed to feed hogs; and hence it is that their bacon and hams are ſo much valued and admired.

WET COUCH, *coming heap*, a term uſed by the maltſters for one of the principal articles of malt-making. See BREWING.

WETSTEIN (John James), a very learned German divine, born at Baſil in 1693. On his admiſſion to the miniſtry, he maintained a theſis *De variis Novi Teſtamenti Lectionibus*; in which he ſhowed that the great variety of readings of the New Teſtament afford no argument againſt the authenticity of the text. He had made theſe various readings the object of his attention; and travelled into foreign countries to examine all the MSS. he could come at. In 1730 he publiſhed *Prolegomena ad Novi Teſtamenti Græci editionem accuratiſſimam, &c.* Some divines, dreading his unſettling the preſent text, procured a decree of the ſenate of Baſil againſt his undertaking, and even got him prohibited from officiating in the miniſtry; on which he went to Amſterdam, where the remonſtrants named him to ſucceed the famous Le Clerc, then ſuperannuated, as profeſſor of philoſophy and hiſtory. At laſt he publiſhed his edition of the New Teſtament, in two vols. folio, 1752; in which he left the text as he found it, placing the various readings, with a critical commentary, underneath; ſubjoining two epiſtles of Clemens Romanus, till then unknown to the learned, but diſcovered by him in a Syriac MS. of the New Teſtament. He alſo publiſhed ſome ſmall works; and is ſaid to have been not only an univerſal ſcholar, but to have abounded in good and amiable qualities. He died at Amſterdam in 1754.

WETTERAVIA, the ſouthern diviſion of the Landgravate of Heſſe in Germany, lying along the northern bank of the river Maine, comprehending the counties of Hanau and Naſſau.

WEXFORD, a county of Ireland, in the province of Munſter, 38 miles in length, and 24 in breadth; bounded on the north by Wicklow, on the eaſt by St. George's Channel, on the ſouth by the Atlantic Ocean, on the weſt by Waterford and Kilkenny, and on the north by Catherlough. It contains 109 pariſhes, and ſends eighteen members to parliament. It is a fruitful country in corn and graſs; and the principal town is of the ſame name.

WEXFORD, a ſea-port of Ireland, capital of a county of the ſame name. It was once reckoned the chief city in Ireland, being the firſt colony of the Engliſh, and is ſtill a large handſome town, with a very commodious harbour at the mouth of the river Slana, on a bay of St. George's Channel, 63 miles ſouth of Dublin. W. Long. 6. 3. N. Lat. 52. 18.

WHALE, in ichthyology. See BALÆNA and PHYSETER.

WHALE, in aſtronomy, one of the conſtellations. See ASTRONOMY.

WHALE-*Bone*. See BALÆNA.

WHALE-*Fiſhery*. See FISHERY.

WHARF, a ſpace on the banks of a haven, creek, or hithe, provided for the convenient loading and unloading of veſſels.

WHARTON (Philip duke of), a nobleman of the moſt brilliant parts, but of the moſt whimſical, extravagant, and inconſiſtent turn of mind, was educated by his father's expreſs order at home. He very early married a young lady, the daughter of Major-general Holmes, which diſappointed his father's views of diſpoſing of him in ſuch a marriage as would have been a conſiderable addition to the fortune and grandeur of his illuſtrious family; yet that amiable lady deſerved infinitely more felicity than ſhe met with by this alliance. This precipitate marriage is thought to have haſtened the death of his father; after which the duke, being free from paternal reſtraints, plunged into all manner of exceſſes.

In the beginning of the year 1716 he began his travels; and as he was deſigned to be inſtructed in the ſtricteſt Whig principles, Geneva was thought a proper place for his reſidence. He firſt paſſed through Holland, and viſited ſeveral courts of Germany; and being arrived at Geneva, conceived ſuch a diſguſt againſt his governor, that he left him, and ſet out poſt for Lyons, where he wrote a letter to the chevalier de St. George, who then reſided at Avignon, and preſented him a very fine ſtout horſe; which the chevalier no ſooner received than he ſent a man of quality to him, who took him privately to his court, where he was entertained with the greateſt marks of eſteem, and had the title of duke of Northumberland conferred upon him. He, however, remained there but one day, and then returned poſt to Lyons, whence he ſet out for Paris. He likewiſe paid a viſit to the conſort of James II. who then reſided at St. Germains, to whom he alſo paid his court. During his ſtay at Paris, his winning addreſs and abilities gained him the eſteem and admiration of all the Britiſh ſubjects of rank of both parties.

About the latter end of December, 1716, he arrived in England, whence he ſoon after ſet out for Ireland where, though under age, he was allowed the honour to take his ſeat in the houſe of peers, and immediately diſtinguiſhed himſelf, notwithſtanding his former conduct, as a violent partizan for the miniſtry; in conſequence of which zeal the king created him a duke. He no ſooner came of age than he was introduced to the houſe of lords in England with the ſame blaze of reputation. In a little time he oppoſed the court, and appeared one of the moſt vigorous in defence of the Biſhop of Rocheſter; and ſoon after printed his thoughts twice a-week, in a paper called the *True Briton*, ſeveral thouſands of which were diſperſed weekly.

The duke's boundleſs profuſion had by this time ſo burdened his eſtate, that by a decree of Chancery it was veſted in the hands of truſtees for the payment of his debts, allowing him a proviſion of 1200l. *per annum* for his ſubſiſtence. This being not ſufficient to ſupport his title with ſuitable dignity, he went abroad and ſhone to great advantage, with reſpect to his perſonal character, at the imperial court. From thence he made a tour to Spain: the Engliſh miniſter was alarmed at his arrival, fearing that his grace was received in the character of an ambaſſador: upon which the duke received a ſummons under the privy-ſeal to return home; but inſtead of obeying it, he endeavoured to inflame the Spaniſh court againſt that of Great Britain, for exerciſing an act of power, as he calls it, within the juriſdiction of his catholic majeſty. He then acted openly in the ſervice of the Pretender, and was received at his court with the greateſt marks of favour.

While his grace was thus employed, his neglected ducheſs

died in England on the 14th of April, 1726, without iſſue. Soon after the duke fell violently in love with M. Oberne, one of the maids of honour to the queen of Spain, the daughter of an Iriſh colonel, whoſe fortune chiefly conſiſted in her perſonal accompliſhments. All his friends, and particularly the queen of Spain, oppoſed the match; but he falling into a lingering fever, occaſioned by his diſappointment, the queen gave her conſent, and they were ſoon after married. He then ſpent ſome time at Rome, where he accepted of a blue garter, aſſumed the title of duke of Northumberland, and for a while enjoyed the confidence of the exiled prince. But not always keeping within the bounds of Italian gravity, it became neceſſary for him to remove from hence; when, going by ſea to Barcelona, he wrote a letter to the King of Spain, acquainting him that he would aſſiſt at the ſiege of Gibraltar as a volunteer. Soon after he wrote to the Chevalier de St. George, expreſſing a deſire to viſit his court; but the chevalier adviſed him to draw near to England.

The duke ſeemed reſolved to follow his advice; and ſetting out with his duchefs, arrived in Paris in May 1728, whence he ſoon after proceeded to Rouen, where he took up his reſidence; and was ſo far from making any conceſſion to the government of England, that he did not give himſelf the leaſt trouble about his eſtate, or any other concern there; though, on his arrival at Rouen, he had only about 600l. in his poſſeſſion, and a bill of indictment was preferred againſt him in England for high-treaſon. Soon after the chevalier ſent him 2000l which he ſquandered away in a courſe of extravagance; when, to ſave the charges of travelling by land, he went from Orleans to Nantz by water, and ſtaid there till he got a remittance from Paris, which was ſquandered almoſt as ſoon as received. At Nantz he was joined by his ragged ſervants, and from hence took ſhipping with them for Bilboa, when the queen of Spain took the duchefs to attend her perſon. About the beginning of the year 1731, the duke, who commanded a regiment, was at Lerida, but declined ſo faſt that he could not move without aſſiſtance; yet when free from pain did not loſe his gaiety. He, however, received benefit from ſome mineral waters in Catalonia; but ſoon after relapſed at a ſmall village, where he was utterly deſtitute of all the neceſſaries of life, till ſome charitable fathers of a Bernardine convent removed him to their houſe, and gave him all the relief in their power. Under their hoſpitable roof he languiſhed a week, and then died, without one friend or acquaintance to cloſe his eyes; and his funeral was performed in the ſame manner in which the fathers inter thoſe of their own fraternity.

Thus died Philip duke of Wharton, "who, like Buckingham and Rocheſter (ſays Mr Walpole), comforted all the grave and dull, by throwing away the brighteſt profuſion of parts on witty fooleries, debaucheries, and ſcrapes, which mix graces with a great character, but never can compoſe one.

"With attachment to no party, though with talents to govern any party, this lively man changed the free air of Weſtminſter for the gloom of the Eſcurial, the proſpect of King George's garter for the Pretender's; and with indifference to all religion, the frolic lord who had writ the ballad on the archbiſhop of Canterbury, died in the habit of a capuchin. It is difficult to give an account of the works of a man whoſe library was a tavern, and women of pleaſure his muſes. A thouſand ſallies of his imagination may have been loſt. There are only two volumes in 8vo. called his *Life and Writings*. Theſe contain nothing of the latter, but 74 numbers of the True Briton, and his ſpeech in defence of the biſhop of Rocheſter. His other works are the ballads above mentioned; the Drinking Match at Eden-hall, in imitation of the Chevy-Chace, printed in a miſcellany called *Wartoniana*; and a parody of a ſong ſung at the opera-houſe by Mrs. Tofts. His lordſhip alſo began a play on the ſtory of the Queen of Scots."

WHEAT, in botany. See TRITICUM. For the culture of wheat, ſee HUSBANDRY. The three principal kinds of bad wheat are, the *blighted*, the *ſmutty*, and the *worm-eaten*. Blighted wheat is that of which the ſtalk is a little twiſted and rickety, the blade being of a bluiſh green and curled up, the grain alſo is green and tubercled: ſmutty wheat appears as if great part of the ear had been burnt, ſome ſmall parts only being free, and, in particular, the ſtem that riſes in the centre of the ear, round which the grain is ranged: worm-eaten or rotten wheat is corrupted without loſing much of its natural form, or external appearance; the huſk is filled with a greaſy, black powder, that is inſufferably fetid. It appeared, from the experiments of M. Tillet, that there was a kind of infectious quality in all thoſe kinds of wheat; ſo that if ſound wheat was ſprinkled with the flour of ſmutty or rotten wheat, the crop produced would be rotten or ſmutty. It appeared alſo, that among the grain which was produced from ground manured with the ſtraw of diſtempered wheat, there was a much greater proportion of diſtempered wheat than in that produced from ground manured with the ſtraw of good wheat: the great ſecret then was to deſtroy the principle of this contagion in the wheat that was put into the ground; and M. Tillet found, as the reſult of a great number of experiments, that if the grain, before it is ſowed, be well moiſtened with a ſolution of ſea-ſalt, or nitre, in common water, none of the enſuing crop will be ſmutty, or otherwiſe defective, either in kind or quality; not only ſuppoſing the grain that is ſowed to be ſound, and the ſoil to be good, but even ſuppoſing the grain to be ſtrewed with the flour of ſmutty wheat, and the ground manured with bad ſtraw.

The following receipt for preventing ſmutty wheat was publiſhed in 1769 by order of the Society for the Encouragement of Arts. they received it from Mr. John Reynolds of Adiſham in Kent.

A tub is to be procured that has a hole at bottom, in which a ſtaff and tap-hoſe is to be fixed over a whiſp of ſtraw, to prevent any ſmall pieces of lime paſſing (as in the brewing way); this done, we put 70 gallons of water, then a corn buſhel heap-full of lime-ſtone, unſlaked, ſtirring it well till the whole is diſſolved or mixed, letting it ſtand about 30 hours, and then run it off into another tub as clear as we can (as practiſed in beer): this generally produces a hogſhead of good ſtrong lime-water; then add three pecks of ſalt, 42 pounds, which, with a little ſtirring, will ſoon diſſolve; thus we have a proper pickle for the purpoſe of brining and liming our ſeed-wheat without any manner of obſtacle, which is more than can be ſaid in doing it the common way, and greatly facilitates the drilling.

Herein we ſteep the wheat in a broad-bottomed baſket of about 24 inches diameter, and 20 inches deep (for large ſowing, made on purpoſe), running in the grain gradually in ſmall quantities from 10 to 12 gallons up to 16 gallons, ſtirring the ſame. What floats, we ſkim off with a ſtrainer, and is not to be ſown: then draw up the baſket, to drain over the pickle, for a few minutes; all which may be performed within half an hour, ſufficiently pickled; and ſo proceed as before. This done, the wheat will be fit for ſowing in 24 hours, if required; but it deſigned for drilling, two hours pickled will be found beſt; and if prepared four or five days before-hand, in either caſe it makes no difference at all; but ſhould the ſeed be clammy, and ſtick to the notches in the drill-box, more lime muſt be added to the lime-water; here the maſter muſt uſe his diſcretion, as the caſe requires; few

ſome time has much more drying or aſtringent qualities in it than others. If ſea-water can be obtained conveniently, much leſs ſalt will ſuffice, but ſome will be found neceſſary even then, otherwiſe the light grains will not float, a thing of more conſequence than is generally imagined, and it ought to be ſkimmed off and thrown aſide for poultry, &c.

WHEEL, in mechanics, a ſimple machine, conſiſting of a round piece of wood, metal, or other matter, which revolves on its axis. See MECHANICS.

WHEEL-*Carriages.* See MECHANICS.

WHEEL-*Animal.* See ANIMALCULE.

WHEEL, *Potter's.* See POTTERY.

WHEEL is alſo the name of a kind of puniſhment to which great criminals are put in divers countries. In ſome, aſſaſſins, parricides, and robbers on the highway, are ſaid to be condemned to the wheel, when they are to have their bones firſt broken with an iron bar on a ſcaffold, and then to be expoſed, and left to expire on the circumference of a wheel. In Germany they break their bones on the wheel itſelf.—Of this cruel puniſhment, it is not certain who was the inventor: it was firſt uſed in Germany, and was, indeed, but rarely practiſed any-where elſe, till the time of Francis I. of France; who, by an edict of the year 1534, appointed it to be inflicted on robbers on the highway.

WHEELER (Sir George), a learned traveller and divine, was the ſon of Colonel Wheeler of Charing in Kent, and was born in 1650 at Breda, where his parents as royaliſts were then in exile. He travelled through various parts of Greece and the Eaſt in company with Dr. James Spon of Lyons; and taking orders on his return, was inſtalled a prebend of Durham, made vicar of Baſingſtoke, and afterward rector of Houghton le Spring. He publiſhed an account of his Travels in 1682 in folio; and in 1689, his Obſervations on ancient Edifices of Churches yet remaining in the Eaſt, compared with Euſebius: alſo the Proteſtant Monaſtery, or Chriſtian Œconomics. He died in 1724.

WHEELINGS, in the military art, are different motions made both by horſe and foot, either to the right and left, or to the right and left about.

General Rules for WHEELING.—The circle is divided into four equal points: thence, wheeling to the right or left, is only a quarter of the circle; wheeling to the right or left about is one half of the circle. When you wheel to the right, you are to cloſe to the right, ſo near as to touch your right-hand man, but without preſſing him; and to look to the left, in order to bring the rank about even. When you wheel to the left, you are to cloſe to the left, and look to the right as above directed. This rule will ſerve for all the wheeling by ranks; as when a battalion is marching by ſubdiviſions with their ranks open, then each rank wheels diſtinctly by itſelf, when it comes to the ground on which the ranks before it wheeled, but not before. In wheeling, the men are to take particular care neither to open nor cloſe their ranks, and to carry their arms well. In wheeling, the motion of each man is quicker or ſlower, according to the diſtance he is from the right or the left: thus, when you wheel to the right, each man moves quicker than his right-hand man; and wheeling to the left, each man moves quicker than his left-hand man; the circle that every man wheels being larger, according to the diſtance he is from the hand he wheels to; as may be ſeen by deſcribing ſeveral circles within one another, at two feet diſtance from each, which is nearly the ſpace every man is ſuppoſed to take up.

WHELK, in zoology. See BUCCINUM.

WHELPS, in a ſhip, the ſeaman's term for thoſe brackets which are ſet up on the capſtan cloſe under the bars; they give the ſweep to it, and are ſo contrived that the cable winding about them may not ſurge ſo much as it might otherwiſe do if the body of the capſtan were quite round and ſmooth.

WHETSTONE, a ſtone which ſerves for the whetting of knives and other tools upon.

WHEY, the ſerum or watery parts of milk.

WHIDAH, a kingdom of Africa, on the coaſt of Guinea, and to the weſt of the Gold Coaſt; extending about ten miles along the ſea. It is a populous country, well furniſhed with large villages; and there are ſo many ſmall ones, that they are not above a muſket-ſhot from each other. Whidah was conquered by the king of Dahomy. Their trade conſiſts of ſlaves, elephants' teeth, wax, and honey. The Engliſh factory is 200 miles eaſt of Cape Coaſt Caſtle, within land. Bows, arrows, beautiful aſſaguays, and clubs, are the principal weapons of the nation.

WHIDAW-BIRD. See EMBERIZA.

WHIG, a party in Britain, oppoſite to the Tories, from whom they differ chiefly in their political principles. See TORIES.

WHIMBREL. See SCOLOPAX.

WHIN, in botany. See ULEX.

WHINCHET. See MOTACILLA.

WHIP, or WHIP-*Staff*, in a ſhip, a piece of timber, in form of a ſtrong ſtaff, faſtened into the helm, for the ſteerſman, in ſmall ſhips, to hold in his hand, in order to move the rudder, and direct the ſhip.

WHIRLPOOL, an eddy, vortex, or gulf, where the water is continually turning round. Thoſe in rivers are very common, from various accidents, and are uſually very trivial, and of little conſequence. In the ſea they are more rare, but more dangerous. Sibbald has related the effects of a very remarkable marine whirlpool among the Orcades, which would prove very dangerous to ſtrangers, though it is of no conſequence to the people who are uſed to it. This is not fixed to any particular place, but appears in various parts of the limits of the ſea among theſe iſlands. Wherever it appears, it is very furious; and boats, &c. would inevitably be drawn in and periſh with it; but the people who navigate them are prepared for it, and always carry an empty veſſel, a log of wood, or large bundle of ſtraw, or ſome ſuch thing, in the boat with them; as ſoon as they perceive the whirlpool, they toſs this within its vortex, keeping themſelves out: this ſubſtance, whatever it be, is immediately received into the centre, and carried under water; and as ſoon as this is done, the ſurface of the place where the whirlpool was becomes ſmooth, and they row over it with ſafety: and in about an hour they ſee the vortex begin again in ſome other place, uſually at about a mile's diſtance from the firſt.

WHIRLWIND, a wind which moves in a ſpiral direction, as well as horizontally, which is exceedingly rapid and impetuous, but only of ſhort duration. Dr. Franklin's opinion of the origin of whirlwinds has been already given in the article WATER-*Spout*. If his theory be true, it will follow, that no hurricane ever can be ſo violent as to remove an obſtacle of the ſize of only one cubic inch, provided that was ſupported by a power equivalent to fifteen pounds; for this is the utmoſt force of the atmoſphere when ruſhing into a perfect vacuum, which never could take place in the centre of a whirlwind or water-ſpout. Indeed, notwithſtanding the dreadful effects ſometimes obſerved from hurricanes and whirlwinds, we ſhall eaſily perceive, that the utmoſt of their power always falls very far ſhort of this. The diminution of the ſpecific gravity of the air by only 1-4th in the middle of the column, would produce ſuch an afflux of air from all quarters, that an obſtacle preſenting a ſurface of one foot ſquare, would require a force of 504 pounds to prevent it from being carried away;

which the ſtrongeſt walls that can be built by human art could ſcarce reſiſt. Nay, even the tenth part of this, or the diminution of the gravity of the atmoſphere by 1-40th part, would produce a preſſure of upwards of fifty pounds on every ſquare foot of ſurface, which, it is to be doubted, whether any of our common houſes could reſiſt.

Some philoſophers aſcribe the vacuum in the atmoſphere to which, according to Dr. Franklin's theory, whirlwinds are owing, to a ſtream of electric matter ruſhing with violence into the atmoſphere out of the earth. But they do not inform us how this matter comes to be accumulated in that part of the earth; what induces it to paſs out of the earth; how it paſſes inviſibly through pure air; or what ſerves it for a conductor. It ſeems to be the faſhion among certain philoſophers to aſcribe every phenomenon, with the cauſe of which we are unacquainted, to electricity. But this is merely ſubſtituting a new name, and ſerves rather to retard than advance our knowledge of nature.

Some kinds of whirlwinds move with a ſlow motion, and are injurious only by their vortex; while others ſeem to do miſchief as well by their progreſſive as their whirling motion. Of this kind are thoſe called *typhons*; which, by their frequently following the courſe of rivers, ſeem thus alſo to diſcover their electrical origin.

WHISKY, a term ſignifying *water*, and applied in Scotland and in Ireland to a diſtilled liquor drawn from barley, which is perhaps preferable to any Engliſh malt brandy: it is ſtrong, but not pungent, and free from the empyreumatic taſte or ſmell.

WHISPERING-Places. See Acoustics.

WHIST, a well-known game at cards, which requires great attention and ſilence; hence the name. This game is played by four perſons, who cut for partners; the two higheſt and the two loweſt are together, and the partners ſit oppoſite to each other: the perſon who cuts the loweſt card is to deal firſt, giving one at a time to each perſon, till he comes to the laſt card, which is turned up for the trump, and remains on the table till each perſon has played a card. The perſon on the left hand ſide of the dealer plays firſt, and whoever wins the trick is to play again, thus going on till the cards are played out. The ace, king, queen, and knave of trumps, are called *honours*; in caſe any three of theſe honours have been played between, or by either of the two partners, they reckon for two points towards the game, and if the four honours have been played between or by either of the two partners, they reckon for four points towards the game, the game conſiſting of ten points. The honours are reckoned after the tricks; all above ſix tricks reckoning alſo towards the game.

In Hoyles games may be ſeen the general rules for playing Whist, which are too long for inſertion here.

WHISTON (William), an Engliſh divine of great parts, uncommon learning, and of a ſingular character, was born at Norton near Twycroſſe in the county of Leiceſter, where his father was rector, in 1667. He was admitted of Clare-hall, Cambridge, where he purſued his ſtudies, particularly in the mathematics, and commenced tutor; which his ill health at length forced him to decline. Having entered into orders, he, in 1694, became chaplain to Dr. More, biſhop of Norwich; and in this ſtation he publiſhed his firſt work, entitled, *A New Theory of the Earth*, &c. in which he undertook to prove the Moſaic doctrine of the earth perfectly agreeable to reaſon and philoſophy. This work brought no ſmall reputation to the author. In the beginning of this century he was made Sir Iſaac Newton's deputy, and afterwards his ſucceſſor, in the Lucaſian profeſſorſhip of mathematics; when he reſigned a living he had in Suffolk, and went to reſide at Cambridge. About this time he publiſhed ſeveral ſcientifical works, explanatory of the Newtonian philoſophy; and he had the honour of being one of the firſt, if not the very firſt, who rendered thoſe principles popular and intelligible to the generality of readers. About the year 1710 he was known to have adopted Arian principles, and was forming projects to ſupport and propagate them; among other things, he had tranſlated the Apoſtolical Conſtitutions into Engliſh, which favoured the Arian doctrine, and which he aſſerted to be genuine. The conſequence was, that he was deprived of his profeſſorſhip, and baniſhed the univerſity; he nevertheleſs purſued his ſcheme, by publiſhing the next year his Primitive Chriſtianity Revived, 4 vols. 8vo. for which the convocation fell upon him very vehemently. On his expulſion from Cambridge, Mr. Whiſton ſettled in London; where, without ſuffering his zeal to be intimidated, he continued to write and to propagate his Primitive Chriſtianity, with as much ardour as if he had been in the moſt flouriſhing circumſtances. In 1721 a ſubſcription was made for the ſupport of his family, which amounted to 470l. For though he drew profits from reading aſtronomical and philoſophical lectures, and alſo from his publications, which were very numerous, yet theſe of themſelves would have been very inſufficient: nor, when joined with the benevolence and charity of thoſe who loved and eſteemed him for his learning, integrity, and piety, did they prevent his being frequently in great diſtreſs. He continued long a member of the church of England, and regularly frequented its ſervice, though he diſapproved of many things in it: but at laſt he went over to the Baptiſts, and attended Dr. Forſter's meeting at Pinners' Hall, Broad-ſtreet. Among other performances not ſpecified above, he wrote Memoirs of his own life and writings, which contain ſome curious particulars.

He was remarkable for ſpeaking the plaineſt truths on every occaſion, and to perſons of every degree. During the year 1725, that he, with Dr. Clarke, Dr. Berkeley, and others, had the honour to attend Queen Caroline on a certain day of every week, to talk of the progreſs of ſcience, her majeſty one evening took occaſion to pay him a juſt compliment on his truth and integrity, requeſting that he would, with his uſual plainneſs, point out to her any fault that he might have obſerved in her conduct. At firſt he begged to be excuſed, adding, that few perſons could bear to have their faults plainly told to them, and leaſt of all royal perſonages, who, from their elevation, are neceſſarily ſurrounded by flatterers, to whoſe lips truth is a ſtranger. Her majeſty replied, that he was to conſider her not as a queen, but as a philoſopher; and that philoſophy is of very little uſe, if it cannot enable its profeſſors to bear without offence truths neceſſary to their own improvement. Upon this he told her, that the greateſt fault which he had obſerved in her conduct, was her indecent behaviour in the houſe of God, which, he aſſured her, had made very unfavourable impreſſions on the minds of many perſons, who, coming to town from diſtant parts of the country, had gone to the chapel to obtain a ſight of her majeſty, the king, and the royal family. The queen made no reply: but in about ſix weeks afterwards renewed her requeſt, that Mr. Whiſton would point out the moſt glaring improprieties in her conduct. To this he anſwered, that he had laid down a maxim from which he could not deviate, never to point out to any perſon more than one fault at a time, and never to give a ſecond reproof till he had obſerved ſome good conſequence to have ariſen from the firſt (A). Much to the queen's

(A) Biſhop Berkeley was preſent at theſe converſations, and from his ſon we received the account which we have given of them. They are likewiſe mentioned, but not ſtated ſo accurately, by Biſhop Newton in his own Life.

honour, ſhe was pleaſed with this plain-dealing, and continued to think favourably of Mr. Whiſton. This honeſt, but whimſical and credulous man, died in 1762, at the advanced age of ninety-five.

WHITBY (Dr. Daniel), a very learned Engliſh writer, was born in 1638, and bred at Oxford; where, in 1664, he was elected perpetual fellow of his college. He afterward became chaplain to Dr. Seth Ward, biſhop of Saliſbury; who collated him in 1668 to the prebend of Yateſbury in that church, and ſoon after to that of Huſborn and Burbach. In 1672 he was admitted chanter of the ſaid church, on the death of Mr. John South, and then, or ſoon after, rector of St. Edmund's church in Saliſbury. He was made a prebendary of Taunton Regis in 1696, and died in 1726. He was ever ſtrangely ignorant of worldly affairs, even to a degree that is ſcarcely to be conceived. His writings are numerous, and well known: particularly his Commentary on the New Teſtament.

WHITBY, a ſea-port town in the North Riding of Yorkſhire, ſeated on the river Eſk, near the place where it falls into the ſea. The houſes are neat, ſtrong, and convenient; the number of inhabitants about 9000. Ship-building is their principal manufacture. W. Long. 0. 24. N. Lat. 54. 30.

WHITE, one of the colours of natural bodies.

WHITE *of the Eye*, denotes the firſt tunic or coat of the eye, called *albuginea*. See ANATOMY.

WHITE *of an Egg*. See ALBUMEN and EGG.

WHITE *Friars*, a name common to ſeveral orders of monks, from being clothed in a white habit.

WHITE *Sea*, is a bay of the Frozen Ocean, ſo called in the north part of Muſcovy, lying between Ruſſian Lapland and Samoieda; at the bottom of which ſtands the city of Archangel. This was the chief port the Ruſſians had before their conqueſt of Livonia.

WHITE *Colour* for painting. See COLOUR-MAKING.

WHITE *Tobac*. See CHEMISTRY, p. 443.

WHITE *Iron*, or *Tin-plate*, iron-plates covered over with tin; for the method of making which, ſee LATTEN. In 1681 tin-plates were manufactured in England by one Andrew Yarranton, who had been ſent to Bohemia to learn the method of making them. But the manufacture was ſoon afterwards diſcontinued. It was revived again in 1740, and is now arrived at as great, if not greater, perfection in this country than in any other.

WHITE *Lead*. See CHEMISTRY, p. 437.

WHITE *Throat*, in ornithology. See MOTACILLA.

WHITEFIELD (George), a celebrated Methodiſt, was born in Glouceſter, in 1714, at the Bell-Inn. He was placed at a petty ſchool in this place, and gave early proofs of good elocution and memory. At fifteen he was well verſed in the claſſics. His fame recommended him to Dr. Benſon, then biſhop of Glouceſter, who made him a voluntary offer of ordination, which Mr. Whitefield accepted, and preached daily in fields, priſons, and open ſtreets. He was chaplain to the Counteſs-dowager of Huntingdon. After a long courſe of peregrination, he died at Newbury-Port, in New-England, Sept. 30, 1769. The time of his marriage, &c. is not aſcertained.

WHITEHAVEN, a ſea-port town of Cumberland, with a market on Thurſday, and one fair on Auguſt 11ſt for merchandiſe and toys. It is ſeated on a creek of the ſea, on the north end of a great bergh or hill, waſhed by the tide of flood on the weſt ſide, where there is a large rock or quarry of hard white ſtone, which gives name to the place, and which, with the help of a ſtrong ſtone-wall, ſecures the harbour into which ſmall barks may enter. It is lately much improved in its buildings, and noted for its trade in pit-coal and ſalt, there being near it a prodigious coal-mine, which runs a conſiderable way under the ſea. They have a cuſtom-houſe here; and they carry on a good trade to Ireland, Scotland, Cheſter, Briſtol, and other parts. It is ten miles ſouth-weſt of Cockermouth, and 289 north-weſt of London. W. Long. 3. 6. N. Lat. 54. 30.

WHITES, or FLUOR *Albus*. See MEDICINE.

WHITING, in ichthyology. See GADUS.

WHITLOW, or WHITLOE. See SURGERY.

WHITSUN-FARTHINGS, otherwiſe called *Smoke-farthings* or *Quadrantes Pentecoſtales*, a compoſition for offerings which were anciently made in Whitſun-week by every man in England, who occupied a houſe with a chimney, to the cathedral church of the dioceſe in which he lived.

WHITSUNDAY, a ſolemn feſtival of the chriſtian church, obſerved on the fiftieth day after Eaſter, in memory of the deſcent of the Holy Ghoſt upon the apoſtles in the viſible appearance of fiery cloven tongues, and of thoſe miraculous powers which were then conferred upon them. It is called *Whitſunday*, or *White-Sunday*; becauſe this being one of the ſtated times for baptiſm in the ancient church, thoſe who were baptiſed put on white garments, as types of that ſpiritual purity they received in baptiſm. As the deſcent of the Holy Ghoſt upon the apoſtles happened upon the day which the Jews called *Pentecoſt*, this feſtival retained the name of *Pentecoſt* among the Chriſtians.

WHITSUNDAY-*Iſle*, one of the New Hebrides, which lies about four miles to the ſouth, runs in the ſame direction, and is of the ſame length, having more ſloping expoſures than Aurora: it appears to be better inhabited, and to contain more plantations.

WHORTLEBERRY. See VACCINIUM.

WIBURGH, a conſiderable town of Denmark, in north Jutland, with a biſhop's ſee, remarkable for being the ſeat of the chief court of juſtice in the province. The hall where the council aſſembles has the archives of the country, and eſcaped the terrible fire that happened in the year 1726, and which burned the cathedral church, that of the Black Friars, the town-houſe, and the biſhop's palace; but they have all been rebuilt more magnificent than before. It is ſeated on the lake Weter, in a peninſula, twenty-five miles north-weſt of Sleſwick, and 110 north-by-weſt of Copenhagen. E. Long. 9. 50. N. Lat. 56. 20.

WICKET, a ſmall door in the gate of a fortified place, &c. or a hole in a door through which to view what paſſes without.

WICKLIFF (John), the firſt divine in Europe who had reſolution to attempt a reformation of religion, was born about the year 1324, in the pariſh of Wycliff, near Richmond, in Yorkſhire. He was educated at Oxford, firſt in Queen's, and afterwards in Merton college, of which he was a probationer-fellow. Having acquired the reputation of a man of great learning and abilities, in 1361 he was choſen maſter of Baliol-hall, and in 1365 conſtituted warden of Canterbury college, by the founder Archbiſhop Simon de Iſlip; but was, in 1367, ejected by the regulars, together with three ſecular fellows. He thought their proceedings arbitrary, and therefore appealed to the pope; but inſtead of obtaining redreſs, in 1370 the ejectment was confirmed. This diſappointment probably contributed ſomewhat towards his enmity to the ſee of Rome, or rather to confirm that enmity; for he had long before written againſt the pope's exactions and corruptions of religion. However, his credit in the univerſity continued; for having taken the degree of doctor in divinity, he read public lectures with great applauſe; in which he frequently expoſed the impoſitions of the Mendicant friars. About this time he publiſhed

a defence of his fovereign Edward III. againſt the pope, who had inſiſted on the homage to which his predeceſſor King John had agreed. This defence was the cauſe of Wickliff's introduction at court, and of his being ſent one of the ambaſſadors in 1374 to Bruges, where they met the pope's nuncios, in order to ſettle ſeveral eccleſiaſtical matters relative to the pope's authority. In the mean time Wickliff was preſented by the king to the rectory of Lutterworth in Leiceſterſhire, and in 1375 he obtained a prebend in the church of Weſtbury in Glouceſterſhire. Wickliff continued hitherto, without moleſtation, to oppoſe the papal authority; but in 1377 a bull was ſent over to the Archbiſhop of Canterbury, and to Courtney biſhop of London, ordering them to ſecure this archheretic, and lay him in irons; at the ſame time the pope wrote to the king, requeſting him to favour the biſhops in the proſecution: he alſo ſent a bull to Oxford, commanding the univerſity to give him up. Before theſe bulls reached England, Edward III. was dead, and Wickliff, protected by John duke of Lancaſter, uncle to Richard II favoured by the queen-mother, and ſupported by the citizens of London, eluded the perſecution of Pope Gregory IX. who died in 1378. In the following year this intrepid reformer preſented to parliament a ſevere paper againſt the tyranny of Rome, wrote againſt the papal ſupremacy and infallibility, and publiſhed a book *On the Truth of the Scriptures*, intended to prepare the way for an Engliſh tranſlation of them, in which he had made conſiderable progreſs. In 1381 he publiſhed *Sixteen Concluſions;* in the firſt of which he ventured to expoſe the grand article of tranſubſtantiation. Theſe concluſions being condemned by the chancellor of Oxford, Wickliff appealed to the king and parliament; but being deſerted by his unſteady patron the Duke of Lancaſter, he was obliged to make a confeſſion at Oxford; and by an order from the king was expelled the univerſity. He now retired to his living of Lutterworth, where he finiſhed his tranſlation of the bible. This verſion, of which there are ſeveral manuſcript copies in the libraries of the univerſities, Britiſh Muſeum, &c. is a very literal tranſlation from the Latin vulgate. In 1383 he was ſuddenly ſtruck with the palſy; a repetition of which put an end to his life in December 1384. He was buried in his own church, where his bones were ſuffered to reſt in peace till the year 1428, when, by an order from the pope, they were taken up and burnt.—Beſides a number of works that have been printed, he left a prodigious number of manuſcripts; an accurate liſt of which may be ſeen in Biſhop Tanner's *Bib. Brit. Hib.* Some of them are in the Bodleian Library, others in the Britiſh Muſeum, &c.

Wickliff was doubtleſs a very extraordinary man, conſidering the times in which he lived. His natural ſagacity diſcovered the abſurdities and impoſitions of the church of Rome, and he had the honeſty and reſolution to promulgate his opinions, which a little more ſupport would probably have enabled him to eſtabliſh: they were evidently the foundation of the ſubſequent reformation.

WICKLOW, a county of Ireland, in the province of Leinſter; bounded on the north by the county of Dublin; on the eaſt by the Iriſh Sea; on the ſouth by Wexford; and on the weſt by Kildare and Catherlough. It is thirty-three miles in length, twenty in breadth, and indifferently fruitful. It contains fifty-four pariſhes, and ſends ten members to parliament.

Wicklow, the capital of a county of the ſame name, in Ireland; ſeated on the ſea-ſide, with a narrow harbour, at the mouth of the river Leitrim, over which ſtands a rock, inſtead of a caſtle, ſurrounded by a ſtrong wall, twenty-four miles ſouth of Dublin. W. Long. 6. 7. N. Lat. 52. 55.

WIDGEON, in ornithology. See Anas.

WIDOW, a woman who has loſt her huſband.

WIFE, a married woman, or one joined with, and under the protection of, an huſband. See Husband.

Isle of WIGHT, an iſland lying on the ſouth coaſt of Hampſhire, from which it is ſeparated by a narrow channel. It is about twenty-one miles in length, and thirteen in breadth. It is nearly divided into equal parts by the river Mede or Cowes, which riſing in the ſouthern angle, enters at the northern, into the Channel, oppoſite the mouth of Southampton Bay. The ſouth coaſt is edged with very ſteep cliffs of chalk and freeſtone, hollowed into caverns in various parts. The weſt ſide is fenced with ridges of rocks, of which the moſt remarkable are thoſe called, from their ſharp extremities, the *Needles*. Between the iſland and the main are various ſand-banks, eſpecially off the eaſtern part, where is the ſafe road of St. Helen's. Acroſs the iſland, from eaſt to weſt, runs a ridge of hills, forming a tract of fine downs, with a chalky or marly ſoil, which feed a great number of fine-fleeced ſheep. Rabbits are alſo very plentiful here. To the north of this ridge the land is chiefly paſture: to the ſouth of it is a rich arable country, producing great crops of corn. The variety of proſpects which this iſland affords, its mild air, and the neat manner in which the fields are laid out, render it a very delightful ſpot. It is devoted almoſt ſolely to huſbandry, and has no manufactory. It is one of the principal reſources of the London market for unmalted barley. Among its products are to be reckoned a pure white pipe-clay, and a fine white cryſtalline ſand; of the latter of which great quantities are exported for the uſe of the glaſs-works in various parts. Its principal town is the borough of Newport: it likewiſe contains the two ſmall boroughs of Newton and Yarmouth.

WILD-FIRE. See *Wild*-Fire.

WILDERNESS, in gardening, a kind of grove of large trees, in a ſpacious gardens, in which the walks are commonly made, either to interſect each other in angles, or have the appearance of meanders and labyrinths.

Wilderneſſes (ſays Mr. Miller) ſhould always be proportioned to the extent of the gardens in which they are made; for it is very ridiculous to ſee a large wilderneſs planted with tall trees in a ſmall ſpot of ground; and, on the other hand, nothing can be more abſurd than to ſee little paltry ſquares, or quarters of wilderneſs work, in a magnificent large garden. As to the ſituation of wilderneſſes, they ſhould never be placed too near the habitation, nor ſo as to obſtruct any diſtant proſpect of the country, there being nothing ſo agreeable as an unconfined proſpect: but where, from the ſituation of the place, the ſight is confined within the limits of the garden, nothing can ſo agreeably terminate the proſpect as a beautiful ſcene of the various kinds of trees judiciouſly planted; and if it be ſo contrived that the termination is planted circularly, with the concave towards the ſight, it will have a much better effect than if it end in ſtraight lines or angles. The plants ſhould always be adapted to the ſize of the plantation; for it is very abſurd for tall trees to be planted in the ſmall ſquares of a little garden; and in large deſigns ſmall ſhrubs will have a mean appearance. It ſhould alſo be obſerved never to plant evergreens among deciduous trees; but always to place the evergreens in a wilderneſs in a ſeparate part by themſelves, and that chiefly in ſight.

As to the walks, thoſe that have the appearance of meanders, where the eye cannot diſcover more than twenty or thirty yards in length, are generally preferable to all others, and theſe ſhould now and then lead into an open circular piece of graſs; in the centre of which may be placed either an obeliſk, ſtatue, or fountain; and if in the middle of the wilderneſs there be contrived a large opening, in the centre of which

may be erected a dome or banquetting-houſe, ſurrounded with a green plot of graſs, it will be a conſiderable addition to the beauty of the whole. From the ſides of the walks and openings, the trees ſhould riſe gradually one above another to the middle of the quarters; where ſhould always be planted the largeſt growing trees, ſo that the heads of all the trees may appear to view, while their ſtems will be hid from the ſight. Thus, in thoſe parts which are planted with deciduous trees, roſes, honeyſuckles, ſpiræa frutex, and other kinds of low-flowering ſhrubs, may be planted next the walks and openings; and at their feet, near the ſides of the walks, may be planted primroſes, violets, daffodils, &c. not in a ſtraight line, but ſo as to appear accidental, as in a natural wood. Behind the firſt row of ſhrubs ſhould be planted ſyringas, althæa frutex, mezereons, and other flowering ſhrubs of a middle growth; and theſe way be backed with many other ſorts of trees riſing gradually to the middle of the quarters.

The part planted with evergreens may be diſpoſed in the following manner, viz. in the firſt line next the great walks may be placed the lauruſtinus, boxes, ſpurge-laurel, juniper, ſavin, and other dwarf evergreens. Behind theſe may be placed laurels, hollies, arbutuſes, and other evergreens of a larger growth. Next to theſe may be planted alaternuſes, phyllireas, yews, cypreſſes, Virginian cedars, and other trees of the ſame growth; behind theſe may be planted Norway and ſilver firs, the true pine, and other ſorts of the fir growth; and in the middle ſhould be planted Scotch pines, pinaſter, and other ſorts of the larger growing evergreens; which will afford a moſt delightful proſpect if the different ſhades of the greens are curiouſly intermixed.

But beſide the grand walks and openings (which ſhould always be laid with turf, and kept well mowed), there ſhould be ſome ſmaller ſerpentine walks through the middle of the quarters, where perſons may retire for privacy; and by the ſides of theſe private walks may alſo be ſcattered ſome wood-flowers and plants; which, if artfully planted, will have a very good effect.

In the general deſign for theſe wilderneſſes, there ſhould not be a ſtudied and ſtiff correſpondency between the ſeveral parts; for the greater diverſity there is in the diſtribution of theſe, the more pleaſure they will afford.

WILKINS (Dr. John), a moſt ingenious and learned Engliſh biſhop, was the ſon of a goldſmith of Oxford, and was born in 1614. He adhered to the parliament during the civil wars, by whom he was made warden of Wadham College in 1648: he married afterwards the ſiſter of Oliver Cromwell, and procured a diſpenſation to retain his wardenſhip notwithſtanding. Richard Cromwell made him maſter of Trinity College, Cambridge, from which he was ejected on the Reſtoration. He then became preacher to Gray's-Inn, rector of St. Laurence Jewry, London, dean of Rippon, and in 1668 was promoted to the biſhopric of Cheſter: he died in 1672. Biſhop Wilkins thought it prudent to ſubmit to the powers in being; he therefore ſubſcribed to the ſolemn league and covenant while it was enforced, and was equally ready to ſwear allegiance to King Charles when he was reſtored: this, with his moderate ſpirit toward diſſenters, rendered him not very agreeable to churchmen. His mathematical and philoſophical works, which contain many ingenious and curious pieces, conſidering the time when they were written, have been collected in one volume, 8vo. He publiſhed alſo ſome theological tracts. He was the firſt preſident of the Royal Society.

WILL, that faculty of the mind by which it embraces or rejects any thing offered to it. See METAPHYSICS.

WILL, or *Laſt* WILL, in law, ſignifies the declaration of a man's mind and intent relating to the diſpoſition of his lands, goods, or other eſtate, or of what he would have done after his death. In the common law there is a diſtinction made between a will and a teſtament: that is called a *will* where lands or tenements are given; and when the diſpoſition concerns goods and chattels alone, it is termed a *teſtament*. See TESTAMENT.

WILL-*with-a-whiſp*, or *Jack-with-a-lanthorn*, two popular names for the meteor called *ignis fatuus*. See LIGHT.

WILLIAM *of* MALMSBURY, an hiſtorian of conſiderable merit in the reign of King Stephen; but of whoſe life few particulars are known. According to Bale and Pits, he was ſurnamed *Somerſetus*, from the county in which he was born. From his own preface to his ſecond book *De Regibus Anglorum*, it appears that he was addicted to learning from his youth; that he applied himſelf to the ſtudy of logic, phyſic, ethics, and particularly to hiſtory. He retired to the Benedictine convent at Malmſbury, became a monk, and was made precentor and librarian; a ſituation which much favoured his intention of writing the hiſtory of this kingdom. In this monaſtery he ſpent the remainder of his life, and died in the year 1142. He is one of our moſt ancient and moſt faithful hiſtorians. His capital work is that entitled *De Regibus Anglorum*, in five books; with an Appendix, which he ſtyles *Hiſtoriæ Novellæ*, in two more. It is a judicious collection of whatever he found on record relative to England, from the invaſion of the Saxons to his own times.

WILLIAM *of Newberry*, ſo called from a monaſtery in Yorkſhire, of which he was a member, wrote a hiſtory, which begins at the conqueſt and ends at the year 1197. His Latin ſtyle is preferred to that of Matthew Paris; and he is entitled to particular praiſe, for his honeſt regard to truth, in treating the fables of Jeffery of Monmouth with the contempt they deſerve; as well as for expreſſing his approbation of Henry IId.'s deſign of reforming the clergy, by bringing them under the regulation of the ſecular power.

WILLIAM *of Wykeham*, biſhop of Wincheſter, was born in the village of Wykeham, in the county of Southampton, in 1324. He had his education at Wincheſter and Oxford. Having continued near ſix years in the univerſity, his patron, Nicholas Wedal, governor of the province of Southampton, took him into his family, and appointed him his counſellor and ſecretary. He could not have made choice of a fitter perſon for that employment, no man in that age writing or ſpeaking more politely than Wykeham. For this reaſon, Edington biſhop of Wincheſter, lord high-treaſurer of the kingdom, appointed him his ſecretary three years after, and alſo recommended him to King Edward III. who took him into his ſervice. Being ſkilled in geometry and architecture, he was appointed ſurveyor of the royal buildings, and alſo chief-juſtice in Eyre: he it was who ſuperintended the building of Windſor-caſtle. He was afterward chief ſecretary of ſtate, a keeper of the privy-ſeal; and in 1367 ſucceeded Edington in the ſee of Wincheſter. A little after he was appointed lord high-chancellor and preſident of the privy-council. That he might well diſcharge the ſeveral functions of his employments, both eccleſiaſtical and civil, he endeavoured, on one hand, to regulate his own life according to the ſtricteſt maxims, and to promote ſuch pariſh-prieſts only as were able to give due inſtructions to their pariſhioners, and at the ſame time led exemplary lives: on the other hand, he did all in his power to cauſe juſtice to be exactly adminiſtered. In 1371 he reſigned his chancellorſhip, and ſome time after the great ſeal. Edward being returned to England, after having carried on a very ſucceſsful war in France, found his exchequer in great diſorder. The Duke of Lancaſter, one of his ſons, at the head of ſeveral lords, having brought complaints againſt the clergy, who then enjoyed moſt poſts in the kingdom, the king removed them from their employments. But the lay-

men, who were raiſed to them, behaved ſo ill, that the king was forced to reſtore the eccleſiaſtics. The Duke of Lancaſter ſhowed ſtrong animoſity to the clergy, and ſet every engine at work to ruin Wykeham. He impeached him of extortion, and of diſguiſing things, and obliged him to appear at the King's-bench. He got ſuch judges appointed as condemned him; and not ſatisfied with depriving him of all the temporalities of his biſhoprick, he adviſed Edward to baniſh him; but this prince rejected the propoſal, and afterwards reſtored to Wykeham all that he had been diveſted of. Richard II. was but eleven years old when Edward died: whereby the Duke of Lancaſter had an eaſy opportunity of reviving the accuſations againſt the Biſhop of Wincheſter: nevertheleſs Wykeham cleared himſelf. Then he founded two noble colleges, the one in Oxford, the other in Wincheſter. Whilſt he was exerting his utmoſt endeavours to improve theſe two fine foundations, he was recalled to court, and in a manner forced to accept of the office of lord high-chancellor in 1389. —Having excellently diſcharged the duties of that employment for three years, he obtained leave to reſign it, foreſeeing the diſturbances that were going to break out. Being returned to his church, he finiſhed his college, and built there ſo magnificent a cathedral, that it almoſt equals that of St. Paul's in London. He laid out ſeveral ſums in things advantageous to the public and to the poor; notwithſtanding which, in 1397 he was in great danger; for he and ſome others were impeached of high-treaſon in open parliament: however, he was again fully cleared. From that time till his death he kept quiet in his dioceſe, and there employed himſelf in all the duties of a good prelate. He died in 1404, in the eighty-firſt year of his age.

Fort-William, a fortreſs in the Highlands of Scotland, erected in King William's reign, as was alſo a ſmall town adjoining, called *Maryburgh*, in honour of his queen. It is ſituated in Inverneſsſhire, on a narrow arm of the ſea called *Loch Eil*, which might eaſily, by a very ſhort canal, be united to the Weſtern ſea. Fort-William is of a triangular form, having two baſtions, and is capable of admitting a garriſon of 800 men; but could not be defended againſt an attack, as it is commanded by ſeveral hills in the neighbourhood.

William's *Fort*, is a factory of Aſia belonging to the Eaſt-India Company, ſeated on one of the branches of the river Ganges, in the kingdom of Bengal. The fort was firſt built in the ſhape of an irregular tetragon of brick and mortar; and the town has nothing regular in it, becauſe every one built a houſe as he liked beſt, and for his own conveniency. The governor's houſe is within the fort, and is the beſt piece of architecture in theſe parts. Here there are alſo convenient lodgings for the factors and writers, with ſtore-houſes for the company's goods, and magazines for ammunition. About fifty yards from the fort is the church, built by the charity of merchants reſiding here. The town is called *Calcutta*, and has a pretty good hoſpital for the ſick, though few come out of it alive. It is governed by a mayor and aldermen, as moſt of the company's factories in the Eaſt Indies now are. In 1757 it was ſurpriſed by the nabob of Bengal, who took it, and put moſt of thoſe that had made reſiſtance into a place called the *Black Hole*, where moſt of them were ſmothered. This nabob was afterwards killed, and another ſet up in his room, more friendly to the Engliſh; and the factory was re-eſtabliſhed. E. Long 86. 0. N. Lat. 22. 27.

Sweet-William. See Dianthus.

WILLIAMSBURG, a town of North America, in Virginia, and formerly capital of that ſtate. It is ſituated between two creeks; one falling into James, and the other into York river. The diſtance of each landing-place is about a mile from the town, which, with the diſadvantage of not being able to bring up large veſſels, and the want of enterpriſe in the inhabitants, has occaſioned its decay. Here is a college, deſigned for the education of the Indians, but which, on account of their averſion to learning, never anſwered the purpoſe. It is ſixty miles eaſt of Richmond. W. Long. 76. 30. N. Lat. 37. 10.

WILLIAMSTADT, a ſea-port town of Holland. It is a handſome ſtrong place, and the harbour is well frequented. It was built by William prince of Orange in 1585; and in 1732 belonged to the ſtadtholder of Friedland. The river near which it is built called *Butterfliet* or *Holland Diep*; and is one of the Bulwarks of the Dutch on the ſide of Brabant, where they always keep a garriſon. This place made a gallant defence in 1793 againſt the French, who were obliged to raiſe the ſiege. It is fifteen miles north-eaſt of Bergen-op-Zoom, and twelve ſouth-weſt of Dort. E. Long. 4. 30. N. Lat. 51. 39.

WILLIS (Dr. Thomas), a celebrated Engliſh phyſician, was born at Great Bodwin, in Wiltſhire, in 1621, and ſtudied at Chriſt-church College, Oxford. When that city was garriſoned for the king, he, among other ſcholars, bore arms for his majeſty, and devoted his leiſure hours to the ſtudy of phyſic. The garriſon of Oxford at length ſurrendering to the parliament, he applied himſelf to the practice of his profeſſion, and ſoon rendered himſelf famous by his care and ſkill. He appropriated a room as an oratory for divine ſervice according to the church of England, whither moſt of the loyaliſts in Oxford daily reſorted. In 1660 he became Sedleian profeſſor of natural philoſophy, and the ſame year took the degree of doctor of phyſic. In 1664 he diſcovered the famous medicinal ſpring at Alſtropp, near Brackley. He was one of the firſt members of the Royal Society, and ſoon made his name illuſtrious by his excellent writings. In 1666, after the fire of London, he removed to Weſtminſter; and his practice became greater than that of any of the phyſicians his contemporaries. Soon after his ſettlement in London, his only ſon Thomas falling into a conſumption, he ſent him to Montpelier in France for the recovery of his health; and it proved ſucceſsful. His wife alſo labouring under the ſame diſorder, he offered to leave the town; but ſhe, not ſuffering him to neglect the means of providing for his family, died in 1670. He died at his houſe in St. Martin's in 1675, and was buried near her in Weſtminſter-abbey. Dr. Willis was extremely modeſt and unambitious, and refuſed the honour of knighthood. He was remarkably pious: as he roſe early in the morning, that he might be preſent at divine ſervice, which he conſtantly frequented before he viſited his patients, he procured prayers to be read beyond the accuſtomed times while he lived; and at his death ſettled a ſtipend of 20l. *per annum* to continue them. He was a liberal benefactor to the poor wherever he came, having from his early practice allotted part of his profits to charitable uſes. He was exact and regular in all his hours: and though his table was the reſort of moſt of the great men of London, yet he was remarkable for his plainneſs, and his being a man of little diſcourſe, complaiſance, or ſociety; but he was juſtly admired for his deep inſight into natural and experimental philoſophy, anatomy, and chemiſtry; for his ſucceſsful practice; and for the elegance and purity of his Latin ſtyle. He wrote, 1. A treatiſe in Engliſh, entitled *A plain and eaſy Method for preſerving thoſe that are well from the Infection of the Plague, and for curing ſuch as are infected.* 2. Several Latin works, which were collected and printed at Amſterdam, in 1682, in 2 vols. 4to.

WILLUGHBY (Francis), a celebrated natural hiſtorian, was the only ſon of Sir Francis Willughby, knight. He was fond of ſtudy from his childhood, and held idleneſs in

abhorrence; he being ſo great an economiſt with regard to his time, as not willing to loſe or miſapply the leaſt part of it, by which means he attained great ſkill in all branches of learning, and particularly in the mathematics. But obſerving that the hiſtory of animals was in a great meaſure neglected by his countrymen, he particularly applied himſelf to that province; and for this purpoſe carefully read over what had been written on that ſubject by others. He then travelled ſeveral times over his native country; and afterwards into France, Spain, Italy, Germany, and the Low-countries, attended by his ingenious friend Mr. John Ray. It is remarkable, that notwithſtanding the advantages of birth, fortune, and parts, he was as humble as any man of the meaneſt fortune; was ſober, temperate, and chaſte; ſcrupulouſly juſt; ſo true to his word and promiſe, that a man might venture his eſtate and life upon it; ſo faithful and conſtant to his friend, as never to deſert him when fortune frowned upon him; and remarkably pious, patient, and ſubmiſſive to the divine will. This is the character given of him by Mr. Ray, whoſe veracity none will doubt. This ingenious and learned gentleman died in 1672, at thirty-ſeven years of age; having impaired his health by his application. He wrote, 1. *Ornithologiæ libri tres*, folio, which was afterwards tranſlated into Engliſh, with an Appendix by Mr. Ray, in folio. 2. *Hiſtoriæ Piſcium libri quatuor*, folio. 3. Letters of Francis Willughby, Eſq. added to Philoſophical Letters between the learned Mr. Ray and ſeveral of his correſpondents, publiſhed, in 8vo. by William Derham. 4. Several ingenious papers in the Philoſophical Tranſactions.

WILMOT (John), earl of Rocheſter, a great wit in the reign of Charles II. the ſon of Henry earl of Rocheſter, was born in 1648. He was taught grammar and claſſical learning at the free-ſchool at Burford; where he obtained a quick reliſh of the beauties of the Latin tongue, and afterwards became well verſed in the authors of the Auguſtine age. In 1659 he was admitted a nobleman of Wadham College, where he obtained the degree of maſter of arts. He afterwards travelled through France and Italy; and at his return was made one of the gentlemen of the bed-chamber to the king, and comptroller of Woodſtock Park. In 1665 he went to ſea, and was in the Revenge, commanded by Sir Thomas Tiddiman, when an attack was made on the port of Bergen in Norway; during the whole action he ſhowed the greateſt reſolution, and gained a high reputation for courage; which he ſupported in a ſecond expedition, but afterwards loſt it in a private adventure with Lord Mulgrave.

Before the Earl of Rocheſter travelled, he had given in to the moſt diſorderly and intemperate way of living; at his return, however, he ſeemed to have got the better of it entirely. But falling into the company of the courtiers, who continually practiſed theſe exceſſes, he became ſo ſunk in debauchery, that he was for five years together ſo given up to drinking, that during all that time he was never cool enough to be maſter of himſelf. His violent love of pleaſure, and his diſpoſition to extravagant mirth, carried him to great exceſſes. The firſt involved him in ſenſuality, and the other led him into many adventures and ridiculous frolics. Once diſguiſing himſelf ſo that he could not be known by his neareſt friends, he ſet up in Tower-ſtreet for an Italian mountebank, and there diſperſed his noſtrums for ſome weeks. He often diſguiſed himſelf as a porter, or as a beggar, ſometimes to follow a mean amour; at other times, he would go about merely for diverſion, in odd ſhapes; and acted his part ſo naturally, that he could not be known even by his friends. In ſhort, by his conſtant indulgence in wine, women, and irregular frolics, he entirely wore out an excellent conſtitution before he was thirty years of age. In October, 1679, when recovering from a violent diſeaſe, which ended in a conſumption, he was viſited by Dr. Burnet, upon an intimation that ſuch a viſit would be agreeable to him. Dr. Burnet publiſhed an account of his conferences with Lord Rocheſter; in which it appears, that though he had lived the life of a libertine and atheiſt, yet he died the death of a penitent Chriſtian. His death happened in 1680; ſince which time his poems have been various times printed, both ſeparately and together: but when once he obtained the character of a lewd and obſcene writer, every thing in that ſtrain was fathered upon him; and thus many pieces not of his writing have crept into the later editions of his works. The author of the Catalogue of Royal and Noble Authors ſays, he was "a man whom the Muſes were fond to inſpire, and aſhamed to avow, and who practiſed without the leaſt reſerve that ſecret which can make verſes more read for their defects than their merits. Lord Rocheſter's poems have much more obſcenity than wit, more wit than poetry, and more poetry than politeneſs." His writings, beſides thoſe already mentioned, are, A Satyre againſt Mankind; Nothing, a poem; Valentinian, a tragedy; Fifty-four Letters to Henry Saville, and others: Seven more to his Wife and Son: a Letter on his deathbed to Dr. Burnet. He alſo left behind him ſeveral other papers, and a Hiſtory of the Intrigues of the Court of Charles II. but his mother, a very devout lady, ordered all his papers to be burned.

WILSON (Florence), known in the republic of letters by the name of *Florentius Voluſinus*, was born at Elgin in the ſhire of Murray in Scotland, and educated in the univerſity of Aberdeen. Travelling to England with an intention to improve his fortune, he had the felicity to be introduced to Cardinal Wolſey, who appointed him tutor to one of his nephews. In that capacity he went to Paris, and continued there till the cardinal's death. During his reſidence in that city he became acquainted with the learned Cardinal Bellai, archbiſhop of Paris, who allowed him a penſion, and meant to have appointed him royal profeſſor of the Greek and Latin languages in the univerſity of Paris: but Bellai being diſgraced, Wilſon's proſpects faded with the fortunes of his patron, whom nevertheleſs he attended on his journey to Rome. Wilſon was taken ill at Avignon, and the cardinal proceeded without him. After his recovery, he paid a viſit to the celebrated Cardinal Sabolet, the Mecænas of his time, who was alſo biſhop of Carpentras, where he then reſided. The cardinal was ſo charmed with his erudition, that he appointed him profeſſor of the learned languages, with a ſtipend of 100 piſtoles *per annum*.

During his reſidence at Carpentras, he wrote his celebrated treatiſe *De Animi Tranquillitate*. Mackenzie ſays that he afterwards taught philoſophy in Italy; and that, being at length deſirous of returning to Scotland, he began his journey homeward, was taken ill at Vienne in Dauphiny, and died there in the year 1547. He was generally eſteemed an accompliſhed linguiſt, an admirable philoſopher, and an excellent Latin poet. He wrote, beſide the above treatiſe, 1. *Poemata*. Lond. 1619, 4to. 2. *Commentatio quædam theologica in aphoriſmos diſſecta, per Sebaſt. Gryph.* 3. *Philoſophiæ Ariſtot. Synopſis*, lib. iv.

WILSON (Dr. Thomas), biſhop of Sodor and Man, was born at Burton-Wirral in Cheſhire, December 1663. From a private ſchool at Cheſter he was removed to Trinity College, Dublin, intending to ſtudy phyſic; which, however, he ſoon relinquiſhed for divinity, and was ordained deacon, June 29, 1686. He left Ireland ſoon after, and became curate of New Church, in the pariſh of Winwick, Lancaſhire, of which his maternal uncle, Dr. Sherlock, was then rector. October 20, 1689, he was ordained a prieſt; and, in 1692, became domeſtic chaplain to the Earl of Derby, as well as preceptor to his ſon Lord Strange. Soon after, he was elected maſter of

the alms-houſe at Latham. In 1696 he was offered by his patron the biſhopric of the Iſle of Man, which had been vacant ſince 1693. This Mr. Wilſon modeſtly declined, but was in a manner forced to accept it. January 16, 1667-8, being firſt created by Archbiſhop Teniſon, LL.D. he was conſecrated at the Savoy-church by Archbiſhop Sharp, and the April following landed in his dioceſe. In September he went to England, and in October was married at Winwick, to Mary, daughter of Thomas Patten, eſq. of Warrington; with whom he returned to his dioceſe, April 1699. In 1699 he publiſhed a ſmall tract in Manks and Engliſh, entitled, The Principles and Duties of Chriſtianity, for the uſe of the iſland; and, with the aſſiſtance of Dr. Thomas Bray, began to found parochial libraries, which he afterwards eſtabliſhed and completed throughout his dioceſe. In 1707 he was made D.D. in full convocation at Oxford; and the ſame honour was decreed to him the ſame year at Cambridge.

He continued to perform all the offices of a good biſhop and a good man; but the orthodoxy of his ſpirit, and zeal for church diſcipline, involved him in altercations and difficulties, eſpecially with the governor, among which the following is recorded: Mrs. Horne, the governor's wife, had defamed Mrs. Puller and Sir James Pool with a falſe charge of criminal converſation; and, in conſequence of being contumacious, and refuſing to aſk pardon of the perſons injured, was by the biſhop baniſhed from the holy communion. But Mr. Horribin, his archdeacon, who was chaplain to Captain Horne, received Mrs. Horne to the communion, and was ſuſpended by the biſhop. Upon this, the governor, conceiving that the biſhop had acted illegally, fined him 50l. and his two vicars-general 20l. each; and, on their refuſing to pay this fine, committed them all, June 29, 1722, cloſe priſoners to Caſtle Ruſhin. After a confinement of nine weeks, the biſhop was releaſed, on petitioning the council; who afterwards, on July 4, 1724, reverſed all the proceedings, as the governor had not competent juriſdiction. He died March the 7th, 1755: his wife died fifty years before, on the very ſame day: all his children died young except Thomas the youngeſt. His writings, in two volumes folio, conſiſt of Religious Tracts and Sermons, with a ſhort Hiſtory of the Iſle of Man: he alſo formed a plan for tranſlating the New Teſtament into the Manks language, which was completed by his ſucceſſor, Dr. Mark Hildeſley.

WILTON, a market-town in Wiltſhire, three miles weſt of Saliſbury. It was once ſo conſiderable as to give title to the county. It formerly had twelve churches; and Odo, brother-in-law to William I. was biſhop of Wilton: only one now remains. It ſends members to parliament, and is the place where the knights of the ſhire are choſen. It has a great manufactory of carpets, which are brought to high perfection. Wilton is famous for Lord Pembroke's ſeat, ſo well known through Europe for its containing a grand aſſemblage of the productions of the greateſt and moſt ancient maſters in painting and ſculpture.—Two fairs are held here annually.

WILTSHIRE, a county of England, bounded on the weſt by Somerſetſhire, on the eaſt by Berkſhire and Hampſhire, on the north by Glouceſterſhire, and on the ſouth by Dorſetſhire and part of Hampſhire. The length amounts to thirty-nine miles; its breadth to thirty; and its circumference to 140. It contains twenty-nine hundreds, twenty-three market-towns, 304 pariſhes, and about 876,000 ſouls. Beſides two members for the ſhire, and two for the city of Saliſbury, each of the following towns ſends two members to parliament, viz. Wilton, Downton, Hindon, Heyteſbury, Weſtbury, Calne, Devizes, Chippanham, Malmſbury, Cricklade, Great Bedwin, Ludgerſhall, Old Sarum, Wooton-Baſſet, Marlborough. The air of this county is very healthy, not only in the more low and level parts, but alſo on the hills. The ſoil of the vales is very rich, and produces corn and graſs in great plenty. The beautiful downs in the ſouth yield the fineſt paſture for ſheep with which they are overſpread. The greateſt diſadvantage the county labours under is want of fuel, as there are no coal-pits, and but little wood. This county is noted for great quantities of very fine cheeſe, and for its manufacture of broad cloth, to which it was invited by the great plenty and fineneſs of its wool. Beſides a number of leſſer ſtreams, it is watered by the rivers Iſis, Kennet, Upper and Lower Avon, Willy, Burne, and Nadder, which are well ſtored with fiſh.

WINCHELSEA, a town in Suſſex, which has no market, but has one fair on May 14th for cattle and pedlars' ware. It was an ancient place, at leaſt the old town, which was ſwallowed up by the ocean in 1250. It is now dwindled to a mean place, though it retains its privileges, and ſends two members to parliament. It is ſeated on a rocky cliff, on an inlet of the ſea; and had a haven, now choked up. It had eighteen pariſh-churches, now reduced to one. The market-houſe is in the midſt of the town, from whence run four paved ſtreets, at the end of which are four ways, which had formerly buildings on each ſide for a conſiderable diſtance. It is two miles ſouth-weſt of Rye, and ſeventy-one ſouth-eaſt of London. It is governed by a mayor and jurats, though it has but about ſeventy houſes. Three of the gates are ſtill ſtanding, but much decayed. E. Long. 0. 44. N. Lat. 50. 58.

WINCHELSEA (Anne counteſs of), a lady of excellent genius, eſpecially in poetry, was maid of honour to the Ducheſs of York, ſecond wife to King James II. and was afterwards married to Heneage, ſecond ſon of the Earl of Winchelſea. One of the moſt conſiderable of the Counteſs of Winchelſea's poems was that on the Spleen. A collection of her poems was printed at London in 1713, containing a tragedy never acted, entitled *Ariſtomenes*. The counteſs died in 1720, without iſſue, as her huſband did in 1726.

WINCHESTER, the capital of the county of Hampſhire in England. It is a very ancient city, ſuppoſed to have been built ſeveral centuries before Chriſt. The Romans called it *Venta Belgarum*, the Britons *Caer Gwent*, and the Saxons *Wittanceaſter*; whence came the preſent name. It ſtands upon the river Itchin, in a bottom ſurrounded with chalky hills; and is generally allowed to have been a conſiderable place in the time of the Romans. Some of the firſt converts to Chriſtianity are ſuppoſed to have lived here. In the caſtle, near the weſt-gate, many of the Saxon kings anciently kept their court. The cathedral was founded by Kenegulfe, a king of the Mercians; but there were many Chriſtians, and places for their worſhip here, long before that period. It is a large pile, and has a venerable look, but it is not very elegant. Beſides the tombs, there are many curious pieces of workmanſhip in it; the chief of which are, 1. The font, erected in the time of the Saxons. 2. Copper ſtatues of James I. and Charles I. 3. The biſhop's throne. 4. The ſtalls of the dean and prebendaries. 5. The aſcent to the choir and altar. 6. The pavement, inlaid with marble of divers colours, in various figures. 7. The altar-piece, reckoned the nobleſt in England. 8. The paintings in the windows, eſpecially the great eaſt window. At the hoſpital of the Holy Croſs, every traveller that knocks at the door may claim a manchet of white bread and a cup of beer: of which a great quantity is provided every day for that purpoſe. This hoſpital was intended for the maintenance of a maſter and thirty penſioners, but only fourteen are now maintained in it; and the maſter enjoys a revenue of 800l. a-year. This city is about a mile and a half in compaſs, and almoſt ſurrounded with a wall of flint, has ſix gates, large ſuburbs, broad clean ſtreets; but the private houſes are in general but ordinary, many of them being very

old. The city is interſperſed with a great many gardens, which contribute to its beauty and healthyneſs. The corporation conſiſts of a mayor, high-ſteward, recorder, aldermen, two coroners, two bailiffs, twenty-four common-council-men, a town-clerk, four conſtables, and four ſerjeants at mace; and the city gives the title of *marquis* to the Duke of Bolton. A Roman highway leads from hence to Alton; and went formerly, as it is thought, from thence to London. The charming downs in the neighbourhood contribute greatly to the health and pleaſure of the inhabitants. The river Itchin is navigable for barges from hence to Southampton. W. Long. 1. 21. N. Lat. 51. 5.

WINCKLEMAN (Abbé John). This wonderful man was born at Stendall, in the old Marche of Brandenbourg, in the beginning of the year 1718, the ſon of a ſhoe-maker, to all appearance deſtined by his birth to ſuperintend a little ſchool in an obſcure town in Germany, raiſed himſelf to the office of preſident of antiquities in the Vatican. After having been ſeven years profeſſor in the college of Seehauſen near Salſwedel, he went into Saxony, where he reſided ſeven years more, and was librarian to Count Bünau at Nothenitz. When he left this place, in 1754, he went to Dreſden, where he formed an acquaintance with the ableſt artiſts. In that year he abjured Lutheraniſm, and embraced the Roman-catholic religion. In September 1755 he ſet out for Italy, and arrived at Rome in December following. While engaged in teaching ſome boys their A B C, he aſpired to a knowledge of the beautiful, and ſilently meditated on the compariſons of Homer's Greek with the Latin literature, and a critical acquaintance with the reſpective languages, which were more familiar to him than they had ever been to any former lover of antiquity, both by his application in ſtudying them, and his public lectures as profeſſor of them. This erudition enabled him to fill up his principal plan of writing the Hiſtory of Art. In 1756 he planned his Reſtoration of Ancient Statues, and a larger work on the Taſte of the Greek Artiſts; and deſigned an account of the galleries of Rome and Italy, beginning with a volume on the Belvedere ſtatues, in the manner of Richardſon, who, he ſays, only ran over Rome. He alſo intended a hiſtory of the corruption of taſte in art, the reſtoration of ſtatues, and an illuſtration of the obſcure points of mythology. All theſe different eſſays led him to his Hiſtory of Art, and his Monumenti Inediti. Having publiſhed his Remarks on ancient Architecture, he was going to Naples, with 100 crowns, part of a penſion from the king of Poland, for his travelling charges, and thence to Florence, at the invitation of Baron Stoſch, when Cardinal Archinto, ſecretary of ſtate, employed him to take care of his library. Cardinal Albani having ſucceeded to the place of librarian of the Vatican, he endeavoured to get a place for the Hebrew language for Winckleman, who refuſed a canonry, becauſe he would not take the tonſure The elector of Saxony gave him, in 1761, unſolicited, the place of Counſellor Richter, the direction of the royal cabinet of medals and antiquities at Dreſden. Upon the death of the Abbé Venuti, in 1762, he was appointed preſident of the antiquities of the apoſtolic chamber, with power over all diſcoveries and exportations of antiquities and pictures. This is a poſt of honour, with an income of 160 ſcudi *per annum*. He had a proſpect of the place of preſident of antiquities in the Vatican, going to be created at 16 ſcudi per month, and was named correſponding member of the Academy of Inſcriptions. He had thoughts of publiſhing an Eſſay on the Depravation of Taſte in the Arts and Sciences. The King of Pruſſia offered him by Col. Quintus Icilius, the place of librarian and director of his cabinet of medals and antiquities, void by the death of M. Gautier de la Croze, with a handſome appointment. He made no ſcruple of accepting the offer; but, when it came to the pope's ears, he added an appointment, out of his own purſe, and kept him at Rome. In April, 1768, he left Rome, to go with M. Cavaceppi over Germany and Switzerland. When he came to Vienna, he was ſo pleaſed with the reception he met with, that he made a longer ſtay there than he had intended. But, being ſuddenly ſeized with a ſecret uneaſineſs, and extraordinary deſire to return to Rome, he ſet out for Italy, putting off his viſits to his friends in Germany to a future opportunity. As he paſſed through Trieſte, he was aſſaſſinated, June 8, 1768, by a wretch named Arcangeli, a native of Campiglio, a town in the territory of Piſtoia, with whom he had made an acquaintance on the road, and who ſtabbed him in five different places. The abbé being laid on a bed in the midſt of the moſt violent pain, had compoſure ſufficient to receive the laſt ſacraments, and to make his will, in which he appointed Cardinal Alexander Albani his reſiduary legatee, and expired in the afternoon. The murderer was ſoon after apprehended, and executed on the wheel, June 26.

WIND, is a ſenſible agitation of the atmoſphere, occaſioned by a quantity of air flowing from one place to another. As the air is a fluid, ſubject to the ſame laws of gravitation as other fluids, it neceſſarily has a conſtant tendency to preſerve an equilibrium in every part; ſo that if, by any means whatever, it is rendered lighter in any one place than another, the weightier air will ruſh in from every ſide towards this place, till as much be there accumulated as makes it of an equal weight with the reſt of the atmoſphere: it is theſe currents of air which are called *winds*.

Many are the cauſes which may vary the weight of the atmoſphere, and occaſion particular tropical winds.

Although other cauſes may occaſion winds in certain circumſtances, yet their principal and moſt univerſal cauſe is the ſun, which warmeth the air to a much greater degree in ſome places of the atmoſphere than in others; and as the air is ſuſceptible of a great degree of expanſion by heat in thoſe places where it is heated to any conſiderable degree, it is expanded ſo much as to become lighter than the air in thoſe places where it is colder; ſo that the weightier cold air from all the circumjacent parts ruſhes towards this point to reſtore the equilibrium which had been deſtroyed. So that if there be any particular part upon the earth's ſurface where the ſun acts conſtantly with greater force than on any other part, a current of air will conſtantly flow from theſe towards the warmer region: but the ſun acts with greater force upon thoſe parts of the earth which are neareſt the equator, than thoſe which approach towards either poles; ſo that we might naturally expect that a wind would conſtantly blow from the polar regions towards the equator; which is really found to be the caſe in the torrid zone, where the influence of the ſun overcomes almoſt all the other leſſer cauſes which produce the variable winds in our more northerly regions. However, even in the torrid zone, theſe north and ſouth winds are varied in different ways.

Although the heat of the equatorial region is greater than any other, yet as the ſun acts perpendicularly in his diurnal courſe upon one point of the equator only at one time, and immediately paſſes over it, and as the air retains the heat communicated to it by the ſun but for a ſhort time, cooling gradually as he retires, and continuing ſtill to decreaſe till his influence again returns the following day; the degree of heat upon this great circle muſt be very different in different parts, and perpetually varying in every point; which muſt in ſome meaſure tend to diſturb thoſe winds coming from the polar regions, which we have already mentioned. To comprehend clearly what will be the effects of this rotation, let us conſider what effect it would naturally produce upon the equator with

regard to wind, ſuppoſing no other cauſe ſhould interrupt it. And here we muſt obſerve, that as the point upon which the ſun acts with the greateſt power is conſtantly moving from eaſt to weſt, the air to the eaſt of that point over which the ſun has more lately paſſed will be more rarified than that to the weſt, and will naturally flow towards that point from eaſt to weſt with greater velocity than from weſt to eaſt, as the cool air to the weſt of that point will be interrupted in its motion towards it by the motion of the ſun meeting it. Hence therefore it follows, that from the diurnal motion of the earth from weſt to eaſt a conſtant wind would always be produced, were it not obſtructed by other cauſes. But as there is a conſtant ſtream of air flowing from the polar towards the equatorial regions, a compoſition of theſe two currents of air acting at the ſame time will produce a north-eaſt wind in all parts of the northern hemiſphere, and a ſouth-eaſt wind in all parts of the ſouthern one. Theſe winds are known by the name of the *general trade winds*.

If there were no inequalities on the ſurface of our globe, and if it were compoſed of a ſubſtance perfectly homogeneous, this wind would invariably take place at all times on every part of the earth's ſurface: but as this is not the caſe, it is liable to ſeveral very conſiderable variations. In all thoſe regions towards the poles, as the influence of the ſun is there but weak, other leſſer cauſes occaſion particular winds, and diſturb that regularity which at firſt view we might expect; ſo that the general trade wind does not invariably take place beyond the 28th or 30th degree of latitude; and the regions between that and the poles have nothing but variable winds. Even in the torrid zone, there are many cauſes which in particular places alter this direction of the wind; ſo that the genuine trade-winds do not take place except in the Atlantic and Pacific oceans on each ſide the equator to the diſtance of 28 or 30 degrees, and in the greateſt part of the Indian ocean to the ſouth of the equator.

Having thus explained the nature and cauſes of the general trade-wind, we now proceed to take notice of the principal deviations which take place in the torrid zone. The general trade-wind, when thus altered at particular ſeaſons, is known by the name of *monſoons*. There are other variations, which, although as general, are yet of ſmaller and more limited influence. Theſe are known by the name of *breezes;* and as they blow periodically from the ſea, they are denominated *ſea* or *land breezes*, and take place more or leſs in every ſea-coaſt within the tropics. As the cauſes of the monſoons will be more clearly comprehended after the nature of theſe breezes is explained, we ſhall firſt conſider them.

The ſea and land breezes of the torrid zone are gentle periodical winds regularly ſhifting twice every day, and blowing from the ſea towards the land during the day-time, and from the land towards the ſea in the night. Theſe breezes do not blow with an equal degree of force throughout the whole day and night, but are perpetually varying, being always ſtrongeſt about mid-day and midnight, and becoming gradually weaker till the time of change in the evening and morning; about which time the air continues for a ſhort ſpace perfectly calm: but in a little the breeze begins to be felt on the ſide oppoſite to that from which it blew laſt, ſo faint at firſt as hardly to be perceived; but by degrees acquiring greater ſtrength, it goes on increaſing for five or ſix hours, after which it again as gradually ſinks and dies away. They always blow directly off or towards the ſhore, and never extend their influence to a great diſtance from it, although this is varied by particular circumſtances in different places; as they never extend ſo far from the peints of capes and promontories, as in deep bays; nor upon the windward, as lee-ſhores.

Theſe breezes are produced by the ſame cauſe which gives riſe to the trade-wind, viz. the heat of the ſun. In theſe warm regions the days and nights are nearly of an equal length throughout the whole year; the ſun riſing high in the day-time, and deſcending almoſt perpendicularly at night; which occaſions a much greater variation between the heat of the day and night than is experienced in the more temperate climates; and it is this great difference between the heat of the night and day which produces the breezes. For the rays of the ſun are reverberated from the land during the day-time much more powerfully than from the ſea, whoſe ſurface is conſtantly evaporating; and the air above the land is rendered much warmer, and conſequently more rarefied than above the ſea; ſo that a current of air neceſſarily takes place at that time from the ſea towards the land, increaſing and diminiſhing in ſtrength as the heat increaſes or declines. But when the ſun deſcends below the horizon, the evaporation from the ſurface of the ſea is ſtopped or greatly diminiſhed, and the cold which it occaſioned is of conſequence removed: the reverberation of the ſun's rays from the ſurface of the earth is likewiſe removed, and the air above the land quickly reſumes its natural degree of cold, which is always greater than the ſea when the influence of the ſun is withdrawn: ſo that the air above the ſea becomes warmer during the night than that above the land, and a current of air is of courſe eſtabliſhed from the land to the ſea, which forms the land-breeze, which acts as uniformly, although leſs powerfully, than the ſea-breeze; blowing at firſt gently as the air begins to cool, and gradually gathering ſtrength as the ſun retires below the horizon; till his influence begins to be full again in the morning, when it gradually gives place to the more powerful influences of the ſea-breeze. Theſe breezes are not, however, entirely confined to the torrid zone. They are even felt in more northern regions; the ſea-breeze in particular being almoſt as perceptible during the ſummer ſeaſon along the coaſts of the Mediterranean and the Levant, both on the African, European, and Aſiatic ſhores, as within the tropics. Even in our own colder climate, the effects of this are often ſenſibly felt during the ſummer ſeaſon; although, from the length of the day and ſhortneſs of the night, the difference between the heat of theſe is far leſs than in warmer climates. And although the ſhortneſs of our nights prevents us from feeling a nocturnal breeze, ſimilar to the land-breezes of the torrid zone; yet in every ſerene evening, we have an opportunity of obſerving a phenomenon, proceeding from a ſimilar cauſe with that which occaſions them in warmer climates. For as the waters retain their heat longer than the earth after the ſun withdraws, the moiſture which was raiſed during the heat of the day to a ſmall diſtance from the earth's ſurface is quickly condenſed by the cold of the evening, and falls down in copious dews; whereas that which is above the ſurface of the water is more ſlowly condenſed, by reaſon of the heat which that element retains longer, and hovers at a ſmall diſtance above it in the form of a denſe vapour, which ſlowly ſubſides as it loſes its heat. This is the cauſe of thoſe low miſts which are ſo often ſeen hovering above the ſurface of rivers and other waters in the evenings towards the end of ſummer.

It was already obſerved, that in the Indian ocean the general trade-wind only took place in ſome parts to the ſouth of the equator. To the north of the line, and in ſome places to the ſouth of it in that ocean, the general trade-wind only blows regularly for ſix months; and during the other ſix months the wind blows in a direction entirely oppoſite. It is theſe winds, which ſhift thus regularly, which are called *monſoons*, although they are alſo ſometimes called *trade-winds*.

At the equator the days and nights are always of an equal

length throughout the whole year; ſo that the heat being thus equally divided, it never arrives to ſuch an intenſe degree as to be inſupportable to the inhabitants. And as there is no viciſſitude of ſeaſons at the equator, ſo at the poles they never experience the more pleaſing viciſſitudes of day and night; the ſun never ſetting during the ſummer ſeaſon, nor riſing above the horizon during the winter: and although the day decreaſes in length as we recede from the pole, from ſix months to twenty-four hours; yet in all high latitudes the ſun deſcends for ſuch a ſhort ſpace below the horizon, and in ſuch an oblique direction, that the difference between the heat of the day and night is but very inconſiderable. From which it follows, that during this ſeaſon, when the ſun continues to act with ſuch uninterrupted influence upon the ſurface of the earth, the air will then be rarefied more above the dry land than upon the ſurface of the water; ſo that a wind would naturally ſet in at that time from the ſea towards the land, ſimilar to the diurnal ſea-breezes in the warmer climates; and on the contrary, during the winter ſeaſon, the air in theſe northern regions being colder above the land than the water, the winds will naturally blow from the land towards the ſea, ſimilar to the land-breezes of the torrid zone. But as the influence of the ſun, although of longer continuance, is in general more languid in climates of a high latitude than in thoſe near the line, it is not to be expected that theſe effects will follow with the ſame regularity as in the torrid zone: being more apt to be interrupted by leſſer cauſes which affect the atmoſphere and produce winds in different directions. Yet theſe are not ſo totally interrupted but that we can eaſily trace their effects even in our own cold climate: for during the ſummer ſeaſon, the large continent to the eaſt of us, being more heated than the Atlantic ocean weſtward, produces a general tendency of the current of air towards the eaſt, inſomuch that weſterly winds are obſerved to prevail more than any other, not only here, but in all the frontier countries on the continent, during the ſummer ſeaſon. And eaſterly winds become again more prevalent in the winter and ſpring. On the contrary, it is obſerved in North America, that the eaſterly winds prevail more in ſummer than at any other time; and the weſt winds always prevail during the cold months of winter. The ſame effects take place with a greater degree of conſtancy in other parts of Europe, particularly in Greece, and the countries in that neighbourhood; as the ancient Greeks have particularly remarked, that the winds blew from the ſouth during the heat of ſummer, particularly about the dog-days, and from the north during the colder weather of winter.

Any attentive reader, who has accompanied us thus far, will readily ſee, that the monſoons which take place in the Indian ocean proceed from the ſame general cauſe. For when the ſun, in his annual courſe, has croſſed the line, and comes to act very ſtrongly upon the extenſive countries of Arabia, Perſia, China, and the other parts of India, theſe become heated to a much higher degree than the ocean to the ſouth of them; and the air above theſe extenſive countries being ſo much rarefied, naturally draws the wind towards that place, which, by overcoming the general trade-wind, produces the ſoutherly monſoons which take place in all thoſe ſeas during the months of April, May, June, July, Auguſt, and September. But when the ſun has again retreated towards the ſouthern hemiſphere, this great degree of heat in theſe countries ſubſides, and the genuine trade-wind again reſumes its natural courſe; forming what they call the *northerly monſoon*, which blows in the months of October, November, December, January, February, and March: and as the continent of Aſia now aſſumes a greater degree of cold than the Atlantic and Pacific oceans in the ſame latitude, it produces a briſker and more ſteady gale during the continuance of this monſoon, than is ever experienced in the general trade-wind.

Having thus explained the nature of the monſoons in general, we ſhall proceed to conſider the particulars which influence the direction of theſe in thoſe parts where they take place. In all that part of the Indian ocean which lies between the iſland of Madagaſcar and Cape Commorin, the wind blows conſtantly from the weſt-ſouth-weſt, between the months of April and October; and in the oppoſite direction from the month of October till April, although with ſome variation in different places, as theſe winds are neither ſo ſtrong nor conſtant in the bay of Bengal as in the Indian ocean. And it is likewiſe remarkable, that the ſouth-weſt winds in theſe ſeas are generally more ſoutherly on the African ſide, and more weſterly on the Indian, as appears diſtinctly in the map. But theſe variations are not repugnant to the general theory. For it is ſufficiently known, that high lands in every part of the globe are much colder than low and flat countries; and as that part of Africa is very high and mountainous, the cold in theſe regions is much greater than in the more flat countries of Arabia and India; ſo that the wind naturally blows from theſe cold regions, in the ſummer ſeaſon, towards the warmer continent of Aſia; which occaſions thoſe inflections of the wind to the eaſtward which take place in theſe ſeas during the ſummer months; and is ſtill farther aſſiſted by the peninſula of India, the kingdom of Siam, and the iſlands of Sumatra and Java, on the eaſtern part of this ocean, lying ſo much farther ſouth than the kingdoms of Arabia and Perſia; ſo that theſe, being more heated than the ocean to the weſtward, naturally draw the wind towards them, and produce the eaſterly variation of the monſoon which takes place in this part of the ocean, while the warm and ſandy deſerts of Arabia draw the winds more directly northward near the African coaſt.

In the eaſtern parts of the Indian ocean, beyond the iſland of Sumatra, through the gulph of Siam and bay of Tonquin, and along the ſouthern parts of China, and among the Philippine iſlands, &c. to the north of the equator, the monſoons obſerve a different direction, blowing nearly due ſouth and north. Here the greateſt part of the warm continent is to the weſt of this diſtrict, which makes the wind naturally aſſume this direction. A little to the eaſt of this, among the Mariamne iſlands, the general trade-wind takes place, there being no continent to the north of them to occaſion monſoons.

The monſoons are as regular in the eaſtern part of the Indian ocean to the ſouth of the equator, as they are to the north of it; as here a northern monſoon ſets in from the month of October till April, and a ſouthern from April to October. And here, as to the north of the line, we find the direction of the monſoons varying according to particular circumſtances in different places: for about the iſland of Sumatra, and towards the weſt end of Java, the monſoons ſet in nearly from the north and ſouth; but towards Celebes and Timur, they begin to tend a little more to the eaſt and weſt, gradually declining as they approach the coaſt of New Guinea; near to which the northerly monſoon from October till April blows from the north-weſt, and the oppoſite monſoon from the ſouth-eaſt between October and April. The reader will eaſily perceive that theſe monſoons are occaſioned by the continent of New Holland and Guinea; which being heated by the ſun when in the ſouthern ſigns, draws the wind towards that in the ſummer ſeaſon, in the ſame manner as the continent of Aſia produces the monſoons to the north of the line. And it is likewiſe ſufficiently plain, that the inflection of theſe periodical winds about Celebes and Timur is occaſioned by that part of the continent called *New Guinea* jutting out ſo

near to the equator to the eaſt of theſe, and drawing the wind toward that quarter.

Theſe are the moſt general and extenſive monſoons which take place in our globe. But there are other periodical winds, which occur in particular places in theſe warm regions, that deſerve particular attention.

In the Red Sea, the monſoon ſhifts as regularly as in other places; but being influenced by the coaſts, it tends a little more to the north and ſouth than in the Indian Ocean.

On the ſouth coaſt of Africa, to the ſouth of Cape Corientes, and about the ſouthern parts of the iſland of Madagaſcar, the regular trade-wind from the S. E. takes place between October and April; but from April till October the wind blows from the W. or N. W. and is at that ſeaſon exceedingly cold. This is evidently occaſioned by a cauſe already taken notice of: for notwithſtanding the high and cold nature of this continent, yet when the ſun is to the ſouth of the line, his powerful influence at that ſeaſon ſo far abates their natural degree of cold, as not to interrupt the general trade-wind between the months of October and April: but when he returns to the northern hemiſphere, the high mountains of Africa reſume their native coldneſs, and repel the general trade-winds by their cold and more powerful blaſt, ſo as to produce the intemperate monſoon which here takes place between the months of April and October.

From Mozambique to Cape Guardaſoy, at the mouth of the Red Sea, the monſoons are a little more irregular than in the other parts of the Indian Ocean. For it is obſerved, that between October and January the winds are variable, although chiefly from the north. In January the N. E. monſoon ſets in, and continues regular till the month of May. From May till October the winds again become variable, but blow chiefly from the ſouthern points; but in the months of June, July, and Auguſt, there are frequent calms, eſpecially about the bay of Melinda, which ſometimes continue for ſeveral weeks together, and extend only about 100 leagues from ſhore.

Before we can explain the cauſe of this irregularity clearly, it will be neceſſary to attend to the direction of the wind on each ſide of this track at each particular ſeaſon. In the months of October, November, and December, the winds are here variable, but chiefly from the north. Now during theſe three months, the wind to the ſouth of this beyond Cape Corientes blows from the S. E. at the Red Sea, and all to the north of this, the wind during this ſeaſon of the year is from the N. E. And as the ſun is then perpendicular to the bay of Melinda, theſe oppoſite winds here meeting and oppoſing one another, and being both of them ſtopped in their courſe weſtward by the cold regions of Africa near the Mountains of the Moon, will naturally produce the variable winds here obſerved, according as the one or the other of theſe three balancing powers ſhall predominate: although, as the coaſt here runs away towards the ſouth-weſt, it is natural to expect that the northerly wind, which follows the ſame direction, ſhould more frequently prevail than thoſe which are oppoſed by it; eſpecially when we conſider, that the iſland of Madagaſcar, now beginning to be warmed by the influence of the ſun, will concur in drawing the wind to the ſouthward; and when the continent of Africa is more heated in the months of January and February, it does not oppoſe the eaſterly monſoon, ſo that the winds become then more fixed than before. But in the months of June, July, and Auguſt, the wind to the ſouth of Cape Corientes is from the N. W.; and near the Red Sea, and throughout the northern part of the Indian Ocean, the S. W. monſoon is then in its greateſt vigour; ſo that on each end of this diſtrict the wind is blowing in an oppoſite direction; from which reſults thoſe calms about Melinda, which we juſt now mentioned.

This much may ſuffice for the ſhifting winds on the African and Aſiatic coaſts. As to America, the only places where the wind ſhifts regularly are, the bays of Honduras and Campeachy on the eaſt, and that of Panama and ſome parts on the coaſt of Mexico on the weſt, with a ſmall tract upon the coaſt of Brazil. In the ſouth part of the bay of Honduras, between Cape Gratia de Dios and Cape la Bela, the common trade-wind between E. and N. E. blows between March and November; from October till March there are weſterly winds, not conſtant or violent, but blowing moderately ſometimes two or three days, or a week; and then the eaſterly breeze may again prevail for an equal length of time. The reaſon of the peculiarity here obſerved, is this: During the ſummer ſeaſon, the high land on the iſthmus of Darien is ſo much warmed as not to interrupt the courſe of the general trade-winds; but when he retires to the ſouthern hemiſphere, the cold upon the iſthmus at that ſeaſon becomes ſo great, as to condenſe the air to ſuch a degree as to repel the trade-wind for ſome time: but not being cooled to ſuch an intenſe degree as in ſome of the larger continents, the trade-wind at times overcomes and repels theſe land-breezes in its turn, and produces the phenomena above deſcribed. And that this is really the caſe, appears evident from this circumſtance, that the land breezes are moſt prevalent, and of longeſt duration in the coldeſt months of December and January; before and after which two months, the trade-wind being generally checked only a day or two about the full or change of the moon. As theſe weſtern breezes on this coaſt take their riſe from the ſame cauſe as the diurnal land-breeze in warm climates, they may be conſidered as land-breezes of two or three days' continuance, and forming an intermediate ſtep between the land-breezes and monſoons. Although the influence of theſe breezes is felt farther off at ſea than the common diurnal breeze, yet they do not extend a great way, being ſeldom felt above 20, 30, or 40 leagues from ſhore; and about Cape La Vela, which is much expoſed to the eaſt wind, theſe breezes ſeldom extend above eight or ten leagues from ſhore. Land breezes of the ſame nature, and proceeding from ſimilar cauſes, are alſo experienced in the winter ſeaſon in the bay of Campeachy, which are there known by the name of *Summaſenta winds*. Beyond Cape La Vela theſe weſtern breezes are not felt, which is undoubtedly occaſioned by the whole of that coaſt as far as Cape St. Auguſtine being ſo much expoſed to the genera trade wind which here ſweeps along the coaſt with ſo much violence, as almoſt totally repreſs the weaker influence of the breezes. But between Cape St. Auguſtine and St. Catharine's iſland, or a little farther, we again meet with a variation of the wind at different ſeaſons, as it is here obſerved to blow in an E. or N. E. direction from September till April, and from April till September from the S. W. This variable wind, or moonſoon, like the others on this coaſt, extends but for a very ſhort way from ſhore, and is evidently occaſioned by the ſame cauſes as the other periodical winds. For in the ſummer months (which in this climate is between September and April), the land of the continent being heated by the ſun, draws the trade-wind from its common courſe of S. E. a little to the weſtward: and as the coaſt here tends towards the S. W. the wind in ſome meaſure (as it always does) follows the ſame direction, and produces this E. N. E. monſoon. But in the winter, when this region becomes more cool, the eaſt wind is repelled by the denſe cold air from the mountains; by which means it is bent to the northward, and is forced along the coaſt to Cape St. Auguſtine; where meeting with

no further hindrance, it again falls in with the general trade-wind, and is carried along with it in its proper direction.

We have purpoſely omitted mentioning the winds on the weſt coaſts of Africa and America till the others were explained, as the cauſes of the peculiarities here obſerved will be now more eaſily comprehended. On the coaſts of Chili and Peru, in America, from 25° or 30° of ſouth latitude to the line; and on the parallel coaſt of Angola, &c. in Africa; the wind blows all the year from the ſouth, varying in its direction a little in different places according to the direction of the coaſt, towards which it always inclines a little. But whatever is the direction at any one place, it continues the ſame throughout the whole year without any variation, and always blows from ſome ſoutherly point. But there is this difference between this wind upon the coaſts of Chili and Angola, that it extends much further out to ſea upon the former than upon the latter.

In order to explain the cauſe of this ſingular phenomenon, it is neceſſary to recollect, that the general trade-wind is produced by the concurrence of two ſeparate cauſes. One is the great heat of the equatorial region, by which alone would be produced a conſtant north or ſouth wind. The other is the diurnal revolution of the earth, which would cauſe a perpetual tendency of the air in theſe warm regions from eaſt to weſt. From the concurrence of theſe two cauſes reſult the general trade-wind, which would conſtantly blow from the S. E. or N. E. as we have already demonſtrated. But if any one of theſe two cauſes, in any particular place, is prevented from producing its full effect, while the other continues to exert its influence, the general direction of the wind will be varied, and it will aſſume another. Thus, if the eaſt wind was prevented from acting in any particular place, while nothing interrupted the ſouth or north wind, it is evident that the air would ruſh towards the equator in that direction which was neareſt and eaſieſt, whether that ſhould be pointing eaſtward or weſtward. Now as the high mountains in the internal parts of Africa and America interrupt the courſe of the eaſt wind near the ſurface of the earth, while theſe coaſts of which we now treat are entirely open to the ſouth, the wind naturally ruſhes along the coaſts of Chili and Angola from north to ſouth; and as the low lands near the ſhore, in theſe warm regions, is generally warmer than the ſea, the wind will naturally point in towards the ſhore, as is generally obſerved to happen.

This, then, is the obvious cauſe of the ſouth wind which always prevails upon the coaſts of Chili and Peru, as well as along the ſhores of Angola, Loango, &c. But it is only near the ſhore that this can take place; nor can it extend to a great height above theſe low and fertile regions. For as the internal parts of theſe countries are exceedingly high, but more eſpecially the Andes of America, which experience a perpetual degree of cold more intenſe than ſome polar regions ever experience; the air muſt here be condenſed to a very great degree, and ſend forth from theſe high regions a perpetual wind to every ſide, which occaſions almoſt all the peculiarities that have been remarked in theſe climates: for by oppoſing the general current of the trade-wind upon the eaſtern part of theſe continents, they produce theſe deluges of rain which ſupply the immenſe rivers of the Amazons, La Plata, &c.; theſe do not, like the Nile and Gambia, ſwell only at a particular ſeaſon, and then ſhrink into a diminutive ſize again; but continue throughout the whole year, with leſs variation of ſize, to pour their immenſe floods of water into the ocean. Theſe cold winds likewiſe ſtretching to the weſtward, at a conſiderable diſtance above the warmer regions of the ſea-coaſt, at length deſcend as low as the ocean, and form the general trade-wind, and occaſion that unuſual degree of cold which mariners have ſo often complained of even under the line, to the weſtward of America. To the ſame cauſe alſo muſt we attribute the thick fogs ſo common upon the ſouthern parts of Chili, and along the coaſts of Peru, with the other peculiarities of that ſingular climate about Lima and the kingdom of Valles in South America; for the vapours which are exhaled in ſuch great abundance in the warm regions on the ſea-ſhore, are, at a little height above the earth, condenſed by the cold winds which come from the mountains, and form thoſe thick miſts which are ſo often obſerved in this climate. The ſame effects are felt in ſome degree on the ſimilar coaſt of Africa. But as the mountains of Africa are not ſo high as the Andes of America, nor approach ſo near the weſtern coaſt, the effects are leſs ſenſible here than in America. The great height of the Andes above the mountains of the ſimilarly ſituated country of Africa, is the only reaſon why the effects on that coaſt are not felt to an equal degree, although ſimilar in kind.

A more ſingular deviation from the general trade-wind is obſerved to take place on the African and American coaſts to the north of the line, than thoſe we have taken notice of to the ſouth of it. For it is obſerved, that from California to the bay of Panama, all along the coaſts of New Spain, the winds blow almoſt conſtantly from the weſt or S. W. nearly directly oppoſite to the trade-wind; and on the coaſt of Africa from Cape Bayador to Cape Verde, they blow chiefly from the N. W. ſtanding in upon the ſhore; from thence the wind bends gradually more and more from the north to the weſt, and ſo round to the S. W. all along the coaſt of Guinea, as will be diſtinctly ſeen by the map. After what we have ſaid of the winds on the ſouthern parts of theſe regions, it will be unneceſſary to ſpend much time in explaining the cauſe of theſe peculiarities, as it will evidently appear that they are nearly the ſame, the variations here obſerved being occaſioned by the particular direction of the coaſt.—Thus, along the coaſt of New Spain, the wind blows nearly the ſame direction in every place, as there are no remarkable bendings on the coaſt; being uniformly drawn towards the ſhore by the great heat of the low part of the continent near the ſea, which in theſe regions is always more heated than the water of the ocean, and occaſions that inflection. But as the coaſt of Africa is more irregular, the winds alſo are found to be more different in their direction. To the north of Cape Verde, as the coaſt ſtretches nearly ſouth and north, the wind, being drawn towards it a little, blows from the N W. But beyond that, the coaſt bends more eaſtward to Cape Palmas; from which it runs E. or N. E. all along the coaſt of Guinea, the wind ſhifting gradually more and more to the weſt, ſtill pointing in upon the coaſt. And as there is nothing to oppoſe the current of air, which comes from the ſouth along the coaſt of Angola, it ſtretches forward till it comes within the influence of the coaſt of Guinea, and is there drawn in towards the ſhore in a S. W. direction. But as it is only the lower regions of the coaſt of Guinea, which are ſo much warmed, the high mountains within continuing cold; the northerly wind coming from theſe meeting and oppoſing the ſoutherly winds in the higher regions of the air, by their mutual conflicts occaſion thoſe inceſſant rains and tremendous thunder ſo remarkable along the whole of this uncomfortable coaſt.

It has been often obſerved by mariners, that there is a track of ſea to the weſt of Guinea from five to ten degrees of north latitude, in which the trade-wind blows with leſs ſteadineſs than in any other part of that ocean, being almoſt conſtantly troubled with calms and tornadoes; the cauſe

of which the reader will perceive by inſpecting the map, as he will eaſily ſee that the winds are drawn from this quarter almoſt in every direction: ſo that there can be here no conſtant wind; but being exhauſted of its air, it muſt become lighter than the circumjacent parts, and muſt then be ſupplied from either ſide, as chance or occaſional circumſtances may direct, which occaſion thoſe ſudden flurries and tornadoes here obſerved.

Before we take leave of this ſubject, it is neceſſary to obſerve, that in the bay of Panama the winds between September and March are eaſterly; but from March till September they blow chiefly from the S. S. W. that is, during the winter months, while the ſun is far from them, the winds are off ſhore; and during the ſummer months, the land being heated to a conſiderable degree, they are drawn towards the ſhore as uſual. It is remarkable, however, that this is the only part on the weſt of a large continent, where the wind ſhifts regularly at different ſeaſons; which ſeems to be occaſioned by the great height of the iſthmus of Darien, and the Terra Firma to the eaſt of it, and the nearneſs of theſe to the ſea, in compariſon of the mountains near Benin on the ſimilarly ſituated coaſt of Africa; which is greatly aſſiſted by the deepneſs of the bay, which, by bending ſo much to the eaſtward from Cape Lorenzo, is in a great meaſure ſcreened from the force of the ſouth winds, which allows the winter breeze to extend itſelf upon the bay with more facility. We ought here alſo to remark, that along the coaſt of Mexico, between Cape Pelanco and Guatimala, there are land-winds which blow in the months of May, June, and July, called by the Spaniards *Popogaios*. They greatly reſemble the Summaſenta winds in the bay of Campeachy, as they blow both night and day a moderate breeze without intermiſſion, ſometimes three or four days or a week together. But as theſe blow from the land in ſummer only, whereas the Summaſentas blow only in winter, they muſt be occaſioned by a different cauſe, which ſeems to be this: as the continent which divides the South Sea from the bay of Mexico and gulph of Honduras, is but of very ſmall breadth, and in many places very high ground, the heat which it receives from the ſun in ſummer is not ſo great as on the ſimilar coaſt of Africa; and as the trade-wind coming from the great Atlantic ocean ſweeps along the eaſtern part of the American coaſt from Cape St. Auguſtine to the bay of Honduras with very great violence at that ſeaſon, the ſmall heat of this narrow continent is not ſufficient to ſtop it entirely during that ſeaſon; ſo that at ſome times it blows for a ſhort time quite acroſs it, and occaſions thoſe winds called *Popogaios*.

Beſides theſe more general winds, there are likewiſe ſome particular winds which are only felt in particular places at certain times, whoſe effects are ſo ſingular as to merit attention; ſome of which we ſhall here take notice of. In the gulph of Perſia, particularly at Ormuz, during the months of June and July, there ſome imes blows from the weſt, for a day or two together, a hot ſuffocating fiery wind, which ſcorches up and deſtroys any animal that may be expoſed to it; for which reaſon, almoſt every body leave their habitations at Ormuz during theſe two months, and retire to the mountains near Schiras in Perſia, where they enjoy a more comfortable climate. To explain the cauſe of which, it is neceſſary to obſerve, that along all the coaſts of Aſia, to the north of the Indian ocean, the diurnal ſea and land breezes take place, as in every part of the torrid zone; by means of which the monſoons are not felt cloſe in upon the ſhores. But as the monſoon continues to blow regularly at a ſmall diſtance from ſhore, ſo in all probability it continues its courſe without interruption at a ſmall diſtance above the ſurface of the earth. Now when the monſoon is in its greateſt vigour, its influence will ſometimes deſcend even as low as the ſurface of the earth, and, interrupting the courſe of the breezes, hurry along with it theſe warm vapours, which ought to have aſcended upwards, and produced the ſalutary ſea-breeze; and as the earth is thus deprived of the refreſhing influence and moiſture of the ſea-breeze, the air, by the ſtrong reverberation of the ſun-beams from ſuch dry and ſandy countries as Arabia, muſt ſoon be heated to an amazing degree, and produce theſe hot and ſuffocating winds. It is alſo remarkable, that theſe hot winds are more often experienced near headlands, where the ſea-breezes are weakeſt, which ſeems to confirm this hypotheſis.—Winds ſimilar to theſe in kind, though not in degree, are felt upon the coaſt of Coromandel during the months of June, July, and Auguſt, while the weſt monſoon reigns; and on the Malabar coaſt they are likewiſe felt in the months of December and January, while the eaſt monſoon reigns; but theſe are much leſs powerful than either of the others. As theſe hot winds always come from the land, they are known upon theſe coaſts by the name of *Terreno's*.

It has likewiſe been obſerved, that on the coaſt of Africa to the north of Cape Verde, during the months of December, January, and February, there ſometimes blows, for a day or two together, an eaſterly wind, ſo very intenſely cold as to be almoſt as deſtructive as the warm winds at Ormuz. We have already in ſome meaſure explained the cauſe of this phenomenon.—During theſe months, when the ſun is far from them, his influence is leſs felt than at other ſeaſons, and the northerly wind upon the coaſt is of courſe weakened, inſomuch that the cold produced by the mountains in the heart of the country being now in its greateſt degree of force, burſts its uſual confinement for a time, ſpreading to the weſt with great violence, and producing thoſe uncommon effects already mentioned. Thoſe who ſail on theſe coaſts, diſtinguiſh this particular wind by the name of *Harmattan*.

Theſe are the principal winds, whether conſtant or periodical, that take place within the tropics; and thus ſimple are their cauſes.

The ſucceſſion of ſea and land breezes renders the torrid zone not only habitable but comfortable. Beſides, as theſe currents of cold air, ruſhing from each ſide of the globe, and carrying along with them vaſt quantities of aqueous vapours which they collect from the ſurface of the earth in their courſe, meet and oppoſe one another at that part of the atmoſphere where the influence of the ſun is greateſt at the time, the water is there forced from the clouds in ſuch prodigious quantities, as to produce a diverſity of ſeaſons in the torrid zone, ſomething ſimilar to what is experienced in more temperate climates; with this difference, however, that whereas, in temperate climates, the warmeſt and moſt comfortable ſeaſon is when the ſun approaches neareſt perpendicular to them, in theſe warmer climates the heavy rains which fall upon them at that ſeaſon moderates the heat, and prevents the ſun from having ſuch an effect as at other times; ſo that their coldeſt and moſt inconſtant weather, which they call *winter*, is at that ſeaſon, when, without this cauſe, they would be expoſed to the ſun's moſt powerful influence.

We ſhall only take notice of one other inſtance of the happy effects produced on our globe by the laws of nature with reſpect to winds. We have ſeen, that in the great Atlantic and Pacific oceans, the trade-wind blows conſtantly from the eaſterly points throughout the whole year, ſo that ſhips ſail from eaſt to weſt within the tropics with the utmoſt facility; but it is abſolutely impoſſible in theſe ſeas to ſail from weſt to eaſt, as the wind would be conſtantly againſt them; ſo that ſhips bound for any port to the eaſtward in theſe regions, muſt ſtand to the north or ſouth till they are beyond the limits of the trade-winds, where they meet with variable breezes, by

the help of which they ſail to the eaſtward. But if the ſame conſtant trade-wind had taken place in the northern part of the Indian ocean, it would have been impoſſible to have ſailed to the eaſtward at all; becauſe the continent of Aſia would have prevented the ſhips from ſailing far enough north to find the variable winds. But here, as in almoſt every caſe in which the operations of nature are concerned, we find, that what produceth the diſeaſe, at the ſame time furniſheth a remedy; for that very continent which would have ſtood in our way going northward, draws the wind towards itſelf at one ſeaſon, which makes that courſe of navigation unneceſſary, the ſhifting of the monſoons ſupplying a nearer and more commodious courſe. Thus we ſee, that wherever the ſea is open to the ſouth or north, near the tropics, ſo as that ſhips are at freedom to reach the variable winds, the trade-wind conſtantly blows in one direction; but wherever there is any extent of continent within the verge of the torrid zone, ſo as that they could not be at liberty to reach the variable winds, there the courſe of the trade-wind is altered, being drawn towards it in ſummer, and from it in winter, forming that ſhifting wind called *monſoons*. From which we may naturally infer, that as there are no monſoons in the Pacific or Atlantic, or in the weſtern part of the Indian ocean, to the ſouth of the line, there are no extenſive continents near the tropics in either of theſe places.

Hot WINDS. See SAMIEL.

WIND-*Flower*. See ANEMONY.

WIND-*Mill*, a kind of mill, the internal parts of which are much the ſame with thoſe of a water-mill: from which, however, it differs, in being moved by the impulſe of the wind upon its ſails or vanes, which are to be conſidered as a wheel in axis. See MECHANICS.

WIND-*Gage*. See *Wind*-GAGE.

WIND-*Galls* in farriery. See FARRIERY.

WIND-*Gun*. See AIR-*Gun*.

Inſtruments for meaſuring the ſtrength, velocity, &c. *of the* WIND. See *Wind*-GAGE, ANEMOMETER, and ANEMOSCOPE.

WIND-*Hatch*, in mining, a term uſed to expreſs the place at which the ore is taken out of the mines.

WIND-*Shock*, a name given by our farmers to a diſtemper to which fruit-trees, and ſometimes timber-trees, are ſubject. It is a ſort of bruiſe and ſhiver throughout the whole ſubſtance of the tree; but the bark being often not affected by it, it is not ſeen on the outſide, while the inſide is twiſted round, and greatly injured. It is by ſome ſuppoſed to be occaſioned by high winds; but others attribute it to lightning. Thoſe trees are moſt uſually affected by it whoſe boughs grow more out on one ſide than on the other. The beſt way of preventing this in valuable trees, is to take care in the plantation that they are ſheltered well, and to cut them frequently in a regular manner while young.

WIND-*Taught*, in ſea-language, denotes the ſame as ſtiff in the wind. Too much rigging, high maſts, or any thing catching or holding wind aloft, is ſaid to hold a ſhip wind-taught; by which they mean, that ſhe ſtoops too much in her ſailing in a ſtiff gale of wind. Again, when a ſhip rides in a main ſtreſs of wind and weather, they ſtrike down her top-maſts, and bring her yards down, which elſe would hold too much wind, or be too much diſtended and wind-taught.

WIND-*Sails*, a ſort of wide tube or funnel of canvas, employed to convey a ſtream of freſh air downward into the lower apartments of a ſhip. This machine is uſually extended by large hoops ſituated in different parts of its height. It is let down perpendicularly through the hatches, being expanded at the lower end like the baſe of a cone; and having its upper ſide open on the ſide which is placed to windward, ſo as to receive the full current of wind; which entering the cavity, fills the tube, and ruſhes downwards into the lower regions of the ſhip. There are generally three or four of theſe in our capital ſhips of war, which, together with the ventilators, contribute greatly to preſerve the health of the crew.

WINDAGE *of a* GUN, is the difference between the diameter of the bore and the diameter of the ball.

WINDLASS, a machine uſed for raiſing huge weights, as guns, ſtones, anchors, &c. It is very ſimple, conſiſting only of an axis or roller, ſupported horizontally at the two ends by two pieces of wood and a pulley; the two pieces of wood meet at top, being placed diagonally ſo as to prop each other; the axis or roller goes through the two pieces, and turns in them. The pulley is faſtened at top where the pieces join. Laſtly, there are two ſtaves or handſpikes which go through the roller, whereby it is turned, and the rope which comes over the pulley is wound off and on the ſame.

WINDLASS, in a ſhip, is an inſtrument in ſmall ſhips, placed upon the deck, juſt abaft the fore-maſt. It is made of a piece of timber ſix or eight feet ſquare, in form of an axle-tree, whoſe length is placed horizontally upon two pieces of wood at the ends thereof, and upon which it is turned about by the help of handſpikes put into holes made for that purpoſe. This inſtrument ſerves for weighing anchors, or hoiſting of any weight in or out of the ſhip, and will purchaſe much more than any capſtan, and that without any danger to thoſe that heave; for if in heaving the windlaſs about, any of the handſpikes ſhould happen to break, the windlaſs would pall of itſelf.

WINDOW, an aperture or open place in the wall of a houſe to let in the light. See ARCHITECTURE. The word is Welch, *wynt dor*, ſignifying the paſſage for the wind. Window is yet provincially denominated *windor* in Lancaſhire; i. e. *wind door*, or the paſſage for air, as that for people was peculiarly called the *door*. Before the uſe of glaſs became general, which was not till towards the end of the 12th century, the windows in Britain ſeem generally to have been compoſed of paper. Properly prepared with oil, this forms no contemptible defence againſt the intruſions of the weather, and makes no incompetent opening for the admiſſion of the light. It is ſtill uſed by our architects for the temporary windows of unfiniſhed houſes, and not unfrequently for the regular ones of our work-ſhops. But ſome of the principal buildings we may reaſonably ſuppoſe to have been windowed in a ſuperior manner. They could, however, be furniſhed merely with lattices of wood or ſheets of linen, as theſe two remained the only furniture of our cathedrals nearly to the eighth century; and the lattices continued in ſome of the meaner towns of Lancaſhire to the 18th; and in many diſtricts of Wales, and many of the adjoining parts of England, are in uſe even to the preſent moment. Theſe ſeem all to have been fixed in frames that were called *capſamenta*, and now therefore *caſements* in Wales and Lancaſhire.

WINDSOR, a borough-town of Berkſhire, twenty-two miles weſt of London, moſt remarkable for the magnificent palace or caſtle ſituated there on an eminence, which commands the adjacent country for many miles, the river Thames running at the foot of the hill. The knights of the garter are inſtalled in the royal chapel here. It ſends two members to parliament. W. Long. 0. 36. N. Lat. 51. 30.

WINDWARD, in the ſea language, denotes any thing towards that point from whence the wind blows, in reſpect of a ſhip: thus windward-tide, is the tide which runs againſt the wind.

WINE, a briſk, agreeable, ſpirituous, and cordial liquor, drawn from vegetable bodies, and fermented. All ſorts of vegetables, fruits, ſeeds, roots, &c. afford wine; as grapes,

currants, mulberries, alder-berries, cherries, apples, pulſe, beans, peaſe, turneps, radiſhes, and even graſs itſelf. Hence under the claſs of wines, or vinous liquors, come not only wines abſolutely ſo called, but alſo ale, cyder, &c.

Wine in France is diſtinguiſhed, from the ſeveral degrees and ſteps of its preparation, into, 1. *Mere goutte*, mother-drop, which is the virgin wine, or that which runs of itſelf out at the top of the vat wherein the grapes are laid, before the vintager enters to tread or ſtamp the grapes. 2. Muſt, ſurmuſt, or ſtum, which is the wine or liquor in the vat, after the grapes have been trod or ſtamped. 3. Preſſed wine, being that ſqueezed with a preſs out of the grapes half bruiſed by the treading. The huſks left of the grapes are called *rope*, *murk*, or *mark*; by throwing water upon which, and preſſing them afreſh, they make a liquor for ſervants uſe, anſwerable to our cyderkin, and called *boiſſon*. 4. Sweet wine, is that which has not yet worked nor fermented. 5. Bouru, that which has been prevented working by caſting in cold water. 6. Worked wine, that which has been let work in the vat, to give it a colour. 7. Boiled wine, that which has had a boiling before it worked, and which by that means ſtill retains its native ſweetneſs. 8. Strained wine, that made by ſteeping dry grapes in water, and letting it ferment of itſelf. Wines are alſo diſtinguiſhed with regard to their colour into white wine, red wine, claret wine, pale wine, roſe, or black wine; and with regard to their country, or the ſoil that produces them, into French wines, Spaniſh wines, Rheniſh wines, Hungary wines, Greek wines, Canary wines, &c. and more particularly into Port wine, Madeira wine, Burgundy wine, Champain wine, Falernian wine, Tockay wine, Schiras wine, &c.

Method of Making, Fining, &c. WINE. In the ſouthern parts of France, their way is with red wines to tread or ſqueeze the grapes between the hands, and to let the whole ſtand, juice and huſks, till the tincture be to their liking; after which they preſs it. But for white wines, they preſs the grapes immediately; when preſſed, they tun the muſt and ſtop up the veſſel, only leaving the depth of a foot or more to give room for it to work. At the end of ten days they fill this ſpace with ſome other proper wine, that will not provoke it to work again. This they repeat from time to time, new wine ſpending itſelf a little before it comes to perfection.

The uſual method of fining down wines, ſo as to render them expeditiouſly bright, clear, and fit for uſe, is this: Take an ounce of iſinglaſs, beat it into thin ſhreads with a hammer, and diſſolve it, by boiling, in a pint of water; this when cold becomes a ſtiff jelly. Whiſk up ſome of this jelly into a froth with a little of the wine intended to be fined, then ſtir it well among the reſt in the caſk, and bung it down tight; by this means the wine will become bright in eight or ten days. This method, however, is found to be beſt ſuited to the white wines; for the red ones, the wine-coopers commonly uſe the whites of eggs beat up to a froth, and mixed in the ſame manner with their wines.

They fine it down alſo by putting the ſhavings of green beech into the veſſel, having firſt taken off all the rind, and boiled them an hour in water to extract their rankneſs, and afterwards dried them in the ſun, or in an oven. A buſhel of theſe ſerve for a tun of wine; and being maſhed, they ſerve again and again, till almoſt quite conſumed.

For Engliſh wine, the method recommended by Mortimer, is firſt to gather the grapes when very dry, to pick them from the ſtalks, then to preſs them, and let the juice ſtand twenty-four hours in a vat covered. Afterwards to draw it off from the groſs lees, and then put it up in a caſk, and to add a pint or quart of ſtrong red or white port to every gallon of juice, and let the whole work, bunging it up cloſe, and letting it ſtand till January; then bottle it in dry weather. Bradley chooſes to have the liquor when preſſed, ſtand with the huſks and ſtalks in the vat, to ferment for fifteen days. The method of converting white wine into red, ſo much practiſed by the modern wine-coopers, Dr. Shaw obſerves is this: Put four ounces of turneſole rags into an earthen veſſel, and pour upon them a pint of boiling water; cover the veſſel cloſe, and leave it to cool; ſtrain off the liquor, which will be of a fine deep red, inclining to purple. A ſmall portion of this colours a large quantity of wine. This tincture might be either made in brandy, or mixed with it, or elſe made into a ſyrup, with ſugar, for keeping. A common way with the wine-coopers is to infuſe the rags cold in wine for a night or more, and then wring them out with their hands; but the inconveniency of this method is, that it gives the wine a diſagreeable taſte, or what is commonly called the *taſte of the rag*; whence the wines thus coloured uſually paſs among judges for preſſed wines, which have all this taſte from the canvas rags in which the lees are preſſed. The way of extracting the tincture, as here directed, is not attended with this inconvenience, but it loads the wine with water; and if made into a ſyrup, or mixed in brandy, it would load the wine with things not wanted, ſince the colour alone is required. Hence the colouring of wines has always its inconveniences. In thoſe countries which do not produce the tinging grape, which affords a blood-red juice, wherewith the wines of France are often ſtained, in defect of this, the juice of alder-berries is uſed, and ſometimes logwood is uſed at Oporto.

The colour afforded by the method here propoſed, gives wine the tinge of the Bourdeaux red, not the port; whence the foreign coopers are often diſtreſſed for want of a proper colouring for red wines in bad years. This might perhaps be ſupplied by an extract made by boiling ſtick-lack in water. The ſkins of tinging grapes might alſo be uſed, and the matter of the turneſole procured in a ſolid form, not imbibed in rags.

Stahl obſerves, that it is a common accident, and a diſeaſe in wines, to be kept too hot; which is not eaſy to cure when it has been of any long continuance, otherwiſe it may be cured by introducing a ſmall artificial fermentation, that new ranges the parts of the wine, or rather recovers their former texture: but the actual expoſing of wine to the fire; or the ſun, preſently diſpoſes it to turn eager; and the making it boiling hot, is one of the quickeſt ways of expediting the proceſs of making of vinegar.

On the other hand, wine kept in a cool vault, and well ſecured from the external air, will preſerve its texture entire in all the conſtituent parts, and ſufficiently ſtrong for many years, as appears not only from old wines, but other foreign fermented liquors, particularly thoſe of China, prepared from a decoction of rice; which being well cloſed down in a veſſel, and buried deep under ground, will continue for a long ſeries of years rich, generous, and good, as the hiſtories of that country univerſally agree in aſſuring us.

The moſt general remedy hitherto known for all the diſeaſes of wines, is a prudent uſe of tartarized ſpirit of wine, which not only enriches, but diſpoſes all ordinary wines to grow fine.

If either by fraud or accident a larger portion of water is mixed with wine than is proper for its conſiſtence, and no way neceſſary or eſſential, this ſuperfluous water does not only deprave the taſte, and ſpoil the excellence of the wine, but alſo renders it leſs durable; for humidity in general, and much more a ſuperfluous aqueous humidity, is the primary and reſtleſs inſtrument of all the changes that are brought on by fermentation. It may doubtleſs therefore be uſeful, and ſometimes abſolutely neceſſary, to take away this ſuperfluous

water from the other part which ſtrictly and properly conſtitutes the wine. This has been agreed upon all hands as a thing proper, but the manner of doing it has not been well agreed on: ſome have propoſed the effecting it by means of heat and evaporation, others by percolation, and others by various other methods, all found unſucceſsful when brought to the trial; but the way propoſed by Dr. Shaw from Stahl, is the moſt certain and commodious; this is done by a concentration of the wine, not by means of heat, but of cold.

If any kind of wine, but particularly ſuch as has never been adulterated, be in a ſufficient quantity, as that of a gallon or more, expoſed to a ſufficient degree of cold in froſty weather, or be put into any place where ice continues all the year, as in our ice-houſes, and there ſuffered to freeze, the ſuperfluous water that was originally contained in the wine will be frozen into ice, and will leave the proper and truly eſſential part of the wine unfrozen, unleſs the degree of cold ſhould be very intenſe, or the wine but weak and poor. This is the principle on which Stahl founds his whole ſyſtem of condenſing wines by cold. When the froſt is moderate, the experiment has no difficulty, becauſe not above a third or a fourth part of the ſuperfluous water will be froze in a whole night; but if the cold be very intenſe, the beſt way is, at the end of a few hours when a tolerable quantity of ice is formed, to pour out the remaining fluid liquor, and ſet it in another veſſel to freeze again by itſelf. If the veſſel, that thus by degrees receives the ſeveral parcels of the condenſed wine, be ſuffered to ſtand in the cold freezing place where the operation is performed, the quantity lying thin in the pouring out, or otherwiſe, will be very apt to freeze anew; and if it be ſet in a warm place, ſome of this aqueous part thaws again, and ſo weakens the reſt. The condenſed wine therefore ſhould be emptied in ſome place of a moderate degree as to cold or heat, where neither the ice may diſſolve, nor the vinous ſubſtance mixed among it be congealed. But the beſt expedient of all is to perform the operation with a large quantity of wine, or that of ſeveral gallons, where the utmoſt exactneſs, or the danger of a trifling waſte, need not be regarded.

By this method, when properly performed, there firſt freezes about one third part of the whole liquor; and this is properly the more purely aqueous part of it, inſomuch that when all the vinous fluid is poured off to be again expoſed to a concentration, the ice remaining behind from this firſt freezing being ſet to thaw in a warm place, diſſolves into a pure and taſteleſs water. The frozen part, or ice, conſiſts only of the watery part of the wine, and may be thrown away, and the liquid part retains all the ſtrength, and is to be preſerved. This will never grow ſour, muſty, or mouldy afterwards, and may at any time be reduced to wine of the common kind again, by adding to it as much water as will make it up to the quantity that it was before.

Wines in general may by this method be reduced to any degree of vinoſity or perfection.

The benefit and advantage of this method of congelation, if reduced to practice in the large way in the wine countries, muſt be evident to every body. Concentrated wines in this manner might be ſent into foreign countries inſtead of wine and water, which is what is uſually now ſent, the wines they export being loaded, and in danger of being ſpoiled, by three or four times their own quantity of unneceſſary, ſuperfluous, and prejudicial water.

An eaſy method of recovering pricked wines may be learned from the following experiment: Take a bottle of red port that is pricked, add to it half an ounce of tartarized ſpirit of wine, ſhake the liquor well together, and ſet it by for a few days, and it will be found very remarkably altered for the better.

This experiment depends upon the uſeful doctrine of acids and alkalies. All perfect wines have naturally ſome acidity, and when this acidity prevails too much, the wine is ſaid to be pricked, which is truly a ſtate of the wine tending to vinegar: but the introduction of a fine alkaline ſalt, ſuch as that of tartar, imbibed by ſpirit of wine, has a direct power of taking off the acidity, and the ſpirit of wine alſo contributes to this, as a great preſervative in general of wines. If this operation be dexterouſly performed, pricked wines may be abſolutely recovered by it, and remain ſaleable for ſome time; and the ſame method may be uſed to malt liquors juſt turned ſour.

The age of wine is properly reckoned by leaves; thus they ſay wine of two, four, or ſix leaves, to ſignify wine of two, four, or ſix years old; taking each new leaf put forth by the vine ſince the wine was made for a year.

WINE is alſo a denomination applied in medicine and pharmacy to divers mixtures and compoſitions, wherein the juice of the grape is a principal ingredient. See the article VINUM.

With regard to the medical uſes of wines, it is obſerved, that among the great variety of wines in common uſe among us, five are employed in the ſhops as menſtrua for medicinal ſimples; that is, the *vinum album hiſpanicum*, or Mountain wine; the *vinum album gallicum*, or French white wine; the Canary wine, or ſack, the Rheniſh wine, and the red port. The effects of theſe liquors on the human body are, to chear the ſpirits, warm the habit, promote perſpiration, render the veſſels full and turgid, raiſe the pulſe, and quicken the circulation. The effects of the full-bodied wines are much more durable than thoſe of the thinner: all ſweet wines, as Canary, abound with a glutinous, nutritious ſubſtance, whilſt the others are not nutrimental, or only accidentally ſo, by ſtrengthening the organs employed in digeſtion. Sweet wines, in general, do not paſs off freely by urine; and they heat the conſtitution more than an equal quantity of any other, though containing full as much ſpirit: red pert, and moſt of the red wines, have an aſtringent quality, by which they ſtrengthen the tone of the ſtomach, and thus prove ſerviceable for reſtraining immoderate ſecretions; thoſe which are of an acid nature, as Rheniſh, paſs freely by the kidneys, and gently looſen the belly. It is ſuppoſed that theſe laſt exaſperate and occaſion gouty calculous diſorders, and that new wines of every kind have this effect.

WINE *Preſs*, a machine uſed for ſqueezing the juice out of grapes, and conſiſting of ſeveral pieces of timber, variouſly diſpoſed, which compoſe three bodies of timber-work, cloſely united to the axis, which ſerves as a ſwing whereby it may be moved by the vice. Of theſe there are different ſizes as well as different conſtructions; for an account of which, illuſtrated by figures, ſee Miller's Gardener's Dictionary, article WINE *Preſs*.

Spirit of WINE, or *alcohol*, a name given by chemiſts to every ardent ſpirit produced by diſtillation. See CHEMISTRY *Index*.

WING, that part of a bird, inſect, &c. whereby it is enabled to fly. See BIRD and ORNITHOLOGY.

WINGS, in military affairs, are the two flanks or extremes of an army, ranged in form of a battle; being the right and left ſides thereof.

WINTER, one of the four ſeaſons or quarters of the year. See SEASON, &c. Winter commences on the day when the ſun's diſtance from the zenith of the place is greateſt, and ends on the day when its diſtance is at a mean between the greateſt and leaſt. Under the equator, the winter as well as other ſeaſons return twice every year; but all other places have only one winter in the year; which in the northern hemi-

ſphere begins when the ſun is in the tropic of Capricorn, and in the ſouthern hemiſphere when in the tropic of Cancer; ſo that all places in the ſame hemiſphere have their winter at the ſame time.

Winter-*Berry*. See Physalis.

WINTERA, in botany: a genus of plants of the claſs of *polyandria*, and order of *pentagynia*; and in the natural ſyſtem arranged under the 12th order, *Holoraceæ*. The calyx is three-lobed; there are ſix or twelve petals; there is no ſtyle; the fruit is a berry, which is club-ſhaped as well as the germen. There are two ſpecies; the aromatica and granadenſis.

Wintera *aromatica*, is one of the largeſt foreſt-trees upon Terra del Fuego; it often riſes to the height of 50 feet. Its outward bark is on the trunk grey and very little wrinkled, on the branches quite ſmooth and green. The branches do not ſpread horizontally, but are bent upwards, and form an elegant head of an oval ſhape. The leaves come out, without order, of an oval elliptic ſhape, quite entire, obtuſe, flat, ſmooth, ſhining, of a thick leathery ſubſtance, evergreen, on the upper ſide of a lively deep green colour, and of a pale bluiſh colour underneath, without any nerves, and their veins ſcarcely viſible; they are ſomewhat narrower near the footſtalks, and there their margins are bent downwards. In general, the leaves are from three to four inches long, and between one and two broad; they have very ſhort footſtalks, ſeldom half an inch long, which are ſmooth, concave on the upper ſide, and convex underneath. From the ſcars of the old footſtalks the branches are often tuberculated.

The peduncles, or footſtalks for the flowers, come out of the *axillæ foliorum*, near the extremity of the branches; they are flat, of a pale colour, twice or three times ſhorter than the leaves; now and then they ſupport only one flower, but are oftener near the top divided into three ſhort branches, each with one flower. The bracteæ are oblong, pointed, concave, entire, thick, whitiſh, and ſituated one at the baſis of each peduncle.

There is no calyx; but in its place the flower is ſurrounded with a ſpathaceous gem, of a thick leathery ſubſtance, green, but reddiſh on the ſide which has faced the ſun: before this gem burſts, it is of a round form, and its ſize is that of a ſmall pea. It burſts commonly ſo, that one ſide is higher than the other, and the ſegments are pointed. The corolla conſiſts always of ſeven petals, which are oval, obtuſe, concave, erect, white, have ſmall veins, and are of an unequal ſize, the largeſt ſcarcely four lines long; they very ſoon fade, and drop off almoſt as ſoon as the gem burſts. The filaments are from 15 to 30, and are placed on the flat end ſide of the receptacle; they are much ſhorter than the petals, and gradually decreaſe in length towards the ſides. The antheræ are large, oval, longitudinally divided into two, or as if each was made up of two oblong antheræ. The germina are from three to ſix, placed above the receptacle, turbinated, or of the ſhape of an inverted fig; flat on the inſide, and ſomewhat higher than the ſtamina; they have no ſtyles, but terminate in a ſtigma, which is divided into two or three ſmall lobes.

Dr. Solander, to whom the world is indebted for the deſcription, never ſaw the fruit in its perfectly ripe ſtate; but could conclude from the unripe fruit which he ſaw in abundance, that each germen becomes a ſeparate ſeed-veſſel, of a thick fleſhy ſubſtance, and unilocular; and in each the rudiments of three, four, or five ſeeds were plainly diſcernible. See Plate VIII. where N° 1. repreſents the ſpathaceous gem, after it is burſt open. 2. The ſame. 3. The ſame (*a*) with the corolla (*b*) remaining within it. 4. One of the petals ſpread out. 5. The ſtamina (*a*) and the piſtilla (*b*) after the gem and the corolla are taken away. 6. The outſide of an anthera (*a*) with its filament (*b*). 7. The inſide of the ſame. 8. The germina (*a*) ſituated on the centre of the receptacles after the ſtamina have been removed; the lobated ſtigma (*b*). 9. The convex or outermoſt ſide of a germen (*a*) with its ſtigma (*b*). 10. The inſide of the ſame. 11. A germen cut open longitudinally, ſo as to ſhow the rudiments of the ſeeds. 12. A germen cut through tranſverſely.

The weather is much more ſevere in the climate where theſe trees are natives than in Britain; here, therefore, it is thought they would thrive very well.

The bark of the wintera, or winter's cinnamon, brought over by the Dolphin, in reſpect to figure, exactly reſembles that which was delineated by Cluſius. The pieces are about three or four inches ſquare, of different degrees of thickneſs, from a quarter to three quarters of an inch. It is of a dark brown cinnamon colour; an aromatic ſmell, if rubbed; and of a pungent hot ſpicy taſte, which is laſting on the palate, though imparted ſlowly. It has the name of *winter's cinnamon*, from a faint reſemblance in colour and flavour to that grateful aromatic, though differing from it greatly in every other reſpect. This bark is only brought to us from the Straits of Magellan, and is the produce of the tree above deſcribed; much celebrated as an antiſcorbutic by the firſt diſcoverers, but unknown in the practice of phyſic, no quantity, except as a curioſity, having been brought to Europe till the return of the ſhips ſent out on the expeditions to the South Seas. The bark which was ſubſtituted in the room of this is the canella alba of the ſhops. See Canella.

From ſeveral experiments made by Dr. Morris, the cortex magellanicus appears to be an aſtringent of a particular kind, and therefore likely to be of uſe in ſeveral manufactures. Water is the proper ſolvent of this bark; though the ſaline, gummy, and reſinous parts are ſo blended in it, as in ſaffron and ſome other vegetables, that it parts with them readily in proof and rectified ſpirits of wine, though not in ſo great a quantity.

The infuſion and decoction of this bark were of ſo grateful an aromatic bitter taſte, that it ſeems likely to be a pleaſant vehicle for ſome of the nauſeous drugs. With this view, on ſubſtituting the powder of this bark for the cardamom ſeeds in making the infuſion of ſenna, as directed in the London Diſpenſatory, the nauſeous ſmell and taſte of that excellent purgative was ſo effectually covered, as to be ſcarcely diſtinguiſhed by the niceſt palate. Tincture of rhubarb alſo prepared with this bark inſtead of cardamoms ſeemed far leſs diſagreeable.

WIRE, a piece of metal drawn through the hole of an iron into a thread of a fineneſs anſwerable to the hole it paſſed through. Wires are frequently drawn ſo fine as to be wrought along with other threads of ſilk, wool, flax, &c. The metals moſt commonly drawn into wire are gold, ſilver, copper, and iron. Gold-wire is made of cylindrical ingots of ſilver, covered over with a ſkin of gold, and thus drawn ſucceſſively through a vaſt number of holes, each ſmaller and ſmaller, till at laſt it is brought to a fineneſs not exceeding that of a hair. That admirable ductility which makes one of the diſtinguiſhing characters of gold, is no-where more conſpicuous than in this gilt wire. A cylinder of 48 ounces of ſilver, covered with a coat of gold, only weighing one ounce, as Dr. Halley informs us, is uſually drawn into a wire, two yards of which weigh no more than one grain; whence 98 yards of the wire weigh no more than 49 grains, and one ſingle grain of gold covers the 98 yards; ſo that the ten thouſandth part of a grain is above one-eighth of an inch long.

Wire *of Lapland*. The inhabitants of Lapland have a ſort of ſhining ſlender ſubſtance in uſe among them on ſeveral occaſions, which is much of the thickneſs and appearance of our ſilver-wire, and is therefore called, by thoſe who do not ex-

amine its ſtructure or ſubſtance, *Lapland wire*. It is made of the ſinews of the rein deer, which being carefully ſeparated in the eating, are, by the women, after ſoaking in water and beating, ſpun into a ſort of thread, of admirable fineneſs and ſtrength, when wrought to the ſmalleſt filaments; but when larger, is very ſtrong, and fit for the purpoſes of ſtrength and force. Their wire, as it is called, is made of the fineſt of theſe threads covered with tin. The women do this buſineſs; and the way they take is to melt a piece of tin, and placing at the edge of it a horn, with a hole through it, they draw theſe ſinewy threads, covered with the tin, through the hole, which prevents their coming out too thick covered. This drawing is performed with their teeth; and there is a ſmall piece of bone placed at the top of the hole, where the wire is made flat; ſo that we always find it rounded on all ſides but one, where it is flat. This wire they uſe in embroidering their clothes as we do gold and ſilver; they often ſell it to ſtrangers, under the notion of its having certain magical virtues.

WISDOM, uſually denotes a higher and more refined notion of things immediately preſented to the mind, as it were, by intuition, without the aſſiſtance of ratiocination. Sometimes the word is more immediately uſed, in a moral ſenſe, for what we call *prudence*, or *diſcretion*, which conſiſts in the ſoundneſs of the judgment, and a conduct anſwerable thereto.

WISDOM *of Solomon*, one of the books of the Apocrypha. It abounds with Platonic language, and was probably written after the Chaballiſtic philoſophy was introduced among the Jews.

WIT, is a quality of certain thoughts and expreſſions, much eaſier perceived than defined. According to Mr. Locke, wit lies in the aſſemblage of ideas, and putting thoſe together with quickneſs and variety, wherein can be found any reſemblance or congruity, thereby to make up pleaſant pictures and agreeable viſions to the fancy. Mr. Addiſon limited this definition conſiderably, by obſerving, that every reſemblance of ideas does not conſtitute wit, but thoſe only which produce delight and ſurpriſe. Mr. Pope defined wit to be a quick conception and an eaſy delivery: while, according to a late writer, it conſiſts in an aſſimilation of diſtant ideas.

The word *wit* originally ſignified *wiſdom*. A *witte* was anciently a *wiſe man*: the *wittenagemot*, or Saxon parliament, an aſſemblage of wiſe men. So late as the reign of Elizabeth, a man of pregnant *wit*, of great *wit*, was a man of vaſt *judgment*. We ſtill ſay, *in his wits, out of his wits*, for in or out of ſound mind. The word, however, is now applied in a more limited ſenſe.

Without attempting to expoſe the inaccuracy of the definitions above mentioned, or hazarding a definition of our own where ſo many eminent men have failed, we ſhall endeavour to ſhow in what true wit conſiſts.

It is evident that wit excites in the mind an agreeable ſurpriſe, and that this is owing entirely to the ſtrange aſſemblage of related ideas preſented to the mind. This end is effected, 1. By debaſing things pompous or *ſeemingly* grave; 2. By aggrandiſing things little or frivolous; 3. By ſetting ordinary objects in a particular and uncommon point of view, by means not only remote but apparently contrary. Of ſo much conſequence are ſurpriſe and novelty, that nothing is more taſteleſs, and ſometimes diſguſting, than a joke that has become ſtale by frequent repetition. For the ſame reaſon, even a pun or happy alluſion will appear excellent when thrown out extempore in converſation, which would be deemed execrable in print. In like manner, a witty repartee is infinitely more pleaſing than a witty attack: for though, in both caſes, the thing may be equally new to the reader or hearer, the effect on him is greatly injured, when there is acceſs to ſuppoſe that it may be the ſlow production of ſtudy and premeditation. This, however, holds moſt with regard to the inferior tribes of witticiſms, of which their readineſs is the beſt recommendation.

WIT (John de), a celebrated penſioner of Holland, and one of the greateſt politicians of his time, was the ſon of Jacob de Wit, burgomaſter of Dort, and was born in 1625. He became well ſkilled in civil law, politics, mathematics, and other ſciences; and wrote a treatiſe on the Elements of Curved Lines, publiſhed by Francis Schooten. Having taken his degree of doctor of law, he travelled into foreign courts, where he became eſteemed for his genius and prudence. At his return to his native country, in 1650, he became penſionary of Dort, then counſellor-penſionary of Holland and Weſt Frieſland, intendant and regiſter of the fiefs, and keeper of the great ſeal. He was thus at the head of affairs in Holland; but his oppoſition to the re-eſtabliſhment of the office of ſtadtholder, which he thought a violation of the freedom and independence of the republic, coſt him his life, when the prince of Orange's party prevailed. He and his brother Cornelius were aſſaſſinated by the populace at the Hague in 1674, aged 47.

WITCH, a perſon guilty of witchcraft.

WITCHCRAFT, a ſupernatural power which perſons were formerly ſuppoſed to obtain the poſſeſſion of by entering into a compact with the devil. See SORCERY.—The belief that certain perſons were endowed with this, and that they were aſſiſted by inviſible ſpirits, is very ancient. The *ſagæ* of the Romans ſeem rather to have been ſorcerers than witches; indeed the idea of a witch, as above deſcribed, could not have been prevalent till after the propagation of Chriſtianity, as the heathens had no knowledge of the Chriſtian *devil*.

Witchcraft was univerſally believed in Europe till the 16th century, and even maintained its ground with tolerable firmneſs till the middle of the ſeventeenth. Vaſt numbers of reputed witches were convicted and condemned to be burnt every year. The methods of diſcovering them were various. One was, to *weigh* the ſuppoſed criminal againſt the *church bible*, which, if ſhe was guilty, would preponderate: another, by making her attempt to ſay the Lord's Prayer; this no witch was able to repeat entirely, but would omit ſome part or ſentence thereof. It is remarkable, that all witches did not heſitate at the ſame place; ſome leaving out one part, and ſome another. Teats, through which the imps ſucked, were indubitable marks of a witch: theſe were always raw, and alſo inſenſible; and, if ſqueezed, ſometimes yielded a drop of blood. A witch could not weep more than three tears, and that only out of the left eye. This want of tears was, by the witch-finders, and even by ſome judges, conſidered as a very ſubſtantial proof of guilt. Swimming a witch was another kind of popular ordeal generally practiſed: for this ſhe was ſtripped naked, and croſs-bound, the right thumb to the left toe, and the left thumb to the right toe. Thus prepared, ſhe was thrown into a pond or river, in which, if guilty, ſhe could not ſink; for having, by her compact with the devil, renounced the benefit of the water of baptiſm, that element, in its turn, renounced her, and refuſed to receive her into its boſom. Sir Robert Filmer mentions two others by fire: the firſt, by burning the thatch of the houſe of the ſuſpected witch; the other, burning any animal ſuppoſed to be bewitched by her, as a hog or ox. Theſe, it was held, would force a witch to confeſs.

The trial by the ſtool was another method uſed for the diſcovery of witches. It was thus managed: having taken the ſuſpected witch, ſhe was placed in the middle of a room upon a ſtool or table, croſs-legged, or in ſome other uneaſy poſture; to which if ſhe ſubmitted not, ſhe was then bound with

cords: there ſhe was watched, and kept without meat or ſleep for the ſpace of 24 hours (for, they ſaid, within that time they ſhould ſee her imp come and ſuck). A little hole was likewiſe made in the door for imps to come in at; and leſt it ſhould come in ſome leſs diſcernible ſhape, they that watched were taught to be ever and anon ſweeping the room, and, if they ſaw any ſpiders or flies, to kill them; if they could not kill them, then they might be ſure they were imps. If witches, under examination or torture, would not confeſs, all their apparel was changed, and every hair of their body ſhaven off with a ſharp razor, leſt they ſhould ſecrete magical charms to prevent their confeſſing. Witches were moſt apt to confeſs on Fridays.

By ſuch trials as theſe, and by the accuſation of children, old women, and fools, were thouſands of unhappy women condemned for witchcraft, and burnt at the ſtake. In the 18th volume of the Statiſtical Account of Scotland there is the trial of two witches, William Coke and Alliſon Dick, in Kirkaldy, in 1636. The evidence on which they were condemned is abſolutely ridiculous: they were, however, burnt for witchcraft. The expences which the town and kirk-ſeſſion were put to on this occaſion are ſtill upon record, a ſtanding leſſon to thoſe who contend for the infallibility of human reaſon.

The firſt writers againſt witchcraft were ſtigmatized as Atheiſts, though they only endeavoured to prove the imbecility of the perſons accuſed, and the infatuation or the knavery of their accuſers. Such were the epithets beſtowed by Dr. Henry More, and even by Cudworth himſelf. In this country, while the belief in witchcraft was ſupported by royal authority (for James I. is univerſally known to have written on demonology) countenanced by Bacon, and generally adopted among the people, only one writer was hardy enough to oppoſe it. This was Reginald Scott, who publiſhed a collection of impoſtures detected, under the title of Diſcoveries of Witchcraft. James ordered the book to be burnt by the common executioner, and the judges continued to burn witches as uſual. During the civil wars, upwards of eighty were hanged in Suffolk, on the accuſation of Hopkins the witch-finder. Webſter was the next writer againſt witchcraft; but he had a different fate from that of Scott, for moſt of his arguments were refuted by Glanville. This very acute writer was induced to publiſh his Philoſophical Conſiderations about Witchcraft, by the apprehenſion, that the increaſing diſbelief of witches and apparitions tended to affect the evidences of religion, and even of a Deity. In reſpect of argument, he was certainly ſuperior to his adverſaries; his reaſoning is perſpicuous, though ſometimes ſubtle, reſted on the moſt ſpecious foundations of evidence, and arranged with great ſkill.

On the continent, this controverſy ſeemed almoſt forgotten, till Bekker publiſhed his *Monde Enchantée*, in which he denied the exiſtence of witches on the Carteſian principle, that the Deity is the ſource of all action, conſequently actions ſo oppoſite to his nature and attributes cannot be ſuppoſed to exiſt. He was anſwered by Frederick Hoffman, the father of the modern theory and practice of medicine, in his diſſertation *De Diaboli Potentia in Corpora.*

The lateſt witchcraft frenzy was in New England, about 1692, when the execution of witches became a calamity more dreadful than the ſword or the peſtilence. The accuſers became ſo daring, that neither civil nor religious authority would have proved a ſecurity againſt their attacks, if all the proſecutions had not been ſuddenly dropped, and the priſoners ſet at liberty. So far did thoſe wretches proceed in abſurdity, that a dog was accuſed of throwing perſons into fits by looking at them. As ſoon as the proſecutions were ſtopped, all reports of witchcraft ceaſed.

It would be ridiculous to attempt a ſerious refutation of the exiſtence of witches; and at preſent, luckily, the taſk is unneceſſary. In this country, at leaſt, the diſcouragement long given to all ſuſpicion of witchcraft, and the repeal of the ſtatutes againſt that crime, have very much weakened, though perhaps they have not entirely eradicated, the perſuaſion. On the continent, too, it is evidently on the decline; and notwithſtanding the exertions of Dr. De Haen, and of the celebrated Lavater, we have little doubt but that in a ſhort time poſterity will wonder at the credulity of their anceſtors. That there ever were witches, is an opinion that cannot for a moment be believed by a thinking man. The actions imputed to them were either abſurd or impoſſible; the witneſſes by whoſe evidence they were condemned, either weak enthuſiaſts or downright villains; and the confeſſions aſcribed to the witches themſelves, the effects of a diſordered imagination produced by cruel treatment and exceſſive watchings. As to the nightly meetings, demonologiſts themſelves have been obliged to confeſs, that they were nothing elſe but uneaſy dreams, often produced by ſoporific compoſitions. The facts which have been brought forward by the advocates for witchcraft bear in their front the moſt evident marks of trick and impoſture; and this has conſtantly been found out whenever theſe facts have been properly examined.

WITENA MOT, or WITENA *Gemot*, among the Anglo-Saxons, was a term which literally ſignified the aſſembly of the wiſe men; and was applied to the great council of the nation, of latter days called the *parliament.*

WITHERS *of a* HORSE, the juncture of the ſhoulder-bones at the bottom of the neck and mane, towards the upper part of the ſhoulder. See FARRIERY.

WITNESS, in law, a perſon who gives evidence in any cauſe, and is ſworn to ſpeak the truth, the whole truth, and nothing but the truth.

Trial by WITNESSES, a ſpecies of trial without the intervention of a jury. This is the only method of trial known to the civil law, in which the judge is left to form in his own breaſt his ſentence upon the credit of the witneſſes examined: but it is very rarely uſed in the Engliſh law, which prefers the trial by jury before it in almoſt every inſtance: ſave only that when a widow brings a writ of dower, and the tenant pleads that the huſband is not dead; this being looked upon as a dilatory plea, is in favour of the widow, and for greater expedition allowed to be tried by witneſſes examined before the judges: and ſo, ſaith Finch, ſhall no other caſe in our law. But Sir Edward Coke mentions ſome others; as, to try whether the tenant in a real action was duly ſummoned, or the validity of a challenge to a juror: ſo that Finch's obſervation muſt be confined to the trial of direct and not collateral iſſues. And in every caſe Sir Edward Coke lays it down, that the affirmative muſt be proved by two witneſſes at the leaſt.

WITSIUS (Herman), a learned and eminent divine of North Holland, born at Enckhuiſen in 1626. He was profeſſor of divinity ſucceſſively at Franeker, Utrecht, and Leyden; and applied himſelf ſucceſsfully to oriental learning, of which his capital work *Ægyptiaca* affords ſufficient proof. His Economy of the Covenants between God and Men, is warmly recommended by Mr. Hervey in his Theron and Aſpaſio. He died in 1708.

WITTENBERG, a city of Germany, capital of the circle of Upper Saxony, 50 miles north of Dreſden. It is under immediate vaſſalage, and the ſeat of an aulic judicatory, a general ſuperintendency, an inſpection, and conſiſtory. The town is not large; but is well fortified, and contains a famous univerſity, in which Melancthon was a profeſſor. In this place Martin Luther firſt began to preach againſt the pope's indulgences; and in the cathedral of All Saints he is ſaid to

have been buried. In the old citadel of this town the ancient Saxon electors uſed to reſide. Beſides the univerſity, there is a Latin ſchool in the town, with ſix maſters. The library belonging to the univerſity is ſaid to be very valuable. In 1756 the Pruſſians being maſters of the town, deſtroyed a part of its fortifications. E. Long. 12. 47. N. Lat. 51. 49.

WOAD, in botany. See Isatis. The preparation of woad for dying, as practiſed in France, is minutely deſcribed by Aſtruc, in his Memoirs for a Natural Hiſtory of Languedoc. The plant puts forth at firſt five or ſix upright leaves, about a foot long and ſix inches broad: when theſe hang downwards and turn yellow, they are fit for gathering: five crops are gathered in one year. The leaves are carried directly to a mill, much reſembling the oil or tan mills, and ground into a ſmooth paſte. If this proceſs was deferred for ſome time, they would putreſy, and ſend forth an inſupportable ſtench. The paſte is laid in heaps, preſſed cloſe and ſmooth, and the blackiſh cruſt, which forms on the outſide, re-united if it happens to crack: if this was neglected, little worms would be produced in the cracks, and the woad would loſe a part of its ſtrength. After lying for fifteen days, the heaps are opened, the cruſt rubbed and mixed with the inſide, and the matter formed into oval balls, which are preſſed cloſe and ſolid in wooden moulds. Theſe are dried upon hurdles: in the ſun, they turn black on the outſide; in a cloſe place, yelloviſh, eſpecially if the weather be rainy. The dealers in this commodity prefer the firſt, though it is ſaid the workmen find no conſiderable difference betwixt the two. The good balls are diſtinguiſhed by their being weighty, of an agreeable ſmell, and, when rubbed, of a violet colour within. For the uſe of the dyer, theſe balls require a farther preparation: they are beat with wooden mallets, on a brick or ſtone floor, into a groſs powder; which is heaped up in the middle of the room to the height of four feet, a ſpace being left for paſſing round the ſides. The powder, moiſtened with water, ferments, grows hot, and throws out a thick fetid fume. It is ſhovelled backwards and forwards, and moiſtened every day for twelve days; after which it is ſtirred leſs frequently, without watering, and at length made into a heap for the dyer.

Woad not only affords a laſting and ſubſtantial blue, which, according to the ſcale of the dyers, may be reduced into many different ſhades, but is alſo of great uſe in dyeing and fixing many other colours. But notwithſtanding this, and its being a commodity of our own, the uſe of it has very much declined ſince the introduction of indigo; for the purchaſe of which large ſums go annually out of the nation. The reaſon of this is, that indigo affords a more lively and pleaſing colour, is managed with more eaſe by the dyers, and does their buſineſs more expeditiouſly. Yet with all theſe advantages, it is univerſally acknowledged, that the colour which indigo affords is inferior to that of woad in many reſpects, and particularly in permanency; for which reaſon, they are frequently uſed in conjunction; woad to give ſolidity and ſubſtance, and indigo to give brightneſs and colour. But the worſt conſequence that has attended the uſe of indigo is, not barely leſſening the conſumption, but abating the price and depreciating the intrinſic value of woad; ſo that leſs care is taken in the management of it; to which in a great meaſure the inferiority of its colour, at leaſt in ſome places, is at preſent owing. The declenſion in its conſumption is not the caſe here only, but alſo in other countries; for it was once the great ſtaple of Languedoc, and was cultivated alſo in Normandy, and in other provinces of France; as it alſo is in Spain, Portugal, the Azores, and Canary iſlands, Switzerland, in the neighbourhood of Geneva, in different parts of Germany, and in Sweden.

An idea has been entertained, that by an alteration in the manner of curing of it, the inconveniences that are ſuppoſed to attend the uſe of it might be removed, and that woad might be brought to anſwer all the purpoſes of indigo; which, if it could be accompliſhed, would be moſt certainly a great advantage, and an advantage which every true lover of his country would wiſh ſhould take place here rather that any-where elſe. The author of the Natural Hiſtory of Languedoc ſuggeſts, that woad, if cured in the ſame manner as indigo, might produce as lively a colour; and adds, that from ſome experiments made by himſelf, he is convinced the method would effectually anſwer. The celebrated M. Du Hamel du Monçeau informs us, that having propoſed to Mr. Fontenelle, a phyſician in Louiſiana, the cultivating the paſtel there in the manner of indigo, that gentleman acquainted him, that by treating indigo after the manner of paſtel, he had obtained a very beautiful green: which indeed is always the caſe when the indigo is only allowed to abſorb a ſmall quantity of oxygen; for it is now well known that its blue colour is owing to the abſorption of that gas.

WOAHOO, one of the Sandwich Iſlands, lying to the north-weſt of Morotoi, at the diſtance of ſeven leagues. From the appearance of the north-eaſt and north-weſt parts, it is the fineſt iſland of the group. Nothing can exceed the verdure of the hills, the variety of wood and lawn, and rich cultivated valleys, which the whole face of the country diſplays. A bay is formed by the north and weſt extremities, into which a fine river empties itſelf, through a deep valley; but as the water is brackiſh for 200 yards from the entrance, watering in it is not convenient. It contains about 60,000 inhabitants. Lieutenant Hergeſt, commander of the Dædalus ſtoreſhip, who had been ſent from England in 1791, to New South Wales, and thence to the Southern Pacific Ocean, with a ſupply of proviſions for the Diſcovery ſloop, Captain Vancouver, then on a voyage of diſcovery, was here ſurpriſed and murdered by the natives, together with Mr. Gooch, the aſtronomer. W. Long. 157. 51. N. Lat. 21. 43.

WODEN. See Odin, and Mythology.

WODEVILLE (Anthony), earl of Rivers, brother to the queen of Edward IV. was born in the end of 1442, or in the beginning of 1443. Though one of the moſt accompliſhed men of his age, very little is known of his private hiſtory. He was early and conſtantly employed either in the tumults of thoſe turbulent times, or in diſcharging the duties of ſome of the higheſt offices of the ſtate, with which he was inveſted. Yet he found leiſure to cultivate letters, and to be the author of works which, though of little value now, made ſome noiſe in that age, when learning was at a low ebb in England. Theſe conſiſted chiefly of tranſlations from the French; and his lordſhip, with his printer Caxton, were the firſt Engliſh writers who had the pleaſure to ſee their works publiſhed from the preſs. This accompliſhed, brave, and amiable nobleman was treacherouſly impriſoned by Richard III. in Pomfret caſtle, where, during his confinement, he compoſed a ſhort poem, which has been preſerved by John Rous of Warwick, and breathes, ſays Dr. Henry, a noble ſpirit of pious reſignation to his approaching fate. He was beheaded on the 23d of June, 1483, in the 41ſt year of his age.

WOLAW, a town in Germany, in Sileſia, and capital of a duchy of the ſame name. It is ſurrounded with ſtrong walls and a moraſs, and one part of the houſes are built with ſtone. The caſtle is alſo encompaſſed with deep ditches, and the greateſt part of the inhabitants are employed in a woollen manufactory. In 1709 a Proteſtant church was allowed to be built here. It is ſeated on the river Oder, 20 miles north-weſt of Breſlau, and 32 ſouth-eaſt of Glogau. E. Long. 16. 54. N. Lat. 51. 18.

WOLD, Weld, or Dyers *Weed*. See Reseda.

WOLF, in zoology. See Canis.

Wolf-*Fish*, or *Sea-Wolf*. See Anarchicas.

Wolf or *Wood Poiſon*. See Poison.

WOLFE (Major-General James), was the ſon of Lieutenant-General Edward Wolfe, and was born at Weſterham in the county of Kent, where he was baptized the 11th of Jan. 1726. He betook himſelf, when very young, to the profeſſion of arms; and was ſoon ſingled out as a moſt riſing military genius. Even ſo early as the battle of La-feldt, when ſcarce twenty, he exerted himſelf in ſo maſterly a manner, at a very critical juncture, that it drew the higheſt encomiums from the great officer then at the head of the army. He was early in the moſt ſecret conſultations for the attack upon Rochfort: and what he would have done there, and what he afterwards did do at Louiſbourg, are very freſh in every memory. He was ſcarce returned from thence, when he was appointed to command the important expedition againſt Quebec. At laſt, ſingly, and alone in opinion, he formed, and executed, that great, that dangerous, yet neceſſary plan, which drew out the French to their defeat, and will for ever denominate him the conqueror of Canada: but when within the graſp of victory, he received a ball through his wriſt, but which immediately wrapping up, he went on, with the ſame alacrity, animating his troops by precept and example: however, in a few minutes after, a ſecond ball, through his body, obliged him to be carried off to a ſmall diſtance in the rear, and he ſhortly after expired. He was brought to England, and interred with all military honours in Weſtminſter-abbey, where a magnificent monument is erected over him.

Wolfe (Chriſtian), a celebrated German philoſopher, was born at Breſlau in 1679. After having been well inſtructed in the rudiments of learning and ſcience in his own country, Wolfe proſecuted his ſtudies ſucceſſively in the univerſities of Jena, Hamburgh, and Leipſic. At the age of twenty-ſix he had acquired ſo much diſtinction, that he was appointed profeſſor of mathematics, and ſoon afterwards of philoſophy in general, in the univerſity of Hall. After Leibnitz had publiſhed his *Theodicea*, Wolfe, ſtruck with the novelty of the edifice which that philoſopher had raiſed, aſſiduouſly laboured in the inveſtigation of new metaphyſical truths. He alſo digeſted the Elements of Mathematics in a new method, and attempted an improvement of the art of reaſoning in a treatiſe On the Powers of the Human Underſtanding. Upon the foundation of Leibnitz's doctrine of Monads, he formed a new ſyſtem of Coſmology and Pneumatology, digeſted and demonſtrated in a mathematical method. This work, entitled Thoughts on God, the World, and the Human Soul, was publiſhed in the year 1719; to which were added, in a ſubſequent edition, Heads of Ethics and Policy.

Wolfe was now riſing towards the ſummit of philoſophical reputation, when the opinion which he entertained on the doctrine of neceſſity being deemed by his colleagues inimical to religion, and an oration which he delivered in praiſe of the morality of the Chineſe having given much offence, an accuſation of hereſy was publicly brought againſt him; and, though he attempted to juſtify himſelf in a treatiſe which he wrote on the ſubject of fatality, a royal mandate was iſſued in November, 1723, requiring him to leave the Pruſſian dominions. Having been formerly invited by the Landgrave of Heſſe Caſſel to fill a profeſſor's chair in the univerſity of Caſſel, Wolfe now put himſelf under the patronage of that prince, who had the liberality to afford him a ſecure aſylum, and appointed him profeſſor of mathematics and philoſophy. The queſtion concerning the grounds of the cenſure which had been paſſed upon Wolfe was now every-where freely canvaſſed; almoſt every German univerſity was inflamed with diſputes on the ſubject of liberty and neceſſity; and the names of Wolfians and Anti-Wolfians were every-where heard. After an interval of nine years, the king of Pruſſia reverſed his ſentence of exile, and appointed him vice-chancellor of the univerſity of Hall; where his return was welcomed with every expreſſion of triumph. From this time he was employed in completing his Inſtitutes of Philoſophy, which he lived to accompliſh in every branch except policy. In 1745 he was created a baron by the elector of Bavaria, and ſucceeded Ludowig in the office of chancellor of the univerſity. He continued to enjoy theſe honours till the year 1754, when he expired. He poſſeſſed a clear and methodical underſtanding; which by long exerciſe in mathematical inveſtigations was particularly fitted for the employment of digeſting the ſeveral branches of knowledge into regular ſyſtems; and his fertile powers of invention enabled him to enrich almoſt every field of ſcience in which he laboured, with ſome valuable additions. The lucid order which appears in all his writings enables his reader to follow his conceptions with eaſe and certainty, through the longeſt trains of reaſoning.

WOLFEMBUTTLE, a conſiderable town of Germany, in the circle of Lower Saxony, and duchy of Brunſwick, with a caſtle where the Duke of Brunſwick Wolfembuttle reſides. It is one of the ſtrongeſt places in Germany, though the fortifications want repairing in ſeveral places. There is an excellent library, kept in a building lately erected for that purpoſe, conſiſting of 116,000 printed books, and 2000 uncommon books, with a cabinet of curioſities, relating to natural hiſtory. It is ſeated on the river Ocker, five miles ſouth of Brunſwick, and 30 weſt of Halberſtadt. E. Long. 10. 42. N. Lat. 52. 18.

WOLFRAM, or Tungsten. See Tungsten.

Wolfram, in natural hiſtory and chemiſtry, the name of a peculiar mineral, lately ranged among the ſemi-metals. See Mineralogy. This mineral, which the Germans have called *wolfram* or *wolfrath*, a name tranſlated into Latin *ſpuma lupi*, or rather *lupus Jovis*, has been met with hitherto only in mines of tin; for, though many authors would make it more common, it is an error owing to their confounding ſome gloſſy iron ores with the true wolfram, as appears by the ſpecimens which are frequently found in cabinets under this name. It has been, on account of the bad effects produced by this mineral in the ſmelting of tin-ores, from which it is very difficult to ſeparate it by waſhing, becauſe of its great ſpecific weight, that the names of *ſpuma lupi*, *lupus Jovis*, and *wolfram*, have been given to it by the miners and ſmelters.

This is really a metallic ore, and contains the very ſemi-metal lately diſcovered in the tungſten; both being mineralized, or rather formed by the ſame tungſtenic acid: 1. It is of a black or brown ſhining colour, of a radiated or foliated texture, of a moderate hardneſs, and ſometimes ſo brittle as to be eaſily broken between the fingers; but it is very weighty, its ſpecific gravity being = 7,119. 2. When ſcratched it ſhows a red trace, and this diſtinguiſhes it from the tungſten (ſee Mineralogy), which is a variety of the ore of the ſame ſemi-metal. 3. It is found in ſcattered maſſes, cryſtallized into hexaedral flat priſms, coming to a point, with four ſides, and theſe points terminated obliquely. 4. Internally it is ſhining, with the luſtre almoſt of a metal. 5. When it is broken, its texture appears leafy; and the leaves are flat, but ſomewhat confuſed. 6. On ſome ſides they are unequal, and very ſeldom ſtriated. 7 It is always opaque; and when ſcraped, it yields a powder of a dark reddiſh grey. 8. The wolfram will not melt by itſelf with the blow-pipe, the angles being only rounded; but, 9. Internally it preſerves its ſtructure and colour without change. 10. With microcoſmic ſalt (*phoſphate of ammoniac*) it fuſes with effervescence; and forms a glaſs of a pale red in the exterior flame, and much darker in the interior. 11. With borax it

likewiſe effervesces, and forms by the interior flame a glaſs of a greeniſh yellow, which by the exterior turns reddiſh. 12. Being expoſed in a crucible to a ſtrong fire for one hour, it ſwelled, became ſpongy, and of a browniſh colour; entered into a ſemi-vitrification; and was attracted by the magnet. 13. Equal parts of nitre and wolfram being put in a red-hot crucible, they detonated, or rather boiled up with a blue flame round the edges, and a nitrous vapour aroſe; the matter, when cold, on being put into water, partly diſſolved; and a few drops of acid produced a white precipitation. 14. Pounded wolfram, digeſted in a ſand heat with a ſufficient quantity of marine acid, to the depth of the thickneſs of a finger above the matter, after one hour's boiling, the powder turned yellow; which is the ſame phenomenon as happens with the *tungſtenic acid*. See CHEMISTRY. 15. It appears by the chemical analyſis of wolfram made by Meſſ. John and Fauſt de Luyart, that its contents conſiſt of 22 parts of manganeſe in the ſtate of black oxyd; 13,5 of iron, 65 of a yellow wolfranic oxyd, and of quartz and tin. 16. A good quantity of this yellow oxyd being collected, it was obſerved that it was entirely inſipid, and that its ſpecific gravity was = 6,120. It effervesces with microcoſmic ſalt; produces a tranſparent blue colour without any ſhade of red; and effervesces alſo with borax and with mineral alkali. This ſame matter does not diſſolve in water; but when triturated with it, forms a kind of emulſion; to which the acetous acid gives a blue colour, but does not diſſolve it. This matter, however, diſſolves completely in cauſtic vegetable alkali, both by the dry and moiſt way; and the liquor acquires a great bitterneſs. By pouring on it ſome nitrous acid a precipitate enſues, which leaves on the filtre a white ſalt; and this being well edulcorated, has a taſte at firſt ſweet, afterwards ſharp and bitter, producing a very diſagreeable ſenſation on the throat. It is in fact a true acid combined with a portion of the alkali and precipitating acid. 17. This acid melts, if alone, by the flame urged with the blow-pipe. 18. This white ſalt is a true metallic triple ſalt, as appears by putting 100 grains in a crucible with powdered charcoal; for after one hour and a half of a ſtrong fire, when cooled a button was found, which fell to powder between the fingers. Its colour was brown; and, on examining it with a magnifier, there was a congeries of metallic globules, of the bigneſs of pins' heads; which, when broken, exhibit the metallic appearance of a ſteel colour in the fracture; and their ſpecific gravity was = 17,600. 19. Theſe metallic globules, melted with other metals, gold and platina excepted, afford ductile alloys with ſilver or copper; and hard ones with caſt-iron, tin, antimony, biſmuth, and manganeſe.

It has been ſuppoſed that this is a new metal before unknown: that this was evinced, 1. by its ſpecific gravity, equal to 17,600; 2. by the tinges it gives to different glaſſes; 3. by its great difficulty to fuſe, which is greater than that of manganeſe; 4. by the yellow colour of its calx; 5. its alloys with other metals; 6. its inſolubility, at leaſt by a direct method, with mineral acids; 7. its eaſy ſolution in alkalis; 8. the emulſion it gives with water; 9. and by the blue colour it gives to acetous acid. We are not certain, however, how far this opinion has been corroborated by later experiments.

WOLFSPERG, a town of Germany, in Lower Carinthia, with a caſtle, on which the diſtrict about it depends, which is 20 miles in length, and 10 in breadth. It is ſeated on the river Lavand, at the foot of a mountain covered with wood, and full of wolves, from whence the town took its name. It is 36 miles eaſt of Clagenfurt. E. Long. 15. 0. N. Lat. 46. 56.

WOLGAST, a pretty conſiderable town of Germany, in the circle of Upper Saxony, and in Pomerania, capital of a territory of the ſame name, with a caſtle, and one of the beſt and largeſt harbours on the Baltic Sea. It is a well-built place, ſubject to Sweden, and ſeated on the river Pſin. E. Long. 14. 4. N. Lat. 54. 1.

WOLLASTON (William), deſcended of an ancient family in Staffordſhire, was born in 1659. He was in 1674 admitted a penſioner in Sidney college, Cambridge, where, notwithſtanding ſeveral diſadvantages, he acquired a great degree of reputation. In 1682, ſeeing no proſpect of preferment, he became aſſiſtant to the head-maſter of Birmingham ſchool. Some time after, he got a ſmall lecture about two miles diſtant, but did the duty the whole Sunday; which, together with the buſineſs of a great free-ſchool for about four years, began to break his conſtitution. During this ſpace he likewiſe underwent a great deal of trouble and uneaſineſs, in order to extricate two of his brothers from ſome inconveniences, to which their own imprudence had ſubjected them. In 1688 affairs took a new turn. He found himſelf by a couſin's will entitled to a very ample eſtate; and came to London that ſame year, where he ſettled; chooſing a private, retired, and ſtudious life. Not long before his death, he publiſhed his treatiſe, entitled, The Religion of Nature Delineated; a work for which ſo great a demand was made, that more than 10,000 were ſold in a very few years. He had ſcarcely completed the publication of it, when he unfortunately broke an arm; and this adding ſtrength to diſtempers that had been growing upon him for ſome time, accelerated his death; which happened upon the 29th of October, 1724. He was a tender, humane, and in all reſpects worthy man; but is repreſented to have had ſomething of the iraſcible in his conſtitution and temperament. His Religion of Nature Delineated expoſed him to ſome cenſure, as if he had put a ſlight upon Chriſtianity by laying ſo much ſtreſs, as he does in this work, upon the obligations of truth, reaſon, and virtue; and by making no mention of revealed religion. But this cenſure muſt have been the offspring of ignorance or envy, ſince it appears from the introduction to his work, that he intended to treat of revealed religion in a ſecond part, which he lived not to finiſh.

WOLSEY (Thomas), a famous cardinal and archbiſhop of York, is ſaid to have been the ſon of a butcher at Ipſwich. He ſtudied at Magdalen College, Oxford, where he became acquainted with the learned Eraſmus; and in the year 1500 became rector of Lymington in Somerſetſhire: he was afterwards made chaplain to King Henry VIII. and obtained ſeveral preferments. Having gradually acquired an entire aſcendency over the mind of Henry VIII. he ſucceſſively obtained ſeveral biſhoprics, and at length was made archbiſhop of York, lord high-chancellor of England, and prime miniſter; and was for ſeveral years the arbiter of Europe. Pope Leo X. created him cardinal in 1515, and made him *legate à latere*; and the emperor Charles V. and the French king Francis I. loaded him with favours, in order to gain him over to their intereſt: but after having firſt ſided with the emperor, he deſerted him to eſpouſe the intereſt of France. As his revenues were immenſe, his pride and oſtentation were carried to the greateſt height. He had 500 ſervants; among whom were nine or ten lords, fifteen knights, and forty eſquires. His ambition to be pope, his pride, his exactions, and his political delay of Henry's divorce, occaſioned his diſgrace. In the earlier part of his life he ſeems to have been licentious in his manners; for there goes a ſtory, that ſoon after his preferment to the living of Lymington in Somerſetſhire, he was put into the ſtocks by Sir Amias Paulet, a neighbouring juſtice of the peace, for getting drunk and making a riot at a fair. This treatment Wolſey did not forget when he arrived at the high ſtation of lord-chancellor of England; but ſummoned his corrector up to London, and, after a ſevere reprimand, enjoined him ſix years' cloſe confinement in the Tem-

ple. Whatever may have been his faults, there can be no doubt of their having been aggravated both by the zealous reformers and by the creatures of Henry VIII. who was himſelf neither Papiſt nor Proteſtant; for there is every reaſon to believe that the cardinal was ſincere in his religion; and ſincerity, or at leaſt conſiſtency, was then a crime. Wolſey was the patron of learned men; a judge and munificent encourager of the polite arts; and ought to be conſidered as the founder of Chriſt-church College, Oxford: where, as well as in other places, many remains of his magnificent ideas in architecture ſtill exiſt. He died in 1530.

WOLVERENE, in zoology. See URSUS.

WOLVES-TEETH, of a horſe. See FARRIERY.

WOMAN, the female of the human ſpecies. See HOMO.

WOMB, or UTERUS. See ANATOMY.

WOOD (Anthony), an eminent biographer and antiquarian, was the ſon of Thomas Wood, bachelor of arts and of the civil law, and was born at Oxford in 1632. He ſtudied at Merton College, and in 1655 took the degree of maſter of arts. He wrote, 1. The Hiſtory and Antiquities of the Univerſity of Oxford; which was afterwards tranſlated into Latin by Mr. Waſe and Mr. Peers, under the title of *Hiſtoria & Antiquitates Univerſitatis Oxonienſis*, 2 vols. folio. 2. *Athenæ Oxonienſes*; or an exact Account of all the Writers and Biſhops who have had their Education in the Univerſity of Oxford, from the Year 1500 to 1600, 2 vols. folio; which was greatly enlarged in a ſecond edition publiſhed in 1721 by Biſhop Tanner. Upon the firſt publication of this work the author was attacked by the univerſity, in defence of Edward earl of Clarendon, lord high-chancellor of England, and chancellor of the univerſity, and was likewiſe animadverted upon by Biſhop Burnet; upon which he publiſhed a Vindication of the Hiſtoriographer of the Univerſity of Oxford. He died at Oxford of a retention of urine in 1695.

WOOD, a ſubſtance whereof the trunks and branches of trees conſiſt. It is compoſed of a number of concentric circles or zones, one of which is formed every year; conſequently their number correſponds to the age of the tree. Theſe zones vary in thickneſs according to the degree of vegetation that took place the year of their formation. They are alſo of different degrees of thickneſs in different parts, that part of the tree which is moſt expoſed to the ſun and beſt ſheltered growing faſteſt; hence in this country that part of the zone which looked towards the ſouth while the tree was growing is generally thickeſt. The innermoſt circle or zone is the one which was firſt formed, the outermoſt was formed the year before the tree was cut down. Theſe zones are at firſt very ſoft and tender, and harden by degrees as the tree becomes older: this is the reaſon that the middle of a tree is ſo often much better wood than the outſide of it. The proper ligneous part of the wood conſiſts of longitudinal fibres, diſpoſed in faſciculi, and poſſeſſed of conſiderable hardneſs. It is this longitudinal direction of the fibres that renders it ſo much eaſier to cleave wood lengthwiſe than acroſs the tree, or in any other direction. See PLANT.

Chemiſts have attempted to aſcertain the ingredients which enter into the compoſition of wood. The taſk, however, is ſo difficult, that they have by no means made the ſame progreſs that they have done in analyſing the various mineral productions of nature. When wood is diſtilled, water comes over firſt; ſoon after it begins to be impregnated with oil, then an empyreumatic oil comes over, then carbonic acid gas, then hydrogen gas, and laſtly carbonated hydrogen gas; a coal remains behind, which is compoſed of charcoal, fixed alkali, various earths, and ſometimes alſo of ſeveral neutral ſalts and metallic ſubſtances. This was once looked upon by chemiſts as a perfect analyſis, and it was ſuppoſed that all the various ſubſtances above mentioned exiſted in plants in their proper form. But this is now known to be a miſtake: the action of the fire produces new combinations in the ultimate ingredients of the plant, and thus produces new ſubſtances; and it is only theſe that are obtained by the above proceſs. It is ſufficient however to ſhow, that wood is compoſed in a great meaſure of carbon, oxygen, and hydrogen, combined variouſly and in unknown proportions with one another; as moſt of the products of the diſtillation can be reſolved into theſe ſubſtances.

There are many varieties of wood poſſeſſed of diſtinguiſhing properties, as cedar, box, ebony, &c. See thoſe articles.

For more complete information concerning wood, ſee the articles PLANT and TREE.

Foſſil WOOD. Foſſil wood, or whole trees, or parts of them, are very frequently found buried in the earth, and that in different ſtrata; ſometimes in ſtone, but more uſually in earth; and ſometimes in ſmall pieces looſe among gravel. Theſe, according to the time they have lain in the earth, or the matter they have lain among, are found differently altered from their original ſtate; ſome of them having ſuffered very little change; and others being ſo highly impregnated with cryſtalline, ſparry, pyritical, or other extraneous matter, as to appear mere maſſes of ſtone, or lumps of the common matter of the pyrites, &c. of the dimenſions, and, more or leſs, of the internal figure of the vegetable bodies into the pores of which they have made their way.

The foſſil woods which we find at this day are, according to theſe differences, arranged by Dr. Hill into three kinds; 1. The leſs altered: 2. The pyritical: and, 3. The petrified.

Of the trees, or parts of them, leſs altered from their original ſtate, the greateſt ſtore is found in digging to ſmall depths in bogs, and among what is called *peat* or *turf earth*, a ſubſtance uſed in many parts of the kingdom for fuel. In digging among this, uſually very near the ſurface, immenſe quantities of vegetable matter of various kinds are found buried; in ſome places there are whole trees ſcarce altered, except in colour; the oaks in particular being uſually turned to a jetty black; the pines and firs, which are alſo very frequent, are leſs altered, and are as inflammable as ever, and often contain between the bark and wood a black reſin. Large parts of trees have alſo been not unfrequently met with unaltered in beds of another kind, and at much greater depths, as in the ſtrata of clay and loam, among gravel, and ſometimes even in ſolid ſtone.

Beſide theſe harder parts of trees, there are frequently found alſo in the peat earth vaſt quantities of the leaves and fruit and catkins of the hazel and ſimilar trees: theſe are uſually mixed with ſedge and roots of graſs, and are ſcarce at all altered from their uſual texture. The moſt common of theſe are hazel nuts; but there are frequently found alſo the twigs and leaves of the white poplar; and a little deeper uſually there lies a cracked and ſhattered wood, the crevices of which are full of a bituminous black matter: and among this the ſtones of plums and other ſtone-fruits are ſometimes found, but more rarely.

In this ſtate the fruits and larger parts of trees are uſually found: what we find of them more altered, are ſometimes large and long, ſometimes ſmaller and ſhorter branches of trees, ſometimes ſmall fragments of branches, and more frequently ſmall ſhapeleſs pieces of wood. The larger and longer branches are uſually found bedded in the ſtrata of ſtone, and are more or leſs altered into the nature of the ſtratum they lie in. The ſhorter and ſmaller branches are found in vaſt variety in the ſtrata of blue clay uſed for making tiles in the neighbourhood of London. Theſe are prodigiouſly plentiful in all the clay pits of this kind, and uſually carry the

whole external reſemblance of what they once were, but nothing of the inner ſtructure; their pores being wholly filled, and undiſtinguiſhably cloſed, by the matter of the common pyrites, ſo as to appear mere ſimple maſſes of that matter. Theſe fall to pieces on being long expoſed to moiſture; and are ſo impregnated with vitriol, that they are what is principally uſed for making the green vitriol or copperas at Deptford and other places.

The irregular maſſes or fragments of petrified wood are principally of oak, and are moſt uſually found among gravel; though ſometimes in other ſtrata. Theſe are variouſly altered by the inſinuation of cryſtalline and ſtony particles; and make a very beautiful figure when cut and poliſhed, as they uſually keep the regular grain of the wood, and ſhow exactly the ſeveral circles which mark the different years' growth. Theſe, according to the different matter which has filled their pores, aſſume various colours, and the appearance of the various foſſils that have impregnated them; ſome are perfectly white, and but moderately hard; others of a browniſh black, or perfectly black, and much harder; others of a reddiſh black, others yellowiſh, and others greyiſh, and ſome of a ferruginous colour. They are of different weights alſo and hardneſſes, according to the nature and quantity of the ſtony particles they contain: of theſe, ſome pieces have been found with every pore filled with pure pellucid cryſtal: and others in large maſſes, part of which is wholly petrified and ſeems mere ſtone, while the reſt is crumbly and is unaltered wood. That this alteration is made in wood, even at this time, is alſo abundantly proved by the inſtances of wood being put into the hollows of mines, as props and ſupports to the roofs, which is found after a number of years as truly petrified as that which is dug up from the natural ſtrata of the earth. In the pieces of petrified wood found in Germany, there are frequently veins of ſpar or of pure cryſtal, ſometimes of earthy ſubſtances, and often of the matter of the common pebbles: theſe fragments of wood ſometimes have the appearance of parts of the branches of trees in their natural ſtate, but more frequently they reſemble pieces of broken boards; theſe are uſually capable of a high and elegant poliſh.

Many ſubſtances, it is certain, have been preſerved in the cabinets of collectors, under the title of *petrified wood*, which have very little right to that name. But where the whole outer figure of the wood, the exact lineaments of the bark, or the fibrous and fiſtular texture of the ſtriæ, and the veſtiges of the utriculi and tracheæ or air veſſels, are yet remaining, and the ſeveral circles yet viſible which denoted the ſeveral years' growth of the tree, none can deny theſe ſubſtances to be real foſſil wood. See PETRIFACTION.

WOOD *(ſylva)*, in geography, a multitude of trees extended over a large continued track of land, and propagated without culture. The generality of woods only conſiſt of trees of one kind. The ancient Saxons had ſuch a veneration for woods, that they made them ſanctuaries. It is ordained, that none ſhall deſtroy any wood, by turning it into tillage or paſture, &c. where there are two acres or more in quantity, on pain of forfeiting 40s. an acre, by 35 Henry VIII. c. 17. All woods that are felled at 14 years' growth, are to be preſerved from deſtruction for eight years; and no cattle put into the ground till five years after the felling thereof, &c. 13 Eliz. c. 25. The burning of woods or underwood is declared to be felony; alſo thoſe perſons that maliciouſly cut or ſpoil timber-trees, or any fruit-trees, &c. ſhall be ſent to the houſe of correction, there to be kept three months, and whipt once a month.

WOOD-*Cock*, in ornithology. See SCOLOPAX.

WOOD-*Goat*. See CAPRA.

WOOD-*Louſe*. See ONISCUS.

WOOD-*Pecker*. See PICUS.

WOODMOTE. See FOREST-*Courts*.

WOODSTOCK, a town of Oxfordſhire, in England, pleaſantly ſeated on a riſing ground, and on a rivulet; a well-compacted borough town, and ſends two members to parliament; but is chiefly noted for Blenheim-houſe, a fine palace, built in memory of the victory obtained by the Duke of Marlborough over the French and Bavarians in Auguſt 1704. It was erected at the public expence, and is one of the nobleſt ſeats in Europe. One of the paſſages to it is over a bridge with one arch, 190 feet in diameter, reſembling the Rialto at Venice. The gardens take up 100 acres of ground; and the offices, which are very grand, have room enough to accommodate 300 people. The apartments of the palace are magnificently furniſhed; and the ſtaircaſes, ſtatues, paintings, and tapeſtry, ſurpriſingly fine. The town is about half a mile from the palace, having ſeveral good inns; and a manufacture of ſteel chains for watches, and excellent gloves. It is 8 miles north of Oxford, and 60 weſt-north-weſt of London. W. Long. 1. 15. N. Lat. 51. 52.

WOODWARD (Dr. John), was born in 1665, and educated at a country ſchool, where he learned the Latin and Greek languages, and was afterwards ſent to London, where he is ſaid to have been put apprentice to a linen-draper. He was not long in that ſtation, till he became acquainted with Dr. Peter Barwick, an eminent phyſician, who took him under his tuition and into his family. Here he proſecuted with great vigour and ſucceſs the ſtudy of philoſophy, anatomy, and phyſic. In 1692, Dr. Stillingfleet quitting the place of profeſſor of phyſic in Greſham college, our author was choſen to ſucceed him, and the year following was elected F. R. S. In 1695 he obtained the degree of M. D. by patent from Archbiſhop Tenniſon; and the ſame year he publiſhed his Eſſay toward a Natural Hiſtory of the Earth. He afterward wrote many other pieces, which have been well received by the learned world. He founded a lecture in the univerſity of Cambridge, to be read there upon his Eſſay, &c. and handſomely endowed it. He died in 1728.

WOOF, among manufacturers, the threads which the weavers ſhoot acroſs with an inſtrumeat called the *ſhuttle*. See CLOTH.

WOOKEY or OKEY *Hole*, a remarkable cavern two miles from the city of Wells in Somerſetſhire; for an account of which, ſee the article GROTTO.

WOOL, the covering of ſheep. See OVIS, and SHEEP. Wool reſembles hair in a great many particulars; but beſides its fineneſs, which conſtitutes an obvious difference, there are other particulars which may ſerve alſo to diſtinguiſh them from one another. Wool, like the hair of horſes, cattle, and moſt other animals, completes its growth in a year, and then falls off as hair does, and is ſucceeded by a freſh crop. It differs from hair, however, in the uniformity of its growth, and the regularity of its ſhedding. Every filament of wool ſeems to keep exact pace with another in the ſame part of the body of the animal; the whole crop ſprings up at once; the whole advances uniformly together; the whole looſens from the ſkin nearly at the ſame period, and thus falls off if not previouſly ſhorn, leaving the animal covered with a ſhort coat of young wool, which in its turn undergoes the ſame regular mutations.

Hairs are commonly of the ſame thickneſs in every part; but wool conſtantly varies in thickneſs in different parts, being generally thicker at the points than at the roots. That part of the fleece of ſheep which grows during the winter is finer than what grows in ſummer. This was firſt obſerved by Dr. Anderſon, the editor of the Bee, and publiſhed in his *Obſervations on the Means of exciting a Spirit of National Induſtry*.

While the wool remains in the ſtate it was firſt ſhorn off the ſheep's back, and not ſorted into its different kinds, it is called *fleece*. Each fleece conſiſts of wool of divers qualities and degrees of fineneſs, which the dealers therein take care to ſeparate. The French and Engliſh uſually ſeparate each fleece into three ſorts, *viz.* 1. Mother-wool, which is that of the back and neck. 2. The wool of the tails and legs. 3. That of the breaſt and under the belly. The Spaniards make the like diviſion into three ſorts, which they call *prime*, *ſecond*, and *third*; and for the greater eaſe denote each bale or pack with a capital letter, denoting the ſort. If the triage or ſeparation be well made, in 15 bales there will be 12 marked R, that is, refine, or prime; two marked F, for fine, or ſecond; and one S, for thirds. The wools moſt eſteemed are the Engliſh, chiefly thoſe about Leominſter, Cotſwold, and the Iſle of Wight; the Spaniſh, principally thoſe about Segovia; and the French, about Berry; which laſt are ſaid to have this peculiar property, that they will knot or bind with any other ſort; whereas the reſt will only knot with their own kind.

Among the ancients, the wools of Attica, Megara, Laodicea, Apulia, and eſpecially thoſe of Tarentum, Parma, and Altino, were the moſt valued. Varro aſſures us, that the people there uſed to clothe their ſheep with ſkins to ſecure the wool from being damaged.

Of late a great deal of attention has been paid to wool in this country, as well as ſeveral others. Several very ſpirited attempts have been made to improve it by introducing ſuperior breeds of ſheep, and better methods of managing them. For this purpoſe has been formed the *Britiſh* Wool *Society*.

Britiſh Wool *Society*, an aſſociation formed for the purpoſe of obtaining the beſt breeds of fine-woolled ſheep, with a view of aſcertaining, by actual experiments, how far each ſpecies or variety is calculated for the climate of Great Britain; the qualities of their wool reſpectively; the uſes to which each kind of wool could be moſt profitably employed in different manufactures; and the comparative value of each ſpecies of ſheep, ſo far as the ſame can be determined.

Attention had for ſome time been paid by the Highland Society to a famous breed of fine-woolled ſheep in Shetland; but it occurred to Sir John Sinclair, and Dr. Anderſon, well known as the author of many uſeful publications, that the improvement of Britiſh wool was a matter of too much importance to be intruſted to a ſociety which is obliged to devote its attention to ſuch a variety of objects as the general improvement of the Highlands of Scotland. The latter of theſe gentlemen, therefore, in an Appendix to the Report of the Committee of the Highland Society of Scotland, for the year 1790, propoſed *the plan of a patriotic aſſociation for the improvement of Britiſh wool*; and the former, who was convener of the committee, to whom the ſubject of Shetland wool had been referred, wrote circular letters recommending the plan. The conſequence of which was, that, on the 31ſt of January 1791, ſeveral noblemen and gentlemen conſtituted themſelves *a Society for the Improvement of Britiſh Wool*. Of this ſociety Sir John Sinclair was elected preſident.

The particular breeds of ſheep to which the ſociety propoſed to direct its attention, were ſheep for the hilly parts of Scotland; ſheep for the plains, or the Lowland breed; and ſheep for the iſlands. They were to try experiments alſo with ſheep from foreign countries diſtinguiſhed by any particular property.

The principal objects which the members had in view, during the firſt year of their aſſociation, were, 1. To collect ſpecimens of the beſt breeds which Great Britain at that period afforded, in order to aſcertain the degree of perfection to which ſheep had already been brought in this kingdom. 2. To procure from every country diſtinguiſhed for the quality of its ſheep and wool, ſpecimens of the different breeds it poſſeſſed, in order to aſcertain how far the original breed, or a mixed breed from it and the native ſheep of the country, could thrive in Scotland. 3. To diſperſe as much as poſſible all theſe breeds, both foreign and domeſtic, over the whole kingdom, wherever proper perſons could be found to take charge of them, in order to try experiments on a more extenſive ſcale than the ſociety itſelf could do; to ſpread information, and to excite a ſpirit for the improvement of ſheep and wool in every part of the country.

In the courſe of one year the ſociety acquired by donation or purchaſe about 800 ſheep of different ſorts and ages, and many of them from foreign countries: about 500 of theſe were diſtributed over different parts of Scotland, the greater number of which were ſold to gentlemen anxious to promote the views of the ſociety, and well qualified to make experiments on the different breeds which they had obtained. The greateſt part of the remainder were taken by different gentlemen who kept them for the ſociety, and according to their directions, without any expence.

It is impoſſible to produce an inſtance of ſo much having been accompliſhed by a ſociety of private individuals in ſo ſhort a time. Nor was this all; the ſame year Mr. Andrew Kerr, a very intelligent ſheep farmer on the borders of England, was ſent, at the expence of the ſociety, to examine the ſtate of ſheep-farming along the eaſt coaſt of Scotland and the interior part of the Highlands. His tour was printed by order of the ſociety, and contains the firſt intimation of the poſſibility of the Cheviot breed thriving in the north of Scotland.

In the year 1792, Meſſrs. Redhead, Laing, and Marſhall, were ſent by the ſociety to make a ſurvey of the ſtate of ſheep-farming through ſome of the principal counties of England; the reſult of which was alſo publiſhed by the ſociety, and contains more information on the ſubject of the different breeds of England than any work hitherto publiſhed; and in 1794, Mr. John Naiſmith was ſent on a tour through the ſouthern diſtricts of Scotland, which completed the circuit of almoſt the whole kingdom.

Thus a few private individuals, unaided by the public purſe, had boldneſs enough to undertake aſcertaining the comparative value of the different kinds of ſheep in their own country, and to introduce ſome of the moſt celebrated breeds of other countries, and ſucceeded in the ſpirited attempt.

WOOLSTONE (Thomas), an Engliſh divine, was born at Northampton in 1669, and educated at Cambridge. His firſt appearance in the learned world was in 1705, in a work entitled, The old Apology for the Truth of the Chriſtian Religion, againſt the Jews and Gentiles, revived. He afterward wrote many pieces: but what made the moſt noiſe, were his Six Diſcourſes on the Miracles of Chriſt; which occaſioned a great number of books and pamphlets upon the ſubject, and raiſed a proſecution againſt him. At his trial in Guildhall, before the lord chief-juſtice Raymond, he ſpoke ſeveral times himſelf; and urged, that "he thought it very hard that he ſhould be tried by a ſet of men who, though otherwiſe very learned and worthy perſons, were no more judges of the ſubjects on which he wrote, than himſelf was a judge of the moſt crabbed points of the law." He was ſentenced to a year's impriſonment, and to pay a fine of 100l. He purchaſed the liberty of the rules of the King's Bench, where he continued after the expiration of the year, being unable to pay the fine. The greateſt obſtruction to his deliverance from confinement was, the obligation of giving ſecurity not to offend by any future writings, he being reſolved to write again as freely as before. Whilſt ſome ſuppoſed that

this author wrote with the ſettled intention of ſubverting Chriſtianity under the pretence of defending it, others believed him diſordered in his mind; and many circumſtances concurred which gave countenance to this opinion. He died, January 27, 1732-3, after an illneſs of four days; and, a few minutes before his death, uttered theſe words: "This is a ſtruggle which all men muſt go through, and which I bear not only patiently, but with willingneſs." His body was interred in St. George's church-yard, Southwark.

WOOLWICH, a town in Kent, with a market on Fridays, but no fair. It is ſeated on the river Thames, and of great note for its fine docks and yards, where men-of-war are built; as alſo for its vaſt magazines of great guns, mortars, bombs, cannon-balls, powder, and other warlike ſtores. It has likewiſe an academy, where the mathematics are taught, and young officers inſtructed in the military art. It is nine miles eaſt of London. E. Long. 0. 10. N. Lat. 51. 30.

WORCESTER, a city of England, capital of a county to which it gives name, and ſee of a biſhop, ſituated on the river Severn, over which a new bridge has been built within about thirty years. The judicious continuator of Camden thinks Worceſter had no ſhare in Roman tranſactions, but that it was called *Caer Guarongon* by the Britons. It was erected into a biſhopric, in the year 680. In the year 1041 it was ſacked and burned by Hardicanute the Dane, who put all the inhabitants to the ſword, except thoſe who ſaved themſelves in an iſland in the Severn, becauſe the citizens had killed the officer appointed to collect the tax called Danegelt; it however ſoon after recovered, and in Edward the Confeſſor's reign, had many burgeſſes, and a mint. In the year 1113, an accidental fire conſumed the caſtle, and much damaged the cathedral. In the wars which happened in the reign of Stephen, it was more than once ſet on fire, but chiefly ſuffered when taken by Stephen from the Earl of Mellent. In the cathedral is the tomb of King John, ſuppoſed to be the oldeſt royal monument remaining in England; he was buried in the choir between two biſhops. Near this city, in the year 1651, a battle was fought between Charles II. and Cromwell, which proved a deciſive blow to royalty. Charles, after beholding the ruin of his cauſe, and giving many proofs of perſonal valour, was obliged to have recourſe to flight. The Duke of Hamilton, who made a deſperate reſiſtance, was mortally wounded, and the Scots were almoſt all either killed or taken. The priſoners, to the number of 8000, were ſold as ſlaves to the American planters. The principal manufacture of Worceſter is that of gloves, with one of elegant China-ware. Worceſter is large, populous, and well built. Beſides the cathedral, it contains nine pariſh churches, about 2000 houſes, and a public infirmary. It is a county of itſelf, and by a charter of James I. is governed by a mayor, ſix aldermen, ſheriff, recorder, &c. Here are three markets weekly, on Monday, Wedneſday, and Friday, and two members are returned to the Britiſh parliament: 59 miles N. Briſtol, and 120 W. N. W. London.

WORCESTER (Earl of). See TIPTOFT.

WORCESTERSHIRE, a county of England, bounded on the north by Staffordſhire and Shropſhire, on the eaſt by Warwickſhire, on the ſouth by Glouceſterſhire, and on the weſt by Herefordſhire and Shropſhire. Its figure is very irregular; and it is remarkable for having ſeveral detached portions ſprinkled about the neighbouring counties; a conſequence, probably, of its having no natural boundaries. Its meaſurements, on this account, can ſcarcely be ſtated, but the greateſt length may be about thirty miles, and breadth about twenty. It is divided into ſix hundreds, which contain one city (Worceſter), ten towns, and 152 pariſhes: the number of inhabitants is eſtimated at 70,000. The principal rivers are the Severn, which paſſes through a rich vale in its whole length, the Teme, the Avon, the Stour, and the Arrow. Beſides the vale in which the Severn flows, is another, called *The Vale of Eveſham*, on the banks of the Avon, which flows along the ſouth-eaſtern parts of the county in its courſe to meet the Severn. Beſides the uſual objects of agriculture, great quantities of garden-ſtuff are here grown, and ſent to the towns around, to a conſiderable diſtance. In this vale, fell Simon de Montfort, with many of his party, under the arms of Prince Edward, ſon of Henry III. in the barons' war againſt that king. The products of Worceſterſhire, beſides the common ones of corn and cattle, are fine wool, hops, cyder, and perry; the latter, eſpecially, is in great reputation. A large quantity of the whiteſt ſalt is made from the brine-ſprings at Droitwich, and ſent to Briſtol and other places. The Severn in this county and Glouceſterſhire abounds with lampreys, which by ſome are much valued as a delicacy. In the Malvern Hills, a ſpring riſes of uncommon purity, which is much reſorted to in ſcrophulous and ſcorbutic caſes. After the Britons were driven out by the Saxons, they retired beyond the Severn, and defended their new territories againſt the encroaching conquerors; ſo that this county, with the others through which that large river runs, were for a long time the frontiers between the two people, and, indeed, it has been ſuppoſed, that moſt of the great cities on the eaſt ſide of the Severn and Dee were built by the Romans or Saxons, or both, againſt the Britons. The towns are Bewdley, Droitwich, Dudley, Eveſham, Kidderminſter, Perſhore, Shipſton, Stourbridge, Tenbury, and Upton: the city of Worceſter, and the county, with the towns of Droitwich and Eveſham, each ſend two members to the Britiſh parliament; Bewdley returns one.

WORD, in language, an articulate ſound deſigned to repreſent ſome idea or notion. See GRAMMAR and LANGUAGE. See alſo LOGIC, Part I. chap. 1.

WORD, or *Watch-word*, in military affairs, is ſome peculiar word or ſentence, by which the ſoldiers know and diſtinguiſh one another in the night, &c. and by which ſpies and deſigning perſons are diſcovered. It is uſed alſo to prevent ſurpriſes. The word is given out in an army every night to the lieutenant, or major-general of the day, who gives it to the majors of the brigades, and they to the adjutants; who give it firſt to the field-officers, and afterwards to a ſerjeant of each company, who carry it to the ſubalterns. In garriſons it is given after the gate is ſhut to the town-major, who gives it to the adjutants, and they to the ſerjeants.

WORDS *of Command*. See EXERCISE and MANUAL.

WORK, in the manege. To work a horſe, is to exerciſe him at pace, trot, or gallop, and ride him at the manege. To work a horſe upon volts, or head and haunches in or between two heels, is to paſſage him, or make him go ſidewiſe upon parallel lines.

To WORK, in ſea language, is to direct the movements of a ſhip, by adapting the ſails to the force and direction of the wind. See SEAMANSHIP.

WORK, *Carpenters, Clock, Crown, Field, Fire, Fret, Groteſque, Horn, Moſaic*. See the ſeveral articles, together with FORTIFICATION and PYROTECHNY.

WORK-*Houſe*, a place where indigent, vagrant, and idle people, are ſet to work, and ſupplied with food and clothing.

Work-houſes are of two kinds, or at leaſt are employed for two different purpoſes. Some are uſed as priſons for vagrants or ſturdy beggars, who are there confined and compelled to labour for the benefit of the ſociety which maintains them; whilſt others, ſometimes called *poor-houſes*, are charitable aſylums for ſuch indigent perſons as through age or infirmity are unable to ſupport themſelves by their own labour. The former kind of work-houſe, when under proper management, may be made to ſerve the beſt of purpoſes; of the latter we

are acquainted with none which entirely commands our approbation.

To make confinement in a work-houſe operate to the correction of vagrants and diſorderly perſons (and if it produce not this effect, it can hardly be conſidered as a beneficial inſtitution), the priſoners ſhould be ſhut up in ſeparate cells, and compelled to labour for their own ſubſiſtence. A crew of thieves and vagabonds aſſociating with each other is a hell upon earth, in which every individual is hardened in his crimes by the countenance and converſation of his companions; and wretches who, when at liberty, chooſe to beg or ſteal rather than to earn a comfortable livelihood by honeſt induſtry, will ſubmit to any puniſhment which a humane overſeer can inflict rather than work for the benefit of others. No puniſhment indeed will compel a vagrant to labour. He may aſſume the appearance of it, but he will make no progreſs; and the pretext of ſickneſs or weakneſs is ever at hand for an excuſe. Hence it is that thieves and ſtrumpets are too often diſmiſſed from work-houſes and bridewells ten times more the children of the devil than when they entered them.

To remedy theſe evils, we can think of no better method than to confine each priſoner in a cell by himſelf, and to furniſh him daily with ſuch an allowance of bread and water as may preſerve him from *immediate* death; for the only compulſion to make ſuch men work ſeriouſly is the fear of want, and the only way to reform them is to leave them to their own meditations on the conſequences of their paſt conduct. There are ſurely very few perſons, if any, whoſe averſion from labour would not be conquered by the pinchings of hunger and the certain proſpect of periſhing by famine; and it is to be hoped that there are not many ſo totally diveſted of every latent principle of virtue, as not to be brought by ſuch ſolitude to a due ſenſe of their former wickedneſs. Should one or two, however, be occaſionally found ſo very obdurate as to ſuffer themſelves to periſh rather than work, their deaths would prove a ſalutary beacon to others, and their blood would be on their own heads; for we have the expreſs command of St. Paul himſelf, that "if any will not work, neither ſhould he eat."

No doubt it would be proper that the meditations of vagabonds confined in a work-houſe ſhould be directed by the private admonitions of a pious and intelligent clergyman; but it is not every clergyman who is qualified to diſcharge ſuch a duty. If he be actuated by a zeal not according to knowledge, or if he have not with equal care ſtudied human nature and the word of God, his admonitions will be more likely to provoke the profane ridicule of his auditor, and harden him in his wickedneſs, than to excite in his breaſt ſuch ſorrow for his ſins as ſhall "bring forth fruits meet for repentance." To render the inſtruction of thieves and vagrants of any uſe, it muſt be accurately adapted to the caſe of each individual; and however excellent it may be in itſelf, it will not be liſtened to unleſs offered at ſeaſons of uncommon ſerioufneſs, which the inſtructor ſhould therefore carefully obſerve.

That ſuch wholeſome ſeverity as this would often reform the inhabitants of work-houſes, appears extremely probable from the effects of a ſimilar treatment of common proſtitutes mentioned by Lord Kames in his Sketches of the Hiſtory of Man: "A number of thoſe wretches were in Edinburgh confined in a houſe of correction, on a daily allowance of three pence, of which part was embezzled by the ſervants of the houſe. Pinching hunger did not reform their manners; for being abſolutely idle, they encouraged each other in vice, waiting impatiently for the hour of deliverance. Mr. Stirling, the ſuperintendant, with the conſent of the magiſtrates, removed them to a clean houſe; and inſtead of money, appointed for each a pound of oat-meal daily, with ſalt, water, and fire for cooking. Relieved now from diſtreſs, they longed for comfort. What would they not give for milk or ale? Work (ſays he) will procure you plenty. To ſome who offered to ſpin, he gave flax and wheels, engaging to pay them half the price of their yarn, retaining the other half for the materials furniſhed. The ſpinners earned about nine pence weekly; a comfortable addition to what they had before. The reſt undertook to ſpin, one after another; and before the end of the firſt quarter they were all of them intent upon work. It was a branch of his plan to ſet free ſuch as merited that favour; and ſome of them appeared to be ſo thoroughly reformed as to be in no danger of a relapſe."

Work-houſes erected as charitable aſylums appear to us, in every view that we can take of them, as inſtitutions which can ſerve no good purpoſe. Economy is the great motive which inclines people to this mode of providing for the poor. There is comparatively but a very ſmall number of mankind in any country ſo aged and infirm as not to be able to contribute, in ſome degree, to their ſubſiſtence by their own labour; and in ſuch houſes it is thought that proper work may be provided for them, ſo that the public ſhall have nothing to give in charity but what the poor are abſolutely unable to procure for themſelves. It is imagined likewiſe, that numbers collected at a common table, can be maintained at leſs expence than in ſeparate houſes; and foot ſoldiers are given for an example, who could not live on their pay if they did not meſs together. But the caſes are not parallel. "Soldiers having the management of their pay, can club for a bit of meat; but as the inhabitants of a poor-houſe are maintained by the public, the ſame quantity of proviſions muſt be allotted to each. The conſequence is what might be expected: the bulk of them reſerve part of their victuals for purchaſing ale or ſpirits. It is vain to expect work from them: poor wretches void of ſhame will never work ſeriouſly, where the profit accrues to the public, not to themſelves. Hunger is the only effectual means for compelling ſuch perſons to work."

The poor, therefore, ſhould be ſupported in their own houſes; and to ſupport them properly, the firſt thing to be done is, to eſtimate what each can earn by his own labour; for as far only as that falls ſhort of maintenance is there room for charity. In repairing thoſe evils which ſociety did not or could not prevent, it ought to be careful not to counteract the wiſe purpoſes of nature, nor to do more than to give the poor a fair chance to work for themſelves. The preſent diſtreſs muſt be relieved, the ſick and the aged provided for; but the children muſt be inſtructed; and labour, not alms, offered to thoſe who have ſome ability to work, however ſmall that ability may be. They will be as induſtrious as poſſible, becauſe they work for themſelves; and a weekly ſum of charity under their own management will turn to better account than in a poor-houſe under the direction of mercenaries. Not a penny of it will be laid out on fermented liquors, unleſs perhaps as a medicine in ſickneſs. Nor does ſuch low fare call for pity to thoſe who can afford no better. Ale makes no part of the maintenance of thoſe who, in many parts of Scotland, live by the ſweat of their brows; and yet the perſon who ſhould baniſh all from a charity work-houſe, would be exclaimed againſt as hard-hearted, and even void of humanity.

That ſuch a mode of ſupporting the poor in their own houſes is practicable, will hardly admit of a diſpute; for it has been actually put in practice in the city of Hamburgh ever ſince the year 1788. At that period ſuch revenues as had till then been expended in alms by the ſeveral churchwardens, and thoſe of which the adminiſtration had been connected with the work-houſe, were united under one adminiſtration with ſuch ſums as were collected from private benevolence. The city was divided into ſixty diſtricts, containing each an equal number of poor; and over theſe, 180 overſeers

were appointed. Actual relief was the firſt object; but at the very moment that this proviſion was ſecured, meaſures were taken to prevent any man from receiving a ſhilling which he could have been able to earn for himſelf. By methods, which our limits will not permit us to ſtate, the overſeers were able to make a calculation tolerably exact of what each pauper wanted for bare ſubſiſtence, in addition to the fruits of his own labour. A flax-yarn-ſpinning manufacture was eſtabliſhed, in which the yarn is paid for, not by its weight, but by its meaſure. The clean flax is ſold to the poor at a low price, and a certain meaſure of yarn again bought from them at 30 *per cent.* above the uſual price: ſo that the overſeers are ſure that all the yarn ſpun by the poor will be brought into their office. Every pauper brings with him a book in which the quantity delivered is carefully noted down, which furniſhes the overſeers with a continual average of the ſtate of induſtry among their poor.

As ſoon as this inſtitution was eſtabliſhed, the overſeers went through their diſtricts, and aſked, in all ſuch manſions as could be ſuppoſed to harbour want, if the inhabitants ſtood in need of ſupport? The queſtion to all ſuch poor as wiſhed for relief, and were able to ſpin, was, Whether they did earn by their work 1s. 6d. a week? for experience had taught the inhabitants of Hamburgh, that many poor live upon that ſum; and they knew enough of their poor to ſuppoſe, that 1s. 6d. avowed earning was equal to ſomething more. If the anſwer was affirmative, the pauper ſtood not in need of weekly aſſiſtance. If it was negative, work was given him, which, by being paid 30 *per cent.* above its value, afforded him 1s. 6d. a-week eaſily, if he was even an indifferent hand. The far more frequent caſes were partial inability by age, or weakneſs, or want of ſkill. For poor of the latter deſcription a ſchool was opened, and in three months' time the buſineſs was eaſily learnt. During that time, the pauper got firſt 2s. a-week, and every week afterwards 2d. leſs, till in the twelfth week he got nothing at all but his earnings, and was diſmiſſed, with a wheel and a pound of flax *gratis*.

The quantity of work which diſabled poor were capable of doing in a week was eaſily and accurately aſcertained by a week's trial in the ſpinning-ſchool. The reſult was produced weekly before appointed members of the committee, and the ſum which the poor could earn was noted down in their ſmall books. The overſeer was directed to pay them weekly what their earnings fell ſhort of 1s. 6d. in every ſuch week, when it appeared from their books that they had earned to the known extent of their abilities. From that moment applications became leſs frequent; and the committee had an infallible ſtandard for diſtinguiſhing real want; for whenever the pauper, if in health (if not, he was peculiarly provided for), had not earned what he could, then he had either been lazy, or had found more lucratrive work; in either caſe, he was not entitled to a relief for that week, whatever he might be for the following.

This mode of providing for the poor, which attracted the notice and obtained the eulogium of the miniſter in the Britiſh houſe of commons, has for ſix years been in Hamburgh attended with the happieſt conſequences. In the ſtreets of that city a beggar is rarely to be ſeen, whilſt thoſe, who ſtand in need of the charitable contributions of the rich, are much more comfortably, as well as at much leſs expence, maintained at home, with their children about them, than they could be in work-houſes, under the management of mercenary overſeers. For a fuller account of this judicious inſtitution, we muſt refer the reader to Vought's *Account of the Management of the Poor in Hamburgh, ſince the year* 1788, *in a Letter to ſome Friends of the Poor in Great Britain.*

WORLD, the aſſemblage of parts which compoſe the globe of the earth. See GEOGRAPHY and ASTRONOMY.

WORM, in gunnery, a ſcrew of iron, to be fixed on the end of a rammer, to pull out the wad of a firelock, carabine, or piſtol, being the ſame with the wad-hook, only the one is more proper for ſmall arms, and the other for cannon.

WORM, in chemiſtry, is a long winding pipe, placed in a tub of water, to cool and condenſe the vapours in the diſtillation of ſpirits.

Blind-WORM, or *Slow*-WORM. See ANGUIS.

Earth-WORM. See LUMBRICUS.

Glow-WORM. See LAMPYRIS.

Silk-WORM. See SILK.

WORMS, VERMES, in natural hiſtory. See ZOOLOGY.

WORMS, in the human body. See MEDICINE.

WORMS, in horſes. See FARRIERY.

WORMS, in dogs. See DOG.

WORMS, for bait. See FISHING.

WORMS, an ancient, large, and famous city of Germany, in the palatinate of the Rhine, with a biſhop's ſee, whoſe biſhop is a ſovereign and prince of the empire. It is a free and imperial city, and the inhabitants are Proteſtants. In the war of 1689 it was taken by the French, who almoſt reduced it to aſhes.—The biſhop afterwards built a new palace in it; and it is famous for a diet held here in 1521, at which Luther aſſiſted in perſon. The Proteſtants have lately built a handſome church, where Luther is repreſented as appearing at the diet. It is noted for the excellent wine that grows in the neighbourhood, which they call *our Lady's milk*. In the campaign of 1743, King George II. took up his quarters in this city, and lodged at the biſhop's palace after the battle of Dettingen. It is ſeated on the weſtern bank of the Rhine, 14 miles north-weſt of Heidelburg, 20 ſouth-eaſt of Mentz, and 32 ſouth-weſt of Francfort. E. Long. 8. 29. N. Lat. 49. 32.

WORMING OF DOGS. All ſpaniels have certain ſtrings under their tongues, by moſt called *a worm*; this muſt be taken out when they are about two months old, with the help of a ſharp knife to ſlit it, and a ſhoemaker's awl to raiſe it up; you muſt be careful to take all out, or elſe your pains is to little purpoſe; for till then he will be hardly ever fat and right, in regard the worm or ſtring will grow foul and troubleſome, and hinder his reſt and eating. This operation is generally recommended as a preventive of madneſs in dogs, or at leaſt as diſabling them, if mad, from biting in that condition.

WORMIUS (Olaus), a learned Daniſh phyſician, born in 1588 at Arhuſen in Jutland. After beginning his ſtudies at home, he ſtudied at ſeveral foreign univerſities, and travelled to various parts of Europe for improvement. He returned to his native country in 1613, and was made profeſſor of the belles-lettres in the univerſity of Copenhagen. In 1615 he was tranſlated to the chair of the Greek profeſſor; and in 1624 to the profeſſorſhip of phyſic, which he held to his death. Theſe occupations did not hinder him from practiſing in his profeſſion, and from being the faſhionable phyſician: the king and court of Denmark always employed him; and Chriſtian IV. as a recompenſe for his ſervices, conferred on him a canonry of Lunden. He publiſhed ſome pieces on ſubjects relating to his profeſſion, ſeveral works in defence of Ariſtotle's philoſophy, and ſeveral concerning the antiquities of Denmark and Norway; for which latter he is principally regarded, as they are very learned, and contain many curious particulars. He died in 1654.

WORMWOOD, in botany. See ARTEMISIA.

WORSHIP OF GOD (*cultus Dei*), amounts to the ſame with what we otherwiſe call *religion*. This worſhip conſiſts in paying a due reſpect, veneration, and homage to the Deity,

under a certain expectation of reward. And this internal reſpect, &c. is to be ſhown and teſtified by external acts; as prayers, ſacrifices, thankſgivings, &c.

As Chriſtian worſhip conſiſts of prayers and praiſes, it has been a matter of ſome debate whether it is moſt properly performed by preconcerted forms or liturgies, or by extemporaneous addreſſes to the Almighty. Both theſe modes have their advantages and diſadvantages; and by the ſacred writers neither of them is preſcribed in oppoſition to the other.

The advantages of a liturgy are, that it prevents abſurd, extravagant, or impious addreſſes to God, which the folly or enthuſiaſm of individuals muſt always be in danger of producing; it gives the congregation an opportunity of joining in the prayers which are put up for them, which they cannot poſſibly do in a ſeries of extemporaneous petitions, ſince before they can aſſent to any one of theſe and make it their own, their attention is neceſſarily called away to that which ſucceeds it; and it relieves the clergyman from the labour of compoſition, which ſeems incompatible with that fervour which conſtitutes the ſpirit of devotion.

The diſadvantages of a fixed liturgy, which are the recommendations of extemporary prayer, are principally two. The forms compoſed in one age muſt, by the unavoidable change of language, circumſtances, and opinions, become in ſome degree unfit for another; and the perpetual repetition of the ſame form of words is very apt to produce inattentive laſſitude in the congregation. Would the clergy of the church of England take that liberty which is allowed them in the bidding prayer before ſermon, perhaps the ſervice of that church would unite in itſelf all the advantages both of liturgic and extemporary worſhip. We have only to add on this ſubject, that public prayers, whether precompoſed or not, ought to be compendious; that they ought to expreſs juſt conceptions of the Divine attributes; recite ſuch wants as the congregation are likely to feel, and no other; that they ought to contain as few controverted propoſitions as poſſible; and that, if it can be done without offence, the pompous ſtyle of *the ſtate* ſhould be laid aſide in our prayers for the king and all that are in authority; becauſe in every act which carries the mind to God, human greatneſs muſt be annihilated.

WORT, the infuſion of malt, of which beer is made. The uſes of this infuſion in common affairs are well known. By Dr. M'Bride it has lately been found to have a ſtrong antiſeptic virtue, and to be uſeful in preventing the ſcurvy and other diſeaſes to which ſailors are liable; which was confirmed by Captain Cook in his late voyages. See M'Bride's Eſſay on the *Means of Preſerving the Health of* Seamen.

WOTTON (Sir Henry), an eminent writer, was the ſon of Thomas Wotton, eſq. and was born in 1568. He ſtudied for ſome time at New College, Oxford, whence he removed to Queen's College, where he made a great progreſs in logic and philoſophy; wrote a tragedy for the uſe of that college, called *Tancredo*; and afterwards received the degree of maſter of arts. After this, leaving the univerſity, he travelled into France, Germany, and Italy; and having ſpent about nine years abroad, he returned to England, and became ſecretary to Robert earl of Eſſex, with whom he continued till that earl was apprehended for high-treaſon. He then retired to Florence, where he became known to the Grand Duke of Tuſcany, who ſent him privately with letters to James VI. king of Scotland, under the name of *Octavio Baldi*, to inform that king of a deſign againſt his life. Some months after he went back to Florence; but King James coming to the poſſeſſion of the crown of England, Mr. Wotton returned home, was knighted by his majeſty, and ſent ambaſſador to the republic of Venice; and afterwards was employed in many other embaſſies, to that and other courts; but the only reward he obtained for theſe ſervices was his having the provoſtſhip of Eton conferred upon him about the year 1623, which he kept till his death, which happened in 1639. After his deceaſe ſome of his manuſcripts and printed tracts were publiſhed together in a volume, entitled *Reliquiæ Wottonianæ*.

Wotton (William), an Engliſh divine, was the ſon of Mr. Henry Wotton, rector of Wrentham, in Suffolk, a man of conſiderable learning, and well ſkilled in the Oriental tongues. He was born at Wrentham the 13th of Auguſt, 1666; and was educated by his father. He was admitted of Catharine-hall, Cambridge, in April, 1676, ſome months before he was ten years old. His progreſs in learning was anſwerable to the expectations conceived of him. He not only underſtood the Greek and Latin tongues, but alſo the Hebrew, Arabic, Syriac, and Chaldee: his ſkill too in arts and ſciences, in geography, logic, philoſophy, mathematics, and chronology, was equally great. In 1679 he took the degree of B.A. when he was but twelve years and five months old. Dr. William Lloyd, biſhop of St. Aſaph, took him as aſſiſtant in making the catalogue of his library, and carried him to St. Aſaph. Upon his return, Dr. Turner, afterwards biſhop of Ely, procured him by his intereſt a fellowſhip in St. John's College; and, in 1691, he commenced bachelor of divinity. The ſame year, Biſhop Lloyd gave him the ſinecure of Llandrillo in Denbighſhire. He was afterwards made chaplain to the Earl of Nottingham, then ſecretary of ſtate, who, in 1693, preſented him to the rectory of Middleton Keynes in Buckinghamſhire. In 1694 he publiſhed Reflections upon Ancient and Modern Learning; and afterwards a Defence of the ſame, it being ſatirized by Swift. In 1718 he produced his Miſcellaneous Diſcourſes relating to the Traditions and Uſages of the Scribes and Phariſees, &c. in 2 vols. 8vo. beſides ſeveral other tracts, ſermons, &c. After his death, which happened Feb. 13, 1726, his tranſlation of the Welſh Laws came out; a very laborious work; alſo A Diſcourſe concerning the Confuſion of Languages at Babel; Advice to a Young Student, &c.

WOUNDS. See Surgery.

Wounds, in farriery. See Farriery.

WRASSE, or old wife, in ichthyology. See Labrus.

WREATH, in heraldry, a roll of fine linen or ſilk (like that of a Turkiſh turban), conſiſting of the colours borne in the eſcutcheon, placed in an atchievement between the helmet and the creſt, and immediately ſupporting the creſt.

WRECK, or Shipwreck, the deſtruction of a ſhip by rocks or ſhallows at ſea. By the ancient common law, where any ſhip was loſt at ſea, and the goods or cargo were thrown upon the land, theſe goods, ſo wrecked, were judged to belong to the king: for it was held, that, by the loſs of the ſhip, all property was gone out of the original owner. But this was undoubtedly adding ſorrow to ſorrow, and was conſonant neither to reaſon nor humanity. Wherefore it was firſt ordained by King Henry I. that if any perſon eſcaped alive out of the ſhip, it ſhould be no wreck; and afterwards King Henry II. by his charter, declared, that if on the coaſts of either England, Poictou, Oleron, or Gaſcony, any ſhip ſhould be diſtreſſed, and either man or beaſt ſhould eſcape, or be found therein alive, the goods ſhould remain to the owners, if they claimed them within three months; but otherwiſe ſhould be eſteemed a wreck, and ſhould belong to the king, or other lord of the franchiſe. This was again confirmed with improvements by King Richard I.; who, in the ſecond year of his reign, not only eſtabliſhed theſe conceſſions, by ordaining that the owner, if he was ſhipwrecked and eſcaped, *omnes res ſuas liberas, et quietas haberet*, but alſo, that if he periſhed, his children, or in default of them, his brethren and ſiſters, ſhould retain the property; and in default of brother or ſiſter, then the goods

ſhould remain to the king *. And the law, as laid down by Bracton in the reign of Henry III. ſeems ſtill to have improved in its equity. For then, if not only a dog (for inſtance) eſcaped, by which the owner might be diſcovered, but if any certain mark were ſet on the goods, by which they might be known again, it was held to be no wreck. And this is certainly moſt agreeable to reaſon; the rational claim of the king being only founded upon this, that the true owner cannot be aſcertained. Afterwards, in the firſt ſtatute of Weſtminſter, the time of limitation of claims, given by the charter of Henry II. is extended to a year and a day, according to the uſage of Normandy: and it enacts, that if any man, a dog, or a cat, eſcape alive, the veſſel ſhall not be adjudged a wreck. Theſe animals, as in Bracton, are only put for examples; for it is now held, that not only if any live thing eſcape, but if proof can be made of the property of any of the goods or lading which come to ſhore, they ſhall not be forfeited as wreck. The ſtatute further ordains, that the ſheriff of the county ſhall be bound to keep the goods a year and a day (as in France for one year, agreeable to the maritime laws of Oleron, and in Holland for a year and a half), that if any man can prove a property in them, either in his own right or by right of repreſentation, they ſhall be reſtored to him without delay; but if no ſuch property be proved within that time, they then ſhall be the king's. If the goods are of a periſhable nature, the ſheriff may ſell them, and the money ſhall be liable in their ſtead. This revenue of wrecks is frequently granted out to lords of manors as a royal franchiſe; and if any one be thus entitled to wrecks in his own land, and the king's goods are wrecked thereon, the king may claim them at any time, even after the year and day.

It is to be obſerved, that, in order to conſtitute a legal wreck, the goods muſt come to land. If they continue at ſea, the law diſtinguiſhes them by the barbarous and uncouth appellations of *jetſam*, *flotſam*, and *ligan*. Jetſam is where goods are caſt into the ſea, and there ſink and remain under water: flotſam is where they continue ſwimming on the ſurface of the waves: ligan is where they are ſunk in the ſea, but tied to a cork or buoy, in order to be found again. Theſe are alſo the king's, if no owner appears to claim them; but if any owner appears, he is entitled to recover the poſſeſſion. For even if they be caſt overboard, without any mark or buoy, in order to lighten the ſhip, the owner is not, by this act of neceſſity, conſtrued to have renounced his property: much leſs can things ligan be ſuppoſed to be abandoned, ſince the owner has done all in his power to aſſert and retain his property. Theſe three are therefore accounted ſo far a diſtinct thing from the former, that by the king's grant to a man of wrecks, things jetſam, flotſam, and ligan, will not paſs.

Wrecks, in their legal acceptation, are at preſent not very frequent: for if any goods come to land, it rarely happens, ſince the improvement of commerce, navigation, and correſpondence, that the owner is not able to aſſert his property within the year and day limited by law. And in order to preſerve this property entire for him, and if poſſible to prevent wrecks at all, our laws have made many very humane regulations; in a ſpirit quite oppoſite to thoſe ſavage laws which formerly prevailed in all the northern regions of Europe, and a few years ago were ſtill ſaid to ſubſiſt on the coaſts of the Baltic Sea, permitting the inhabitants to ſeize on whatever they could get as lawful prize; or, as an author of their own expreſſes it, "*in naufragorum miſeria et calamitate tanquam vultures ad prædam currere.*" For by the ſtatute 27 Edw. III. c. 13. if any ſhip be loſt on the ſhore, and the goods come to land (which cannot, ſays the ſtatute, be called *wreck*), they ſhall be preſently delivered to the merchants, paying only a reaſonable reward to thoſe that ſaved and preſerved them, which is entitled *ſalvage*. Alſo by the common law, if any perſons (other than the ſheriff) take any goods ſo caſt on ſhore, which are not legal wreck, the owners might have a commiſſion to enquire and find them out, and compel them to make reſtitution. And by 12 Ann. ſt. 2. c. 18 confirmed by 4 Geo. I. c. 12. in order to aſſiſt the diſtreſſed, and prevent the ſcandalous illegal practices on ſome of our ſea-coaſts (too ſimilar to thoſe on the Baltic), it is enacted, that all head officers and others of towns near the ſea, ſhall, upon application made to them, ſummon as many hands as are neceſſary, and ſend them to the relief of any ſhip in diſtreſs, on forfeiture of 100*l.* and, in caſe of aſſiſtance given, ſalvage ſhall be paid by the owners, to be aſſeſſed by three neighbouring juſtices. All perſons that ſecrete any goods ſhall forfeit their treble value; and if they wilfully do any act whereby the ſhip is loſt or deſtroyed, by making holes in her, ſtealing her pumps, or otherwiſe, they are guilty of felony without benefit of clergy. Laſtly, by the ſtatute 26 Geo. II. c. 19. plundering any veſſel, either in diſtreſs or wrecked, and whether any living creature be on board or not (for whether wreck or otherwiſe, it is clearly not the property of the populace), ſuch plundering or preventing the eſcape of any perſon that endeavours to ſave his life, or wounding him with intent to deſtroy him, or putting out falſe lights in order to bring any veſſel into danger, are all declared to be capital felonies; in like manner as the deſtroying of trees, ſteeples, or other ſtated ſea-marks, is puniſhed by the ſtatute 8 Eliz. c. 13. with a forfeiture of 100*l.* or outlawry. Moreover by the ſtatute of Geo. II. pilfering any goods caſt aſhore is declared to be petty larceny; and many other ſalutary regulations are made, for the more effectually preſerving ſhips of any nation in diſtreſs.

By the civil law, to deſtroy perſons ſhipwrecked, or prevent their ſaving the ſhip, is capital. And to ſteal even a plank from a veſſel in diſtreſs or wrecked, makes the party liable to anſwer for the whole ſhip and cargo. The laws alſo of the Viſigoths, and the moſt early Neapolitan conſtitutions, puniſhed with the utmoſt ſeverity all thoſe who neglected to aſſiſt any ſhip in diſtreſs, or plundered any goods caſt on ſhore.

WREN, in ornithology. See MOTACILLA.

WREN (Sir Chriſtopher), a great philoſopher, and one of the moſt learned and moſt eminent architects of his age, was the ſon of Chriſtopher Wren, dean of Windſor, and was born in 1632. He ſtudied at Wadham College in Oxford; where he took the degree of maſter of arts in 1653, and was choſen fellow of All Souls College. When very young he diſcovered a ſurpriſing genius for the mathematics; in which ſcience he made great advances before he was ſixteen years old. In 1657 he was made profeſſor of aſtronomy at Greſham College, London, which he reſigned in 1660, on his being choſen to the Savilian profeſſorſhip of aſtronomy in Oxford: he was the next year created doctor of laws, and in 1663 was elected fellow of the Royal Society. He was one of the commiſſioners for the reparation of St. Paul's; and in 1665 travelled into France, to examine the moſt beautiful edifices there, when he made many curious obſervations. At his return to England, he drew a noble plan for rebuilding the city of London after the fire, which he preſented to parliament; and, upon the deceaſe of Sir John Denham in 1668, was made ſurveyor-general of his majeſty's works; and from that time had the direction of

* In like manner Conſtantine the Great, finding that by the imperial law the revenue of wrecks was given to the prince's treaſury or fiſcus, reſtrained it by an edict (Cod. 11. 5. 1.), and ordered them to remain to the owners; adding this humane expoſtulation: "Quod enim jus habet fiſcus in aliena calamitate, ut de re tam luctuoſa compendium ſectetur?"

a great number of public edifices, by which he acquired the higheſt reputation. He built the magnificent theatre at Oxford, St. Paul's cathedral, the churches of St. Stephen Walbrook, and St. Mary-le-Bow, the Monument, the modern part of the palace of Hampton Court, Chelſea College, one of the wings of Greenwich Hoſpital, and many other beautiful edifices. He was preſident of the Royal Society, one of the commiſſioners of Chelſea College, and twice member of parliament; firſt for Plymouth in Devonſhire, and then for Melcomb Regis in the ſame county; but in 1718 was removed from his place of ſurveyor-general. He died in 1723, and was interred in the vault under St. Paul's.

This great man alſo diſtinguiſhed himſelf by many curious inventions and diſcoveries in natural philoſophy; and, among many others, contrived an inſtrument for meaſuring the quantity of rain that falls on any ſpace of land for a year; he invented many ways of making aſtronomical obſervations more accurate and eaſy; and was the firſt author of the anatomical experiment of injecting liquors into the veins of animals, &c. He tranſlated into Latin Mr. Oughtred's *Horologiographica Geometrica;* and wrote a Survey of the Cathedral Church of Saliſbury, and other pieces. After his death his poſthumous works and draughts were publiſhed by his ſon.

WRESTLING, a kind of combat or engagement between two perſons unarmed, body to body, to prove their ſtrength and dexterity, and try which can throw his opponent to the ground. Wreſtling is an exerciſe of very great antiquity and fame. It was in uſe in the heroic age; witneſs Hercules, who wreſtled with Antæus. It continued a long time in the higheſt repute, and had conſiderable rewards and honours aſſigned to it at the Olympic games. It was the cuſtom for the Athletæ to anoint their bodies with oil, to give the leſs hold to their antagoniſts. Lycurgus ordered the Spartan maids to wreſtle in public quite naked, in order, as it is obſerved, to break them of their too much delicacy and niceneſs, to make them appear more robuſt, and to familiarize the people, &c. to ſuch nudities.

WRIT, in law, ſignifies, in general, the king's precept in writing under ſeal, iſſuing out of ſome court, directed to the ſheriff or other officer, and commanding ſomething to be done in relation to a ſuit or action, or giving commiſſion to have the ſame done. And, according to Fitzherbert, a writ is ſaid to be a formal letter of the king in parchment, ſealed with his ſeal, and directed to ſome judge, officer, or miniſter, &c. at the ſuit of a ſubject, for the cauſe briefly expreſſed, which is to be determined in the proper court according to law.

WRITS, in civil actions, are either original or judicial: original are ſuch as are iſſued out of the court of chancery for the ſummoning of a defendant to appear, and are granted before the ſuit is commenced, in order to begin the ſame; and judicial writs iſſue out of the court where the original is returned, after the ſuit is begun. See PROCESS.

The original writ is the foundation of the ſuit. See SUIT.

When a perſon hath received an injury, and thinks it worth his while to demand a ſatisfaction for it, he is to conſider with himſelf, or take advice, what redreſs the law has given for that injury; and thereupon is to make application or ſuit to the crown, the fountain of all juſtice, for that particular ſpecific remedy which he is determined or adviſed to purſue. As for money due on bond, an action of debt; for goods detained without force, an action of *detinue* or *trover;* or, if taken with force, an action of *treſpaſs vi et armis*; or, to try the title of lands, a writ of entry or action of treſpaſs in ejectment; or for any conſequential injury received, a ſpecial action on the caſe. To this end he is to ſue out, or purchaſe by paying the ſtated fees, an *original*, or original writ, from the court of chancery, which is the *officina juſtitiæ*, the ſhop or mint of juſtice, wherein all the king's writs are framed. It is a mandatory letter from the king in parchment, ſealed with his great ſeal, and directed to the ſheriff of the county wherein the injury is committed, or ſuppoſed ſo to be, requiring him to command the wrong-doer or party accuſed, either to do juſtice to the complainant, or elſe to appear in court, and anſwer the accuſation againſt him. Whatever the ſheriff does in purſuance of this writ, he muſt return or certify to the court of common-pleas, together with the writ itſelf: which is the foundation of the juriſdiction of that court, being the king's warrant for the judges to proceed to the determination of the cauſe. For it was a maxim introduced by the Normans, that there ſhould be no proceedings in common-pleas before the king's juſtices without his original writ; becauſe they held it unfit that thoſe juſtices, being only the ſubſtitutes of the crown, ſhould take cognizance of any thing but what was thus expreſsly referred to their judgment. However, in ſmall actions, below the value of forty ſhillings, which are brought in the court-baron or county-court, no royal writ is neceſſary; but the foundation of ſuch ſuits continue to be (as in the times of the Saxons), not by original writ, but by plaint; that is, by a private memorial tendered in open court to the judge, wherein the party injured ſets forth his cauſe of action: and the judge is bound of common right to adminiſter juſtice therein, without any ſpecial mandate from the king. Now indeed even the royal writs are held to be demandable of common right, on paying the uſual fees: for any delay in the granting them, or ſetting an unuſual or exorbitant price upon them, would be a breach of magna charta, c. 29. "nulli vendemus, nulli negabimus, aut differemus juſtitiam vel rectum."

Original writs are either optional or peremptory; or, in the language of our law, they are either a *præcipe*, or a *ſi te fecerit ſecurum*. The *præcipe* is in the alternative, commanding the defendant to do the thing required, or ſhow the reaſon wherefore he hath not done it. The uſe of this writ is where ſomething certain is demanded by the plaintiff, which is in the power of the defendant himſelf to perform; as, to reſtore the poſſeſſion of land, to pay a certain liquidated debt, to perform a ſpecific covenant, to render an account, and the like; in all which caſes the writ is drawn up in the form of a *præcipe* or command, to do thus, or ſhow cauſe to the contrary; giving the defendant his choice to redreſs the injury or ſtand the ſuit. The other ſpecies of original writs is called a *ſi fecerit te ſecurum*, from the words of the writ; which directs the ſheriff to cauſe the defendant to appear in court, without any option given him, provided the plaintiff gives the ſheriff ſecurity effectually to proſecute his claim. This writ is in uſe where nothing is ſpecifically demanded, but only a ſatisfaction in general; to obtain which, and miniſter complete redreſs, the intervention of ſome judicature is neceſſary. Such are writs of treſpaſs, or on the caſe, wherein no debt or other ſpecific thing is ſued for in certain, but only damages to be aſſeſſed by a jury. For this end the defendant is immediately called upon to appear in court, provided the plaintiff gives good ſecurity of proſecuting his claim. Both ſpecies of writs are teſted, or witneſſed, in the king's own name; "witneſs ourſelf at Weſtminſter," or wherever the chancery may be held.

The ſecurity here ſpoken of, to be given by the plaintiff for proſecuting his claim, is common to both writs, though it gives denomination only to the latter. The whole of it is at preſent become a mere matter of form; and John Doe and Richard Roe are always returned as the ſtanding pledges for this purpoſe. The ancient uſe of them was to anſwer for the plaintiff, who in caſe he brought an action without cauſe, or failed in the proſecution of it when brought, was liable to an amercement from the crown for raiſing a falſe accuſation;

and ſo the form of the judgment ſtill is. In like manner, as by the Gothic conſtitutions no perſon was permitted to lay a complaint againſt another, *niſi ſub ſcriptura aut ſpecificatione trium teſtium, quod actionem vellet perſequi:* and, as by the laws of Sancho I. king of Portugal, damages were given againſt a plaintiff who proſecuted a groundleſs action.

The day on which the defendant is ordered to appear in court, and on which the ſheriff is to bring in the writ, and report how far he has obeyed it, is called the *return of the writ*; it being then returned by him to the king's juſtices at Weſtminſter. And it is always made returnable at the diſtance of at leaſt 15 days from the date or teſt, that the defendant may have time to come up to Weſtminſter, even from the moſt remote parts of the kingdom; and upon ſome day in one of the four terms, in which the court ſits for the diſpatch of buſineſs.

WRITING, the art or act of ſignifying and conveying our ideas to others, by letters or characters viſible to the eye. See COMPOSITION, GRAMMAR, and LANGUAGE. The moſt ancient remains of writing, which have been tranſmitted to us, are upon hard ſubſtances, ſuch as ſtones and metals, which were uſed by the ancients for edicts and matters of public notoriety: the decalogue was written on two tables of ſtone; but this practice was not peculiar to the Jews, for it was uſed by moſt of the eaſtern nations, as well as by the Greeks and Romans; and therefore the ridicule which Voltaire attempts to caſt upon that part of the book of Geneſis, where the people are commanded to write the law on ſtones, is abſurd; for what is there ſaid by no means implies, that other materials might not be uſed on common occaſions. The laws penal, civil, and ceremonial, among the Greeks, were engraven on tables of braſs, which were called *Cyrbes*.

We find that wood was alſo uſed for writing on in different countries. In the Sloanian library (N° 4852.) are ſix ſpecimens of Kufic writing, on boards about two feet in length, and ſix inches in depth. The Chineſe, before the invention of paper, wrote or engraved with an iron tool upon thin boards or on bamboo. Pliny ſays, that table books of wood were in uſe before the time of Homer. Theſe table books were called by the Romans *pugillares*. The wood was cut into thin ſlices, and finely plained and poliſhed. The writing was at firſt upon the bare wood, with an iron inſtrument called a *ſtyle*. In later times theſe tables were uſually waxed over, and written upon with that inſtrument. The matter written upon the tables which were thus waxed over was eaſily effaced, and by ſmoothing the wax new matter might be ſubſtituted in the place of what had been written before. The Greeks and Romans continued the uſe of waxed table books long after the uſe of papyrus, leaves, and ſkins, became common, becauſe they were ſo convenient for correcting extemporary compoſitions.

Table books of ivory are ſtill uſed for memorandums, but they are commonly written upon with black lead pencils. The practice of writing on table books covered with wax was not entirely laid aſide till the commencement of the 14th century.

The bark of trees was alſo uſed for writing by the ancients, and is ſo ſtill in ſeveral parts of Aſia. The ſame thing may be ſaid of the leaves of trees. It is needleſs to obſerve the uſe of parchment and vellum, papyrus and paper, for writing; it is too well known. The method of fabricating theſe ſubſtances has been already deſcribed as they occurred in the order of the alphabet.

It is obvious, that when men wrote, or rather engraved, on hard ſubſtances, inſtruments of metal were neceſſary, ſuch as the chiſel and the ſtylus; but the latter was chiefly uſed for writing upon boards, waxed tablets, or on bark.

When the ancients wrote on ſofter materials than wood or metal, other inſtruments were uſed for writing with, of which reeds and canes ſeem to have been the firſt. Reeds and canes are ſtill uſed as inſtruments for writing with by the Tartars, the Indians, the Perſians, the Turks, and the Greeks. Pencils made of hair are uſed by the Chineſe for their writing: they firſt liquify their ink, and dip their pencils into it. Hair-pencils have likewiſe been uſed for writing in Europe. Large capital letters were made with them from the time of the Roman emperors till the 16th century. After the invention of printing they were drawn by the illuminators. Quills of geeſe, ſwans, peacocks, crows, and other birds, have been uſed in theſe weſtern parts for writing with, but how long is not eaſy to aſcertain. St. Iſidore of Seville, who lived about the middle of the 7th century, deſcribes a pen made of a quill as uſed in his time.

Method of reſtoring decayed WRITINGS. In the 77th vol. of the Phil. Tranſ. there is a paper on this ſubject by Sir Charles Blagden. One of the beſt methods he found upon experiment to be, covering the letters with phlogiſticated or pruſſic alkali, with the addition of a diluted mineral acid; upon the application of which, the letters changed very ſpeedily to a deep blue colour, of great beauty and intenſity. To prevent the ſpreading of the colour, which, by blotting the parchment, detracts greatly from the legibility, the alkali ſhould be put on firſt, and the diluted acid added upon it. The method found to anſwer beſt has been, to ſpread the alkali thin with a feather over the traces of the letters, and then to touch it gently, as nearly upon or over the letters as can be done, with the diluted acid, by means of a feather or a bit of ſtick cut to a blunt point. Though the alkali ſhould occaſion no ſenſible change of colour, yet the moment the acid comes upon it, every trace of a letter turns at once to a fine blue, which ſoon acquires its full intenſity, and is beyond compariſon ſtronger than the colour of the original trace had been. If, then, the corner of a bit of blotting paper be carefully and dexterouſly applied near the letters, ſo as to imbibe the ſuperfluous liquor, the ſtaining of the parchment may be in a great meaſure avoided; for it is this ſuperfluous liquor which, abſorbing part of the colouring matter from the letters, becomes a dye to whatever it touches. Care muſt be taken not to bring the blotting paper in contact with the letters, becauſe the colouring matter is ſoft whilſt wet, and may eaſily be rubbed off. The acid chiefly employed was the marine; but both the vitriolic and nitrous ſucceed very well. They ſhould be ſo far diluted as not to be in danger of corroding the parchment, after which the degree of ſtrength does not ſeem to be a matter of much nicety.

Method of Copying WRITINGS. The ingenious Mr. Watt, about 16 years ago, invented a method of copying writings very ſpeedily, and without the poſſibility of committing miſtakes. A piece of thin unſized paper is to be taken exactly of the ſize of the paper to be copied; it is to be moiſtened with water, or, what is better, with the following liquid: Take of diſtilled vinegar two pounds weight, diſſolve it in one ounce of boracic acid; then take four ounces of oyſter-ſhells calcined to whiteneſs, and carefully freed from their brown cruſt; put them into the vinegar, ſhake the mixture frequently for 24 hours, then let it ſtand until it depoſits its ſediment; filter the clear part through unſized paper into a glaſs veſſel; then add two ounces of the beſt blue Aleppo galls bruiſed, and place the liquor in a warm place, ſhaking it frequently for 24 hours; then filter the liquor again through unſized paper, and add to it after filtration one quart, ale meaſure, of pure water. It muſt then ſtand 24 hours, and be filtered again if it ſhows a diſpoſition to depoſit any ſediment, which it generally does. When the paper has been wet with this liquid,

put it between two thick unſized papers to abſorb the ſuperfluous moiſture; then lay it over the writing to be copied, and put a piece of clean writing paper above it. Put the whole on the board of a rolling-preſs, and preſs them through the rolls, as is done in printing copperplates, and a copy of the writing ſhall appear on both ſides of the thin moiſtened paper; on one ſide in a reverſed order and direction, but on the other ſide in the natural order and direction of the lines.

WRITTEN MOUNTAINS. See MOUNTAINS.

WRY-NECK, in ornithology. See JYNX.

WURTEMBURG, or WIRTENBURG, a ſovereign duchy of Germany, in Suabia; bounded on the north by Franconia, the archbiſhopric of Mentz, and the palatinate of the Rhine; on the eaſt by the county of Oetingen, the marquiſate of Burgau, and the territory of Ulm; on the ſouth by the principality of Hoen-Zollern, Furſtenburg, and the marquiſate of Hohenburg; and on the weſt by the palatinate of the Rhine, the marquiſate of Baden, and the Black Foreſt. It is 65 miles in length, and as much in breadth, and the river Neckar runs almoſt through the middle of it from ſouth to north. Though there are many mountains and woods, yet it is one of the moſt populous and fertile countries in Germany, producing plenty of graſs, corn, fruits and a great deal of wine towards the confines of the palatinate. There are alſo mines, and ſalt ſprings, with plenty of game and fiſh. It contains 645 villages, 88 towns, and 26 cities, of which Stutgard is the capital.

WURTSBURG, a large biſhopric in Germany, comprehending the principal part of Franconia. It is bounded by the county of Henneburg, the duchy of Coburg, the abbey of Fuld, the archbiſhopric of Mentz, the marquiſate of Anſpach, the biſhopric of Bamberg, and the county of Wertheim; being about 65 miles in length, and 50 in breadth, and divided into 50 bailiwicks. The ſoil is very fertile, and produces more corn and wine than the inhabitants conſume. The territories of the biſhop comprehend above 400 towns and villages, of which he is ſovereign, being one of the greateſt eccleſiaſtical princes of the empire.

WURTZBURG, a large and handſome city of Germany, and one of the principal in the circle of Franconia. It is defended with good fortifications, and has a magnificent palace. There is a handſome hoſpital, in which are generally 400 poor men and women. The caſtle is at a ſmall diſtance from the city, and commands it, as it ſtands upon an eminence. It communicates with the city by a ſtone bridge, on which are 12 ſtatues, repreſenting as many ſaints. The arſenal and the cellars of the biſhop deſerve the attention of the curious. There is alſo an univerſity, founded in 1403. It is ſeated on the river Maine, in E. Long. 10. 2. N. Lat. 49. 40.

WYCHERLEY (WILLIAM), an eminent Engliſh comic poet, and eldeſt ſon of Daniel Wycherley, eſq. of Cleve in Shropſhire, was born about 1640. At fifteen years of age, he was ſent to France, in the weſtern parts of which he reſided, upon the banks of the Charante. A little before the reſtoration of Charles II. he became a gentleman-commoner of Queen's College in Oxford. He left the univerſity without being matriculated, or any degree conferred on him; having been by Dr. Barlow reconciled to the Proteſtant religion, which he had a little before deſerted in his travels. He afterwards entered himſelf of the Middle-Temple; but ſoon quitted the dry ſtudy of the law, for the muſes, and publiſhed four comedies, in about the ſpace of ten years, viz. Love in a Wood, or St. James's Park, in 1672; The Gentleman-Dancing-Maſter, 1673; Plain Dealer, in 1678; and, Country Wife, in 1683. Theſe were collected and printed together in 1712, 8vo. The king now promiſed to make him tutor to his ſon, for which ſervice 1500l. per annum ſhould be ſettled upon him: but ſoon after this gracious offer, Wycherley loſt the favour of the king and of the courtiers, by a precipitate marriage with the counteſs of Drogheda, a young widow, rich, noble, and beautiful. This lady was jealous of him to that degree, that ſhe could not endure him to be one moment out of her ſight. By all accounts ſhe led him a miſerable life, but made him ſome amends, by dying in a reaſonable time, and by ſettling her fortune on him: but his title being diſputed after her death, the expence of the law and other incumbrances ſo far reduced him, that not being able to ſatisfy the importunity of his creditors, he was flung into priſon, where he languiſhed ſeven years; nor was he releaſed, till James II. going to ſee his Plain Dealer, was ſo charmed with the entertainment, that he gave immediate orders for the payment of his debts; adding withal a penſion of 200l. per annum, while he continued in England. But Wycherley being aſhamed to give the Earl of Mulgrave, whom the king had ſent to demand it, a full account of his debts, ſtill laboured under the weight of them till his father died; and then too the eſtate that deſcended to him, was left under very uneaſy limitations, ſince, being only a tenant for life, he could not raiſe any money for the payment of his debts. However, juſt at the eve of his death, he married a young gentlewoman of 1500l. fortune, part of which he applied to the uſes he wanted it for. Eleven days after the celebration of theſe nuptials, Jan. 1, 1715, he died; and was interred in the vault of Covent-Garden church. Beſides the plays above mentioned, he publiſhed a volume of poems in 1704, folio; and, in 1728, his Poſthumous Works in proſe and verſe were publiſhed by Mr. Lewis Theobald, in 8vo.

WYNDHAM (Sir William), deſcended of an ancient family, was born about the year 1687, and ſucceeded young to the title and eſtate of his father. On his return from his travels, he was choſen member for the county of Somerſet; in which ſtation he ſerved in the three laſt parliaments of Queen Anne, and as long as he lived: after the change of the miniſtry in 1710, he was appointed ſecretary at war; and in 1713 was raiſed to be chancellor of the exchequer. Upon the breach between the earl of Oxford and lord Bolingbroke, he adhered to the intereſts of the latter. He was removed from his employment on the acceſſion of George I. and falling under ſuſpicion on the breaking out of the rebellion in 1715, was apprehended. He made his eſcape; a reward was publiſhed for apprehending him; he ſurrendered, was committed to the Tower, but never brought to a trial. After he regained his liberty, he continued in oppoſition to the ſeveral adminiſtrations under which he lived; and died in 1740.

WYKEHAM (William of). See WILLIAM.

WYE, a river of Wales, which riſing on the confines of Cardiganſhire, and running ſouth-eaſt, divides the counties of Radnor and Brecknock; then croſſing Herefordſhire, it runs ſouth, and falls into the mouth of the Severn at Chepſtow.

X.

X, or x, is the 22d letter of our alphabet, and a double conſonant. It was not uſed by the Hebrews or ancient Greeks; for, as it is a compound letter, the ancients, who uſed great ſimplicity in their writings, expreſſed this letter by its component letters *c s*. Neither have the Italians this letter, but expreſs it by *ſſ*. X begins no word in our language but ſuch as are of Greek original; and is in few others but what are of Latin derivation; as *perplex, reflexion, defluxion, &c.* We often expreſs this ſound by ſingle letters, as *cks*, in *backs, necks*; by *ks*, in *books, breaks*; by *cc*, in *acceſs, accident*; by *ct, action, unction, &c.* The Engliſh and French pronounce it like *cs* or *ks*; the Spaniards like *c* before *a*, viz. *Alexandro*, as if it were *Alecandro*. In numerals it expreſſeth 10, whence in old Roman manuſcripts it is uſed for *denarius*; and as ſuch ſeems to be made of two V's placed one over the other. When a daſh is added over it, thus $\bar{X}$, it ſignifies 10,000.

XANTHIUM, in botany: a genus of plants of the claſs *monœcia*, order *pentandria*, and arranged in the natural claſſification under the 49th order, *Compoſitæ*. The male flowers are compoſite, common calyx imbricated; corollulæ monopetalous, tubular, quinquefid. Female; calyx involucrum of two leaves, containing two flowers; corolla 0; drupa, dry, prickly; nucleus bilocular. There are five ſpecies, only one of which is a native of Britain, the *ſtrumarium* or leſs burdock. The ſtem of this plant is a foot and a half high, thick, often ſpotted; leaves heart-ſhaped, lobed, on long foot-ſtalks. Flowers, male and female, many together, in the alæ of the leaves. The leaves are bitter and aſtringent. A decoction of the whole plant affords a ſhowy yellow colour, but it is better if only the flowers are uſed. Horſes and goats eat it: cows, ſheep, and ſwine, refuſe it.

XANTHOXYLUM. See Zanthoxylum.

XEBEC, or Zebec, a ſmall three-maſted veſſel, navigated in the Mediterranean Sea, and on the coaſts of Spain, Portugal, and Barbary. See Plate 10. fig. 10. in vol. ix. The ſails of the xebec are in general ſimilar to thoſe of the poleacre, but the hull is extremely different from that and almoſt every other veſſel. It is furniſhed with a ſtrong prow: and the extremity of the ſtern, which is nothing more than a ſort of railed platform or gallery, projects farther behind the counter and buttock than that of any European ſhip. Being generally equipped as a corſair, the xebec is conſtructed with a narrow floor, to be more ſwift in purſuit of the enemy; and of a great breadth, to enable her to carry a great force of ſail for this purpoſe without danger of overturning. As theſe veſſels are uſually very low built, their decks are formed with a great convexity from the middle of their breadth towards the ſides, in order to carry off the water which falls aboard more readily by their ſcuppers. But as this extreme convexity would render it very difficult to walk thereon at ſea, particularly when the veſſel rocks by the agitation of the waves, there is a platform of grating extending along the deck from the ſides of the veſſel towards the middle, whereon the crew may walk dry-footed whilſt the water is conveyed through the grating to the ſcuppers. The xebecs, which are generally armed as veſſels of war by the Algerines, mount from 16 to 24 cannon, and carry from 300 to 450 men, two-thirds of whom are generally ſoldiers. By the very complicated and inconvenient method of working theſe veſſels, what one of their captains of Algiers told Mr. Falconer will be readily believed, viz. that every xebec requires at leaſt the labour of three ſquare-rigged ſhips, wherein the ſtanding ſails are calculated to anſwer every ſituation of the wind.

XENOCRATES, a celebrated ancient Grecian philoſopher, was born at Chalcedon in the 95th Olympiad. At firſt he attached himſelf to Æſchines, but afterwards became a diſciple of Plato, who took much pains in cultivating his genius, which was naturally heavy. As long as Plato lived, Xenocrates was one of his moſt eſteemed diſciples; after his death he cloſely adhered to his doctrine; and, in the ſecond year of the 110th Olympiad, he took the chair in the academy, as the ſucceſſor of Speuſippus.

Xenocrates was celebrated among the Athenians, not only for his wiſdom, but for his virtues. He was an admirer of the mathematical ſciences: and was ſo fully convinced of their utility, that when a young man, who was unacquainted with geometry and aſtronomy, deſired admiſſion into the academy, he refuſed his requeſt, ſaying, that he was not yet poſſeſſed of the handles of philoſophy. In fine, Xenocrates was eminent both for the purity of his morals and for his acquaintance with ſcience, and ſupported the credit of the Platonic ſchool, by his lectures, his writings, and his conduct. He lived to the firſt year of the 116th Olympiad, or the 82d of his age, when he loſt his life by accidently falling, in the dark, into a reſervoir of water.

XENOPHANES, the founder of the Eleaic ſect of philoſophy among the Greeks, was born at Colophon probably about the 65th Olympiad. From ſome cauſe or other he left his country early, and took refuge in Sicily, where he ſupported himſelf by reciting, in the court of Hiero, elegiac and iambic verſes, which he had written in reprehenſion of the theogonies of Heſiod and Homer. From Sicily he paſſed over into Magna Græcia, where he took up the profeſſion of philoſophy, and became a celebrated preceptor in the Pythagorean ſchool. Indulging, however, a greater freedom of thought than was uſual among the diſciples of Pythagoras, he ventured to introduce new opinions of his own, and in many particulars to oppoſe the doctrines of Epimenides, Thales, and Pythagoras. Xenophanes poſſeſſed the Pythagorean chair of philoſophy about ſeventy years, and lived to the extreme age of an hundred years, that is, according to Euſebius, till the 81ſt Olympiad. The doctrine of Xenophanes concerning nature is ſo imperfectly preſerved, and obſcurely expreſſed, that it is no wonder that it has been differently repreſented by different writers. Perhaps the truth is, that he held the univerſe to be one in nature and ſubſtance, but diſtinguiſhed in his conception between the matter of which all things conſiſt, and that latent divine force which, though not a diſtinct ſubſtance but an attribute, is neceſſarily inherent in the univerſe, and is the cauſe of all its perfection.

XENOPHON, an illuſtrious philoſopher, general, and hiſtorian, was born at Athens in the 3d year of the 82d Olympiad. When he was a youth, Socrates, ſtruck with his external appearance, determined to admit him into the number of his pupils. Meeting him by accident in a narrow paſſage, the philoſopher put his ſtaff acroſs the path, and ſtopping him, aſked, where thoſe things were to be purchaſed which are neceſſary to human life? Xenophon appearing at a loſs for a reply to this unexpected ſalutation, Socrates proceeded to

aſk him, where honeſt and good men were to be found? Xenophon ſtill heſitating, Socrates ſaid to him, "Follow me, and learn." From that time Xenophon became a diſciple of Socrates, and made a rapid progreſs in that moral wiſdom for which his maſter was ſo eminent, Xenophon accompanied Socrates in the Peloponneſian war, and fought courageouſly in defence of his country. He afterwards entered into the army of Cyrus as a private volunteer in his expedition againſt his brother. This enterprize proving unfortunate, Xenophon, after the death of Cyrus, adviſed his fellow ſoldiers to attempt a retreat into their own country. They liſtened to his advice; and having had many proofs of his wiſdom as well as courage, they gave him the command of the army, in the room of Proxenus who had fallen in battle. In this command he acquired great glory by the prudence and firmneſs with which he conducted them back, through the midſt of innumerable dangers, into their own country. The particulars of this memorable adventure are related by Xenophon himſelf in his Retreat of the Ten Thouſand. After his return into Greece, he joined Ageſilaus, king of Sparta, and fought with him againſt the Thebans in the celebrated battle of Chæronea. The Athenians, diſpleaſed at this alliance, brought a public accuſation againſt him for his former conduct in engaging in the ſervice of Cyrus, and condemned him to exile. The Spartans, upon this, took Xenophon, as an injured man, under their protection, and provided him a comfortable retreat at Scilluntes in Elea. Here, with his wife and two children, he remained ſeveral years, and paſſed his time in the ſociety of his friends, and in writing thoſe hiſtorical works which have rendered his name immortal. A war at length aroſe between the Spartans and Eleans; and Xenophon was obliged to retire to Lepreus, where his eldeſt ſon had ſettled. He afterwards removed, with his whole family, to Corinth, where, in the firſt year of the hundred and fifth Olympiad, he finiſhed his days.

Xenophon the *Younger*, a Greek writer, ſo called to diſtinguiſh him from the celebrated Xenophon, was born at Epheſus, and lived, according to ſome authors, before Heliodorus, that is, about the beginning of the 4th century. He is only known by his *Epheſiaca*, a Greek romance in five books, which is eſteemed, and contains the amours or adventures of Abracomes and Anthia. This romance was printed at London, in Greek and Latin, in 1724, 4to.

XERXES I. the fifth king of Perſia, memorable for the vaſt army he is ſaid to have carried into the field againſt Leonidas king of Sparta; conſiſting, according to ſome hiſtorians, of 800,000 men, while others make it amount to 3,000,000, excluſive of attendants. The fleet that attended this prodigious land force is likewiſe made to conſiſt of 2000 ſail; and all the ſucceſs they met with was the taking and burning the city of Athens; for the army was ſhamefully repulſed near the ſtraits of Thermopylæ by Leonidas, and the fleet was diſperſed and partly deſtroyed by Themiſtocles at the ſtraits of Salamis, who had only 380 ſail under his command. Xerxes was aſſaſſinated by Artabanes, chief captain of his guards, and his diſtinguiſhed favourite. See Sparta.

XIMENES (Francis), a juſtly celebrated cardinal, biſhop of Toledo, and prime miniſter of Spain, was born at Torrelaguna, in Old Caſtile, in 1437, and ſtudied at Alcola and Salamanca. He then went to Rome; but being robbed on the road, brought nothing back but a bull for obtaining the firſt vacant prebend: but the Archbiſhop of Toledo refuſed it him, and threw him in priſon. Being at length reſtored to liberty, he obtained a benefice in the dioceſe of Siguença, where Cardinal Gonzales de Mendoza, who was the biſhop, made him his grand vicar. Ximenes ſome time after entered among the Franciſcans of Toledo; but being there troubled with viſits, he retired to a ſolitude named *Caſtanel*, and applied himſelf to the ſtudy of divinity and the oriental tongues. At his return to Toledo, Queen Iſabella of Caſtile choſe him for her confeſſor, and afterwards nominated him archbiſhop of Toledo; which, next to the papacy, is the richeſt dignity in the church of Rome. "This honour (ſays Dr. Robertſon) he declined with a firmneſs which nothing but the authoritative injunction of the pope was able to overcome." Nor did this height of promotion change his manners. Though obliged to diſplay in public that magnificence which became his ſtation, he himſelf retained his monaſtic ſeverity. Under his pontifical robes he conſtantly wore the coarſe frock of St. Francis, the rents of which he uſed to patch with his own hands. He at no time uſed linen, but was commonly clad in hair-cloth. He ſlept always in his habit; moſt frequently on the floor or on boards, and rarely in a bed. He did not taſte any of the delicacies which appeared at his table, but ſatisfied himſelf with that ſimple diet which the rule of his order preſcribed. Notwithſtanding theſe peculiarities, ſo oppoſite to the manners of the world, he poſſeſſed a thorough knowledge of its affairs, and diſcovered talents for buſineſs which rendered the fame of his wiſdom equal to that of his ſanctity." His firſt care was to provide for the neceſſities of the poor; to viſit the churches and hoſpitals; to purge his dioceſe of uſurers and places of debauchery; to degrade corrupt judges, and place in their room perſons whom he knew to be diſtinguiſhed by their probity and diſintereſtedneſs. He erected a famous univerſity at Alcala; and in 1499 founded the college of St. Ildephonſo. Three years after he undertook the Polyglot Bible; and for that purpoſe ſent for many learned men to come to him at Toledo, purchaſed ſeven copies in Hebrew for 4000 crowns, and gave a great price for Latin and Greek manuſcripts. At this Bible they laboured above 12 years. It contains the Hebrew text of the Bible; the verſion of the Septuagint, with a literal tranſlation; that of St. Jerom, and the Chaldee paraphraſes of Onkelos; and Ximenes added to it a dictionary of the Hebrew and Chaldee words contained in the Bible. This work is called *Ximene's Polyglot*. In 1507 Pope Julius II. gave him the cardinal's hat, and King Ferdinand the Catholic entruſted him with the adminiſtration of affairs. Cardinal Ximenes was from this moment the ſoul of every thing that paſſed in Spain. He diſtinguiſhed himſelf at the beginning of his miniſtry by diſcharging the people from the burdenſome tax called *acavale*, which had been continued on account of the war againſt Granada; and laboured with ſuch zeal and ſucceſs in the converſion of the Mahometans, that he made 3000 converts, among whom was a prince of the blood of the kings of Granada. In 1509 Cardinal Ximenes extended the dominions of Ferdinand, by taking the city of Oran in the kingdom of Algiers. He undertook this conqueſt at his own expence, and marched in perſon at the head of the Spaniſh army clothed in his pontifical ornaments, and accompanied by a great number of eccleſiaſtics and monks. Some time after, foreſeeing an extraordinary ſcarcity, he erected public granaries at Toledo, Alcala, and Torrelaguna, and had them filled with corn at his own expence; which gained the people's hearts to ſuch a degree, that to preſerve the memory of this noble action they had an eulogium upon it cut on marble, in the hall of the ſenate-houſe at Toledo, and in the market-place. King Ferdinand dying in 1516, left Cardinal Ximenes regent of his dominions; and the Archduke Charles, who was afterwards the emperor Charles V. confirmed that nomination. In this new character he acquitted himſelf with extraordinary integrity and ability, till at length, from the repeated intreaties of Ximenes himſelf, and the impatient murmurs of the Spaniſh miniſtry, Charles V. embarked, and landed in Spain, accompanied by his favourites. Ximenes was advancing to the coaſt to meet him, but at Bos Equillos was ſeized with a violent diſorder, which his followers conſidered as the effects of poiſon. This accident obliging Ximenes to

ſtop, he wrote to the king, and with his uſual boldneſs adviſed him to diſmiſs all the ſtrangers in his train, whoſe number and credit already gave offence to the Spaniards, and earneſtly deſired to have an interview with him, that he might inform him of the ſtate of the nation, and the temper of his ſubjects. To prevent this, not only the Flemings, but the Spaniſh grandees, employed all their addreſs to keep Charles at a diſtance from Aranda, the place to which the cardinal had removed. His advice was now ſlighted and deſpiſed. Ximenes, conſcious of his own integrity and merit, expected a more grateful return from a prince to whom he delivered a kingdom more flouriſhing than it had been in any former age, and lamented the fate of his country, about to be ruined by the rapaciouſneſs and inſolence of foreign favourites. While his mind was agitated by theſe paſſions, he received a letter from the king; in which, after a few cold and formal expreſſions of regard, he was allowed to retire to his dioceſe; and he expired a few hours after reading it in 1517, in the 81ſt year of his age.

This famous cardinal ought not to be confounded with *Roderic* XIMENES, archbiſhop of Toledo, in the 13th century, who wrote a Hiſtory of Spain in nine books; nor with ſeveral other Spaniſh writers of the name of Ximenes.

XIPHIAS, in zoology, the SWORD-FISH; a genus of fiſhes belonging to the order of *apodes*. The upper jaw terminates in a long ſword-ſhaped roſtrum, from which it is called the *ſword-fiſh*: there are no teeth in the mouth; the gill membrane has eight rays; and the body is ſomewhat cylindrical. There is but one ſpecies, *viz.* the *gladius*, found in the European ocean. This fiſh ſometimes frequents our coaſts, but is much more common in the Mediterranean Sea, eſpecially in the part that ſeparates Italy from Sicily, which has been long celebrated for it: the promontory Pelorus, now Capo di Faro, was a place noted for the reſort of xiphias, and poſſibly the ſtation of the ſpeculatores, or the perſons who watched and gave notice of the approach of the fiſh.

The ancient method of taking them is particularly deſcribed by Strabo, and agrees exactly with that practiſed by the moderns. A man aſcends one of the cliffs that overhang the ſea: as ſoon as he ſpies the fiſh, he gives notice, either by his voice or by ſigns, of the courſe it takes. Another, that is ſtationed in a boat, climbs up the maſt, and on ſeeing the ſword-fiſh, directs the rowers towards it. As ſoon as he thinks they are got within reach, he deſcends, and taking a ſpear in his hand, ſtrikes it into the fiſh; which, after wearying itſelf with its agitation, is ſeized and drawn into the boat. It is much eſteemed by the Sicilians, who buy it up eagerly, and at its firſt coming into ſeaſon give about ſixpence Engliſh per pound. The ſeaſon laſts from May till Auguſt. The ancients uſed to cut this fiſh into pieces and ſalt it; whence it was called *Tomus Thurianus*, from Thurii, a town in the bay of Tarentum, where it was taken and cured.

The ſword-fiſh is ſaid to be very voracious, and that it is a great enemy to the tunny, who (according to Belon) are as much terrified at it as ſheep are at the ſight of a wolf. It is a great enemy to the whales, and frequently deſtroys them. See BALÆNA.

XYLO-ALOES, or ALOE-WOOD, in the materia medica, is the product of a tree growing in China and ſome of the Indian iſlands. See EXCÆCARIA. This drug is diſtinguiſhed into three ſorts; the calambac or tambac, the common lignum aloes, and calambour.

1. The *calambac*, or fineſt aloes-wood, called by authors *lignum aloes præſantiſſimum*, and by the Chineſe *ſukhiang*, is the moſt reſinous of all the woods we are acquainted with: it is of a light ſpongy texture, very porous, and its pores ſo filled up with a ſoft and fragrant reſin, that the whole may be preſſed and dented by the fingers like wax, or moulded about by chewing in the mouth, in the manner of maſtich. This kind, laid on the fire, melts in great parts like reſin, and burns away in a few moments with a bright flame and perfumed ſmell. Its ſcent, while in the maſs, is very fragrant and agreeable; and its taſte acrid and bitteriſh, but very aromatic and agreeable. It is ſo variable in its colour, that ſome have divided it into three kinds; the one variegated with black and purple; the ſecond, with the ſame black, but with yellowiſh inſtead of purple; and the third, yellow alone like the yolk of an egg: this laſt is the leaſt ſcented of the three. The variation, however, is owing to the trunk of the tree being itſelf of three different colours; and the heart of it is the valuable ſort firſt deſcribed. The two following are ſuppoſed to be the other parts of the trunk; though this ſeems doubtful, eſpecially in regard to the laſt ſort, from the circumſtance mentioned of its being found in large logs entire, and ſometimes only the *heart*, which, as above noticed, conſtitutes the calambac.

2. The *lignum aloes vulgare* is the ſecond in value. This is of a more denſe and compact texture, and conſequently leſs reſinous than the other; there is ſome of it, however, that is ſpongy, and has the holes filled up with the right reſinous matter; and all of it, when good, has veins of the ſame reſin in it. We meet with it in ſmall fragments, which have been cut and ſplit from larger: theſe are of a tolerably denſe texture in the more ſolid pieces, and of a duſky brown colour, variegated with reſinous black veins. It is in this ſtate very heavy, and leſs fragrant than in thoſe pieces which ſhow a multitude of little holes, filled up with the ſame blackiſh matter that forms the veins in others. The woody part of theſe laſt pieces is ſomewhat darker than the other, and is not unfrequently purpliſh, or even blackiſh. The ſmell of the common aloe-wood is very agreeable, but not ſo ſtrongly perfumed as the former. Its taſte is ſomewhat bitter and acrid, but very aromatic.

3. The *calambour*, called alſo *agallochum ſylveſtre*, and *lignum aloes mexicanum*, is light and friable, of a duſky and often mottled colour, between a duſky green black and a deep brown. Its ſmell is fragrant and agreeable, but much leſs ſweet than that of either of the others; and its taſte bitteriſh, but not ſo much acrid or aromatic as either of the two former. This is ſaid to be met with very frequently, and in large logs; and theſe ſometimes entire, ſometimes only the heart of the tree. This is the aloe-wood uſed by the cabinet-makers and inlayers.

This drug is eſteemed a cordial taken inwardly; and is ſometimes given in diſorders of the ſtomach and bowels, and to deſtroy the worms. A very fragrant oil may be procured from it by diſtillation; which is recommended in paralytic caſes from five to fifteen drops. It is at preſent, however, little known in medicine.

XYNOECIA, in Grecian antiquity, an anniverſary feaſt obſerved by the Athenians in honour of Minerva, upon the ſixteenth of Hecatombæon, to commemorate their leaving, by the perſuaſion of Theſus, their country-ſeats, in which they lay diſperſed here and there in Attica, and uniting together in one body.

XYSTARCHA, in antiquity, the maſter or director of the xyſtus. In the Greek gymnaſium, the xyſtarcha was the ſecond officer, and the gymnaſiarcha the firſt; the former was his lieutenant, and preſided over the two xyſti, and all exerciſes of the athletæ therein.

XYSTUS, among the Greeks, was a long portico, open or covered at the top, where the athletæ practiſed wreſtling and running: the gladiators, who practiſed therein, were called *xyſtici*. Among the Romans, the xyſtus was only an alley, or double row of trees, meeting like an arbour, and forming a ſhade to walk under.

Y.

Y or y, the 23d letter of our alphabet: its ſound is , formed by expreſſing the breath with a ſudden expanſion of the lips from that configuration by which we expreſs the vowel *u*. It is one of the ambigenial letters, being a conſonant in the beginning of words, and placed before all vowels, as in *yard, yield, young*, &c. but before no conſonant. At the end of words it is a vowel, and is ſubſtituted for the ſound of *i*, as in *try, deſcry*, &c. In the middle of words it is not uſed ſo frequently as *i* is, unleſs in words derived from the Greek, as in *chyle, empyreal*, &c. though it is admitted into the middle of ſome pure Engliſh words, as in *dying, flying*, &c. The Romans had no capital of this letter, but uſed the ſmall one in the middle and laſt ſyllables of words, as in *coryambus, onyx, martyr*. Y is alſo a numeral, ſignifying 150, or, according to Baronius, 159; and with a daſh a-top, as $\bar{Y}$, it ſignified 150,000.

YACHT, or YATCH, a veſſel of ſtate, uſually employed to convey princes, ambaſſadors, or other great perſonages, from one kingdom to another. As the principal deſign of a yacht is to accommodate the paſſengers, it is uſually fitted with a variety of convenient apartments, with ſuitable furniture, according to the quality or number of the perſons contained therein. The royal yachts are commonly rigged as ketches, except the principal one reſerved for the ſovereign, which is equipped with three maſts like a ſhip. They are in general elegantly furniſhed, and richly ornamented with ſculpture; and always commanded by captains in his majeſty's navy. Beſides theſe, there are many other yachts of a ſmaller kind, employed by the commiſſioners of the exciſe, navy, and cuſtoms; or uſed as pleaſure-boats by private gentlemen.

YAMS. See DIOSCOREA.

YAMBOO. See EUGENIA.

YARD *of a* SHIP, a long piece of timber ſuſpended upon the maſts of a ſhip, to extend the ſails to the wind. See MAST and SAIL. All yards are either ſquare or lateen; the former of which are ſuſpended acroſs the maſts at right angles, and the latter obliquely. See Plate 4. fig. 1. in vol. IX. The *ſquare* yards are nearly of a cylindrical ſurface. They taper from the middle, which is called the *ſlings*, towards the extremities, which are termed the *yard-arms*; and the diſtance between the ſlings and the yard-arms on each ſide is by the artificers divided into quarters, which are diſtinguiſhed into the firſt, ſecond, third quarters, and yard-arms. The middle quarters are formed into eight ſquares, and each of the end parts is figured like the fruſtum of a cone. All the yards of a ſhip are ſquare except that of the mizen.

The proportions for the length of yards, according to the different claſſes of ſhips in the Britiſh navy, are as follows:

			Guns.
1000 : gun-deck : :	560 :	main-yard fig. 1. Pl. 4. vol. IX.—*Note*, the figure repreſents the yard and ſails of a ſhip of 74 guns.	100
	559 :		90 80
	570 :		70
	576 :		60
	575 :		50
	561 :		44
1000 : main-yard : :	880 :	fore-yard.	100 90 80
	874 :		all the reſt.

Croſs-jack and ſprit-ſail yards equal to the fore topſail-yard.—Sprit-topſail yard equal to the fore top-gallant-yard.

The diameters of yards are in the following proportions to their length. The main and fore yards five-ſevenths of an inch to one yard. The top-ſail, croſs-jack, and ſprit-ſail yards, nine-fourteenths of an inch to one yard. The top-gallant, mizen top-ſail, and ſprit-ſail topſail yards, eight-thirteenths of an inch to one yard. The mizen-yard five-ninths of an inch to one yard. All ſtudding-ſail booms and yards half an inch to one yard in length.

The lifts of the main-yard are exhibited in the above figure by *g g*; the horſes and their ſtirrups by *h*, *i*; the reef-tackles and their pendents by *k*, *l*; and the braces and brace-pendents by *m*, *n*.

The *lateen*-yards evidently derive their names from having been peculiar to the ancient Romans. They are uſually compoſed of ſeveral pieces faſtened together by wooldings, which alſo ſerve as ſteps whereby the ſailors climb to the peek or upper extremity, in order to furl or caſt looſe the ſail.

The mizen-yard of a ſhip, and the main-yard of a bilander, are hung obliquely on the maſt, almoſt in the ſame manner as the lateen-yard of a xebec, ſettee, or polacre.

YARD, a meaſure of length uſed in Britain and Spain, conſiſting of three feet, chiefly to meaſure cloth, ſtuffs, &c.

YARD-*Arm* is that half of the yard that is on either ſide of the maſt, when it lies athwart the ſhip.

YARDS alſo denotes places belonging to the navy, where the ſhips of war, &c. are laid up in harbour. There are belonging to his majeſty's navy ſix great yards, *viz.* Chatham, Deptford, Woolwich, Portſmouth, Sheerneſs, and Plymouth; theſe yards are fitted with ſeveral docks, wharfs, launches, and graving places, for the building, repairing, and cleaning of his majeſty's ſhips; and therein are lodged great quantities of timber, maſts, planks, anchors, and other materials; there are alſo convenient ſtore-houſes in each yard, in which are laid up vaſt quantities of cables, rigging, ſails, blocks, and all other ſorts of ſtores needful for the royal navy.

YARE, among ſailors, implies ready or quick: as, be yare at the helm; that is, be quick, ready, and expeditious at the helm. It is ſometimes alſo uſed for bright by ſeamen: as, to keep his arms yare; that is, to keep them clean and bright.

YARE, a river of Norfolk, which runs from weſt to eaſt through that county, paſſing by Norwich, and falling into the German ſea at Yarmouth.

YARMOUTH, a ſea-port town of Norfolk, with a market on Wedneſdays and Saturdays, and a fair on Friday and Saturday in Eaſter-week for petty chapmen. It is ſeated on the river Yare, where it falls into the ſea; and is a place of great ſtrength, both by art and nature, being almoſt ſurrounded with water; and there is a draw-bridge over the river. It is eſteemed the key of this coaſt, and is a clean handſome place, whoſe houſes are well built, it being a conſiderable town for trade. It has one large church, and a neat chapel, and the ſteeple of St. Nicholas's is ſo high that it ſerves for a ſea-mark. It is governed by a mayor. The harbour is a very fine one, though it is very dangerous for ſtrangers in windy weather; and it has for its ſecurity a pretty ſtrong fort. It is 27 miles eaſt of Norwich, and 112 north-eaſt of London. E. Long. 1. 55. N. Lat. 52. 45.

YARMOUTH, a town of the Iſle of Wight, in Hampſhire, with a market on Fridays, and one fair on July 25th for toys. It is ſeated on the weſtern part of the iſland, on the ſea-ſhore,

and is encompaſſed with water; for, not many years ago a channel was cut through the peninſula, over which there is a draw-bridge, and it is defended by a ſtrong caſtle on the quay. It is a handſome place, whoſe houſes are chiefly built with ſtone, and covered with ſlate; and it ſends two members to parliament. The market is now diſuſed. W. Long. 1. 28. N. Lat. 50. 40.

YARN, wool or flax ſpun into thread, of which they weave cloth. See CLOTH.

YARROW, in botany. See ACHILLÆA.

YAWNING, an involuntary opening of the mouth, generally produced by wearineſs or an inclination to ſleep. Yawning, according to Boerhaave, is performed by expanding at one and the ſame time all the muſcles capable of ſpontaneous motion; by greatly extending the lungs; by drawing in gradually and ſlowly a large quantity of air; and gradually and ſlowly breathing it out, after it has been retained for ſome time and rarified; and then reſtoring the muſcles to their natural ſtate. Hence the effect of yawning is to move, accelerate, and equally diſtribute all the humours through all the veſſels of the body, and conſequently to qualify the muſcles and organs of ſenſation for their various functions. When yawning is troubleſome, Hippocrates ſays that long deep reſpiration or drawing in the air at long intervals cures it.

YEAR, in aſtronomy and chronology. See ASTRONOMY and KALENDAR. The ancient *Roman* year was the lunar year, which, as firſt ſettled by Romulus, conſiſted only of ten months; *viz.* 1. March, containing 31 days. 2. April, 30. 3. May, 31. 4. June, 30. 5. Quintilis, 31. 6. Sextilis, 30. 7. September, 30. 8. October, 31. 9. November, 30. 10. December, 30.—in all 304 days; which came ſhort of the true lunar year by 50 days, and of the ſolar, by 61 days. Numa Pompilius corrected this irregular conſtitution of the year, and compoſed two new months, January and February, of the days that were uſed to be added to the former year.

The ancient *Egyptian* year, called alſo the *year of Nabonaſſar*, on account of the epocha of Nabonaſſar, is the ſolar year of 365 days, divided into 12 months, of 30 days each, beſides five intercalary days added at the end. The names, &c. of the months are as follows: 1. Thoth. 2. Paophi. 3. Athyr. 4. Chojac. 5. Tybi. 6. Mecheir. 7. Phamenoth. 8. Pharmuthi. 9. Pachon. 10. Pauni. 11. Epiphi. 12. Meſori; beſide the ἡμεραι επαγομεναι.

The ancient *Greek* year was lunar; conſiſting of 12 months, which at firſt had 30 days apiece, then alternately 30 and 29 days, computed from the firſt appearance of the new moon; with the addition of an emboliſmic month of 30 days every 3d, 5th, 8th, 11th, 14th, 16th, and 19th year of a cycle of 19 years; in order to keep the new and full moons to the ſame terms or ſeaſons of the year. Their year commenced with that new moon, the full moon of which comes next after the ſummer ſolſtice. The order, &c. of their months was thus: 1. Εκατομβαιων containing 29 days. 2. Μηταγειτνιων 30. 3. Βοηδρομιων, 29. 4. Μαιμακτηριων, 30. 5. Πυανεψιων, 29. 6. Ποσειδεων, 30. 7. Γαμηλιων, 29. 8. Ανθεςηριων, 30. 9. Ελαφηβολιων, 30. 10. Μουνχιων, 30. 11. Θαργηλιων, 29. 12. Σκιροφοριων, 30.

The ancient *Jewiſh* year is a lunar year, conſiſting commonly of 11 months, which alternately contain 30 and 29 days. It was made to agree with the ſolar year, either by the adding of 11, and ſometimes 12 days, at the end of the year, or by an emboliſmic month. The names and quantities of the months ſtand thus: 1. Niſan, or Abib, 30 days. 2. Jiar, or Zius, 29. 3. Siban, or Siwan, 30. 4. Thammuz, or Tammuz, 29. 5. Ab, 30. 6. Elul, 29. 7. Tiſri, or Ethanim, 30. 8. Marcheſvam, or Bull, 29. 9. Ciſleu, 30. 10. Tebeth, 29. 11. Sabat, or Schebeth, 30. 12. Adar, in the emboliſmic year, 30. Adar, in the common year, was but 29. Note, in the defective year, Ciſleu was only 29 days; and in the redundant year, Marcheſvam was 30.

The *Perſian* year is a ſolar year of about 365 days; conſiſting of 12 months of 30 days each, with 5 intercalary days added at the end.

The *Arabic*, *Mahometan*, and *Turkiſh* years, called alſo the *year of the Hegira*, is a lunar year, equal to 354 days 8 hours and 48 minutes, and conſiſts of 12 months, which contain alternately 30 and 29 days.

The *Hindoo* year differs from all theſe, and is indeed different in different provinces of India. The beſt account that we have of it is by Mr. Cavendiſh, in the Phil. Tranſ. of the Royal Society of London for the year 1792.

New YEAR's *Gift*. See GIFT.

YEAST, or YEST, a head or ſcum riſing upon beer or ale while working or fermenting in the vat. See BREWING. It is uſed for a leaven or ferment in the baking of bread, as ſerving to ſwell or puff it up very conſiderably in a little time, and to make it much lighter, ſofter, and more delicate. See BAKING, BARM, and BREAD.

Mr. Henry has publiſhed a method of preparing *artificial yeaſt*, by which good bread may be made without the aſſiſtance of any other ferment. The method is this: Boil flour and water together to the conſiſtence of treacle, and when the mixture is cold, ſaturate it with fixed air. Pour the mixture thus ſaturated into one or more large bottles or narrow-mouthed jars; cover it over looſely with paper, and upon that lay a ſlate or board with a weight to keep it ſteady. Place the veſſel in a ſituation where the thermometer will ſtand from 70° to 80°, and ſtir up the mixture two or three times in 24 hours. In about two days ſuch a degree of fermentation will have taken place, as to give the mixture the appearance of yeaſt. With the yeaſt in this ſtate, and before it has acquired a thoroughly vinous ſmell, mix the quantity of flour intended for bread, in the proportion of ſix pounds of flour to a quart of the yeaſt, and a ſufficient portion of warm water. Knead them well together in a proper veſſel, and covering it with a cloth, let the dough ſtand for 12 hours, or till it appears to be ſufficiently fermented in the fore-mentioned degree of warmth. It is then to be formed into loaves and baked. Mr. Henry adds, that perhaps the yeaſt would be more perfect, if a decoction of malt were uſed inſtead of ſimple water.

It has lately been diſcovered, that a decoction of malt alone, without any addition, will produce a yeaſt proper enough for the purpoſe of brewing. This diſcovery was made by Joſeph Senyor, ſervant of the reverend Mr. Maſon, of Aſton near Rotheram; and he received for it a reward of 20l. from the Society for promoting Arts, Manufactures, and Commerce. The proceſs is as follows: Procure three earthen or wooden veſſels of different ſizes and apertures, one capable of holding two quarts, the other three or four, and the third five or ſix: boil a quarter of a peck of malt for about eight or ten minutes in three pints of water; and when a quart is poured off from the grains, let it ſtand in the firſt or ſmaller veſſel in a cool place till not quite cold, but retaining that degree of heat which the brewers uſually find to be proper when they begin to work their liquor. Then remove the veſſel into ſome warm ſituation near a fire, where the thermometer ſtands between 70 and 80 degrees Fahrenheit, and there let it remain till the fermentation begins, which will be plainly perceived within 30 hours: add then two quarts more of a like decoction of malt, when cool, as the firſt was; and mix the whole in the ſecond or larger veſſel, and ſtir it well in, which muſt be repeated in the uſual way, as it riſes in a common vat: then add a ſtill greater quantity of the ſame decoction, to be

worked in the largeſt veſſel, which will produce yeaſt enough for a brewing of 40 gallons.

Common ale yeaſt may be kept freſh and fit for uſe ſeveral months by the following method: Put a quantity of it into a cloſe canvas bag, and gently ſqueeze out the moiſture in a ſcrew-preſs till the remaining matter be as firm and ſtiff as clay. In this ſtate it may be cloſe packed up in a tight caſk for ſecuring it from the air; and will keep freſh, ſound, and fit for uſe, for a long time. This is a ſecret that might be of great uſe to the brewers and diſtillers, who, though they employ very large quantities of yeaſt, ſeem to know no method of preſerving it, or raiſing nurſeries of it; for want of which they ſuſtain a very conſiderable loſs; whereas the brewers in Flanders make a very great advantage of ſupplying the malt-diſtillers of Holland with yeaſt, which is rendered laſting and fit for carriage by this eaſy expedient.

YELL, one of the iſlands of Shetland, lying north-eaſt from the main land, and divided from it by an arm of the ſea, called *Yell-Sound*. By ſome it is thought to have been the *Thule* of the ancients. In the old deſcriptions it is ſaid to be 20 miles long and 8 broad. It is very mountainous and full of moſs; but there are pretty conſiderable paſtures in which they feed a great many ſheep; and it alſo affords plenty of peat. It has eight large harbours, which would not be thought deſpicable in other countries. Anciently it ſeems to have been pretty populous, ſince there are in it three churches, twenty chapels, and many brughs or Pictiſh forts.

YELLOW, one of the original colours of light.

Naples YELLOW, a beautiful colour much uſed by painters, formerly thought to be prepared from arſenic, but now diſcovered to have lead for its baſis.

YELLOW *Hammer*, in ornithology. See FRINGILLA.

YELLOW-*Fever*. See MEDICINE.

YEMEN, a province of Arabia, ſtretching along the Red Sea and Indian Ocean, and forming a part of the country once known by the name of Arabia Felix.

YEOMEN, the firſt or higheſt degree among the plebeians of England, next in order to the gentry. The yeomen are properly freeholders, who having land of their own, live on good huſbandry.

YEOMEN is alſo a title of office in the king's houſehold, of a middle place or rank between an uſher and a groom.

YEOMEN *of the Guard* were anciently 250 men of the beſt rank under gentry, and of larger ſtature than ordinary, each being required to be ſix feet high. At preſent there are but 100 yeomen in conſtant duty, and 70 more not on duty; and as any of the 100 dies, his place is ſupplied out of the 70. They go dreſſed after the manner of King Henry VIII.'s time. They formerly had diet as well as wages when in waiting; but this was taken off in the reign of Queen Anne.

YEW, in botany. See TAXUS.

YNCA, an appellation anciently given to the kings of Peru, and the princes of their blood; the word literally ſignifying, lord, king, emperor, and royal blood.

YOAK, or YOKE, in agriculture, a frame of wood fitted over the necks of oxen, whereby they are coupled together, and harneſſed to the plough.

YOAK *of Land*, in our ancient cuſtoms, was the ſpace which a yoke of oxen, that is, two oxen, may plow in one day.

YOLK, the yellow part in the middle of an egg (ſee EGG.) It contains a lymphatic ſubſtance mixed with a certain quantity of mild oil, which, on account of this mixture, is ſoluble in water. When expoſed to heat, it aſſumes a conſiſtence not ſo hard as the white of the egg; and when bruiſed gives out the oil which it contains. This oil has been uſed externally as a liniment.

YONNE, a river in France, which riſing in Burgundy, and running north through Nivernois and Champaign, falls into the Seyne at Monterau ſur Yonne.

YORK, a city of England, and ſee of an archbiſhop, ſituated on the river Ouſe, in the weſt-riding, near the centre of the county to which it gives name. It has always been conſidered as the capital of the north part of England, and the ſecond in rank. The origin of this city is not well known; certain it is, however, that it was the ſtation of the ſixth legion, called Victrix, which Adrian brought out of Germany, and a Roman colony. The emperor Conſtantius Chlorus, is ſaid to have died here, and his ſon, Conſtantine the Great, being in England at the time of his father's death, to have been proclaimed emperor. This city, under the Saxon government, was for a conſiderable time in a very flouriſhing ſtate, till the Daniſh ſtorm, burſting on it from the north, waſted it in a dreadful manner with fire and ſword. And in the next century it felt greater and more terrible calamities in the Daniſh ravages. In the year 867, the walls had ſuffered ſo much from the aſſaults of war, that Oſbright and Ella, kings of Northumberland, purſuing the Danes, got the city without any difficulty; and being ſlain in a bloody battle in the middle of the city, left the victory to the Danes who had retired into it. Hence Malmſbury obſerves, that York was always firſt expoſed to the fury of the northern nations, received the barbarous ſhocks of the Danes, and groaned under repeated devaſtations: but, as the ſame author aſſerts, our Athelſtan wreſted it from the Danes, and levelled with the ground the ſtrong caſtle which they had erected there. It was not, however, altogether free from wars in ſucceeding years, that whole century being remarkable for the ruin of cities; but the Normans, as they put a ſtop to theſe calamities, ſo they almoſt utterly deſtroyed York; for the ſons of Swain arriving with a fleet of 240 Daniſh ſhips in the neighbourhood, the Norman garriſon that held two caſtles in the city, fearing leſt the houſes in the ſuburbs might favour the enemy in filling up the ditch, ſet them on fire; but the wind blowing ſtrong, ſpread the flames over the whole city, ſo that it was all in a blaze, when the the Danes broke in and made a dreadful maſſacre of the inhabitants, putting the Normans to the ſword, reſerving only William Mallet and Gilbert Gant, principal officers of diſtinction, to be decimated with the ſoldiers. For they ſet apart every tenth man of the Normans by lot for execution. This ſo provoked William I. that he extirpated the inhabitants, as if they had taken part with the Danes, and burned the city a ſecond time, and, according to Malmſbury's account, ſo deſolated the neighbouring villages, and ſo exhauſted this fruitful province by his devaſtations, that the ground lay uncultivated for ſixty miles together. Peace ſucceeding theſe turbulent times, York recovered itſelf, though often devoted to deſtruction by the Scots and ſeditious. In the reign of Stephen, it ſuffered by an accidental fire, which conſumed the cathedral, St. Mary's abbey, and other religious houſes, together, as is generally thought, with a well-furniſhed library, founded by Archbiſhop Egelred. St. Mary's abbey ſoon recovered its former magnificence by a new building, but the cathedral lay neglected till the time of Edward I. when John Roman, treaſurer of the church, laid the foundation of the new work, which his ſon John, William Melton, and John Thoreſby, all archbiſhops, gradually brought to perfection by the aſſiſtance of the neighbouring nobility. About the ſame time alſo, the citizens fortified the city with new walls, and a number of towers, thick ſet, and planned a body of excellent laws for their government. King Richard II. made it a county, corporate by itſelf, and Richard III. began the caſtle anew: and Henry VIII. eſtabliſhed here a council or ſenate-houſe, not unlike the French parliaments, to try and determine the cauſes of this part of the kingdom, conſiſting of a

preſident and council, whoſe numbers depended on the king's pleaſure, a ſecretary, and other officers. Before William the Conqueror burned York, authors do not ſcruple to compare it to Rome. It was the chief emporium in the north of England, and fifty years after the terrible fire in King Stephen's time, in the year 1186, this city had ſo raiſed its head, as to bear half-proportion to London. A woollen manufacture was held here to the reign of Henry VIII. But the navigation of the Ouſe was neglected till the reign of George I. when an act of parliament was obtained for its improvement, but not effectually carried into execution at that time. The walls of this ancient city are all entire, being repaired every year if there is occaſion. Thoſe on the ſouth and eaſt from Fiſhergate to the Red Tower, and thence to Walmgate, were rebuilt in the years 1487 and 1673; and in the former of theſe diviſions is a walk. The city is divided into four wards, Micklegate, Botham, Monk, and Walmgate, and has four principal gates, and ſix poſterns. The latter of theſe gates is ſuppoſed to derive its name by corruption from Watling-ſtreet. In the reign of Henry V. it had forty-four pariſh churches, beſides ſeventeen chapels, ſixteen hoſpitals, and nine religious houſes. At the reformation, theſe were reduced to little more than half the number of pariſh churches, eighteen of them being united to the reſt, three hoſpitals, and one or two chapels. Clifford's Tower, a round ſhell, is beautifully ſituated on an artificial mount, commanding an extenſive view over the river. It is ſaid to be as old as the Conqueſt, and might have been raiſed by the Conqueror, or, as its mount exactly correſponds with the old bank on the weſt ſide of the river, it may have been Roman work. It was uſed as a garriſon in the civil war, and till the year 1683, when the magazine blowing up, reduced it to its preſent form. The bridge over the Ouſe conſiſts of five arches, the middlemoſt eighty-one feet, or twenty-ſeven yards wide, and ſeventeen high. It was built about the year 1566, after the old one had been broken down by a ſudden thaw. On its north ſide is an old chapel, with Saxon zigzag, probably built by the citizens, in the year 1268, in memory of certain Scots then ſlain in an affray on the bridge. It was turned into an exchange. The cathedral, alike venerable for ſize, ſtyle, and ornaments, was two centuries in building, from the year 1227, when Archbiſhop Grey began the ſouth croſs, to 1426, when the grants of the dean and chapter call it *new built*. The whole length, from eaſt to weſt, is 524 feet, the breadth 109, length of the croſs-aiſle and the height of the lantern ſteeple 180. The eaſt window is ſaid hardly to have its equal for tracery, painting, and preſervation, and was the work of John Thornton, a glazier, of Coventry, in the year 1405. The archiepiſcopal ſee of York was inſtituted in form, though not in ſubſtance, by Pope Gregory, in his letter to Auguſtine, in the year 602, but in ſubſtance by Pope Honorius, who ſent to Paulinus, in the year 634. By a charter of Richard I. it was governed by a mayor, to which the title of lord was prefixed by Richard II. Other members of the corporation are aldermen, aſſiſtants, town-clerks, common-council, &c. The guild-hall was built in the year 1446; the lord-mayor's houſe in the year 1726; and an elegant aſſembly-room in the year 1736, from a deſign of the Earl of Burlington. Manufactures have not ſucceeded in York. The diſtrict ſituated to the ſouth and ſouth weſt of the city is called *the Ainſtey of York*. It ſends two members to the Britiſh parliament, and has four markets weekly, Tueſday, Thurſday, Friday, and Saturday: 197 miles N. London, and 191 S. Edinburgh.

YORKSHIRE, the largeſt county of England, bounded on the ſouth by Derbyſhire, Nottinghamſhire, and Lincolnſhire; on the north by Durham and Weſtmoreland; on the eaſt by the German Ocean; and on the weſt by Lancaſhire and a part of Cheſhire.—It is upwards of 80 miles in length from eaſt to weſt, nearly as much in breadth, and about 360 in circumference, containing, in the whole 26 hundreds or wapentakes, 49 market-towns, 563 pariſhes, 242 vicarages, with many chapels of eaſe, and 2350 villages. Its area is computed by ſome at 4684 ſquare miles, by others at 3,770,000 acres, and its inhabitants at upwards of 530,000. It is divided into three parts or ridings, viz. the Weſt, Eaſt, and North; ſo denominated from their ſituation, in reſpect of the city of York. Each of theſe is as large, if not larger, than any ordinary county. There are other diviſions, as Richmondſhire, Allertonſhire, Howdenſhire, Hallanſhire, Craven, Cleveland, Marſhland, Holderneſs, &c.

As the ſoil and face of the country vary greatly, ſo does the air. In the hilly parts the air is good, but the ſoil very indifferent; of the lower ſome are marſhy, others drier, and the ſoil of both rich; but the air of the former is more foggy and unhealthy than that of the latter. The manufactures of this country are cutlery and hard-wares; particularly knives, bits, and ſpurs; but the principal are ſtockings and woollen cloth, with which it ſupplies, in a great meaſure, Germany and the North. As to the produce, it abounds in corn, cattle, horſes, lead, and iron, coal, wood, lime, liquorice, alum, jet, &c. It lies wholly in the northern circuit, and much the greater part of it in the dioceſe of York; that only which is called *Richmondſhire* belonging to the dioceſe of Cheſter. The members it ſends to parliament are 30; of which two are for the ſhire and 28 for the towns.

New-YORK, a ſtate of United America, bounded on the north by the 45th degree of latitude, which ſeparates it from Canada, on the eaſt by Connecticut, Maſſachuſetts, and Vermont, on the ſouth-eaſt by the Atlantic, on the ſouth and ſouth-weſt, by New Jerſey and Pennſylvania, and on the north-weſt by the river St. Lawrence, and the lakes Erie and Ontario: containing in the whole 44,000 ſquare miles, or about 28 millions of acres. The ſtate, to ſpeak generally, is interſected by ridges of mountains, running in a north-eaſt and ſouth weſt direction. Beyond the Allegany Mountains, however, the country is a dead level, of a fine rich ſoil; covered, in its natural ſtate, with maple, beech, birch, cherry, black walnut, locuſt, hickery, and ſome mulberry trees. On the banks of lake Erie, are a few cheſnut and oak ridges. Hemlock ſwamps, are interſperſed thinly through the country. All the creeks that empty into lake Erie, have falls, which afford many excellent mill-ſeats. Eaſt of the Allegany Mountains, the country is broken into hills, with rich intervening valleys; the hills are clothed thick with timber, and when cleared, afford fine paſture; the valleys, when cultivated, produce wheat, hemp, flax, peas, graſs, oats, and Indian corn: beſides the trees already mentioned, there are, in various parts of the ſtate, the ſeveral kinds of oak, ſuch as white, red, yellow, black, and cheſnut, oak; white, yellow, ſpruce, and pitch, pines; cedar, balſam, or fir-tree; butternut, poplar, white-wood, which in Pennſylvania is called poplar, and in Europe the tulip-tree; ſugar and rock maple, the linden tree, which, with the white wood, grows on the low rich ground; the button-wood, or ſycamore, ſhrub cranberry, the fruit of which hangs in cluſters, like grapes, as large as cherries; this ſhrub, too, grows on low ground. Beſides theſe is the ſumach, which bears cluſters of red berries; the Indians chew the leaves inſtead of tobacco; the berries are uſed in dyes. Of the commodities produced from culture, wheat is the ſtaple, of which immenſe quantities are raiſed and exported. Indian corn and peas, are likewiſe raiſed for exportation; and rye, oats, barley, &c. for home conſumption. In ſome parts of the ſtate, large dairies are kept, which furniſh for the market, butter and cheeſe. The beſt lands in this ſtate, which lie

along the Mohawk river, and weſt of the Allegany mountains, are yet in a ſtate of nature, or are juſt beginning to be ſettled. This ſtate, agreeably to an act of their legiſlature, paſſed in March, 1788, is divided into 16 counties; which, by another act paſſed at the ſame time, were divided into townſhips. In the above-mentioned acts, the limits of the counties and townſhips are defined. Theſe townſhips are corporations inveſted with certain privileges. The act directs, that the freeholders in the ſeveral townſhips ſhall aſſemble in town meetings, on the firſt Tueſday in April, annually, and chooſe their town-officers. The number of inhabitants in this ſtate, in 1786, was 238,897; of which 18,889 were negroes. In 1756, there were 83,233 whites, and 13,542 blacks; 96,775 in the whole. In 1771, there were 148,124 whites, and 19,883 blacks; total, 168,007. The population for every ſquare mile, including the whole ſtate, is only five, ſo that this ſtate is but a ninth part as populous as Connecticut. But it is to be conſidered, that Connecticut has no waſte lands, and not half the ſtate of New York is ſettled. The ſtate of Connecticut, however, throughout, is at leaſt three times as thickly populated, as the ſettled parts of New York. This ſtate contains vaſt quantities of iron ore. There is a ſilver mine at Philipſburg, which produces virgin ſilver, ſpar, zink, or ſpelter, a ſemi-metal, magnez, uſed in glazings, peritus, of a golden hue; various kinds of copper ore, and lead and coal mines, are found in this ſtate. Alſo petrified wood, plaſter of Paris, iſinglaſs in ſheets, talcs, and cryſtal of various kinds and colours, aſbeſtos, and ſeveral other foſſils. A ſmall black ſtone had alſo been found, which vitrifies with a ſmall heat, and makes excellent glaſs. The principal rivers are, Hudſon, Onondago, Mohawks, Delaware, Suſquehanna, Allegany, Tyoga, &c. The conſtitution of this ſtate provides for the free exerciſe of religious profeſſion and worſhip, without diſcrimination or preference, within the ſtate, for all mankind; provided the liberty for conſcience hereby granted ſhall not be ſo conſtrued as to excuſe acts of licentiouſneſs, or juſtify practices inconſiſtent with the peace and ſafety of the ſtate. The miniſters of every denomination in the ſtate, are ſupported by the voluntary contributions of the people, raiſed generally by ſubſcription, or by a tax upon the pews, except the Dutch churches in New York, Albany, Skenectady, and Kingſton, which have, except the two laſt, large eſtates confirmed by a charter. The epiſcopal church, alſo, in New York, poſſeſs a very large eſtate in and near the city. The ſupreme legiſlative powers of the ſtate are veſted in two branches, a ſenate and aſſembly. The members of the ſenate are elected by the freeholders of the ſtates, who poſſeſs freehold eſtates to the value of 100l. clear of debts. For the purpoſe of electing ſenators, the ſtate is divided into four great diſtricts, each of which chooſes a certain number. The ſenators are divided by lot into four claſſes, ſix in each claſs, and numbered, firſt, ſecond, third, and fourth. The ſeats of the firſt claſs, are vacated at the expiration of one year; the ſecond at the expiration of the next, &c. and their places filled by new elections. Thus a ſmall change is made in the ſenate every year; but three-fourths of the members remaining, preſerve a knowledge of the buſineſs of the former ſeſſion. A majority of the ſenate is neceſſary to do buſineſs; and each branch of the legiſlature has a negative upon the other. The legiſlature can at any time alter this diviſion of the ſtate, for the choice of ſenators; and an increaſe of electors in any diſtrict, to the amount of one twenty-fourth of the electors in the whole ſtate, entitles the diſtrict to another ſenator. But the number of ſenators can never exceed one hundred. The aſſembly of the ſtate is compoſed of repreſentatives, from the ſeveral counties, choſen annually in May. By the conſtitution, however, it is ordered, that at the end of ſeven years, after the termination of the late war, a cenſus of the electors and inhabitants ſhall be taken, and the repreſentation apportioned, according to the number of electors in each county. The ſupreme executive power of the ſtate is veſted in a governor (in whoſe abſence, a deputy-governor is appointed to ſerve) choſen once in three years, by the freemen of the ſtate. The lieutenant-governor is, by his office, preſident of the ſenate; and, upon an equal diviſion of voices, has a caſting vote; but has no voice on other occaſions. The governor has not a ſeat in the legiſlature; but, as a member of the council of reviſion, and council of appointment, he has a vaſt influence in the ſtate. Hudſon's river was firſt diſcovered in 1608, by Henry Hudſon, an Engliſhman, who ſold his claim to the Dutch. In 1614 the States-General granted a patent to ſeveral merchants, for an excluſive trade on the river Hudſon. The ſame year this company built a fort on the weſt ſide of the river, near Albany, and named it Fort Orange. In 1614 Captain Argall, under Sir Thomas Dale, governor of Virginia, viſited the Dutch on Hudſon's river, who being unable to reſiſt him, prudently ſubmitted, for the preſent, to the King of England, and, under him, to the Governor of Virginia. Determined upon the ſettlement of a colony, the States-General, in 1621, granted the country to the Weſt-India company; and, in the year 1629, Wouter Van Twiller arrived at Fort Amſterdam, and took upon himſelf the government. On Auguſt 27, 1664, Governor Stuveſant ſurrendered the colony to Colonel Nicolls, who had arrived in the bay a few days before, with three or four ſhips, and about 300 ſoldiers, having a commiſſion from King Charles II. to reduce the place, which was then called *New Amſterdam*, but was changed to New York, as was Fort Orange to Albany, in honour of his Royal Highneſs James duke of York and Albany. Very few of the inhabitants thought proper to remove out of the country; and their numerous deſcendants are ſtill in many parts of this ſtate and New Jerſey. In 1667, at the peace of Breda, New York was confirmed to the Engliſh, who, in exchange, ceded Surinam to the Dutch. The Engliſh kept peaceable poſſeſſion of the country until the year 1673, when the Dutch, with whom they were then at war, ſent a ſmall ſquadron, which arrived at Staten Iſland on the 30th of July. John Manning, a captain of an independent company, who had, at that time, the command of the fort, ſent a meſſenger down to the commodore, and treacherouſly made his terms with him. On the ſame day the ſhips came up, moored under the fort, landed their men, and entered the garriſon, without giving or receiving a ſhot. All the magiſtrates and conſtables from Eaſt Jerſey, Long Iſland, Æſopus, and Albany, were ſummoned to New York, and the major part of them ſwore allegiance to the States-General and the Prince of Orange. The conquerors, however, did not long enjoy the fruits of their ſucceſs; for, on the 9th of February, the year following, a treaty of peace between England and Holland was ſigned at Weſtminſter; by the ſixth article of which, this province was reſtored to the Engliſh, in whoſe hands it remained until the late revolution. While New York remained in poſſeſſion of the Dutch, it was called *New Belgium*, or *New Netherlands*, and governed by an eſcout, burgomaſters, and echevins. From its ſurrender to the Engliſh, in 1664 to 1683, the province was ruled by governors, appointed and commiſſioned by the Duke of York, and their council, whoſe rules and orders had the force of laws. From the laſt-named period, the people were admitted to a ſhare of the legiſlative authority. The confederated cantons of Indians, before the incorporation of the Tuſcaroras, a people driven by the Carolinians from the frontiers of Virginia, conſiſted of five nations, viz. the Mohawks, Oneidas, Senecas, Onondagas, and Cayugas. The alliance and trade of theſe ſix

nations inhabititing the territory weſt of Albany, to the diſtance of more than 200 miles, though much courted by the French of Canada, have been almoſt uninterruptedly enjoyed by the Engliſh. The chief towns are New York, Albany, and Hudſon.

YORK (*New*), a city of America, and capital of a ſtate of the ſame name, ſituated at the ſouth-weſt point of an iſland, at the confluence of the Hudſon and Eaſt river. The principal part of the city lies on the eaſt ſide of the iſland, although the buildings extend from one river to the other. The length of the city on Eaſt river is about two miles, but falls much ſhort of that diſtance on the banks of the Hudſon: its breadth, on an average, is nearly three-fourths of a mile, and its circumference may be four miles. The plan of this city is not perfectly regular, but is laid out agreeably to the ſituation of the ground. The principal ſtreets are nearly parallel with the rivers: theſe are interſected, though not at right angles, by ſtreets running from river to river: the width of the ſtreets is various. The houſes are generally built of brick, and the roofs tiled: there are remaining a few houſes built after the old Dutch manner, but the Engliſh taſte has prevailed almoſt a century. Upon the ſouth-weſt point of the land ſtands the fort, which is a ſquare, with four baſtions; within the walls of which the governors uſed formerly to reſide. Below the fort, near the water, there is a line of fortifications of conſiderable extent, deſigned to command the entrance into both rivers. But it is queſtionable, whether any number of cannon would prevent ſhips from paſſing with a favourable wind and tide; and, indeed, whether New York is capable of defence, by land, againſt a powerful marine force. The city hall is a brick building, more ſtrong than elegant; it is three ſtories in height, with wings at each end. There are three houſes of public worſhip, belonging to the reformed Proteſtant Dutch church, four Preſbyterian, and three Epiſcopal churches, with nine places of worſhip for other Chriſtians, and a ſynagogue for the Jews. The government of the city (which was incorporated in 1696) is now in the hands of a mayor, aldermen, and common-council. The city is divided into ſeven wards, in each of which there is choſen annually, by the people, an alderman and aſſiſtant, who, together with the mayor and recorder, form the common-council: the mayor and recorder are appointed, annually, by the council of appointment. This city is eſteemed the moſt eligible ſituation for commerce in the United States; it almoſt neceſſarily commands the trade of one half of New Jerſey, moſt of that of Connecticut, and part of that of Maſſachuſetts, beſides the whole fertile interior country, which is penetrated by one of the largeſt rivers in America. This city imports moſt of the goods conſumed between a line of thirty miles eaſt of Connecticut river, and twenty miles weſt of the Hudſon, which is 130 miles; and between the ocean and the confines of Canada, about 250 miles: a conſiderable portion of which is the beſt peopled of any part of the United States, and the whole territory contains at leaſt half a million of people. In times of peace, New York will command more commercial buſineſs than any town in the United States. In time of war it will be inſecure without a marine force; but a ſmall number of ſhips will be able to defend it from the moſt formidable attacks by ſea. A want of good water is a great inconvenience to the citizens, there being few wells in the city: moſt of the people are ſupplied every day with freſh water, conveyed to their doors in caſks, from a pump, which receives it from a ſpring almoſt a mile from the city. It is found, by a memorandum in one of the old regiſters, that the total number of inhabitants in the city, taken by order of the king, in the year 1697, was 4302. The number of inhabitants in the city and county of New York, in 1756, was 10,881; in 1771, 21,863; and in the year 1786, 23,614: 70 miles NNE. Philadelphia. Long. 74. W. Greenwich. Lat. 40. 40. N.

YOUNG (Dr. Edward), was the ſon of a clergyman of the ſame name, and was born about the year 1679. When ſufficiently qualified, he was matriculated into All Souls college, Oxford; and deſigning to follow the civil law, he took a degree in that profeſſion. In this ſituation he wrote his poems called *The Laſt Day*, publiſhed in 1704; which coming from a layman gave univerſal ſatisfaction: this was ſoon after followed by another, entitled, *The Force of Religion*, or *Vanquiſhed Love*. Theſe productions gained him a reſpectable acquaintance; he was intimate with Addiſon, and thus became one of the writers of the Spectator: but the turn of his mind leading him to the church, he took orders, was made one of the king's chaplains, and obtained the living of Welwyn in Hertfordſhire, worth about 500l. *per annum*, but he never roſe to higher preferment. For ſome years before the death of the late Prince of Wales, Dr. Young attended his court pretty conſtantly; but upon his deceaſe all his hopes of church preferment vaniſhed: however, upon the death of Dr. Hales, he was taken into the ſervice of the Princeſs Dowager of Wales, and ſucceeded him as her privy chaplain. When pretty far advanced in life, he married the Lady Elizabeth Lee, daughter of the late Earl of Lichfield. This lady was a widow, and had an amiable ſon and daughter, who both died young. What he felt for their loſs, as well as for that of his wife, is finely expreſſed in his Night Thoughts, in which the young lady is characteriſed under the name of Narciſſa; her brother by that of Philander. He wrote three tragedies, *The Revenge*, *Buſiris*, and *The Brothers*. His ſatires, called *Love of Fame the univerſal Paſſion*, are by many eſteemed his principal performance; though Swift ſaid the poet ſhould have been either more angry or more merry: they have been characteriſed as a ſtring of epigrams written on one ſubject, that tire the reader before he gets through them. His *Complaint*, or *Night Thoughts*, exhibit him as a moral and melancholy poet, and are eſteemed his maſter-piece. They form a ſpecies of poetry peculiarly his own, and in which he has been unrivalled by all thoſe who attempted to write in this manner. They were written under the recent preſſure of his ſorrow for the loſs of his wife, daughter, and ſon-in-law; they are addreſſed to Lorenzo, a man of pleaſure and the world, and who, as it is inſinuated by ſome, is his own ſon, but then labouring under his father's diſpleaſure. As a proſe-writer, he arraigned the prevailing manners of his time, in a work called *The Centaur not Fabulous*; and when he was above 80 years of age, publiſhed *Conjectures on Original Compoſition*. He publiſhed ſome other pieces; and the whole of his works are collected in 4 and 5 vols. 12mo. Dr. Young's turn of mind was naturally ſolemn; yet, notwithſtanding this gloomineſs of temper, he was fond of innocent ſports and amuſement. He inſtituted an aſſembly and a bowling-green in the pariſh of which he was rector, and often promoted the gaiety of the company in perſon. His wit was generally poignant, and ever levelled at thoſe who teſtified any contempt for decency and religion. One Sunday preaching in office at St. James's, he found, that though he ſtrove to make his audience attentive, he could not prevail. Upon which his pity for their folly got the better of all decorum, and he ſat back in the pulpit and burſt into a flood of tears. Towards the latter part of life he knew his own infirmities, and ſuffered himſelf to be in pupilage to his houſe-keeper; for he conſidered that, at a certain time of life, the ſecond childhood of age demanded its wonted protection. His ſon, whoſe boyiſh follies were long obnoxious to paternal ſeverity, was at laſt forgiven in his

will; and our poet died regretted by all, having performed all that man could do to fill his poſt with dignity. His death happened in 1765.

YPRES, a handſome, large, and populous town of the Auſtrian Netherlands, with a biſhop's ſee. It has a conſiderable manufactory in cloth and ſerges, and every year in Lent there is a conſiderable fair. It is one of the barrier towns, but was beſieged and taken by the French in 1744. It is ſeated on a fertile plain on the river Ypre, in E. Long. 2. 48. N. Lat. 50. 51.

YUCCA, Adam's Needle, in botany: a genus of plants of the claſs *herandria* and order *monogynia*. The corolla is campanulate and patent, there is no ſtyle, the capſule is trilocular. There are four ſpecies, none of which are natives of Britain. All of them are exceedingly curious in their growth, and are therefore much cultivated in gardens. The Indians make a kind of bread from the roots of this plant.

YULE, Yool, or *Iul*. See Iul.

YUNX, in zoology, a genus of birds of the order *Picæ*. The bill is ſhort, roundiſh, and pointed; the noſtrils concave and naked: the tongue very long and cylindrical; there are two fore and two hind claws. There is only one ſpecies, the *torquilla*, wry-neck, which is a native of Europe, Aſia, and Africa, and is often ſeen in Britain. It is aſh-coloured above, with light black and brown ſtrokes. Beneath light brown, with black ſpots. Tail aſh-colour, with four black bars. Weight $1\frac{1}{4}$ oz. Irides hazel. Length 7 inches. Migrates.

Z.

Z A A

Z, or z, the 24th and laſt letter, and the 19th conſonant of our alphabet; the ſound of which is formed by a motion of the tongue from the palate downwards and upwards to it again, with a ſhutting and opening of the teeth at the ſame time. This letter has been reputed a double conſonant, having the ſound *ds*; but ſome think with very little reaſon: and, as if we thought otherwiſe, we often double it, as in *puzzle*, *muzzle*, &c. Among the ancients, Z was a numeral letter, ſignifying 2000; and with a daſh added a-top, $\bar{Z}$ ſignified 2000 times 2000, or 4,000,000. In abbreviations this letter formerly ſtood as a mark for ſeveral ſorts of weights; ſometimes it ſignified an ounce and a half; and very frequently it ſtood for half an ounce; ſometimes for the eighth part of an ounce, or a dram troy weight; and it has in earlier times been uſed to expreſs the third part of an ounce or eight ſcruples. ZZ were uſed by ſome of the ancient phyſicians to expreſs myrrh, and at preſent they are often uſed to ſignify zinziber or ginger.

ZAARA, Zapara, Sahara, or *the Deſert*, a vaſt country of Africa, bounded on the north by Barbary, on the eaſt by Fezzan and Caſhna, on the ſouth by Tombuctoo, and on the weſt by the Atlantic Ocean. Zaara contains a variety of wandering nations, all proceeding from Arabs, Moors, and fugitive Portugueſe, who took refuge there when the family of the Sherifs made themſelves maſters of the three kingdoms of Barbary. All theſe people bear indiſcriminately the names of *Nars*, *Moors*, or *Arabs*. They are ſubdivided into various nations, of which the moſt conſiderable are the Mongearts, Traſars, and Bracnars. The Mongearts lead a wandering life, and live chiefly on the milk of their flocks, with a little barley meal, and ſome dates. The poorer ſort go naked, except the females, who commonly wrap a clout about their middle, and wear a kind of bonnet on their head; but the wealthier ſort have a kind of looſe gown, made of blue callicoe, with large ſleeves, that is brought them from Negroland. When they move from one place to another for freſh paſture, water, or prey, moſt of them ride on camels, which have generally a ſort of ſaddle between the bunch and the neck, with a ſtring or ſtrap run through their noſtrils, which ſerves for a bridle; and inſtead of ſpurs they uſe a ſharp bodkin. Their tents or huts are covered with a coarſe ſtuff, made of camel's hair, and a kind of wool or moſs that grows on the palm trees. Theſe Arabs live here under the government of their ſheiks or cheyks; as in Arabia, Egypt, and other places.

Z A F

The other two tribes are rather more civiliſed. They are all Mahometans.

ZABULON (anc. geog.), one of the twelve tribes: bounded on the north by the tribes of Aſher and Napthali; on the eaſt by the ſea of Galilee; on the ſouth by the tribe of Iſſachar or the brook Ciſon, which ran between both; on the weſt by the Mediterranean; ſo that it touched two ſeas, or was bimarous.

Zabulon (anc. geog.), a very ſtrong town in the tribe of that name, on the Mediterranean, ſurnamed *of men*, near Ptolemais: its vicinity to which makes it probable that it was alſo Chabulon, unleſs either name is a faulty reading in Joſephus: diſtant about 60 ſtadia from Ptolemais.

ZACYNTHUS (anc. geog.), an iſland to the ſouth of Cephalenia 60 ſtadia, but nearer to Peloponneſus, in the Ionian Sea, formerly ſubject to Ulyſſes, in compaſs above 160 ſtadia, woody and fruitful, with a conſiderable cognominal town and a port. The iſland lies over againſt Elis, having a colony of Achæans from Peloponneſus, over againſt the Corinthian Gulf. Both iſland and town are now called *Zante*.

ZAFFRE, is the oxyd of cobalt, employed for painting pottery ware and porcelain of a blue colour. The method of preparing it is as follows: The cobalt taken out of the mine is broken with hammers into pieces about the ſize of an hen's egg: and the ſtony involucrum, with ſuch other heterogeneous matters as are diſtinguiſhable by the eye, are ſeparated as much as poſſible. The choſen mineral is then pounded in ſtamping mills, and ſifted through braſs wire ſieves. The lighter parts are waſhed off by water, and it is afterwards put into a large flat-bottomed arched furnace, reſembling a baking oven, where the flame of the wood reverberates upon the ore; which is occaſionally ſtirred and turned with long-handled iron hooks or rakes; and the proceſs is continued till it ceaſes to emit any fumes. The oven or furnace is terminated by a long horizontal gallery, which ſerves for a chimney; in which the arſenic, naturally mixed with the ore, ſublimes. If the ore contains a little biſmuth, as this ſemimetal is very fuſible, it is collected at the bottom of the furnace. The cobalt remains in the ſtate of a dark grey oxyd, and is called *zaffre*. One hundred pounds of the cobalt ore loſe 20 and even 30 *per cent.* during this operation, which is continued 4 or even 9 hours, according to the quality of the ore. The roaſted ore being taken out from the furnace, ſuch

parts as are concreted into lumps are pounded and ſifted afreſh. Zaffre, in commerce, is never pure, being mixed with two or rather three parts of powdered flints. A proper quantity of the beſt ſort of theſe, after being ignited in a furnace, are thrown into water to render them friable, and more eaſily reduced to powder; which, being ſifted, is mixed with the zaffre, according to the before-mentioned doſe; and the mixture is put into caſks, after being moiſtened with water. This oxyd, fuſed with three parts of ſand, and one of pot-aſh, forms a blue glaſs; which, when pounded, ſifted, and afterwards ground in mills, included in large caſks, forms *ſmalt*.

The blue of zaffre is the moſt ſolid and fixed of all the colours that can be employed in vitrification. It ſuffers no change from the moſt violent fire. It is ſucceſsfully employed to give ſhades of blue to enamels, and to the cryſtal glaſſes made in imitation of ſome opaque and tranſparent precious ſtones, as the lapis lazuli, the turquois, the ſapphire, and others of this kind.

ZALEUCUS, a famous legiſlator of the Locrians, and the diſciple of Pythagoras, flouriſhed 500 years B. C. He made a law, by which he puniſhed adulterers with the loſs of both their eyes; and his ſon offending was not abſolved from this puniſhment: yet, to ſhow the father as well as the juſt lawgiver, he put out his own right, and his ſon's left eye. This example of juſtice and ſeverity made ſo ſtrong an impreſſion on the minds of his ſubjects, that no inſtance was found of the commiſſion of that vice during the reign of that legiſlator. It is added, that Zaleucus forbad any wine being given to the ſick on pain of death, unleſs it was preſcribed by the phyſicians; and that he was ſo jealous of his laws, that he ordered, that whoever was deſirous of changing them, ſhould be obliged, when he made the propoſal, to have a cord about his neck, in order that he might be immediately ſtrangled, if thoſe alterations were eſteemed no better than the laws already eſtabliſhed. Diodorus Siculus attributes the ſame thing to Charondas, legiſlator of the Sybarites.

ZAMA (anc. geog.), a town of Chamane, a diſtrict of Cappadocia, of unknown ſituation.—Another Zama, of Meſopotamia, on the Saocoras, to the ſouth of Niſibis.—A third, of Numidia, diſtant five days' journey to the weſt of Carthage: it was the other royal reſidence of the kings of Numidia, hence called *Zama Regia*. It ſtood in a plain; was ſtronger by art than nature; richly ſupplied with every neceſſary; and abounding in men, and every weapon both of defence and annoyance. The laſt of theſe is remarkable for the deciſive battle fought between the two greateſt commanders in the world, Hannibal the Carthaginian, and Scipio Africanus. Of this engagement, the moſt important perhaps that ever was fought, Mr. Hooke gives an intereſting account.

ZANGUEBAR, a country in Africa, lying on the eaſtern coaſt, between three degrees of north latitude, and eighteen ſouth. It includes ſeveral petty kingdoms, in which the Portugueſe have various ſettlements. The inhabitants, except thoſe converted by the Portugueſe, are all Mahometans or idolaters; and the latter much the more numerous. The names of the principal territories are *Mombaza, Lamon, Melinda, Quiola,* and *Moſambique*. The Portugueſe have built ſeveral forts in Mombaza and Moſambique, and have ſettled ſeveral colonies there. They trade with the negroes for ſlaves, ivory, gold, oſtrich-feathers, wax, and drugs. The productions are much the ſame as in other parts of Africa between the tropics.

ZANONIA, in botany: the name of a genus of plants of the order *diœcia*, claſs *pentandria*. The characters are theſe: it produces ſeparate male and female flowers; in the male flower the cup is a perianthium, compoſed of three leaves of an oval figure, expanding every way, and ſhorter than the flower; the flower is monopetalous, but divided into five ſegments, and has an open mouth; the ſegments are jagged, and are equal in ſize, and bend backwards; the ſtamina are five filaments of the length of the cup, ſtanding open at their ends, and terminated by ſimple apices; the female flowers grow on ſeparate plants, and have the cup and flower the ſame as in the male, only that the cup ſtands upon the germen of the piſtil; this germen is oblong, and from it are propagated three reflex conic ſtyles; the ſtigmata are bifid and curled; the fruit is a long and very large berry, truncated at the end, and very ſmall at the baſe; it contains three cells, and has a curled future near the apex; the ſeeds are two; they are of an oblong figure, and flat. There is one ſpecies, the *indica*.

ZANTE, an iſland of the Mediterranean, near the coaſt of the Morea, 19 miles ſouth-eaſt of the iſland of Cephalonia, belonging to the Venetians. It is about 24 miles in length, and 12 in breadth, and very pleaſant and fertile; but its principal riches conſiſt in currants, with which it greatly abounds. They are cultivated in a very large plain, under the ſhelter of mountains on the ſhore of this iſland; for which reaſon the ſun has greater power to bring them to perfect maturity. The town called *Zante* may contain near 20,000 inhabitants; the whole iſland contains about 40,000. The houſes are low, on account of the frequent earthquakes, for ſcarce a year paſſes without one; however, they do no great damage. The natives ſpeak both Greek and Italian. There are very few Roman-catholics among them; but they have a biſhop as well as the Greeks. This place has no fortifications, but there is a fortreſs upon an eminence planted with cannon. In one part of this iſland is a place which ſhakes when trod upon like a quagmire; and a ſpring which throws out a great deal of bitumen, eſpecially at the time of an earthquake. It ſerves inſtead of pitch to pay the bottoms of the ſhips, and about 100 barrels in a year are uſed for this purpoſe. There are about 50 villages in the iſland; but no other large town beſide Zante. It is ſeated on the eaſtern ſide of the iſland, and has a good harbour. The Engliſh and Dutch have each a factory and conſul here. E. Long. 21. 3. N. Lat. 37. 53.

ZANTHOXYLUM, the TOOTHACH-TREE, in botany; a genus of plants of the claſs of *diœcia*, and order of *pentandria*; and in the natural ſyſtem arranged under the 46th order, *Hederaceæ*. The calyx is quinquepartite; there is no corolla; the female flower has five piſtils and as many monoſpermous capſules. There are two ſpecies, the clava *herculis*, and the *trifoliatum*; neither of which are natives of Britain.

ZAPATA, a kind of feaſt or ceremony held in Italy, in the courts of certain princes, on St. Nicholas's day; wherein people hide preſents in the ſhoes or ſlippers of thoſe they would do honour to, in ſuch a manner as may ſurprize them on the morrow when they come to dreſs; being done in imitation of the practice of St. Nicholas, who uſed in the night-time to throw purſes of money in at the windows to marry poor maids withal.

ZEA, INDIAN CORN, in botany: a genus of plants of the claſs *monœcia*, order *triandria*. The male-flowers are placed on diſtinct ſpikes; the calyx is a biflorous, beardleſs glume; the corolla a beardleſs glume; the female calyx is a bivalve glume, as is the corolla. There is one filiform, pendulous ſtyle; the ſeeds are ſolitary and buried in an oblong receptacle. There is only one ſpecies, the *Mays*, maize. The Indians in New England, and many other parts of America, had no other vegetable but maize or Indian corn for making their bread. They call it *weachin*; and in the United States of America there is much of the bread of the country made of

this grain, not of the European corn. In Italy and Germany alſo there is a ſpecies of maize, which is the food of the poor inhabitants.

The ear of the maize yields a much greater quantity of grain than any of our corn ears. There are commonly about eight rows of grain in the ear, often more, if the ground be good. Each of theſe rows contains at leaſt 30 grains, and each of theſe gives much more flour than a grain of any of our corn. The grains are uſually either white or yellowiſh; but ſometimes they are red, bluciſh, greeniſh, or olive-coloured, and ſometimes ſtriped and variegated. This ſort of grain, though ſo eſſentially neceſſary to the natives of the place, is yet liable to many accidents. It does not ripen till the end of September; ſo that the rains often fall heavy upon it while on the ſtalk, and the birds in general peck it when it is ſoft and unripe. Nature has, to defend it from theſe accidents, covered it with a thick huſk, which keeps off ſlight rains very well; but the birds, if not frighted away, often eat through it, and devour a great quantity of the grain.

There are three or four varieties of maize in different parts of America. That of Virginia is very tall and robuſt, growing to ſeven or eight feet high; that of New England is ſhorter and lower. And the Indians farther up in the country have a yet ſmaller kind in common uſe. The ſtalk of the maize is joined like the ſugar-cane; it is very ſoft and juicy, and the juice is ſo ſweet and ſaccharine, that a ſyrup, as ſweet as that of ſugar, has been often made of it; and things ſweetened with it have been found not diſtinguiſhable from thoſe done with ſugar. It has not been tried yet whether it will cryſtallize into ſugar; but in all probability it will.

The Americans plant this corn any time from the beginning of March to the beginning of June; but the beſt ſeaſon is the middle of April. The ſavage Indians, who knew nothing of our account of months, uſed to guide themſelves in the ſeed-time of this uſeful plant by the budding of ſome particular trees of that country, and by the coming up of a ſort of fiſh into their rivers, which they call the *alooſe*. Theſe things were both ſo regular, that they were in no danger of miſtaking the time.

The manner of planting maize is in rows, at equal diſtances, every way about five or ſix feet. They open the earth with a hoe, taking away the ſurface to three or four inches deep, and of the breadth of the hoe; they then throw in a little of the finer earth, ſo as to leave the hoe four inches deep or thereabouts, and in each of theſe holes they place four or five grains at a little diſtance from one another. If two or three of theſe grow up, it is very well; ſome of them are uſually deſtroyed either by the birds or other animals.

When the young plants appear, they hoe up the weeds from time to time; and when the ſtalk gathers ſome ſtrength, they raiſe the earth a little about it, and continue this at every hoeing till it begins to put forth the ears; then they enlarge the hill of earth, round the root, to the ſize of a hop-hill, and after this they leave it till the time of harveſt, without any farther care. When they gather the ears, they either immediately ſtrip off the corn, or elſe hang up the ears, tied in traces at diſtances from one another; for if they are laid near togegether, they will heat and rot, or elſe ſprout and grow but kept cool and ſeparate, they will remain good all the winter. The beſt method is to threſh out the corn as ſoon as the harveſt is over, to dry it well on mats in the ſun, and then lay it up in holes of the ground, well lined with mats, graſs, or the like, and afterwards covered at top with more earth. The moſt careful among the Indians uſe this method, and this ſort of ſubterranean granary always proves good.

The uſes of this plant among the Indians are very many. The great article is the making their bread of it; but beſides this, the ſtalks, when cut up before they are too much dried, are an excellent winter food for cattle; but they uſually leave them on the ground for the cattle to feed on. The huſks about the ear are uſually ſeparated from the reſt, and make a particular ſort of fodder, not inferior to our hay. The Indian women have a way of ſlitting them into narrow parts, and they then weave them artificially into baſkets and many other toys. The original way of eating the grain among the Indians was this: they boiled it whole in water till it ſwelled and became tender, and then they fed on it either alone or eat it with their fiſh and veniſon inſtead of bread. After this, they found the way of boiling it into a ſort of pudding, after bruiſing it in a mortar; but the way of reducing it to flour is the beſt of all. They do this by parching it carefully in the fire, without burning, and then beating it in mortars and ſifting it. This flour they lay up in bags as their conſtant proviſion, and take it out with them when they go to war, eating it either dry or with water. The Engliſh have contrived, by mixing it into a ſtiff paſte, either by itſelf or with rye or wheat-meal, fermenting it with leaven or yeaſt, and baking it in a hot oven, to make good bread of it. They have likewiſe found out a method of making good beer, either of the bread, or by malting the grain.

ZEAL, paſſionate ardour for any perſon or cauſe. It is moſt frequently uſed to denote a ſtrong and warm attachment to the diſtinguiſhing doctrines or worſhip of ſome particular ſect of Chriſtians. Thus we ſay, a zealous *Calviniſt*, *Arminian*, or *Papiſt*; though we may likewiſe with the greateſt propriety ſay of an upright and benevolent man, that he is zealous of *good works*.

ZEALAND, the chief of the Daniſh iſlands, is ſituated at the entrance of the Baltic Sea, bounded by the Schaggerrac Sea on the north, by the Sound, which ſeparates it from Schonen, on the eaſt, by the Baltic Sea on the ſouth, and by the ſtrait called the *Great Belt*, which ſeparates it from the iſland of Funen, on the weſt, being of a round figure, near 200 miles in circumference: the chief town is Copenhagen.

Zealand, is alſo a province of the United Netherlands, conſiſting of eight iſlands, which lie in the mouth of the river Scheld, bounded by the province of Holland, from which they are ſeparated by a narrow channel on the north, by Brabant on the eaſt, by Flanders, from which they are ſeparated by one of the branches of the Scheld, on the ſouth, and by the German Ocean on the weſt.

New Zealand, a country of Aſia, in the South Pacific Ocean, firſt diſcovered by Taſman, the Dutch navigator, in the year 1642, who gave it the name of *Staten Land*, though it has been generally diſtinguiſhed in our maps and charts by the name of *New Zealand*, and was ſuppoſed to be part of a ſouthern continent: but it is now known, from the late diſcoveries of Captain Cook who ſailed round it, to conſiſt of two large iſlands, divided from each other by a ſtrait four or five leagues broad. They are ſituated between the latitudes of 34 and 48 degrees ſouth, and between the longitudes of 166 and 180 degrees eaſt from Greenwich. One of theſe iſlands is for the moſt part mountainous, rather barren, and but thinly inhabited; but the other is much more fertile, and of a better appearance. In the opinion of Sir Joſeph Banks and Dr. Solander, every kind of European fruits, grain, and plants, would flouriſh here in the utmoſt luxuriance. From the vegetables found here, it is ſuppoſed that the winters are milder than thoſe in England, and the ſummers not hotter, though more equally warm; ſo that it is imagined, that if this country were ſettled by people from Europe, they would, with moderate induſtry, be ſoon ſupplied, not only with the neceſſaries, but the luxuries of life, in great abundance. Here are foreſts of vaſt extent, filled with very large timber trees;

and near 400 plants were found here that had not been described by the naturaliſts. The inhabitants of New Zealand are ſtout and robuſt, and equal in ſtature to the largeſt Europeans. Their colour in general is brown, but in few deeper than that of the Spaniard who has been expoſed to the ſun, and in many not ſo deep; and both ſexes have good features. Their dreſs is very uncouth, and they mark their bodies in a manner ſimilar to the inhabitants of Otaheite, and which is called *tattowing*. Their principal weapons are lances, darts, and a kind of battle-axes; and they have generally ſhown themſelves very hoſtile to the Europeans who have viſited them.

ZEALOTS, an ancient ſect of the Jews, ſo called from their pretended zeal for God's law and the honour of religion.

ZEBRA, in zoology. See EQUUS.

ZEBU, in zoology; a name given by M. de Buffon to the bos indicus of Linnæus. See BOS, vi.

ZECHIN, or ZECCHINO. See SEQUIN.

ZEDOARY, in the materia medica. See KÆMPFERIA.

ZELL, a city of Germany in the circle of Lower Saxony, capital of the duchies of Zell and Lunenburg, ſituated at the confluence of the rivers Aller and Fuhſe, 30 miles north of Hanover, and 40 ſouth of Lunenburg. E. Long. 10. 12. N. Lat. 52. 49.

ZEMBLA NOVA, a very large iſland, lying in the Northern Ocean, to the north of Ruſſia, from which it is ſeparated by the ſtrait of Waigate. It has no inhabitants except wild beaſts, particularly white foxes and bears. In 1595 a Dutch veſſel was caſt away on the coaſt, and the ſhip's company were obliged to winter here; but they did not ſee the ſun from the fourth of November to the beginning of February, and had great difficulty to keep themſelves from being frozen to death.

ZEMINDAR. See HINDOOSTAN.

ZEND, or ZENDAVESTA, a book aſcribed to Zoroaſter, and containing his pretended revelations; which the ancient Magicians and modern Perſees, called alſo *Gaurs*, obſerve and reverence in the ſame manner as the Chriſtians do the Bible, and the Mahometans the Koran, making it the ſole rule both of their faith and manners. The word, it is ſaid, originally ſignifies any inſtrument for kindling fire, and is applied to this book to denote its aptitude for kindling the flame of religion in the hearts of thoſe who read it.

The Zend contains a reformed ſyſtem of Magianiſm; teaching that there is a Supreme Being, eternal, ſelf-exiſtent, and independent, who created both light and darkneſs, out of which he made all other things; that theſe are in a ſtate of conflict, which will continue till the end of the world; that then there ſhall be a general reſurrection and judgment; and that juſt retributions ſhall be rendered unto men according to their works; that the angel of darkneſs with his followers ſhall be conſigned to a place of everlaſting darkneſs and puniſhment, and the angel of light with his diſciples introduced into a ſtate of everlaſting light and happineſs; after which light and darkneſs ſhall no more interfere with each other. The Zend alſo enjoins the conſtant maintenance of ſacred fires and fire-temples for religious worſhip; the diſtinction of clean and unclean beaſts; the payment of tithes to prieſts, which are to be of one family or tribe; a multitude of waſhings and purifications, reſembling thoſe of the Jewiſh law; and a variety of rules and exhortations for the exerciſe of benevolence and charity. In this book there are many paſſages evidently taken out of the Scriptures of the Old Teſtament, particularly out of the Pſalms of David. Moreover, Dr. Baumgarten aſſerts, that this work contains doctrines, opinions, and facts, actually borrowed from the Jews, Chriſtians, and Mahometans; whence, and from other circumſtances, he concludes that both the hiſtory and writings of this prophet were probably invented in the later ages, when the fire-worſhippers under the Mahometan government thought fit to vindicate their religion from the ſuſpicion of idolatry.

At whatever period the Zend may have been written, we are aſſured by Dr. Hyde that it is in the pure old Perſian language, and in the character called *Peplavi*. Some parts of it contain the original text, and others Zoroaſter's ſecond thoughts ſubjoined, for explaining more fully his doctrine. Theſe were occaſioned by the oppoſition of adverſaries, and unforeſeen circumſtances which occurred during the fabrication of the impoſture. About 300 years ago, when the old Perſian language had become antiquated and little underſtood, one of the deſtours or high-prieſts among the Perſees compoſed the *Sadda*, which is a compendium in the vulgar or modern Perſic tongue, of thoſe parts of the Zend that relate to religion, or a kind of code of canons and precepts, drawn from the theological writings of Zoroaſter, ſerving as an authoritative rule of faith and practice for his followers. This Sadda is written in a low kind of Perſic verſe, and, as Dr. Hyde informs us, it is *bonorum & malorum farrago*, having many good and pious things, and others very ſuperſtitious and trifling. See PERSEES and ZOROASTER.

ZENITH, in aſtronomy, the vertical point, or a point in the heavens directly over our heads. See ASTRONOMY.

ZENO ELEATES, an eminent Grecian philoſopher, was born at Elea about 504 years before Chriſt. He was a zealous friend of civil liberty, and is celebrated for his courageous and ſucceſsful oppoſition to tyrants; but the inconſiſtency of the ſtories related by different writers concerning him in a great meaſure deſtroys their credit. He choſe to reſide in his ſmall native city of Elea rather than at Athens, becauſe it afforded freer ſcope to his independent and generous ſpirit, which could not eaſily ſubmit to the reſtraints of authority. It is related, that he vindicated the warmth with which he reſented reproach, by ſaying, "If I were indifferent to cenſure, I ſhould alſo be indifferent to praiſe." The invention of the dialectic art has been improperly aſcribed to Zeno; but there can be no doubt that this philoſopher, and other metaphyſical diſputants in the Eleatic ſect, employed much ingenuity and ſubtlety in exhibiting examples of moſt of the logical arts, which were afterwards reduced to rule by Ariſtotle and others. If Seneca's account of this philoſopher deſerves credit, he reached the higheſt point of ſcepticiſm, and denied the real exiſtence of external objects.

ZENO, the founder of the ſect of the Stoics, was born about 300 years before Chriſt, at Citium in the iſland of Cyprus. This place having been originally peopled by a colony of Phœnicians, Zeno is ſometimes called a Phœnician. His father was by profeſſion a merchant, but diſcovering in the youth a ſtrong propenſity towards learning, he early devoted him to philoſophy. In his mercantile capacity he had frequent occaſion to viſit Athens, where he purchaſed for his ſon ſeveral of the writings of the moſt eminent Socratic philoſophers. Theſe he read with great avidity; and when he was about 30 years of age, he determined to take a voyage to a city which was ſo celebrated both as a mart of trade and of ſcience. If it be true, as ſome writers relate, that he brought with him a valuable cargo of Phœnician purple, which was loſt by ſhipwreck upon the coaſt of Piræus, this circumſtance will account for the facility with which he at firſt attached himſelf to a ſect whoſe leading principle was the contempt of riches. Upon his firſt arrival in Athens, going accidentally into the ſhop of a bookſeller, he took up a volume of the Commentaries of Xenophon; and after reading a few paſſages, was ſo much delighted with the work, and formed ſo high an idea of the author, that he aſked the bookſeller where he might meet with ſuch men. Crates the Cynic philoſopher happening at that inſtant to be paſſing by, the bookſeller pointed to him, and

ſaid, "Follow that man." Zeno attended upon the inſtructions of Crates, and admired the general principles of the Cynic ſchool, though he could not eaſily reconcile himſelf to their peculiar manners. Beſides, his inquiſitive turn of mind would not allow him to adopt that indifference to every ſcientific enquiry which was one of the characteriſtic diſtinctions of the ſect. He therefore attended the lectures of Stilpo ſeveral years, and paſſed over to other ſchools, particularly to thoſe of Xenocrates and Diodorus Cronus. By the latter he was inſtructed in dialectics. He was ſo much delighted with this branch of ſtudy, that he preſented to his maſter a large pecuniary gratuity, in return for his free communication of ſome of his ingenious ſubtleties. After attending almoſt every other maſter, he became a diſciple of Polemo, and having at length collected materials from various quarters for a new ſyſtem of his own, Zeno determined to become the founder of a new ſect. The place which he made choice of for his ſchool was a public portico, adorned with the pictures of Polygnotus, and other eminent painters. It was the moſt famous portico in Athens, and called, by way of eminence, Στοα, "the Porch." It was from this circumſtance that the followers of Zeno were called *Stoics*.

In his perſon Zeno was tall and ſlender; his aſpect was ſevere, and his brow contracted. His conſtitution was feeble, but he preſerved his health by great abſtemiouſneſs, and lived to the extreme age of 98; but at laſt, in conſequence of an accident, he voluntarily put an end to his life. As he was walking out of his ſchool he fell down, and in the fall broke one of his fingers; upon which he was ſo affected with a conſciouſneſs of infirmity, that, ſtriking the earth, he ſaid, "Why am I thus importuned? I obey thy ſummons;" and immediately went home and ſtrangled himſelf. He died in the firſt year of the 129th Olympiad. The Athenians, at the requeſt of Antigonus, erected a monument to his memory in the Ceramicum.—We ought not to confound the two Zenos already mentioned with

ZENO, a celebrated Epicurean philoſopher, born at Sidon, who had Cicero and Pomponius Atticus for his diſciples, and who wrote a book againſt the mathematics, which, as well as that of Poſſidonius's refutation of it, is loſt; nor with ſeveral other *Zenos* mentioned in hiſtory.

ZEOLITE. See CLAY and MINERALOGY.

ZEPHYR, the WEST-*Wind*, or that which blows from the cardinal point of the horizon oppoſite to the eaſt.

ZEPHYRUS, one of the Pagan deities, was repreſented as the ſon of Aurora, and the lover of the nymph Chloris, according to the Greeks, or of Flora according to the Romans; and as preſiding over the growth of fruits and flowers. He is deſcribed as giving a refreſhing coolneſs to the air by his ſoft and agreeable breath, and as moderating the heat of ſummer by fanning the air with his ſilken wings. He is depictured under the form of a youth, with a very tender air, with wings reſembling thoſe of the butterfly, and with his head crowned with a variety of flowers. As the poets of Greece and Rome lived in a warm climate, they are laviſh in their praiſe of this beneficent deity, and under his name deſcribe the pleaſure and advantage they received from the weſtern breezes.

ZERDA. See CANIS, Sp. xiv.

ZERTA, the ZERTE, a fiſh caught in the rivers of Italy and ſome other places, of the figure of the chub, and called by authors *capito anadromus*, and the *blike*. It ſeldom grows to more than two pounds weight, and at times lives in rivers, at times in the ſea; and is eſteemed a very well taſted fiſh, eſpecially a little before the ſeaſon of its ſpawning. The zerte is that ſpecies of cyprinus deſcribed by Geſner and others under the name of *capito anodromus*.

ZEST, the woody thick ſkin quartering the kernel of a walnut; preſcribed by ſome phyſicians, when dried and taken with white-wine, as a remedy againſt the gravel. *Zeſt* is alſo uſed for a chip of orange or lemon peel; ſuch as is uſually ſqueezed into ale, wine, &c. to give it a flavour; or the fine oil which ſpirts out of that peel on ſqueezing it.

ZEUGMA, a figure in grammar, whereby an adjective or verb which agrees with a nearer word, is alſo, by way of ſupplement, referred to another more remote.

ZEUS, in itchthyology, a genus of fiſhes of the order of *thoracici*. The head is compreſſed, and declines, the upper lip being vaulted over by a tranſverſe membrane; the tongue is ſubulated; there are ſeven rays in the gill membrane; and the body is compreſſed.—The ſpecies are eight; of which the moſt remarkable is the *faber* or *doree*. It is of a hideous form, its body is oval, and greatly compreſſed on the ſides; the head large; the ſnout vaſtly projecting; the mouth very wide; the teeth very ſmall; the eyes great, the irides yellow; the lateral line oddly diſtorted, ſinking at each end, and riſing near the back in the middle; beneath it on each ſide is a round black ſpot. The tail is round at the end, and conſiſts of fifteen yellow rays. The colour of the ſides is olive, varied with light blue and white, and while living is very reſplendent, and as if gilt; for which reaſon it is called the *doree*. The largeſt fiſh we have heard of weighed twelve pounds.

Superſtition hath made the doree rival to the haddock, for the honour of having been the fiſh out of whoſe mouth St. Peter took the tribute-money, leaving on its ſides thoſe inconteſtible proofs of the identity of the fiſh, the marks of his finger and thumb. Mr. Quin added this delicious fiſh to our table, and overcame the vulgar prejudices that prevailed on account of its deformity. This fiſh was ſuppoſed to be found only in the ſouthern ſeas of this kingdom, but it has been diſcovered likewiſe on the coaſt of Angleſey. Thoſe of the greateſt ſize are taken in the Bay of Biſcay, off the French coaſts; they are alſo very common in the Mediterranean: Ovid muſt therefore have ſtyled it *rarus faber*, on account of its excellency, not its ſcarcity.

ZEUXIS, a celebrated painter of antiquity, flouriſhed about 400 years before Chriſt. He was born at Heraclea; but as there have been many cities of that name, it cannot be certainly determined which of them had the honour of his birth. Some learned men, however, conjecture, that it was the Heraclea near Crotona in Italy. He carried painting to a much higher degree of perfection than Apollodorus had left it; diſcovered the art of properly diſpoſing of lights and ſhades, and particularly excelled in colouring. He amaſſed immenſe riches; and then reſolved to ſell no more of his pictures, but gave them away; ſaying very frankly, "That he could not ſet a price on them equal to their value." One of this painter's fineſt pieces was a Hercules ſtrangling ſome ſerpents in his cradle, in the preſence of his affrighted mother: but he himſelf chiefly eſteemed his Athleta, or Champion, under which he placed a Greek verſe that afterwards became very famous, and in which he ſays, "That it was eaſier to criticiſe than to imitate the picture." He made a preſent of his Alcmena to the Agrigentines. Zeuxis did not value himſelf on ſpeedily finiſhing his pictures; but knowing that Agatharchus gloried in his being able to paint with eaſe, and in a little time, he ſaid, "That for his part he, on the contrary, gloried in his ſlowneſs; and if he was long in painting, it was becauſe he painted for eternity." Verrius Flaccus ſays, that Zeuxis having painted an old woman, he laughed ſo very heartily at the ſight of this picture, that he died: but as no other of the ancients have mentioned this particular, there is the greateſt reaſon to believe it fabulous. Carlo Dati has compoſed in Italian the Life of Zeuxis, with thoſe of Parrhaſius, Apelles, and Protogenes. This work was printed at Florence in 1667.

ZICLAG, or ZIKLAG (anc. geog.), a town of the tribe of Simeon, on the borders of the Philiſtines (Joſhua xv. and xix.), but in the hands of the Philiſtines till David's time (1 Sam. xxvii. and xxx).

ZIMB, in natural hiſtory, a peſtilential fly deſcribed by Mr. Bruce in his account of Abyſſinia. It is ſomewhat larger than a bee, thicker in proportion, and having broader wings, placed ſeparate like thoſe of a fly, and quite colourleſs. So alarmed are the cattle by theſe inſects, that when they hear their buzzing, they forſake their paſture, and run about till they fall down with terror, fatigue, and hunger. It was to avoid this nuiſance, as Mr. Bruce relates, that the city of Meroe was built in the low country, rather than in a more advantageous ſituation among the mountains.

ZIMENT-WATER, COPPER-WATER, in natural hiſtory, the name by which ſome have called water found in places where there are copper-mines, and lightly impregnated with particles of that metal. The moſt famous ſpring of this kind is about a mile diſtant from Newſol in Hungary, in the great copper-mine called by the Germans *herrn grundt*. The water in this mine is found at different depths, and is received into baſins, for the purpoſe of ſeparating the copper from it: in ſome of theſe it is much more ſated with this metal than in others, and will make the ſuppoſed change of iron into that metal much ſooner. The moſt common pieces of iron uſed in the experiments are horſe ſhoes, nails, and the like; and they are found very little altered in ſhape, after the operation, except that their ſurfaces are more raiſed. The water appears greeniſh in the baſin, where it ſtands; but if a glaſs of it be taken up, it looks clear as cryſtal: it has no ſmell, but a ſtrong vitriolic aſtringent taſte, inſomuch that the lips and tongue are bliſtered and ſcorched upon taſting it.

ZIN (anc. geog.), a wilderneſs encompaſſing Idumea, at leaſt on the ſouth and weſt, as far as Paleſtine or Canaan; but according to Wells, on the eaſt of Edom, to the north of Ezion-gaber.

ZINC, a ſemimetal. For a deſcription of the ores of this metal, the method of extracting it from theſe ores, and for its properties, ſee CALAMINE; CHEMISTRY; MINERALOGY; METALLURGY. Zinc, beſides its medical qualities, is of great uſe in the arts: united with copper in different proportions, it forms braſs and pinchbeck; and united with tin, it forms a kind of pewter. Braſs is formed by mixing two parts of copper with one of zinc; pinchbeck by mixing three or four parts of copper to one of zinc: when the metals are mixed in equal quantities they form a very exact imitation of gold. Its inflammable property renders zinc a uſeful ingredient in fire-works.

It has been propoſed to ſubſtitute this ſemimetal inſtead of tin in the lining of copper veſſels; the latter being thought inſufficient to prevent the dangerous effects of the copper. Mr. Malouin, who has made many experiments on the lining of veſſels in this manner, aſſerts that it ſpreads more evenly on the copper than tin itſelf; that it is much harder and leſs fuſible, and conſequently more durable than tin. Mr. Macquer owns theſe advantages; but thinks it dangerous to be uſed in culinary veſſels, as it is ſoluble in vegetable acids, and the combination of it with the vitriolic acid is known to be a ſtrong emetic. Gaubius alſo mentions a celebrated remedy for convulſive diſorders, named *luna fixeta ludemaunio* which Macquer affirms to be ſtrongly emetic in very ſmall doſes. "But, may it not be preſumed (ſays Fourcroy), that properties which are applicable only to the vitriol and flower zinc, cannot be applied to the ſemimetal itſelf, nor even, without farther experiments, to the ſalts formed by its combination with the vegetable acids." Mr. de la Plandie took the ſalts of zinc, formed by its combination with vegetable acids, in a much ſtronger doſe than the aliments prepared in copper covered with zinc can poſſibly contain them, and found no dangerous effects to follow. The *flowers of zinc* have been uſed as an antiſpaſmodic, and are an article of our preſent materia medica; but it does not clearly appear what ſucceſs may be expected from them.

ZINNIA, in botany: a genus of plants of the claſs *ſyngeneſia*, order *polygamia ſuperflua*; and in the natural ſyſtem arranged under the 49th order, *Compoſitæ*. The receptacle is paleaceous, the pappus conſiſts of two erect awns, the calyx is ovato-cylindrical and imbricated; the rays conſiſt of five perſiſting entire florets. There are two ſpecies, the *pauciflora* and *multiflora*, neither of which is a native of Britain.

ZINZENDORFF (Nicholas Lewis), count, was the noted founder of the German religious ſect called *Moravians*, or *Herrnhuters*, or, as they pretend, the reſtorer of that ſociety. From his own narrative it appears, that when he came of age in 1721, his thoughts were wholly bent on gathering together a little ſociety of believers, among whom he might live, and who ſhould entirely employ themſelves in exerciſes of devotion under him. He accordingly purchaſed an eſtate at Bertholſdorff in Upper Luſatia, where being joined by ſome followers, he gave the curacy of the village to a man of his own complexion; and Bertholſdorff ſoon became talked of for a new mode of piety. One Chriſtian David, a carpenter, brought a few proſelytes from Moravia: they began a new town about half a league from the village, where Count Zinzendorff fixed his reſidence among them, and where great numbers of Moravians flocked and eſtabliſhed themſelves under his protection: ſo that in 1732 their number amounted to 600. An adjacent hill, called the *Huthberg*, gave occaſion to theſe coloniſts to call their new ſettlement *Huth des Herrn*, and afterward *Herrnhuth*; which may be interpreted "The guard or protection of the Lord:" and from this the whole ſect have taken their name. The count ſpared neither pains nor art to propagate his opinions; he went himſelf all over Europe, and at leaſt twice to America; and ſent his miſſionaries throughout the world. Count Zinzendorff died in 1760. Thoſe who wiſh to know more of the Moravian tenets may conſult Rimius's account of them, tranſlated in 1753. See UNITED BRETHREN.

ZISCA (John), a famous general of the forces of the Huſſites, in the 15th century, was a gentleman educated at the court of Bohemia, in the reign of Wenceſlaus. He entered very young into the army, and after diſtinguiſhing himſelf on ſeveral occaſions, loſt an eye in a battle, whence he was called *Ziſca*, or *One-eyed*. At length the Reformation, begun by John Huſs, ſpreading through almoſt all Bohemia, Ziſca placed himſelf at the head of the Huſſites, and had ſoon under his command a body of 40,000 men. With this army he gained ſeveral victories over thoſe of the Romiſh religion, who carried on a kind of cruſade againſt them, and built a town in an advantageous ſituation, to which he gave the name of *Tabor*; whence the Huſſites were afterwards called *Taborites*. Ziſca loſt his other eye by an arrow at the ſiege of the city of Rubi; but this did not prevent his continuing the war, his fighting battles, and gaining ſeveral great victories, among which was that of Auſig on the Elbe, in which 9000 of the enemy were left dead on the field. The Emperor Sigiſmund, alarmed at his progreſs, cauſed very advantageous propoſals to be offered to him; which he readily accepted, and ſet out to meet Sigiſmund, but died on the road. He ordered that his body ſhould be left a prey to the birds and wild beaſts; and that a drum ſhould be made of his ſkin, being perſuaded that the enemy would fly as ſoon as they heard the ſound. It is added, that the Huſſites executed his will; and that the news of this order made ſuch an impreſſion on the diſturbed imagi-

nations of the German Papiſts, that in many battles they actually fled at the beat of the drum with the utmoſt precipitation, leaving their baggage and artillery behind them.

ZINZIBER, or ZINGIBER, in botany. See AMOMUM and GINGER.

ZION, or SION (anc. geog.), a very famous mountain, ſtanding on the north ſide of the city of Jeruſalem (Pſal. xlvii. 2.); containing the upper city, built by King David; and where ſtood the royal palace (Joſephus). A part of Zion, ſituated at its extremity, was called *Millo*, of, or in the city of David (2 Chron. xxxii. 5.) Modern travellers, who have been upon the ſpot, ſay, that Zion is the whole of the mountain on which Jeruſalem ſtands at this day, though not to the extent in which it anciently ſtood on the ſame mountain, as appears, Pſal. ix. 12. 15. lxv. 1. lxxxvii. 2. 3. Iſ. lxii. 1. It is ſwelled into ſeveral eminences or tops; as Moriah, Acra Bezetha, and Zion a particular eminence of mount and Zion Proper, &c. encompaſſed on three ſides, eaſt, weſt, and ſouth, with one continued very deep and ſteep valley; by means of which it was impregnable on theſe three ſides, and always attacked and taken, according to Joſephus, by the enemy on the north ſide, where mount Zion becomes level, and the vales of Gihon and Jehoſophat gradually loſe themſelves. This deep and ſteep valley inconteſtibly conſtitutes the compaſs of the old Jeruſalem on thoſe three ſides, as plainly appears to any perſon who has been upon the ſpot. There is another *Zion*, the ſame with HERMON.

ZIPH, or SIPH (anc. geog.), the name of a wilderneſs or deſert in the tribe of Judah, where David was a fugitive; lying to the ſouth-eaſt of Hebron; ſo called from Ziph or Siph, a twofold town in this tribe; the one more to the ſouth towards Idumea, on the confines of Eleutheropolis (Jerome); the other eight miles to the eaſt of Hebron, towards the Dead Sea, inclining ſouthwards, becauſe near mount Carmel. Here was a mountain, mentioned 1 Sam. xxiii. 14. in which David abode, ſaid by Jerome to be rugged, diſmal, and always overcaſt. *Ziphim*, *Ziphæi*, or *Ziphenſes*, the inhabitants of Ziph, ver. 19.

ZIRCHNITZER-SEE, otherwiſe called the *Lake of Czirknitz*, in Carniola, is about one German or four Engliſh miles in length, and half as much in breadth, contains three beautiful iſlands, and is encompaſſed at ſome diſtance with mountains and foreſts. But what is moſt remarkable is, that it diſappears generally once a-year, about St. John's or St. James's day, running off through holes or pits in the bottom; ſometimes it will diſappear twice or thrice a-year, and ſometimes even in winter, if the weather be dry. On the other hand, it has been known to continue two or three years without running off. Of the holes or pits, there are five much larger than the reſt, each of which ſucceſſively, when the water runs off, ſtands empty five days; ſo that the whole lake becomes dry in twenty-five. As ſoon as the beginning of the ebb is obſerved, the fiſhing in the pits begins, which belongs to five ſeigniories. The fiſh, which are carp, tench, pike, eels, and two other ſorts called *ſchleien*, and *ruten*, are caught by laying nets over the holes. Mr. Keyſler tell us, that upon the ringing of a bell at Zirknitz, when the waters begin to fall, the peaſants, both men and women, run to the pools quite naked, notwithſtanding both the clergy and magiſtrates have uſed their utmoſt endeavours to ſuppreſs ſo indecent a cuſtom. When the water runs off early in the year, in about three weeks after it is gone there is good graſs on the bottom, which is mowed down, and the bottom afterwards ploughed and ſowed with millet. If the water runs not off early, nothing can be ſown; and if it returns ſoon, the ſeed is loſt. With reſpect to its return, the water at firſt burſts out of ſome pits on the ſouth ſide with great violence, a little rain always falling at the ſame time; but afterwards (when the rain falls heavier, and it thunders at the ſame time ſo loud as to ſhake the earth) it breaks out through all the apertures with great force, inſomuch, that the lake is filled in 18 or 24 hours, at which time it is in a manner covered with wild fowl; ſuch as geeſe, ducks, &c. After the millet-harveſt, all manner of game is hunted, caught, or killed in it. On the ſouth ſide are two caverns, out of which, when it thunders, water iſſues with aſtoniſhing violence; and if it happens in harveſt, a great many naked, black, and blind, but fat ducklings, are brought up with the water, which in 14 days receive their ſight, and are covered with feathers.

ZIZANIA, in botany: a genus of plants of the claſs *monœcia*, order, *hexandria*; and in the natural ſyſtem arranged under the 4th order, *Gramina*. There is no male calyx; the corolla is a bivalved, beardleſs glume, intermixed with the female flowers; there is no female calyx, the corolla is an univalved, cucullated, and ariſtated glume; the ſtyle is bipartite, and there is one ſeed covered with the plaited corolla. There are three ſpecies; the aquatica, the paluſtris, and terreſtris, none of which are natives of Britain.

ZODIAC, in aſtronomy, a broad circle, whoſe middle is the ecliptic, and its extremes two circles parallel thereto, at ſuch a diſtance from it as to bound or comprehend the excurſions of the ſun and planets (ſee ASTRONOMY). It is a curious enough fact, that the ſolar diviſion of the Indian zodiac is the ſame in ſubſtance with that of the Greeks, and yet that it has not been borrowed either from the Greeks or the Arabians. The identity, or at leaſt ſtriking ſimilarity, of the diviſion, is univerſally known; and M. Montucla has endeavoured to prove, that the Bramins received it from the Arabs. His opinion, we believe, has been very generally admitted; but in the ſecond volume of the Aſiatic Reſearches, the accompliſhed preſident Sir William Jones has proved unanſwerably, that neither of thoſe nations borrowed that diviſion from the other; that it has been known among the Hindoos from time immemorial; and that it was probably invented by the firſt progenitors of that race, whom he conſiders as the moſt ancient of mankind, before their diſperſion. The queſtion is not of importance ſufficiently general, ſtraitened as we are by the limits preſcribed us, for our entering into the diſpute; but we think it our duty to mention it, that our aſtronomical readers, if they think it worth their while, may have recourſe to the original writers for further information.

ZOEGEA, in botany: a genus of plants of the claſs *ſyngeneſia* and order *polygamia frustranea*. The receptacle is briſtly; the pappus ſetaceous; the corollulæ of the radius ligulated; the calyx imbricated. There are two ſpecies, the capenſis and the leptaurea, neither of which are natives of Britain.

ZONE, in geography and aſtronomy, a diviſion of the terraqueous globe with reſpect to the different degrees of heat found in the different parts thereof. The zones are denominated torrid, frigid, and temperate. The torrid zone is a band, ſurrounding the terraqueous globe, and terminated by the two tropics. Its breadth is 46°. 58′. The equator, running through the middle of it, divides it into two equal parts, each containing 23° 29′. The ancients imagined the torrid zone uninhabitable. The temperate zones are contained between the tropics and the polar circles. The breadth of each is 43. 2. The frigid zones are ſegments of the ſurface of the earth, terminated, one by the antarctic, and the other by the arctic circle. The breadth of each is 46. 58.

ZOOLOGY,

IS that part of Natural Hiſtory, which relates to *Animals*.

In order to abridge the ſtudy of zoology, many methods of reducing animals to claſſes, genera, and ſpecies, have been invented: but as that of Linnæus is undoubtedly the beſt, the moſt extenſive, and the moſt generally adopted, we ſhall give a brief account of it.

Linnæus divides the whole animal kingdom into ſix claſſes. The characters of theſe ſix claſſes are taken from the internal ſtructure of animals, in the following manner:—

CLASS I. MAMMALIA, includes all animals that ſuckle their young. The characters of this claſs are theſe:—The *heart* has two ventricles and two auricles; the *blood* is red and warm; and the animals belonging to it are *viviparous*.

CLASS II. AVES, or BIRDS. The characters are the ſame with thoſe of Claſs I. excepting that the animals belonging to it are *oviparous*. See BIRD and ORNITHOLOGY.

CLASS III. AMPHIBIA, or AMPHIBIOUS ANIMALS. The *heart* has but *one ventricle* and one *auricle*; the *blood* is red and cold; and the animals belonging to this claſs have the command of their *lungs*, ſo that the intervals between *inſpiration* and *expiration* are in ſome meaſure *voluntary*. See AMPHIBIOUS.

CLASS IV. PISCES, or FISHES. The *heart* has the ſame ſtructure, and the *blood* the ſame qualities with thoſe of the *Amphibia*; but the animals belonging to this claſs are eaſily diſtinguiſhed from the Amphibia, by having no ſuch voluntary command of their *lungs*, and by having external *branchiæ* or *gills*. See FISH and ICHTHYOLOGY.

CLASS V. INSECTA, or INSECTS. The *heart* has *one ventricle*, but no *auricle*; the *blood* is cold and white; and the animals are furniſhed with *antennæ* or *feelers*. See INSECT.

CLASS VI. VERMES, or WORMS. The characters are the ſame with thoſe of Claſs V. only the animals have no antennæ, and are furniſhed with *tentacula*.

The *Firſt Claſs*, MAMMALIA, is ſubdivided into ſeven ORDERS; the characters of which are taken from the number, ſtructure, and ſituation of the TEETH.

ORDER I. The PRIMATES have four inciſores, or *fore-teeth*, in each jaw, and one *dog-tooth*. N. B. By *one* dog tooth, Linnæus means one on each ſide of the fore-teeth in both jaws.—This order includes four genera, *viz.* Homo, Simia, Lemur, Veſpertilio.

ORDER II. The BRUTA have no *fore-teeth* in either jaw. This order includes ſeven genera, *viz.* Rhinoceros, Elephas, Trichechus, Bradypus, Myrmecophaga, Manis, Daſypus.

ORDER III. The FERÆ have, for the moſt part, ſix *conical fore-teeth* in each jaw. This order includes ten genera, *viz.* Phoca, Canis, Felis, Viverra, Muſtela, Urſus, Didelphis, Talpa, Sorex, Erinaceus.

ORDER IV. The GLIRES have two fore-teeth in each jaw, and no *dog-teeth*.—This order includes ten genera, *viz.* Hyſtrix, Lepus, Caſtor, Mus, Sciurus, Myoxus, Cavia, Arotomys, Dypus, Hyrax.

ORDER V. The PECORA, have no *fore-teeth* in the upper jaw, but ſix or eight in the under jaw.—This order includes eight genera, *viz.* Camelus, Moſchus, Giraffa, Cervus, Antilope, Capra, Ovis, Bos.

ORDER VI. The BELLUÆ have *obtuſe fore-teeth* in each jaw.—This order includes four genera, *viz.* Equus, Hippopotamus, Sus, Tapir.

ORDER VII. The CETE or *whale kind*, have no uniform character in their teeth, being very different in the different genera; but are ſufficiently diſtinguiſhed from the other orders of Mammalia, by living in the ocean, having pectoral fins, and a fiſtula or ſpiraculum upon the head.—This order includes four genera, *viz.* Monodon, Balæna, Phyſeter, Delphinus. See CETACEOUS.

The *generic* characters of the Mammalia are, like thoſe of the orders, almoſt entirely taken from the TEETH, excepting the Veſpertilio, which, beſides the character of the order derived from the teeth, has this farther mark, that there is a membrane attached to the feet and ſides, by means of which the creature is enabled to fly:—the Hyſtrix, whoſe body is covered with ſharp ſpines:—and the whole order of Pecora, whoſe genera, beſides the characters taken from the teeth, are diſtinguiſhed into thoſe which have *horns*, thoſe which have *no horns*, and by peculiarities in the horns themſelves.

The *ſpecific* characters are very various, being taken from any part of the body which poſſeſſes a peculiar uniform mark of diſtinction. As examples of theſe characters are to be found under the proper name of each genus, it is unneceſſary to ſay any thing further concerning them in this place.

The *Second Claſs*, AVES, is ſubdivided into ſix ORDERS; the characters of which are taken chiefly from the ſtructure of the BILL.

ORDER I. The ACCIPITRES have a HOOKED BILL, the ſuperior mandibule, near the baſe, being extended on each ſide beyond the inferior; and in ſome it is armed with *teeth*.—This order includes four ſpecies, *viz.* Vultur, Falco, Strix, Lanius.

ORDER II. The PICÆ have a convex, compreſſed BILL, reſembling a knife.—This order contains 23 genera, *viz.* Trochilus, Certhia, Upupa, Glaucopis, Buphaga, Sitta, Oriolus, Coracias, Gracula, Corvus, Paradiſea, Ramphaſtos, Trogon, Pſittacus, Crotophaga, Picus, Yunx, Cuculus, Bucco, Bocaros, Alcedo, Merops, Todus.

ORDER III. The ANSERES have a ſmooth BILL, broadeſt at the point, covered with a ſmooth ſkin, and furniſhed with teeth: the *tongue* is fleſhy; and the toes are palmated or webbed.—This order includes 13 genera, *viz.* Anas, Mergus, Phæton, Plotus, Rhyncops, Diomedea, Aptenodyta, Alca, Procellaria, Pelecanus, Larus, Sterna, Colymbus.

ORDER IV. The GRALLÆ have a ſomewhat cylindrical BILL: the tail is ſhort, and the thighs are naked.—This order contains 20 genera, *viz.* Phœnicopterus, Platalea, Palamedea, Mycteria, Tantalus, Ardea, Corrira, Recurviroſtra, Scolopax, Tringa, Fulica, Parra, Rallus, Vaginalis, Pſophia, Cancroma, Scopus, Glareola, Hæmatopus, Charadrius.

ORDER V. The GALLINÆ have a convex BILL; the ſuperior mandible is vaulted over the inferior: the *noſtrils* are half covered with a convex cartilaginous membrane; and the *feet* are divided, but connected, at the inmoſt joint.—This order contains 10 genera, *viz.* Otis, Struthio, Didus, Pavo, Meleagris, Penelope, Crax, Phaſianus, Numida, Tetrao.

ORDER VI. The PASSERES have a conical ſharp pointed

BILL; and the *noſtrils* are oval, wide, and naked.—This order contains 17 genera, *viz.* Loxia, Colius, Fringilla, Phytotoma, Emberiza, Caprimulgus, Hirundo, Pipra, Turdus, Ampelis, Tanagra, Mucicapa, Parus, Motacilla, Alauda, Sturnus, Columba.

The *generic* characters of this claſs are taken from peculiarities in the *bill*, the *noſtrils*, the *tongue*, the *feet*, the *feathers*, the *face*, the *figure* of the *body*, &c.

The characters which ſerve to diſtinguiſh the *ſpecies* are very various: for example, the *colour* of the particular *feathers* or parts of *feathers*; *creſts* of feathers on the head, diſpoſed in different manners; the colour of the *cere* or *wax*; the colour of the *feet*; the ſhape and length of the *tail*; the number, ſituation, &c. of the *toes*; the colour and figure of the *bill*, &c.

The *Third Claſs*, AMPHIBIA, is divided into two ORDERS.

ORDER I. The REPTILES have four *feet*, and breathe by the *mouth*.—This order contains four genera, *viz.* Teſtudo, Draco, Lacerta, Rana.

ORDER II. The SERPENTES have no *legs*, and breathe by the *mouth*.—This order contains ſix genera, *viz.* Crotalus, Boa, Coluber, Anguis, Amphiſbæna, Cœcilia.

The *generic* characters of this claſs are taken from the general figure of the *body*; from their having *tails* or *no tails*; being covered with a *ſhell*; having *teeth* or *no teeth* in the *mouth*; being furniſhed with *lungs*; having *covered* or *naked* bodies; from the number, ſituation, and figure of the *ſcuta* and *ſcales*; from the number and ſituation of the *ſpiracula*; from the ſituation of the *mouth*, &c.

The *ſpecific* characters are ſo very various, that it would be ſuperfluous to enumerate them.

The *Fourth Claſs*, PISCES, is ſubdivided into ſix ORDERS, the characters of which are taken from the ſituation of the *belly fins*.

ORDER I. The APODES have no *belly fins*.—This order contains eight genera, *viz.* Muræna, Gymnotus, Trichiurus, Anarchichas, Ammodytes, Ophidium, Stromateus, Xiphias, Sternoptyx, Leptocephalus.

ORDER II. The JUGULARES have the *belly fins* placed before the *pectoral fins*.—This order includes five genera, *viz.* Callionymus, Uranoſcopus, Trachinus, Gadus, Blennius, Kurtus.

ORDER III. The THORACICI have the *belly fins* placed *under* the *pectoral fins*.—This order comprehends 19 genera, *viz.* Cepola, Echeneis, Coryphæna, Gobius, Cottus, Scorphæna, Zeus, Pleuronectes, Chætodon, Sparus, Scarus, Labrus, Sciæna, Perca, Gaſteroſteus, Scomber, Centrogaſter, Mullus, Trigla.

ORDER IV. The ABDOMINALES have the *belly fins* placed *behind* the *pectoral fins*.—This order contains 16 genera, *viz.* Cobitis, Amia, Silurus, Tenthis, Loricaria, Salmo, Fiſtularia, Eſox, Elops, Argentina, Atherina, Mugil, Exocætus, Polynemus, Clupea, Cyprinus.

ORDER V. The BRANCHIOSTEGI have the *gills* deſtitute of bony rays.—This order contains 10 genera, *viz.* Mormyrus, Oſtracion, Tetrodon, Diodon, Syngnathus, Pegaſus, Centriſcus, Baliſtes, Cyclopterus, Lophius.

ORDER VI. The CHONDROPTERYGII have cartilaginous *gills*.—This order contains five genera, *viz.* Acipenſer, Chimæra, Squalus, Raia, Petromyzon.

The *generic* characters of this claſs are taken from peculiarities in the *head*, the *mouth*, the *teeth*, the *noſtrils*, the *rays* in the *membrane* of the *gills*, the *eyes*, the general *figure* of the *body*, the figure of the *tail*, the ſituation of the *ſpiracula*, &c.

The *ſpecific* characters are taken from peculiarities in all the parts above enumerated, and many others.

See further the articles FISH and ICHTHYOLOGY.

The *Fifth Claſs*, INSECTA, is ſubdivided into ſeven ORDERS, the characters of which are taken from the wings. See the article INSECT.

ORDER I. The COLEOPTERA have *four wings*, the two ſuperior ones being cruſtaceous, and furniſhed with a *ſtraight ſuture*.—This order comprehends 47 genera, *viz.* Scarabæus, Lucanus, Dermeſtes, Melyris, Byrrhus, Silpha, Tritoma, Hydrophilus, Hiſter, Pauſus, Boſtrichus, Anthrenus, Nitidula, Coccinella, Curculio, Brentus, Attelabus, Erodius, Staphylinus, Scaurus, Zygia, Meloe, Tenebrio, Caſſida, Opatrum, Mordella, Chryſomela, Horia, Apalus, Manticora, Pimelia, Gyrinus, Cucujus, Cryptocephalus, Bruchus, Ptinus, Hiſpa, Bupreſtis, Necydalis, Lampyris, Cantharis, Notoxus, Elater, Calopus, Alurnus, Carabus, Lytta, Serropalpus, Cerambyx, Leptura, Rhinomacer, Zonitis, Cicindela, Dyticus, Forficula.

ORDER II. The HEMIPTERA have *four wings*, the two ſuperior ones being *ſemicruſtaceous* and *incumbent*, *i. e.* the *interior edges* lie above one another.—This order includes 14 genera, *viz.* Blatta, Pneumora, Mantis, Gryllus, Fulgora, Cicada, Notonecta, Nepa, Cimex, Macrocephalus, Aphis, Chermes, Coccus, Thrips.

ORDER III. The LEPIDOPTERA have *four wings*, all of them imbricated with *ſcales*.—This order contains three genera, *viz.* Papilio, Sphinx, Phalæna.

ORDER IV. The NEUROPTERA have *four wings*, interwoven with veins, like a piece of *network*, and no *ſting* in the *anus*.—This order includes ſeven genera, *viz.* Libella, Ephemera, Hemerobius, Myrmelion, Phryganea, Panorpa, Raphidia.

ORDER V. The HYMENOPTERA have the ſame characters with the former, only the *anus* is armed with a *ſting*. But this mark is peculiar to the *females* and *neuters*; for the males have no *ſting*. This order comprehends 15 genera, *viz.* Cynips, Tentredo, Sirex, Ichneumon, Sphex, Scolia, Thynnus, Leucoſpis, Tiphia, Chalcis, Chryſis, Veſpa, Apis, Formica, Mutilla.

ORDER VI. The DIPTERA have *two wings*, and two *clavated halteres* or *balances* behind each wing.—This order contains 12 genera, *viz.* Diopſis, Tipula, Muſca, Tabanus, Empis, Conops, Oeſtrus, Aſilus, Stomoxys, Culex, Bombylius, Hippoboſca.

ORDER VII. The APTERA have *no wings*.—This order contains 15 ſpecies, *viz.* Lepiſma, Podura, Termes, Pediculus, Pulex, Acarus, Hydrachna, Aranea, Phalangium, Scorpio, Cancer, Monoculus, Oniſcus, Scolopendra, Julus. See further the articles ENTOMOLOGY and INSECT.

The *Sixth Claſs*, VERMES, is divided into five ORDERS.

ORDER I. The INTESTINA are the moſt *ſimple animals*, being perfectly *naked*, and without *limbs* of any kind.—This order contains 21 genera, *viz.* Aſcaris, Trichocephalus, Uncinaria, Filaria, Scolex, Ligula, Lingnatula, Strongylus, Echinorhynchus, Hæruca, Cucullanus, Caryophyllæus, Faſciola, Tænia, Furia, Myxine, Gordius, Hirudo, Lumbricus, Sipunculus, Planaria.

ORDER II. The MOLLUSCA are likewiſe *ſimple naked animals*, without any *ſhell*; but they are *brachiated*, or furniſhed with a kind of *limbs*.—This order comprehends 31 genera, *viz.* Actinia, Clava, Mammaria, Pedicellaria, Aſcidia, Salpa, Dagyſa, Pterotrachea, Limax, Aplyſia, Doris, Tethis, Holothuria, Terebella, Triton, Sepia, Clio, Lobaria, Lernæa, Scyllæa,

Glaucus, Aphrodita, Amphitrite, Spio, Nereis, Nais, Phyſſophora, Meduſa, Lucernaria, Aſterias, Echinus.

ORDER III. The TESTACEA have the ſame characters with thoſe of Order II. but are covered with a *ſhell*.—This order includes 36 genera, *viz.* Chiton, Lepas, Pholas, Mya, Solen, Tellina, Cardium, Mactra, Donax, Venus, Spondylus, Chama, Arca, Oſtrea, Anomia, Mytilus, Pinna, Argonauta, Nautilus, Conus, Cypræa, Bulla, Voluta, Buccinum, Strombus, Murex, Trochus, Turbo, Helix, Nerita, Haliotis, Patella, Dentalium, Serpula, Teredo, Sabella.

ORDER IV. The ZOOPHYTA are *compound animals*, furniſhed with a kind of *flowers*, and having a vegetating *root* and *ſtem*.—This order contains 15 genera, *viz.* Tubipora, Madrepora, Millepora, Cellepora, Iſis, Antipathes, Gorgonia, Alcyonium, Spongia, Fluſtra, Tubularia, Corralina, Sertularia, Pennatula, Hydra. See ANIMAL *Flower*.

ORDER V. The INFUSORIA conſiſts of very ſmall *ſimple animals*.—This order contains 15 genera, *viz.* Brachionus, Vorticella, Trichoda, Cercaria, Leucopera, Gonium, Colpoda, Paramecium, Cyclidium, Burſaria, Vibrio, Enchelis, Bacillaria, Volvox, Monas.

For more particular information concerning the ſeveral branches and ſubjects of zoology, the reader may conſult the various articles above referred to, and he will find moſt of the genera deſcribed in their order in the alphabet.

ZOS

ZOOPHYTE, in natural hiſtory, the 4th order of the claſs of *Vermes*. See ZOOLOGY.

ZOOTOMY, the art of diſſecting animals or living creatures, being the ſame with anatomy. See ANATOMY and COMPARATIVE *Anatomy*.

ZORILLE, in zoology, a ſpecies of weeſel, having the back and ſides marked with ſhort ſtripes of black and white, the laſt tinged with yellow; the tail long and buſhy, partly white and partly black; the legs and belly black. This animal inhabits Peru, and other parts of South America: its peſtilential vapour overcomes even the panther of America, and ſtupifies that formidable enemy.

ZOROASTER, or ZERDUSHT, a celebrated ancient philoſopher, ſaid to have been the reformer or the founder of the religion of the magi. It is wholly uncertain to how many eminent men the name of Zoroaſter belonged. Some have maintained that there was but one Zoroaſter, and that he was a Perſian; others have ſaid that there were ſix eminent founders of philoſophy of this name. Ham, the ſon of Noah, Moſes, Oſiris, Mithras, and others, both gods and men, have, by different writers, been aſſerted to have been the ſame with Zoroaſter. Many different opinions have alſo been advanced concerning the time in which he flouriſhed. Ariſtotle and Pliny fix his date at ſo remote a period as 6000 years before the death of Plato. According to Laertius, he flouriſhed 600 years before the Trojan war; according to Suidas, 500. If, in the midſt of ſo much uncertainty, any thing can be advanced with the appearance of probability, it ſeems to be this; that there was a Zoroaſter, a Perſo-Median, who flouriſhed about the time of Darius Hyſtaſpes; and that beſides him there was another Zoroaſter, who lived in a much more remote period among the Babylonians, and taught them aſtronomy. The Greek and Arabian writers are agreed concerning the exiſtence of the Perſian Zoroaſter; and the ancients unanimouſly aſcribe to a philoſopher, whom they call *Zoroaſter*, the origin of the Chaldean aſtronomy, which is certainly of much earlier date than the time of Hyſtaſpes: it ſeems, therefore, neceſſary to ſuppoſe a Chaldean Zoroaſter diſtinct from the Perſian. Concerning this Zoroaſter, however, nothing more is known, than that he flouriſhed towards the beginning of the Babyloniſh empire, and was the father of the Chaldean aſtrology and magic. All the writings that have been aſcribed to Zoroaſter are unqueſtionably ſpurious.

ZOSTERA, in botany: a genus of plants of the claſs *gynandria*, order *polyandria*; and in the natural ſyſtem arranged under the ſecond order, *Piperitæ*. The ſpadix is linear, and fertile only on one ſide; there is no calyx nor corolla; the ſtamina are alternate; the ſeeds ſolitary and alternate. There are two ſpecies, the marina and oceanica; neither of which is a native of Britain.

ZUG

ZOSIMUS, an ancient hiſtorian who lived at the end of the fourth and beginning of the fifth centuries. There are ſix books of his hiſtory extant; in the firſt of which he runs over the Roman affairs in a very ſuccinct manner from Auguſtus to Diocleſian; the other five are written more diffuſely. Zoſimus was a zealous Pagan; whence we find him frequently inveighing with great bitterneſs againſt the Chriſtian princes, particularly againſt Conſtantine the Great, and the elder Theodoſius. His hiſtory has been publiſhed with the Latin verſion of Leunclavius at Frankfort, 1590, with the other minor hiſtorians of Rome, in folio; and at Oxford in 8vo. 1679.

ZUG, a canton of Switzerland, bounded on the north and eaſt by Zuric, on the ſouth by Schweitz, and on the weſt by Lucern; only about ten miles long, and nearly as much in breadth. The paſtures here are excellent, and it produces alſo a ſufficiency of grain, with plenty of fruit, and ſome wine; on one ſide of the Zug Lake, the country is covered with cheſtnut-trees, which form a very profitable branch of trade, by the ſale of the nuts to the neighbouring countries. This diſtrict, on the extinction of the counts of Lenzburg, devolved to thoſe of Kyburg, which latter alſo failing, it came to the counts of Habſburg, and in them to the Houſe of Auſtria, towards which it always manifeſted an inviolable attachment; but in the year 1352 the town of Zug being beſieged by the Helvetian confederacy, and not only neglected by the archduke, but even recommended by him to ſurrender, it followed his advice, and was admitted into the confederacy, to which its territory had previouſly acceded. This canton is the ſeventh in rank, and among the leſſer ones the fifth, beſides which, it is in a particular manner connected with Lucern, Uri, Schweitz, and Underwalden, commonly called the five territorial confederates. The government of this canton is entirely democratical; the ſupreme council being lodged in the landegemeine, which meets annually in the town of Zug. In this council, every male of ſixteen years of age is poſſeſſed of a vote, and here alſo all public poſts are conferred. It is compoſed of deputies from the ſeveral quarters of the canton. The chief perſon here is the amman, who is elected alternately from the town and the territory, though with this difference, that the town amman continues in office three years, but the country amman two; this officer muſt always reſide in the town; next to him is the ſtatthalter, who has the keeping of the provincial ſeal. The people of this canton are reckoned the moſt reſtleſs of Switzerland; their general aſſemblies are often tempeſtuous, though ſeldom attended with bloodſhed.

ZUINGLIUS (Ulricus), an able and zealous reformer of the church, was born at Wildehauſen in Switzerland, in 1487.—He was ſent to ſchool at Baſil early, and thence removed to Bern, where he learned the Greek and Hebrew tongues. He ſtudied philoſophy at Vienna, and divinity at Baſil, where he was admitted doctor in 1505. He began to preach with good ſucceſs in 1506, and was choſen miniſter of Glaris, a chief town in the canton of the ſame name, where he continued till 1516. Then he was invited to Zurich, to undertake the principal charge of that city, and to preach the word of God there. He died in 1531, having written ſeveral books in defence of his doctrines. His works amounted to 4 vols. in folio, the greateſt part of which were written in German, and afterwards tranſlated into Latin.

ZURIC, or Zurich, a canton of Switzerland, and firſt in rank, bounded on the north by Swabia and the canton of Scaffhauſen, on the eaſt by the Thurgau and the county of Toggenburg, on the ſouth by the cantons of Schweitz and Zug, and on the weſt by the county of Baden. This canton is not unaptly called an epitome of all Switzerland, as containing in it hills, valleys, plains, corn-lands, vineyards, lakes, rivers, vegetables of all kinds, and whatever elſe is neceſſary to the ſupport of life. Grain is cultivated all over the country; but it ripens later in the mountainous parts, where the air is coldeſt, than in the levels or ſunny valleys. The hilly grounds in the eaſt, weſt, and ſouth borders, afford a ſpecimen of the fertile Alps, as abounding in cattle, milk, butter, and cheeſe: at firſt the wines have a tartneſs attending them, yet they improve by keeping; and, after lying ſome years in the caſk, become ſmooth, pleaſant, and wholeſome. Fruits alſo are every-where found in great plenty, and very good. The moſt remarkable minerals and foſſils are chalk, potter's earth of ſeveral ſorts and colours, ſulphur, and pit-coal; ſome mineral ſprings are likewiſe found. The proportion of grain to the other productions of the earth, will appear from the following calculation: there are 217,424 acres laid out in grain, 14,466 in vines, 94,553 in meadows, 42,549 in paſturage, and 103,772 in foreſts. As ſufficient corn is not produced for the interior conſumption, the deficiency is chiefly ſupplied from Swabia. In order to prevent a ſcarcity of this material article, a public granary is maintained, at the expence of government, for grain at the common price; but, in ſeaſons of ſcarcity, it is ſold conſiderably cheaper than it can be purchaſed at the market. The canton contained, in 1784, 174,572 ſouls, including 10,500 in the capital: this large population, in proportion to the ſize of the canton, is owing to the trade of Zuric; as, at leaſt, two-thirds of the inhabitants derive their livelihood by ſpinning thread and ſilk, and making linen for the manufactures of the town. The ſovereign power reſides excluſively in the burgeſſes of the town, conſiſting of about 2000. The reformation was begun by Zuinglius, in the year 1517, in the town of Zurich; and in 1524 gained footing in the whole canton.

ZURICH, a city of Switzerland, and capital of a canton of the ſame name, ſituated on a large lake, where the river Limmat is diſcharged, which divides it into two parts, ſuppoſed to have been built on the ſite of the ancient Tigurum, which was deſtroyed by the Allemanni. Zurich was formerly an imperial city, and obtained from the Emperor (Frederic II.) very conſiderable privileges, which were acknowledged and augmented by ſeveral of his ſucceſſors. The civil war between the magiſtrates and the people, in the year 1335, nearly reduced the city to ruins; but the former being baniſhed, the citizens, in 1337, eſtabliſhed a new form of government, which was confirmed by the Emperor Louis of Bavaria. The exiles, after ſeveral fruitleſs attempts, were at length re-admitted; but engaging in a conſpiracy againſt the city, were diſcovered, and put to death. In conſequence of this tranſaction, the nobles in the neighbourhood took up arms; and Zuric, after having ineffectually applied for aſſiſtance to the Emperor Charles IV. formed an alliance with Lucerne, Uri, Schweitz, and Underwalden, and was admitted a member of their confederacy: this event happened in the year 1351. The four cantons yielded the pre-eminence to Zuric: a privilege it enjoys at preſent; being the firſt canton in rank, and the moſt conſiderable in extent, both of territory and power, next to Berne. In the ſame year, Zuric was aſſiſted by the four cantons againſt Albert duke of Auſtria, who beſieged the town, and was repulſed with great loſs. Zurich was the firſt town in Switzerland that ſeparated from the church of Rome, being converted by the arguments of Zuinglius. The town is divided into two parts; the old part, ſurrounded with the ſame ancient battlements and towers which exiſted in the thirteenth century: and the ſuburbs, which are ſtrengthened by fortifications in the modern ſtyle, but too extenſive. The ditches, inſtead of being filled with ſtagnant water, are moſtly ſupplied with running ſtreams. The inhabitants are very induſtrious, and carry on with ſucceſs ſeveral manufactures: the principal are thoſe of linens and cottons, muſlins and ſilk handkerchiefs. The manufacturers do not, in general, dwell within the walls; but the materials are moſtly prepared, and the work is completed in the adjacent diſtricts; for this reaſon, Zurich does not exhibit the activity and numbers of a great commercial city: the environs, on the contrary, are ſo extremely populous, that, perhaps, few diſtricts in the neighbourhood of a town, whoſe population ſcarcely exceeds 10,500 inhabitants, contain, within ſo ſmall a compaſs, ſo many ſouls. The ſtreets are moſtly narrow; the houſes and public buildings accord more with plainneſs and convenience than with the elegance and ſplendour of a capital. The town contained, in 1780, 10,559 ſouls. Among their ſumptuary laws, the uſe of a carriage in the town is prohibited to all ſorts of perſons, except ſtrangers. The militia of the canton amounted, in 1781, to 25,718 infantry, 1025 artillery, 886 dragoons, and 406 chaſſeurs; in all, 28,235 effective men. The arſenal is well ſupplied with cannon, arms, and ammunition, and contains a reſerve of muſkets for 30,000 men: 41 miles S. E. Bâle, and 36 S.W. Conſtance. Long. 26. 9. E. Ferro. Lat. 47. 22. N.

Zurich, a lake of Switzerland, in a canton to which it gives name: 22 miles long, and two wide. It is divided into Upper and Lower.

ZUTPHEN, a ſtrong and conſiderable town of the United Provinces in Guelderland, and capital of a county of the ſame name. It has a magnificent church, and is ſurrounded with walls. It was taken by the French in 1672, who, in 1674, delivered it up to the ſtates-general. It is ſeated at the confluence of the rivers Berkel and Yeſſel, nine miles ſouth-eaſt of Deventer, and 55 eaſt by ſouth of Amſterdam. E. Long. 6. 0. N. Lat. 52. 10.

ZUYDER-zee, a great gulph or bay of the German Ocean, which extends from ſouth to north in the United Provinces, between Frieſland, Over-Yeſſel, Guelderland, and Holland. It is ſo called from its ſituation towards the ſouth. It is ſaid that the Zuyder-zee was formerly a lake, and that the land is ſwallowed up which united North-Holland with Frieſland.

ZYGOMA, in anatomy, a bone of the head, or rather an union or aſſemblage of two proceſſes or eminences of bones; the one from the os temporis, the other from the os malæ:

theſe proceſſes are hence termed the *zygomatic proceſſes*, and the ſuture that joins them together is denominated the *zygomatic ſuture*. See ANATOMY.

ZYGOMATICUS, in anatomy, a muſcle of the head, ariſing from the *Os* ZYGOMA, whence its name, and terminating at the angle of the lips.

ZYGOPHLYLLUM, BEAN-CAPER, in botany: a genus of plants of the claſs of decandria and order monogynia, and in the natural ſyſtem arranged under the 14th order, *Gruinales*. There are eleven ſpecies, partly ſhrubby and partly herbaceous plants, all natives of warm climates, though ſome of them are hardy enough to endure the open air in this country.

ZYMOSIMETER (formed from ζυμωσις *fermentation*, and μετρον *meaſure*), an inſtrument propoſed by Swammerdam in his book *De Reſpiratione*, wherewith to meaſure the degree of fermentation occaſioned by the mixture of different matters, and the degree of heat which thoſe matters acquire in fermenting, as alſo the heat or temperament of the blood of animals.

SUPPLEMENT

TO THE

ENGLISH ENCYCLOPÆDIA;

CONTAINING,

1. Articles omitted.
2. Recent Improvements in the Arts and Sciences.
3. Additions to Articles already inſerted (marked *Encycl.*).
4. The Correction of Errors.

AARON, high-prieſt of the Jews, and brother to Moſes, was by the father's ſide great-grandſon, and by the mother's grandſon, of Levi. By God's command he met Moſes at the foot of Mount Horeb, and they went together into Egypt to deliver the children of Iſrael: he had a great ſhare in all that Moſes did for their deliverance: the ſcriptures call him the prophet of Moſes, and he acted in that capacity after the Iſraelites had paſſed over the Red Sea. He aſcended Mount Sinai with two of his ſons, Nadab and Abihu, and ſeventy elders of the people; but neither he nor they went higher than half way, from whence they ſaw the glory of God: only Moſes and Joſhua went to the top, where they ſtaid forty days. During their abſence, Aaron, overcome by the people's eager intreaties, ſet up the golden calf, which the Iſraelites worſhipped by his conſent. This calf has given riſe to various conjectures. Some rabbies maintain, that he did not make the golden calf, but only threw the gold into the fire, to get rid of the importunities of the people; and that certain magicians, who mingled with the Iſraelites at their departure from Egypt, caſt this gold into the figure of a calf. According to ſome authors, the fear of falling a ſacrifice to the reſentment of the people, by giving a refuſal, made Aaron comply with their deſire: and they allege alſo, that he hoped to elude their requeſt, by demanding of the women to contribute their ear-rings, imagining they would rather chooſe to remain without a viſible deity, than be deprived of their perſonal ornaments. This affair of the golden calf happened in the third month after the Iſraelites came out of Egypt. In the firſt month of the following year, Aaron was appointed high-prieſt by God, which office he executed during the time that the children of Iſrael continued in the wilderneſs. He died in the fortieth year after their departure from Egypt, upon Mount Hor, being then 123 years old; A. M. 2522, of the Julian period 3262, before the Chriſtian æra 1452.

AARON BEN ASER, a celebrated rabbi, who, in the fifth century, had a ſhare in the invention of the Hebrew points and accents.

AARON of Alexandria, a Chriſtian prieſt and phyſician, who flouriſhed in Egypt about the year 621. He is the moſt ancient author who has treated of the ſmall-pox.

AARON HARISCHON, a learned rabbi and caraite in the 13th century, wrote an Hebrew grammar, printed at Conſtantinople 1581; probably the ſame with Aaron the caraite, who wrote a commentary on the five books of Moſes, which is in MS. in the French king's library.

AARSENS (Peter), a painter, called in Italy Pietro Longo, becauſe of his ſtature, was born at Amſterdam 1519. He was eminent for all kinds of ſubjects; but was particularly famous for altar-pieces, and for repreſenting a kitchen with its furniture: he had the pain to ſee a fine altar-piece of his deſtroyed by the rabble in the inſurrection 1566, though a lady of Alcmaer offered 200 crowns for its redemption.

AARSENS (Francis), lord of Someldyck and Spyck, was one of the greateſt miniſters for negotiation the United Provinces could ever boaſt of. Cornelius Aarſens, his father, was regiſter to the States; and being acquainted with Mr. du Pleſſis Mornay at the court of William prince of Orange, he prevailed upon him to take his ſon under him, with whom he continued ſome years. John Olden Barnevelt, who preſided over the affairs of Holland and all the United Provinces, ſent him afterwards agent into France; where he learned to negotiate under thoſe profound politicians, Henry IV. Villeroy, Roſny, Silleri, Jeannin, &c.; and he acquitted himſelf ſo well as to obtain their approbation. Soon after he was inveſted with the character of ambaſſador, being the firſt who was recognized as ſuch by the French court; at which time Henry IV. declared that he ſhould take precedence next to the Venetian miniſter. He reſided in France fifteen years; during which time he received great marks of eſteem from the king, who created him a knight and baron; and for this reaſon he was received amongſt the nobles of the province of Holland. However, he became at length ſo odious to the French court, that they deſired to have him recalled. He was afterwards deputed to Venice, and to ſeveral German and Italian princes, upon occaſion of the troubles in Bohemia: this was in 1620; "and it is to be obſerved," ſays Mr. Wicquefort, "that the French king ordered the Duke of Angoulême, the Count of Methune, and Abbé des Preaux, his three ambaſſadors, not to receive viſits from Mr. Aarſens who came from the States of the United Provinces to negotiate with ſome German and Italian princes, upon the ſame affairs of Bohemia for which the ambaſſadors of France had been deputed. The order ſent for this purpoſe ſignified, "that it was not intended as any indignity to the States, with whom the king was deſirous to live always in friendſhip, but entirely upon account of Mr. Aarſens, for his having acted in a manner inconſiſtent with the intereſt and dignity of his majeſty."

Mr. Aarſens was the firſt of three extraordinary ambaſſadors ſent to England in 1620; and the ſecond, in 1641. In this laſt embaſſy, his colleagues were the lord of Brederode, firſt ambaſſador, and Heemſvliet, as third; they were to treat about the marriage of Prince William, ſon to the Prince of Orange. He was alſo ambaſſador extraordinary at the French court in 1624: and Cardinal Richelieu having juſt taken the adminiſtration into his hands, and knowing he was an able man, made uſe of him to ſerve his own purpoſes. Aarſens died in a very advanced age; and his ſon, who ſurvived him, was reputed the wealthieſt man in Holland. He has left very accurate and judicious memoirs of all thoſe embaſſies in which he was employed; and it muſt be obſerved, that the various inſtructions given him by the States, and all the credential letters he carried in his later embaſſies, were drawn by himſelf; "whence we may conclude," ſays Mr. Wicquefort, "that he was the ableſt perſon in all that country, not only for conducting of negotiations, but for inſtructing ambaſſadors what to negotiate upon."—Du Maurier, in his memoirs, ſays, "that he was of a ſpirit the moſt dangerous which ever aroſe in the United Provinces, and the more to be dreaded, as he concealed all the malevolence and artifice of foreign courts under the appearance of Dutch bluntneſs and ſimplicity; that he was vehement and perſuaſive, could advance arguments in favour of the worſt cauſes, had an intriguing genius, and had kept a ſecret correſpondence with ſome great men in France, whoſe conduct was not only ſuſpected, but highly offenſive to the king; and that, having bribed the French ambaſſador's ſecretary at the Hague, he thereby diſcovered the moſt ſecret deſigns of the French court." By this account we may ſee that Aarſens was a man of great abilities, and had an excellent turn for political negotiations.

AARTGEN, or AERTGEN, a painter of merit, was the ſon of a wool-comber, and born at Leyden in 1498. He worked at his father's trade till he was eighteen, and then, having diſcovered a genius for deſigning, he was placed with Cornelius Engelhechtz, under whom he made a conſiderable progreſs in painting. He became ſo diſtinguiſhed, that the celebrated Francis Floris went to Leyden out of mere curioſity to ſee him. He found him inhabiting a poor half-ruined hut, and in a very mean ſtyle of living: he ſolicited him to go to Antwerp, promiſing him wealth and rank ſuitable to his merit; but Aartgen refuſed, declaring, that he found more ſweets in his poverty than others did in their riches. It was a cuſtom with this painter never to work on Mondays, but to devote that day with his diſciples to the bottle. He uſed to ſtroll about the ſtreets in the night, playing on the German flute; and in one of thoſe frolics he was drowned in 1564.

ABA (or rather ABAU) HANIFAH, ſurnamed Al-Nooman, was the ſon of Thabet, and born at Couſah in the 80th year of the Hegira; this is the moſt celebrated doctor of the orthodox Muſſulmans, and his ſect holds the principal eſteem among the four which they indifferently follow. Notwithſtanding this, he was not very well eſteemed during his life, inſomuch that the khaliff Almanſor cauſed him to be impriſoned at Bagdat, for having refuſed to ſubſcribe to the opinion of abſolute predeſtination, which the Muſſulmans called Cadha. But afterwards Abou Joſeph, who was the ſovereign judge or chancellor of the empire, under the khaliff Hadi, brought his doctrine into ſuch credit, that it became a prevailing opinion, that to be a good Muſſulman was to be a Hanſiite. He died in the 150th year of the Hegira, in the priſon of Bagdat aforeſaid. And it was not till 335 years after his death, that Melick Schah, a ſultan of the Selgiucidan race, built for him a magnificent monument in the ſame city, whereto he adjoined a college peculiarly appropriated to ſuch as made a profeſſion of this ſect. This was in the 485th year of the Hegira, and Anno Chriſti 1092. The moſt eminent ſucceſſors of this doctor were Ahmed Benali, Al Giaſſas, and Al Razi, who was the maſter of Naſſari; and there is a moſque particularly appropriated to them in the temple of Mecca.

ABACISCUS, in architecture, the ſame with ABACUS; for which, ſee *Encyclopædia*.

ABADDON, is the name which St. John in the Reveſations gives to the king of the locuſt, the angel of the bottomleſs pit. The inſpired writer ſays, this word is Hebrew, and in Greek ſignifies Απολλυων, *i. e.* a *deſtroyer*. That angel-king is thought to be Satan; or the devil: but Mr. le Clerc thinks, with Dr. Hammond, that by the locuſt which came out of the abyſs, may be underſtood the zealots and robbers, who miſerably afflicted the land of Judea, and laid it in a manner waſte, before Jeruſalem was taken by the Romans; and that Abaddon, the king of the locuſt, may be John of Giſchala, who, having treacherouſly left that town a little before it was ſurrendered to Titus, came to Jeruſalem, where he ſoon headed part of the zealots, who acknowledged him as their king, whilſt the reſt would not ſubmit to him. This ſubdiviſion of the zealot-party brought a thouſand calamities on the Jews.

ABADIR, a title which the Carthaginians gave to gods of the firſt order. In the Roman mythology, it is the name of a ſtone which Saturn ſwallowed, by the contrivance of his wife Opa, believing it to be his new-born ſon Jupiter: hence it ridiculouſly became the object of religious worſhip.

ABÆ, or ABA, a town of Phocis in Greece, near Helicon; famous for an oracle of Apollo older than that at Delphi, and for a rich temple plundered and burnt by the Perſians. (Strabo.)

ABAKANSKOI, a fortified town of Siberia, in the province of Tobolſk, ſeated on the Janeſka. Long. 94. 5. E. Lat. 53. 5. N.

ABALIENATUS, among phyſicians, means corrupted. When applied to the body, it ſignifies that a part is ſo deſtroyed as to require extirpation. When applied to the ſenſes, it expreſſes their total deſtruction.

ABALLABA, now *Appleby*, a town in Weſtmoreland, remarkable only for its antiquity, having been a Roman ſtation. (Notitia Imperii.) See APPLEBY.

ABANA (Bible), otherwiſe *Amana*, a river of Phœnicia, which, riſing from Mount Hermon, waſhes the ſouth and weſt ſides of Damaſcus, and falls into the Phœnician ſea, to the north of Tripolis, called *Coryſſorrhous* by the Greeks.

ABANTES, a people who came originally from Thrace, and ſettled in Phocœa, a country of Greece, where they built a town which they called Aba, after the name of Abas their leader; and, if we may credit ſome ancient authors, the Abantes went afterwards into the iſland Eubœa, now called Negropont: others ſay, the Abantes of Eubœa came from Athens. The Abantes were a very warlike people, cloſing with their enemies, and fighting hand to hand. See next article.

ABANTIAS, or ABANTIS, a name of the iſland Eubœa, in the Egean ſea, extending along the coaſt of Greece, from the promontory Sunium of Attica to Theſſaly; and ſeparated from Bœotia by a narrow ſtrait, called Euripus. From its length the iſland was formerly called *Macris:* afterwards *Abantias*, or *Abantis*, from the Abantes, a people originally of Thrace, called by Homer οπισθεν κομοωντας, from wearing their hair long behind, having in a battle experienced the inconvenience of wearing it long before; and from cutting their forelocks, they were called *Curetes*. (*Abantæus*, the epithet; Ovid.) See ABANTES, above.

ABARIM, high mountains of ſteep aſcent, ſeparating the

country of the Ammonites and Moabites from the land of Canaan, where Moſes died. According to Joſephus, they ſtood oppoſite to the territory of Jericho, and were the laſt ſtation but one of the Iſraelites coming from Egypt. Nebah and Piſgah were parts of theſe mountains.

ABARIS, the Hyperborean; a celebrated ſage of antiquity, whoſe hiſtory and travels have been the ſubject of much learned diſcuſſion. Such a number of fabulous ſtories were told of him, that Herodotus himſelf ſeems to ſcruple to relate them. He tells us only, that this barbarian was ſaid to have travelled with an arrow, and took no ſuſtenance: but this does not acquaint us with the marvellous properties which were attributed to that arrow; nor that it had been given him by the Hyperborean Apollo. With regard to the occaſion of his leaving his native country, Harpocration tells us, that the whole earth being infeſted with a deadly plague, Apollo, upon being conſulted, gave no other anſwer, than that the Athenians ſhould offer up prayers in behalf of all other nations; upon which, ſeveral countries deputed ambaſſadors to Athens, among whom was Abaris the Hyperborean. In this journey he renewed the alliance between his countrymen and the inhabitants of the iſland of Delos. It appears that he alſo went to Lacedæmon; ſince, according to ſome writers, he there built a temple conſecrated to Proſerpine the Salutary. It is aſſerted, that he was capable of foretelling earthquakes, driving away plagues, laying ſtorms, &c. He wrote ſeveral books, as Suidas informs us, *viz.* Apollo's Arrival into the Country of the Hyperboreans; The Nuptials of the River Hebrus; Θεογονια, or the Generation of the Gods; A Collection of Oracles; &c. Himerius, the ſophiſt, applauds him for ſpeaking pure Greek; which attainment will be no matter of wonder to ſuch as conſider the ancient intercourſe there was between the Greeks and Hyperboreans. As to what relates to his abilities, Himerius informs us, that "he was "affable and pleaſant in converſation, in diſpatching great "affairs ſecret and induſtrious, quick-ſighted in preſent exi"gencies, in preventing future dangers circumſpect, a "ſearcher after wiſdom, deſirous of friendſhip, truſting in"deed little to fortune, and having every thing truſted to "him for his prudence." Neither the Academy nor the Lyceum could have furniſhed a man with fitter qualities to travel ſo far abroad, and to ſuch wiſe nations, about affairs no leſs arduous than important. And if we further attentively conſider his moderation in eating, drinking, and the uſe of all thoſe things which our natural appetites inceſſantly crave; joining the candour and ſimplicity of his manners with the ſolidity and wiſdom of his anſwers, all which we find ſufficiently atteſted; it muſt be owned, that the world at that time had few to compare with Abaris.

ABAS, in the heathen mythology, was the ſon of Hypothoon and Meganira, who entertained Ceres, and offered a ſacrifice to that goddeſs; but Abas ridiculing the ceremony, and giving her opprobrious language, ſhe ſprinkled him with a certain mixture ſhe held in her cup, on which he became a newt or water-lizard.

Abas (Schah) the Great, was third ſon of Codabendi, ſeventh king of Perſia, of the race of the Sophis. Succeeding to his father at 18, in 1585, he found the affairs of Perſia at a low ebb, occaſioned by the conqueſts of the Turks and Tartars. He regained ſeveral of the provinces they had ſeized; but death put a ſtop to his victories in 1629, after a reign of 44 years. He was the greateſt prince that had reigned in Perſia for many ages; and it was he who made Iſpahan the metropolis of Perſia; his memory is held in the higheſt veneration among the Perſians.

Abas (Schah), his grandſon, ninth king of Perſia, of the race of the Sophis, ſucceeded his father Seſi at 13 years of age: he was but 18 when he made himſelf maſter of the city of Candahar, which had ſurrendered, in his father's reign, to the Great Mogul, and all the provinces about it; and he preſerved it afterwards againſt this Indian emperor, though he beſieged it more than once with an army of 300,000 men. He was a very merciful prince, and openly protected the Chriſtians: he had formed a deſign of extending the limits of his kingdom toward the north, and had for that effect levied a powerful army; but death put a ſtop to all his great deſigns, at 37 years of age, in 1666.

ABASCIA, or Abcas, a country in Aſia, tributary to the Turks, ſituated on the coaſt of the Black Sea. The people are poor, thieviſh, and treacherous, inſomuch that there is no trading with them without the utmoſt caution. Their commodities are furs, buck and tyger ſkins, linen yarn, box-wood, and bees-wax: but their greateſt traffic is in ſelling their own children, and even one another, to the Turks; inſomuch that they live in perpetual diſtruſt. They are deſtitute of many neceſſaries of life, and have nothing among them that can be called a town; though we find Anacopia, Dandar, and Czekorni, mentioned in the maps. They have the name of Chriſtians; but have nothing left but the name, any more than the Mingrelians their northern neighbours. The men are robuſt and active, and the women are fair and beautiful; on which account the Turks have a great value for the female ſlaves, whom they purchaſe from among them. Their cuſtoms are much the ſame as thoſe of the Mingrelians. E. Long. from 39 to 43. Lat. from 43 to 45.

ABASKAJA, a town of Siberia, on the river Iſchim. The church is ſurrounded by a rampart and paliſades, and garriſoned by dragoons. Long. 69. 5. E. Lat. 50. 10. N.

ABATEMENT, in law. See *To* Abate.

Abatement, in the cuſtoms, an allowance made upon the duty of goods, when the quantum damaged is determined by the judgment of two merchants upon oath, and aſcertained by a certificate from the ſurveyor and land-waiter.

ABATIS, or Abattis, is, in military language, the name of a kind of entrenchment made of felled trees. When the emergency is ſudden, the trees are merely laid lengthwiſe beſide each other, with their branches pointed towards the enemy, to prevent his approach, whilſt the trunks ſerve as a breaſtwork before thoſe by whom the abatis is raiſed. When the abatis is meant for the defence of a paſs or entrance, the boughs of the trees are generally ſtripped of their leaves and pointed; the trunks are planted in the ground; and the boughs are interwoven with each other. It is needleſs to add, that the cloſer the trees are laid or planted together, the more ſecure is the defence which they afford; and if, when they are planted, a ſmall ditch be dug towards the enemy, and the earth thrown up properly againſt the lower part of the abatis, it will be very difficult to paſs it if well defended.

ABATOR, in law, a term applied to a perſon who enters to a houſe or lands, void by the death of the laſt poſſeſſor, before the true heir.

ABATOS, an iſland in the lake Mœris, formerly famous for its flax and papyrus. It was the burial-place of Oſiris, (Lucan.)

ABBADIE (James), an eminent Proteſtant divine, born at Nay in Bern, in 1654; firſt educated there under the famous John la Placette, and afterwards at the univerſity of Sedan. From thence he went into Holland and Germany, and was miniſter in the French church of Berlin. He left that place in 1690; came into England; was ſome time miniſter in the French church in the Savoy, London; and was made dean of Killaloe in Ireland. He died at St. Mary le Bonne, near London, in 1727, aged 73. He was ſtrongly attached to the cauſe of King William as appears in his cla-

borate defence of the revolution, and his hiſtory of the aſſaſſination-plot. He had great natural abilities, which he improved by true and uſeful learning. He was a moſt zealous defender of the primitive doctrine of the Proteſtants, as appears by his writings; and that ſtrong nervous eloquence, for which he was ſo remarkable, enabled him to enforce the doctrines of his profeſſion from the pulpit with great ſpirit and energy. He publiſhed ſeveral works in French that were much eſteemed; the principal of which are, A Treatiſe on the Truth of the Chriſtian Religion; The Art of knowing one's Self; A Defence of the Britiſh Nation; and, The Hiſtory of the laſt Conſpiracy in England, written by order of King William III.

ABBAS, ſon of Abdalmothleb, and Mahomet's uncle, oppoſed his nephew with all his power, eſteeming him an impoſtor and infidel; but in the ſecond year of the Hegira, being overcome and made a priſoner at the battle of Bendir, in 623, a great ranſom being demanded for him, he repreſented to Mahomet, that his paying it would reduce him to poverty, which would redound to the diſhonour of the family. But Mahomet having been informed of Abba's having ſecreted large ſums of money, aſked him after the purſes of gold he had left in his mother's cuſtody at Mecca. Abbas, upon this, conceiving him to be really a prophet, embraced his new religion; became one of his principal captains; and ſaved his life when in imminent danger at the battle of Henain, againſt the Thakeſites, ſoon after the reduction of Mecca. But beſides being a great commander, Abbas was a famous doctor of the Muſſulman law, inſomuch that he read lectures upon every chapter of the Koran, as his nephew pretended to receive them one by one from heaven. He died in 652, and his memory is held in the higheſt veneration among the Muſſulmans to this day.

Abul ABBAS, ſirnamed *Saſſàh,* was proclaimed khalif; and in him began the Dynaſty of the

ABBASSIDES, who poſſeſſed the khalifate for 524 years; and there were 37 khalifs of this race who ſucceeded one another without interruption.

MILTON-ABBEY, a town of England, in the county of Dorſet, ſo called on account of an abbey founded there by King Athelſtan, ſaid to be on account of the murder of his brother Edwin. This abbey, at the diſſolution, was preſerved entire by Sir John Tregonwell. In the year 1771, the whole, except the great hall, was taken down by Lord Milton. It has a weekly market on Tueſday. Eight miles S.W. of Blandford, and 112 W.S.W. of London.

ABBOT (George), Archbiſhop of Canterbury, was born October 29, 1562, at Guildford in Surrey. He went through his ſtudies at Oxford, and in 1597 was choſen principal of Univerſity College. In 1599 he was inſtalled dean of Wincheſter: the year following he was choſen vice-chancellor of the univerſity of Oxford, and a ſecond time in 1603. In 1604 that tranſlation of the Bible now in uſe was begun by the direction of King James; and Dr. Abbot was the ſecond of eight divines of Oxford, to whom the care of tranſlating the whole New Teſtament (excepting the epiſtles) was committed. The year following, he was a third time vice-chancellor. In 1608 he went to Scotland with George Hume, earl of Dunbar, to aſſiſt in eſtabliſhing an union betwixt the kirk of Scotland and the church of England; and in this affair he behaved with ſo much addreſs and moderation, that it laid the foundation of all his future preferment. For King James ever after paid great deference to his advice and counſel; and upon the death of Dr. Overton, biſhop of Lichfield and Coventry, he named Dr. Abbot for his ſucceſſor, who was accordingly conſecrated biſhop of thoſe two united ſees in December 1609. About a month afterwards he was tranſlated to the ſee of London,; and on the ſecond of November thereafter was raiſed to the archiepiſcopal ſee. His great zeal for the Proteſtant religion made him a ſtrenuous promoter of the match between the Elector Palatine and the Princeſs Elizabeth; which was accordingly concluded and ſolemnized the 14th of February, 1612, the archbiſhop performing the ceremony on a ſtage erected in the royal chapel. In the following year happened the famous caſe of divorce betwixt the Lady Francis Howard, daughter of the Earl of Suffolk, and Robert earl of Eſſex: an affair which has been by many conſidered as one of the greateſt blemiſhes of King James's reign; but the part acted therein by the archbiſhop, added much to the reputation he had already acquired for incorruptible integrity. The matter was by the king referred to a court of delegates. The archbiſhop ſaw plainly, that his majeſty was very deſirous the lady ſhould be divorced; but he was, in his own judgment, directly againſt the divorce. He laboured all he could to extricate himſelf from this difficulty, by having an end put to the cauſe by ſome other way than by ſentence: but it was to no purpoſe; for thoſe who drove on this affair, had got too great power to be reſtrained from bringing it to the concluſion the king deſired. The archbiſhop prepared a ſpeech, which he intended to have ſpoken againſt the nullity of the marriage, in the court at Lambeth: but he did not make uſe of it, becauſe the king ordered the opinions to be given in few words. He continued, however, inflexible in his opinion againſt the divorce; and drew up his reaſons, which the king thought fit to anſwer himſelf. It need ſcarce be added, that ſentence was given in the lady's favour.—In 1618, the king publiſhed a declaration, which he ordered to be read in all churches, permitting ſports and paſtimes on the Lerd's day: this gave great uneaſineſs to the archbiſhop; who, happening to be at Croydon when it came thither, had the courage to forbid its being read.—Being now in a declining ſtate of health, the archbiſhop uſed in the ſummer to go to Hampſhire for the ſake of recreation; and being invited by Lord Zouch to hunt in his park at Bramzill, he met there with the greateſt misfortune that ever befel him; for he accidentally killed the game-keeper, by an arrow from a croſs-bow which he ſhot at one of the deer. This accident threw him into a deep melancholy; and he ever afterwards kept a monthly faſt on Tueſday, the day on which this fatal miſchance happened, and he ſettled an annuity of 20l. on the widow. There were ſeveral perſons who took an advantage of this misfortune, to leſſen him in the king's favour; but his majeſty ſaid, "An angel might have miſcarried in this ſort." His enemies alleging that he had incurred an irregularity, and was thereby incapacitated for performing the offices of a primate; the king directed a commiſſion to ten perſons to enquire into this matter. The reſult, however, was not ſatisfactory to his Grace's enemies; it being declared, that, as the murder was involuntary, he had not forfeited his archiepiſcopal character. The archbiſhop thenceforward ſeldom aſſiſted at the council, being chiefly hindered by his infirmities; but in the king's laſt illneſs he was ſent for, and attended with great conſtancy till his Majeſty expired on the 27th of March, 1625. He performed the ceremony of the coronation of King Charles I. though very infirm and much troubled with the gout. He was never greatly in this king's favour; and the Duke of Buckingham being his declared enemy, watched an opportunity of making him feel the weight of his diſpleaſure. This he at laſt accompliſhed, upon the archbiſhop's refuſing to licenſe a ſermon, preached by Dr. Sibthorpe, to juſtify a loan which the king had demanded, and pregnant with principles which tended to overthrow the conſtitution. The archbiſhop was immediately ſuſpended from all his functions as primate; and they were exerciſed by certain biſhops commiſſioned by

the king, of whom Laud, the archbiſhop's enemy, and afterwards his ſucceſſor, was one: while the only cauſe aſſigned for this procedure was, that the archbiſhop could not at that time perſonally attend thoſe ſervices, which were otherwiſe proper for his cogniſance and direction. He did not, however, remain long in this ſituation; for a parliament being abſolutely neceſſary, his Grace was ſent for, and reſtored to his authority and juriſdiction. But not proving friendly to certain rigorous meaſures adopted by the prevailing church-party, headed by Laud, whoſe power and intereſt at court was now very conſiderable, his preſence bēcame unwelcome there; ſo that upon the birth of the Prince of Wales, afterwards Charles II. Laud had the honour to baptize him, as dean of the chapel. The archbiſhop, being worn out with cares and infirmities, died at Croydon, the 5th of Auguſt, 1633, aged ſeventy-one years; and was buried at Guildford, the place of his nativity, and where he had endowed an hoſpital with lands to the amount of 300l. per annum. A ſtately monument was erected over the grave, with the effigy of the archbiſhop in his robes. He ſhewed himſelf, in moſt circumſtances of his life, a man of great moderation to all parties; and was deſirous that the clergy ſhould attract the eſteem of the laity, by the ſanctity of their manners, rather than claim it as due to their function. His notions and principles, however, not ſuiting the humour of ſome writers, have drawn upon him many ſevere reflections; particularly, which is to be regretted, from the Earl of Clarendon. But Dr. Welwood has done more juſtice to his merit and abilities. He wrote ſeveral tracts upon various ſubjects; and, as already mentioned, tranſlated part of the New Teſtament, with the reſt of the Oxford divines, 1611.

ABBOTS LANGLEY, a village of England, in the county of Hertford, the birth place of Nicholas Brakſpear, afterwards Pope Adrian IV. Four miles S.W. from St. Albans.

ABBOTSBURY, a town of England, in the county of Dorſet, near the ſea; it received its name from a celebrated abbey there, before the reformation. 75 miles from Dorcheſter, and 127 W. London.

ABBREVIATION OF FRACTIONS, in arithmetic and algebra, is the reducing of them to lower terms; which is done by dividing the numerator and denominator by ſome number or quanity which will divide both without leaving a remainder of either.

ABBUTALS *(Encycl.)* ſignify the buttings or boundings of land towards any point. Limits were anciently diſtinguiſhed by artificial hillocks, which were called *botentines;* and hence *butting*. In a deſcription of the ſite of land, the ſides on the breadth are more properly *adjacentes*, and thoſe terminating the length are *abbutantes;* which, in old ſurveys, were ſometimes expreſſed by *capitare*, to head, whence abbutals are now called *head-lands*.

ABDALA, the ſon of Abdalmothleb, was the father of the prophet Mahomet.

ABDALMALEK, the ſon of Mirvan, and the 5th khalif of the race of the Ommiades, ſirnamed *Raſch al Hegiarat, i. e.* the ſkinner of a ſtone, becauſe of his extreme avarice; as alſo *Aboulzebab*, becauſe his breath was ſaid to be ſo poiſonous as to kill all the flies which reſted on his face. Yet he ſurpaſſed all his predeceſſors in power and dominion; for in his reign the Indies were conquered in the eaſt, and his armies penetrated Spain in the weſt: he likewiſe extended his empire toward the ſouth, by making himſelf maſter of Medina and Mecca. He began his reign in the 65 of the Hegira, A. D. 648; reigned 15 years; and four of his ſons enjoyed the khaliſate one after another.

ABDALMELEK (Ben Zohar), an eminent phyſician, commonly called by the Europeans *Avenzoar*.

ABDALMOTHLEB, or ABDAL MATELEB, the ſon of Haſhem, the father of Abdalla, and grandfather of Mahomet, the prophet of the Muſſulmans, was, it is ſaid, of ſuch wonderful comelineſs and beauty, that all women who ſaw him became enamoured: which may have given occaſion to that prophetic light, which, according to the Arabians, ſhone on the foreheads of him, his anceſtors, and deſcendants; it being certain that they were very handſome and graceful men. He died when Mahomet, of whom he had taken peculiar care, was only eight or nine years old; aged, according to ſome, 110, and according to other writers 120.

ABDALONYMUS, or ABDOLONYMUS (in claſſic hiſtory), of the royal family of Sidon, and deſcended from King Cinyras, was contented to live in obſcurity, and get his ſubſiſtence by cultivating a garden, while Strato was in poſſeſſion of the crown of Sidon. Alexander the Great having depoſed Strato, enquired whether any of the race of Cinyras was living, that he might ſet him on the throne. It was generally thought that the whole race was extinct: but at laſt Abdalonymus was thought of, and mentioned to Alexander: who immediately ordered ſome of his ſoldiers to fetch him. They found the good man at work, happy in his poverty, and entirely a ſtranger to the noiſe of arms, with which all Aſia was at that time diſturbed; and they could ſcarcely perſuade him that they were in earneſt. Alexander was convinced of his high deſcent, by the dignity that appeared in his perſon; but was deſirous of learning from him in what manner he bore his poverty. "I wiſh (ſaid Abdalonymus) I may bear my new "condition as well: theſe hands have ſupplied my neceſſities; "I have had nothing, and I have wanted nothing." This anſwer pleaſed Alexander ſo much, that, beſides giving him all that was Strato's, he augmented his dominions, and gave him a large preſent out of the Perſian ſpoils.

ABDERA, a maritime town of Thrace, not far from the mouth of the river Neſſus, on the eaſt ſide. (Strabo.) The foundation thereof, according to Herodotus, was attempted to be laid by Timeſius, the Clazomenian; but he was forced by the Thracians to quit the deſign. The Teians undertook it, and ſucceeded; ſettling there, in order to avoid the inſults of the Perſians. Several ſingularities are told of Abdera by hiſtorians.

ABDIAS, of Babylon, one of the boldeſt legend writers, who boaſted he had ſeen our Saviour, was one of the 72 diſciples, had been eye-witneſs of the actions and prayers at the deaths of ſeveral of the apoſtles, and had followed into Perſia St. Simon and St. Jude, who, he ſaid, made him the firſt biſhop of Babylon. His book, entitled *Hiſtoria certaminis Apoſtolici*, was publiſhed by Wolfgang Lazius, at Baſil, 1551; and it has ſince borne ſeveral impreſſions in different places.

ABDON, one of the Levitical cities in the ſouth, of the tribe of Aſher. (Joſhua.)

ABDON, the ſon of Hillel, a Pirathonite, ſucceeded Elon, and judged Iſrael eight years.

ABELARD (*Encycl.*), one of the moſt famous doctors of the twelfth century, was born at Palais, near Nantz, in Britany: he was well learned in divinity, philoſophy, and the languages; but was particularly diſtinguiſhed by his ſkill in logic, and his fondneſs for diſputations, which led him to travel into ſeveral provinces in order to give public proof of his acuteneſs in that ſcience. After having baffled many antagoniſts, he read lectures in divinity with great applauſe at Paris; where he boarded with a canon, whoſe name was Fulbert, and who had a very beautiful niece named Heloiſe. The canon ardently wiſhed to ſee this young lady make a figure among the learned, and Abelard was made her preceptor; but inſtead of inſtructing her in the ſciences, he taught her to love. Abelard now performed his public functions very

coldly, and wrote nothing but amorous verſes. Heloiſe proving with child, Abelard ſent her to a ſiſter of his in Britany, where ſhe was delivered of a ſon. To ſoften the canon's anger, he offered to marry Heloiſe privately; and he was better pleaſed with the propoſal than the niece; who, from a ſingular exceſs of paſſion, choſe to be his miſtreſs rather than his wife. She married, however; but uſed often to proteſt upon oath that ſhe was ſingle, which provoked the canon to uſe her ill. Upon this, Abelard ſent her to the monaſtery of Argenteuil; where ſhe put on a religious habit, but did not take the veil. Heloiſe's relations conſidering this as a ſecond treachery, hired ruffians, who, forcing into his chamber in the dead of the night, emaſculated him. This infamous treatment made him fly to the gloom of a cloiſter. He aſſumed the monaſtic habit in the abbey of St. Denis; but the diſorders of that houſe ſoon drove him from thence. He was afterwards charged with hereſy; but after ſeveral perſecutions for his religious ſentiments, he ſettled in a ſolitude in the dioceſe of Troies, where he built an oratory, to which he gave the name of the Paraclete. He was afterwards choſen ſuperior of the abbey of Ruis, in the dioceſe of Vannes: when the nuns being expelled from the nunnery in which Heloiſe had been placed, he gave her his oratory; where ſhe ſettled with ſome of her ſiſter nuns, and became their prioreſs. Abelard mixed the philoſophy of Ariſtotle with his divinity, and in 1140 was condemned by the council of Rheims and Sens. Pope Innocent II. ordered him to be impriſoned, his books to be burnt, and forbad him ever teaching again. However, he was ſoon after pardoned, at the ſolicitation of Peter the Venerable, who received him into his abbey of Clugni, where he led an exemplary life. He died in the priory of Marcellus at Chalons, April 21, 1142, aged ſixty-three. His corpſe was ſent to Heloiſe, who buried it in the Paraclete. He left ſeveral works: the moſt celebrated of which are thoſe tender letters that paſſed between him and Heloiſe, with the account of their misfortunes prefixed; which have been tranſlated into Engliſh, and one of them immortalized by the harmony of Mr. Pope's numbers.

ABEL-BETH-MAACHA, called alſo *Abel-maim*, a town in the tribe of Naphthali, in the north of Canaan, towards Syria, where was a diſtrict called Maacha. (1 Kings xv. 2 Chron. xvi.)

ABELLA, anciently a town of Campania, near the river Clanius. The inhabitants were called Abellani, and ſaid to have been a colony of Chaleidians. The nux Avellana, called alſo Præneſtina, or the hazel-nut, takes its name from this town, according to Macrobius. Now *Avella*.

ABELLINUM, anciently a town of the Hirpini, a people of Apulia: diſtant about a mile from the rivulet Sabbato, between Beneventum and Salernum. Pliny calls the inhabitants Abellinates, with the epithet Protopi, to diſtinguiſh them from the Abellinates Marſi. Now *Avellino*. E. Long. 15. 20. Lat. 21.

ABEL-MEHOLA, the country of the prophet Eliſha, ſituate in Manaſſeh, on this ſide Jordan, between the valley of Jezreel and the village Bethmaela in the plains of Jordan, where the Midianites were defeated by Gideon. (Judges vii. 22.)

ABEL-MIZRAIM, called alſo the Threſhing-floor of *Atad*; ſignifying the lamentation of the Egyptians; in alluſion to the mourning for Jacob. (Gen. i. 3, 10, 11.) Suppoſed to be near Hebron. (Wells.)

ABEL-MOLUCH (*Encycl.*). See PALMA CHRISTI.

ABELMOSCH (*Encycl.*). See HIBISCUS.

ABEL-SATTIM, or SITTIM, a town in the plains of Moab, to the N. E. of the Dead Sea, not far from Jordan, where the Iſraelites committed fornication with the daughters of Moab: ſo called, probably, from the great number of ſittim-trees there.

ABENEZRA (Abraham), a celebrated rabbi, born at Toledo in Spain, called by the Jews, the wiſe, great, and admirable Doctor, was a very able interpreter of the Holy Scriptures; and was well ſkilled in grammar, poetry, philoſophy, aſtronomy, and medicine. He was alſo a perfect maſter of the Arabic. His principal work is, Commentaries on the Old Teſtament, which is much eſteemed: theſe are printed in Bomberg's and Buxtorf's Hebrew Bibles. His ſtyle is clear, elegant, concile, and much like that of the Holy Scriptures; he almoſt always adheres to the literal ſenſe, and everywhere gives proofs of his genius and good ſenſe: he, however, advances ſome erroneous ſentiments. The ſcarceſt of all his books is entitled, Jeſud Mora; which is a theologieal work, intended as an exhortation to the ſtudy of the Talmud. He died in 1174, aged 75.

ABEN MELLER, a learned rabbin, who wrote a Commentary on the Old Teſtament in Hebrew, entitled, The Perfection of Beauty. This rabbin generally follows the grammatical ſenſe and the opinions of Kimchi. The beſt edition is that of Holland.

ABENOW, in geometry. See ABNOEA.

ABENRADE, a ſeaport town of Denmark, in the duchy of Sleſwick, ſituated at the bottom of a bay, ſurrounded with hills which form a good harbour, deep and ſecure. The inhabitants are much employed in fiſhing: it is beſides a place of conſiderable trade. Long. 27. 52. E. Lat. 54. 50. N.

ABERNETHY, a town in Strathern, a diſtrict of Perthſhire, in Scotland. It is ſeated on the river Tay, a little above the mouth of the Erne. It is ſaid to have been the ſeat of the Pictiſh kings; and was afterwards the ſee of an archbiſhop, ſince transferred to St. Andrews. It is now greatly decayed.

ABERRATION *of the viſual ray* (*Encycl.*). See the articles ABERRATION and ASTRONOMY. Dr. Hutton explains this in the following ſatisfactory way:

"This effect (ſays he) may be explained and familiarized by the motion of a line parallel to itſelf, much after the manner that the compoſition and reſolution of forces are explained. If light have a progreſſive motion, let the proportion of its velocity to that of the earth in her orbit be as the line BC (Plate 11. fig. 1.) to the line AC; then, by the compoſition of theſe two motions, the particle of light will ſeem to deſcribe the line BA or DC, inſtead of its real courſe BC; and will appear in the direction AB or CD, inſtead of its true direction CB. So that if AB repreſent a tube, carried with a parallel motion by an obſerver along the line AC, in the time that a particle of light would move over the ſpace BC, the different places of the tube being AB, *ab*, *cd*, CD; and when the eye, or end of the tube, is at A, let a particle of light enter the other end at B; then when the tube is at *ab*, the particle of light will be at *e*, exactly in the axis of the tube; and when the tube is at *cd*, the particle of light will arrive at *f*, ſtill in the axis of the tube; and, laſtly, when the tube arrives at CD, the particle of light will arrive at the eye or point C, and conſequently will appear to come in the direction DC of the tube, inſtead of the true direction BC: and ſo on, one particle ſucceeding another, and forming a continued ſtream or ray of light in the apparent direction DC. So that the apparent angle made by the ray of light with the line AE is the angle DCE, inſtead of the true angle BCE; and the difference BCD, or ABC, is the quantity of the aberration."

ABERRATION *of the Planets*, is equal to their geocentric motion, or, in other words, to the ſpace which each appears to move as ſeen from the earth, during the time that light employs in paſſing from the planet to the eye of the obſerver.

Thus the ſun's aberration in longitude is conſtantly 20″, that being the ſpace actually moved by the earth; but apparently by the ſun in 8 minutes and 7 ſeconds, the time in which light paſſes from the ſun to the earth. If then the diſtance of any planet from the earth be known, the time which light employs in paſſing from the planet to the earth muſt likewiſe be known; for as the diſtance of the ſun is to the diſtance of the planet, ſo is 8 minutes and 7 ſeconds to that time; and the planet's geocentric motion in that time is its aberration, whether it be in longitude, latitude, right aſcenſion, or declination. See ASTRONOMY.

ABERRATION (*Encycl*), in aſtronomy, a ſmall apparent motion of the fixed ſtars diſcovered by the late Dr. Bradley. The diſcovery was made by accident in the year 1725, when Mr. Molyneux and Dr. Bradley began to obſerve the bright ſtar in the head of *Draco*, marked γ by Bayer, as it paſſed near the zenith, with an inſtrument made by Mr. Graham, in order to diſcover the parallax of the earth's annual orbit; and, after repeated obſervations, they found this ſtar, about the beginning of March, 1726, to be 20″ more ſoutherly than at the time of the firſt obſervation. It now indeed ſeemed to have arrived at its utmoſt limit ſouthward; becauſe, in ſeveral trials made about this time, no ſenſible difference was obſerved in its ſituation. By the middle of April, it appeared to be returning back again toward the north; and, about the beginning of June, it paſſed at the ſame diſtance from the zenith as it had done in December, when it was firſt obſerved: in September following it appeared 39″ more northerly than it was in March, juſt the contrary way to what it ought to appear by the annual parallax of the ſtars. This unexpected phenomenon perplexed the obſervers very much; and Mr. Molyneux died before the true cauſe of it was diſcovered. After this, Dr. Bradley, with another inſtrument more exact, and accurately adapted to this purpoſe, obſerved the ſame appearances not only in that but many other ſtars: and, by the great regularity that appeared in a ſeries of obſervations made in all parts of the year, the doctor was fully ſatisfied with regard to the general laws of the phenomena; and therefore endeavoured to find out the cauſe of them. He was already convinced, that the apparent motion of the ſtars was not owing to a nutation of the earth's axis. The next thing that offered itſelf, was an alteration in the direction of the plumb line, with which the inſtrument was conſtantly rectified; but this, upon trial, proved inſufficient. Then he had recourſe to what refraction might do; but here alſo nothing ſatisfactory occurred. At laſt this acute aſtronomer found, that the phenomena in queſtion proceeded from the progreſſive motion of light, and the earth's annual motion in its orbit: for he perceived, that if light was propagated in time, the apparent place of a fixed object would not be the ſame when the eye is at reſt, as when it is moving in any other direction, than that of the line paſſing through the eye and object; and that, when the eye is moving in different directions, the apparent place of the object would be different.—Vide *Phil. Tranſ.* N°. 406.

ABEX (*Encycl.*), a country in High Ethiopia, in Africa, bordering on the Red Sea, by which it is bounded on the eaſt. It has Nubia or Sennar on the north; Sennar and Abyſſinia on the weſt; and Abyſſinia on the ſouth. Its principal towns are Suaquem and Arkeko. It is ſubject to the Turks, and has the name of Beglerbeg of Habeleth. It is about five hundred miles in length and one hundred in breadth, and is a wretched country; for the heat here is almoſt inſupportable, and the air is ſo unhealthy, that an European cannot ſtay long there without the utmoſt hazard of his life. It is very mountainous, inſomuch that there are many more wild beaſts than men. There are foreſts, in which grow a great number of ebony trees.

ABGAR, or ABGARUS, a name given to ſeveral of the kings of Edeſſa in Syria. The moſt celebrated of them is one who, it is ſaid, was contemporary with Jeſus Chriſt; and who having a diſtemper in his feet, and hearing of Jeſus's miraculous cures, requeſted him, by letter, to come and cure him. Euſebius, who believed that this letter was genuine, and alſo an anſwer our Saviour is ſaid to have returned to it, has tranſlated them both from the Syriac, and aſſerts, that they were taken out of the archives of the city of Edeſſa.—After Jeſus's aſcenſion, Judas, who is alſo named Thomas, ſent Thaddeus, one of the ſeventy, to Abgarus; who preached the goſpel to him and his people, cured him of his diſorder, and wrought many other miracles: which was done, ſays Euſebius, A. D. 43.—Though the letters are acknowledged to be ſpurious by the candid writers of the church of Rome; ſeveral proteſtant authors, as Dr. Parker, Dr. Cave, and Dr. Grabe, have maintained that they are genuine, and ought not to be rejected.

ABGILLUS (*Encycl.*), attended Charlemagne in his expedition to the Holy Land; but inſtead of returning with that monarch to Europe, it is pretended that he gained mighty conqueſts, and founded the empire of the Abyſſines, called, from his name, the empire of Preſter John. He is ſaid to have written the hiſtory of Charlemagne's journey into the Holy Land, and of his own into the Indies; but they are more probably trifling romances, written in the ages of ignorance.

ABHEL (*Encycl.*). See JUNIPERUS.

ABIAD, a town of Africa, on the coaſt of Abex, ſeated on a high mountain, and remarkable for its trade in ebony and aromatic plants.

ABIAGRASSO, a ſmall town of Italy, ſeated on a canal, in the duchy of Milan. Long. 9. 24. E. Lat. 45. 20. N.

ABIANS, anciently a people of Thrace, or (according to ſome authors) of Scythia. They had no fixed habitations; they led a wandering life. Their houſes were waggons, which carried all their poſſeſſions. They lived on the fleſh of their herds and flocks, on milk, and cheeſe, chiefly on that of mares' milk. They were unacquainted with commerce: they only exchanged commodities with their neighbours. They poſſeſſed lands; but they did not cultivate them. They aſſigned their agriculture to any who would undertake it, reſerving only to themſelves a tribute; which they exacted, not with a view to live in affluence, but merely to enjoy the neceſſaries of life. They never took arms but to oblige thoſe to make good a promiſe to them by whom it had been broken. They paid tribute to none of the neighbouring ſtates. They deemed themſelves exempt from ſuch an impoſition; for they relied on their ſtrength and courage, and conſequently thought themſelves able to repel any invaſion. The Abians, we are told, were a people of great integrity. This honourable eulogium is given them by Homer. (Strabo.)

ABIATHAR, high-prieſt of the Jews, ſon to Abimelech, who had borne the ſame office, and received David into his houſe. This ſo enraged Saul, who hated David, that he put Abimelech to death, and eighty-one prieſts; Abiathar alone eſcaped the maſſacre. He afterwards was high-prieſt; and often gave King David teſtimonies of his fidelity, particularly during Abſalom's conſpiracy, at which time Abiathar followed David, and bore away the ark. But after this, conſpiring with Adonijah, in order to raiſe him to the throne of King David his father; this ſo exaſperated Solomon againſt him, that he diveſted him of the prieſthood, and baniſhed him, A. M. 3021, before Chriſt 1014.

ABIHU, brother to Nadab, and ſon to Aaron. The two former had the happineſs to aſcend mount Sinai with their father, and there to behold the glory of God: but afterward putting ſtrange fire into their cenſers, inſtead of the ſacred fire commanded by God, fire ruſhing upon them killed them.

Though all the people bewailed this terrible cataſtrophe, Moſes forbad Aaron and his two ſons, Eleazar and Ithamar, to join in the lamentation.

ABILITY, a term in law, denoting a power of doing certain actions in the acquiſition or transferring of property.

ABIMELECH, king of Gerar, a country of the Philiſtines, contemporary with Abraham. This patriarch and his family being there, his wife Sarah, though 90 years of age, was not ſafe in it; for Abimelech carried her off, and was ſo enamoured of her, that he reſolved to marry her. Abraham did not declare himſelf Sarah's huſband; but gave out ſhe was his ſiſter. But the king being warned in a dream that ſhe was married to a prophet, and that he ſhould die if he did not reſtore her to Abraham, the king obeyed: at the ſame time reproving Abraham for his diſingenuity; who thereupon, among other excuſes, ſaid ſhe was really his ſiſter, being born of the ſame father, though of a different mother. Abimelech afterwards gave conſiderable preſents to Abraham; and a covenant, that of Beerſheba, was entered into between them. After the death of Abraham, there being a famine in the neighbouring countries, Iſaac his ſon alſo withdrew into Gerar, which was at that time likewiſe governed by a king called

ABIMELECH, probably the ſucceſſor of the former. Here Rebekah's beauty forced her huſband to employ Abraham's artifice. Abimelech diſcovering that they were nearer related, chid Iſaac for calling his wife his ſiſter; and, at the ſame time, forbad all his ſubjects, upon pain of death, to do the leaſt injury to Iſaac or Rebekah.—Iſaac's proſperity loſt him the king's friendſhip, and he was deſired to go from among them. He obeyed; but Abimelech afterward entered into a covenant with him.

ABIMELECH, the natural ſon of Gideon, by Druma his concubine. His violent acts and death are recorded in Judges, chap. ix.

ABIRAM, a ſeditious Levite, who, in concert with Korah and Dathan, rebelled againſt Moſes and Aaron, in order to ſhare with them in the government of the people; when Moſes ordering them to come with their cenſers before the altar of the Lord, the earth ſuddenly opened under their feet, and ſwallowed up them and their tents; and at the ſame inſtant fire came from heaven, and conſumed two hundred and fifty of their followers. Numb. xvi.

ABISHAI, ſon of Zeruiah, and brother to Joab, was one of the celebrated warriors who flouriſhed in the reign of David: he killed with his own hand three hundred men, with no other weapon but his lance; and ſlew a Philiſtine giant, the iron of whoſe ſpear weighed three hundred ſhekels.—1 Sam. xxvi. 2 Sam. xxiii.

ABKHAS, one of the ſeven nations in the countries comprehended between the Black Sea and the Caſpian. Their principal and moſt ancient eſtabliſhments are on the ſouthern ſlope of the mountains comprehended between the river Cuban and the Black Sea. They are tributary to the Turks, and are divided into two governments, the weſtern and the eaſtern; each ſubject to a baſhaw, commonly choſen out of the principal native families; one of whom reſides at Sotchukkalé, and the other at Soghumkalé. The capital is Anacopir, formerly Nicopſis. The Abkhas ſpeak an original language, eſſentially different from all the known languages, though appearing to have a remote affinity to that of the Circaſſians. They have, at preſent, very little religion, although they ſtill preſerve ſome traces of Chriſtianity,

ABLACTATION, in the ancient agriculture, is a method of engrafting; wherein the cyon of one tree, being united for ſome time to the ſtock of another, is afterwards cut off, and, as it were, weaned from its mother-tree. Ablactation is only practicable where the ſtock to be grafted on, and the tree from which the graft is to be taken, ſtand ſo near, that the branch or cyon may be applied without cutting off. Hence it is chiefly uſed on plants that grow in caſes; as orange, lemon, and pomegranate trees; vines, jaſmins, &c. The ſeaſon is April or May. To perform it, the uſual method is, to take the branch intended for the graft, and pare it away, both the rind and wood, through the length of three inches; then paring likewiſe the ſtock, ſo that they may join cloſely to each other, they are bound together, and covered over with clay or grafting-wax. As ſoon as they are found well incorporated together, the head of the ſtock is to be cut off four inches above the binding; and the ſpring following, the graft, leaving the ſtock to ſubſiſt by itſelf. Or, the operation may be done by cutting off the head of the ſtock at firſt, and leaving the top a little ſloped, and applying the graft thereto, as in ſhoulder-grafting. But this method is not found equally ſucceſsful.

ABLATIVE ABSOLUTE, in grammar, is a word or phraſe detached and independent of the reſt of the diſcourſe; neither governing, nor being governed of any other thing. This is frequent among the Latins; in imitation of whom the modern languages have likewiſe adopted it.

ABLE or ABEL (Thomas), was admitted B.A. at Oxford, July 4, 1513, and took his degrees of M. A. June 26, 1516. He was afterwards appointed chaplain to Queen Catherine, wife to King Henry VIII. Mr. Bouchier thus ſpeaks of him: "Vir longe doctiſſimus, qui reginæ aliquando in muſicarum tactu & linguis operam ſuam navaret"—A man of great learning, who uſed ſometimes to teach the queen muſic and the languages. He greatly diſtinguiſhed himſelf by oppoſing the divorce of the queen, and was a violent enemy to the king in all his unlawful proceedings. He wrote a treatiſe, "De non diſſolvendo Henrici & Catherinæ matrimonio." In the year 1534 he was attainted of miſpriſion, for taking part and being active in the affair of Elizabeth Barton, the holy maid of Kent, as ſhe was called. He was afterwards ſentenced to die for denying the king's ſupremacy, and was accordingly executed July 30, 1540. It is thought that he wrote ſeveral pieces; but they have been loſt. When in priſon he was confined very cloſely; and the keeper of Newgate was once ſent to the Marſhalſea for allowing him and Dr. Powell to go out upon bail.

ABLOE, a town of Little Tartary, lying between the river Dnieper, and the Black Sea. E. long. 35. 15. N. lat. 46. 20.

ABNAKIS, Indians of North America, between New England and Canada. They hate labour, and could never be brought to cultivate the ground.

ABNER, the ſon of Ner, father-in-law to Saul, and general of all his forces, who ſerved him on all occaſions with fidelity and courage. After the death of that prince, Abner ſet Iſhboſheth, Saul's ſon, on the throne. A war breaking out between the tribe of Judah, who had elected David king, and Iſrael, Abner marched againſt that prince with the flower of his troops, but was defeated. Abner afterward, being diſguiſed, went over to David, and diſpoſed the chiefs of the army and the elders of Iſrael to declare for him; and was received by David with ſuch teſtimonies of affection, as gave umbrage to Joab, who killed him traiterouſly.

ABO (*Encycl.*), is the capital of the province of Finland, and is ſeated in the gulph of that name, at the mouth of the river Aurajoki. It has a good port; and is the ſee of a biſhop, ſuffragan of Upſal. It has alſo an univerſity, founded by Queen Chriſtina in 1640.

ABOAB, ceſſes levied in India, under different denominations, beyond the ſtandard rent.

ABO-FLOT, or ABO-HUS, an ancient fort in Finland, on a peninſula, near the mouth of the river Aura. It has often ſuffered from the enemy and by fire.

ABOARD (*Encycl.*), the inſide of a ſhip. When an enemy enters in the time of battle, he is ſaid to *board;* a phraſe which always implies hoſtility. To *fall a-board of*, is to ſtrike or *encounter* another ſhip when one or both are in motion, or to be driven upon a ſhip by the force of wind or current. *Aboard-main-tack*, the order to draw the main-tack, *i. e.* the lower corner of the main-ſail, down to the cheſs-tree. See CHESS-TREE.

ABOMINATION, a term uſed in ſcripture with regard to the Hebrews, who, being ſhepherds, are ſaid to have been an abomination to the Egyptians, becauſe they ſacrificed the ſacred animals of that people, as oxen, goats, ſheep, &c. which the Egyptians eſteemed as abominations, or things unlawful. The term is alſo applied in the ſacred writings to idolatry and idols, becauſe the worſhip of idols is in itſelf an abominable thing, and at the ſame time ceremonies obſerved by idolaters were always attended with licentiouſneſs and other odious and abominable actions. The *abomination of deſolation*, foretold by the prophet Daniel, is ſuppoſed to imply the ſtatue of Jupiter Olympius, which Antiochus Epiphanes cauſed to be placed in the temple of Jeruſalem. And the *abomination of deſolation*, mentioned by the Evangeliſts, ſignifies the enſigns of the Romans, during the laſt ſiege of Jeruſalem by Titus, on whom the figures of their gods and emperors were embroidered, and placed upon the temple after it was taken.

ABON, ABONA, or ABONIS (Antonine); a town and river of Albion. The town, according to Camden, is Abingdon; and the river Abhon or Avon. But by Antonine's Itinerary, the diſtance is nine miles from the Venta Silurum, or Caer-Went: others, therefore, take the town to be Porſhut, at the mouth of the river Avon, over againſt Briſtol. Abhon or Avon, in the Celtic language, denotes a river.

ABOR, CHABOR, or HABOR, a diſtrict in Aſſyria on the river Gozan, bounding on Media, 2 Kings xvii.

ABOU-NAVAS, an Arabian poet of the firſt claſs, was born at Balſora; and flouriſhed at the court of Aaron al Raſchid, at the end of the 7th century.

ABRABANEL, ABARBANEL, or AVRAVANEL (Iſaac), a celebrated rabbi, deſcended from King David, and born at Liſbon, A.D. 1437. He became counſellor to Alphonſo V. king of Portugal, and afterwards to Ferdinand the Catholic; but in 1492 was obliged to leave Spain with the other Jews. In ſhort, after reſiding at Naples, Corfou, and ſeveral other cities, he died at Venice in 1508, aged 71. Abrabanel paſſed for one of the moſt learned of the rabbis; and the Jews gave him the name of the Sage, the Prince, and the Great Politician. We have a Commentary of his on all the Old Teſtament, which is pretty ſcarce: he there principally adheres to the literal ſenſe; and his ſtyle is clear, but a little diffuſe. His other works are, A Treatiſe on the Creation of the World; in which he refutes Ariſtotle, who imagined that the world was eternal: A Treatiſe on the Explication of the Prophecies relating to the Meſſiah, againſt the Chriſtians: a book concerning articles of Faith; and ſome others leſs fought after. Though Abrabanel diſcovers his averſion to Chriſtianity, yet in all his writings he treats the Chriſtians with politeneſs and good manners.

ABRAHAM, the father and ſtock whence the faithful ſprung, was the ſon of Terah. He was deſcended from Noah by Shem, from whom he was nine degrees removed. Some fix his birth in the 130th year of Terah's age, but others place it in his father's 70th year. It is highly probable he was born in the city of Ur, in Chaldea, which he and his father left when they went to Canaan, where they remained till the death of Terah; after which, Abraham reſumed his firſt deſign of going to Paleſtine. The Scriptures mention the ſeveral particulars of his life, which it would be of little uſe to dwell long upon. Tradition alſo has ſupplied numberleſs others, reſpecting his converſion from idolatry. Abraham is ſaid to have been well ſkilled in many ſciences, and to have wrote ſeveral books. Joſephus tell us that he taught the Egyptians arithmetic and geometry; and, according to Eupolemus and Artapan, he inſtructed the Phœnicians, as well as the Egyptians, in aſtronomy. A work which treats of the Creation has been long aſcribed to him: it is mentioned in the Talmud, and the Rabbis Chanina and Hoſchaia uſed to read it on the eve before the ſabbath. In the firſt ages of Chriſtianity, according to St. Epiphanius, an heretical ſect, called Sethinians, diſperſed a piece which had the title of *Abraham's Revelation.* Origen mentions alſo a treatiſe ſuppoſed to be wrote by this patriarch. All the ſeveral works which Abraham compoſed in the plains of Mamre, are ſaid to be contained in the library of the monaſtery of the Holy Croſs on Mount Amaria, in Ethiopia. The book on the Creation was printed at Paris 1552, and tranſlated into Latin by Poſtel: Rittangel, a converted Jew, and profeſſor at Konigſberg, gave alſo a Latin tranſlation of it, with remarks, in 1642. Abraham died at the age of 175.

ABRAHAM BEN MEIR, or ABEN EZRA. See ABEN EZRA.

ABRAHAM USQUE, a Portugueſe Jew, who tranſlated the Bible out of Hebrew into Spaniſh. It was printed at Ferrara in 1553, and reprinted in Holland in 1630. This Bible, eſpecially the firſt edition, which is moſt valuable, is marked with ſtars at certain words, which are deſigned to ſhew that theſe words are difficult to be underſtood in the Hebrew, and that they may be uſed in a different ſenſe.

ABRAHAM (Nicholas), a learned Jeſuit, born in the dioceſe of Toul, in Lorrain, in 1589. He obtained the rank of divinity profeſſor in the univerſity of Pont-a-Mouſon, which he enjoyed 17 years, and died September 7, 1655. He wrote Notes on Virgil and on Nonnius; A Commentary on ſome of Cicero's Orations, in 2 vols. folio; An excellent collection of theological pieces, in folio, entitled *Pharus Veteris Teſtamenti*; and ſome other works.

ABRAHAMSDORF, a ſmall town of Hungary, but well inhabited. E. long. 19. 50. N. lat. 46. 20.

ACREIRO, a town of Tra-los-montes, in Portugal, in a diſtrict which comprehends ten pariſhes. W. long. 7. 10. N. lat. 41. 20.

ABRETTENE (Strabo); ABRETTINE (Stephanus); a diſtrict of Myrſia, in Aſia. Hence the epithet *Abrettenus* given Jupiter (Strabo); whoſe prieſt was Cleon, formerly at the head of a gang of robbers, and who received many and great favours at the hand of Antony, but afterwards went over to Auguſtus. The people were called *Abrettini*; inhabiting the country between Ancyra of Phrygia, and the river Rhyndacus.

ABRODIETICAL; delicate or nice in diet.

ABROTONUM, a town and harbour on the Mediterranean, in the diſtrict of Syrtis Parva, in Africa (Strabo; Pliny): one of the three cities that went to form Tripoly.

ABRUG-BANYA, a populous town in Tranſylvania, on the river Ompay, 35 miles above Alba Julia, near which are mines of gold and ſilver. E. long. 23. 24. N. lat. 46. 50.

ABRUZZO (*Encycl.*), a province in Naples. The river Peſcara divides it into two parts; one of which is called Ulterior, whereof Aquila is the capital; and the other Citerior, whoſe capital is Solomona. Beſides the Appenines, there are two conſiderable mountains, the one called Monte Cavallo, and the other Monte Maiello. The top of this laſt is always covered with ſnow. Abruzzo is a cold but fruitful country;

and abounds with corn, rice, alſo ſeveral good fruits, and ſaffron.

ABSALOM, the ſon of David by Maacah, was brother to Thamar, David's daughter, who was raviſhed by Amnon, their eldeſt brother by another mother. He waited two years for an opportunity of revenging the injury done to his ſiſter, and at laſt procured the aſſaſſination of Amnon, at a feaſt which he had prepared for the king's ſons. He took refuge with Talmai king of Geſhur; and was no ſooner reſtored to favour, but he engaged the Iſraelites to revolt from his father. Abſalom was defeated in the wood of Ephraim: as he was flying, his hair caught hold of an oak, where he hung till Joab came and thruſt him through with three darts: David had expreſsly ordered his life to be ſpared, and extremely lamented him.

ABSCEDENTIA, in ſurgery, a term applied to decayed parts of the body, which, in a morbid ſtate, are ſeparated from the ſound, or loſe that union which was preſerved in a natural ſtate.

ABSCISS, Abscissa, or Abscisse, is a part cut off from a ſtraight line, and terminated at ſome certain point by an ordinate to a curve; as AP (Pl. II. fig. 2.), or BP (fig. 3.). The abſciſs may commence either at the vertex of the curve, or at any other fixed point; and it may be taken either upon the axis or upon the diameter of the curve, or upon any other line drawn in a given poſition. Hence there are on the ſame given line, or diameter, an infinite number of variable abſciſſes, terminated all at one end by the ſame fixed point. In the common parabola (fig. 4.), each ordinate PQ has but one abſciſs AP. In the ellipſe or circle (fig. 2.), the ordinate has two abſciſſes lying on the oppoſite ſides of it. In general, to each ordinate a line of the ſecond kind, or a curve of the firſt kind, may have two abſciſſes; a line of the third order, three; a line of the fourth order, four; and ſo on.

ABSCISSION, a figure in rhetoric, whereby the ſpeaker ſtops ſhort in the middle of his diſcourſe, leaving the audience to make the inference.

Abscission, in ſurgery, the ſame with amputation.

ABSOLUTE Equation (*Encycl.*), in aſtronomy. See Astronomy.

ABSORUS, Apsorus, Absyrtis, Absyrtides, Apsyrtides, Apsyrtis, and Absyrtium (*Encycl.*), (Strabo, Mela, Ptolemy); iſlands in the Adriatic; ſo called from Abſyrtus, Medea's brother, there ſlain. They are either one iſland, or two, ſeparated by a narrow channel, and joined by a bridge; and are now called *Cherſo* and *Oſero*.

ABSPERG, a ſmall town in Suabia, in the Norgow, near Anſpach.

ABSTEINEN, a bailiwick beyond the river Memel, in the circle of Tapieu, belonging to the kingdom of Pruſſia. It is a mountainous, but pleaſant country, and abounds in corn and cattle.

ABSTEMIUS (Laurentius), an Italian writer, born at Macerata, in La Marca de Ancona, who devoted himſelf early to the ſtudy of polite literature, and made a ſurpriſing progreſs therein. He taught the belles lettres at Urbino, where he was librarian to Duke Guido Ubaldo; to whom he dedicated a ſmall piece, explaining ſome dark paſſages in the ancient authors. He publiſhed it under the pontificate of Alexander VI.; and another treatiſe alſo, entitled Hecatomythium, from its containing a hundred fables, which he inſcribed to Octavian Ubaldini, count de Mercatelli. His Fables have been often printed with thoſe of Æſop, Phædrus, Gabrias, Avienus, &c. He has theſe ancient mythologiſts generally in view, but does not always ſtrictly follow their manner; ſometimes intermixing his fable with a merry ſtory, and now and then ſomewhat ſatyrical upon the clergy. His 104th fable of the Talents Multiplied, is a proof of this. A prieſt, as we are there told, was ordered by his biſhop to ſuperintend a monaſtery, where there were five nuns, by each of whom he had a ſon before the year was out. The biſhop, hearing of this, was highly enraged; and, ſending for the prieſt, reprimanded him ſeverely, calling him a perfidious ſacrilegious villain, for having thus defiled the temples of the Holy Ghoſt. "Lord," ſaid the prieſt, "thou deliveredſt unto me five talents; behold I have gained, beſides them, five talents more." The prelate was ſo taken with this facetious anſwer, that he gave the prieſt plenary abſolution.

ABSURDUM, a term made uſe of by mathematicians when they demonſtrate any truth, by ſhowing that its contrary is impoſſible, or involves an abſurdity. Thus, Euclid demonſtrates the truth of the fourth propoſition of the firſt book of his Elements, by ſhowing that its contrary implies this obvious abſurdity—"that two ſtraight lines may incloſe a ſpace."—This mode of demonſtration is called *reductio ad abſurdum*, and is every whit as concluſive as the direct method; becauſe the contrary of every falſehood muſt be truth, and of every truth, falſehood.

ABSYRTUS (*Encycl.*), in the heathen mythology, the ſon of Æta and Hypſea, and the brother of Medea. The latter running away with Jaſon, after her having aſſiſted him in carrying off the golden fleece, was purſued by her father; when, to ſtop his progreſs, ſhe tore Abſyrtus in pieces, and ſcattered his limbs in his way.

ABUCARAS (Theodorus), metropolitan of Caria in the ninth century, was remarkable for his zeal in defending what he believed to be the truth, and was the author of above forty controverſial treatiſes againſt the Saracens, Jews, and reputed hereticks. This metropolitan at firſt embraced the doctrines of Photius; for which, begging pardon of the council of Conſtantinople in 869, he was reſtored to the communion of the church, and obtained a ſeat in the council. His works are inſerted in the Supplement of the *Bibliothéque des Pères*, the Paris edition.

ABULFARAGIUS (Gregory), ſon to Aaron, a phyſician, born in 1226, in the city of Malatia, near the ſource of the Euphrates in Armenia. He followed the profeſſion of his father; and practiſed with great ſucceſs, numbers of people coming from the moſt remote parts to aſk his advice. However, he would hardly have been known at this time, had his knowledge been confined to phyſic: but he applied himſelf to the ſtudy of the Greek, Syriac, and Arabic languages, as well as philoſophy and divinity; and he wrote a hiſtory which does honour to his memory. It is written in Arabic, and divided into dynaſtics. It conſiſts of ten parts, being an epitome of univerſal hiſtory from the creation of the world to his own time. Dr. Pocock publiſhed it with a Latin tranſlation in 1663; and added, by way of ſupplement, a ſhort continuation relating to the hiſtory of the eaſtern princes.

ABUS (Tacitus); a river of Britain, formed by the confluence of the Ure, the Derwent, Trent, &c. falling into the German ſea, between Yorkſhire and Lincolnſhire, and forming the mouth of the Humber.

ABYDOS, anciently a town built by the Mileſians in Aſia, on the Helleſpont, where it is ſcarce a mile over, oppoſite to Seſtos on the European ſide (Dionyſius Periegetes). Now both called the *Dardanelles*. Abydos lay midway between Lampſacus and Ilium, famous for Xerxes's bridge (Herodotus, Virgil); and for the loves of Leander and Hero (Muſæus, Ovid); celebrated alſo for its oyſters (Ennius, Virgil). The inhabitants were a ſoft, effeminate people, given much to detraction; hence the proverb, *Ne temere Abydum*, when we would caution againſt danger (Stephanus).

Abydos (Strabo, Pliny); anciently an inland town of Egypt, between Ptolemais and Dioſpolis Parva, towards

Syene; famous for the palace of Memnon, and the temple of Oſiris. A colony of Mileſians (Stephanus).

ABYO, or Abuyo, one of the Philippine iſlands, in the Eaſt Indies, between Mindinao and Luzon, where the Spaniards have a fort. Long. 122. 15. E. lat. 10. 0.

ABYSSINIA (*Encycl.*), a kingdom of Africa, bounded on the N. by Sennaar, or Nubia; on the E. partly by the Red Sea, and partly by Dancala; on the W. by Gorham; and on the S. by Gingiro and Alaba; lying between 60° and 20° N. lat. and 20° and 40° E. long. It is about 900 miles long, and 800 broad, and contains 378,000 ſquare miles. The rainy ſeaſon continues for ſix months, from April to September. This is ſucceeded, without interval, by a cloudleſs ſky, and a vertical ſun. Cold nights as inſtantly follow theſe ſcorching days.

The earth, notwithſtanding theſe days, is perpetually cold, ſo as to feel diſagreeable to the ſoles of the feet; partly owing to the ſix months' rains, when no ſun appears, and partly to the perpetual equality of nights and days. There is no country in the world that produces a greater variety of quadrupeds, both wild and tame; but there are no tigers. The hyenas, however, are very numerous, and dreadful in their ravages. Beſides many ſpecies of eagles, vultures, &c. (of which Mr. Bruce, in his celebrated Travels to diſcover the Source of the Nile, has given ample deſcriptions), there is a ſpecies of glede, called haddayn, which is likewiſe very frequent in Egypt, and comes punctually into Abyſſinia, at the return of the ſun, after the tropical rains. Vaſt variety of ſtorks cover the plains in May, when the rains become conſtant. There are few owls; but theſe are of an immenſe ſize and beauty. Of inſects, the moſt remarkable is the Tſaltſal or fly, which is ſo fatal to cattle, and even to the camel, that, in ſome particular countries, great emigrations are obliged to take place in the beginning of the rainy ſeaſon, to prevent all their ſtock of cattle from being deſtroyed. According to Mr. Bruce, the celebrated river Nile has its ſource in this country, near the village of Geeſh, in long. 36. 55. E. and lat. 10. 59. N. Gondar is the metropolis. There is a remarkable coincidence between the cuſtoms in the court of ancient Perſia and thoſe of Abyſſinia. The religion of the country is a mixture of Judaiſm and of the Chriſtianity of the Greek church.

ACACIUS, ſurnamed Luscus, becauſe he was blind of one eye, was biſhop of Cæſarea in Paleſtine, and ſucceeded the famous Euſebius: he had a great ſhare in the baniſhment of Pope Liberius, and bringing Felix to the ſee of Rome. He gave name to a ſect, and died about the year 365. He wrote the life of Euſebius, and ſeveral other works.

Acacius (St.), biſhop of Amida, in Meſopotamia, 420, was diſtinguiſhed by his piety and charity. He ſold the plate belonging to his church, to purchaſe ſeven thouſand Perſian ſlaves who were ready to die with want and miſery; and giving each of them ſome money, ſent them home. Veranius, their king, was ſo affected with this noble inſtance of benevolence, that he deſired to ſee the biſhop; and this interview procured a peace between that prince and Theodoſius I.

There have been ſeveral other eminent perſons of the ſame name; particularly, a martyr under the emperor Decius: a patriarch of Antioch, who ſucceeded Baſil in 458, and died in 459: a biſhop of Miletum in the fifth century: a famous rhetorician in the reign of the Emperor Julian: and a patriarch of Conſtantinople in the fifth century; who was ambitious to draw the whole power and authority of Rome by degrees to Conſtantinople, for which he was delivered over irretrievably to the devil by Pope Felix III.

ACADEMY (*Encycl.*). The firſt academy we read of was compoſed of the chief wits of the court, the emperor himſelf being a member. In their academical conferences, every perſon was to give an account of what ancient authors he had read; and each even aſſumed the name of ſome ancient author who pleaſed him moſt, or ſome celebrated perſon of antiquity. Alcuin, from whoſe letters we learn theſe particulars, took that of Flaccus, the ſurname of Horace: a young lord, named Augilbert, took that of Homer: Adelard, biſhop of Corbie, was called Auguſtin: Riculfe, biſhop of Mentz, was Dametas; and the king himſelf, David. See School. This ſhews the miſtake of ſome modern writers, who relate, that it was in conformity with the genius of the learned men of thoſe times, who were great admirers of Roman names, that Alcuin took the name of Flaccus Albinus.

Moſt nations have now their academies; but Italy has by far the greateſt number. The French have many flouriſhing academies, moſt of which were eſtabliſhed by Louis XIV.—We have but few in Britain; and thoſe of chiefeſt note go by a different name. There are, however, in London, the *Academy* of Painting, and that of Muſic; eſtabliſhed by letters-patent, and governed by their reſpective directors.

In giving an account of the principal Academies, it ſeems moſt proper to arrange them according to their ſubjects.

I. Medical *Academies*; as that of the Naturæ Curioſi in Germany; that founded at Palermo in 1645; another at Venice in 1701, which meets weekly in a hall near the grand hoſpital; another at Geneva in 1715, in the houſe of M. Le Clerc. The colleges of phyſicians at London and Edinburgh are alſo, by ſome, ranked in the number of *Academies*. See College.

The Academy of *Naturæ Curioſi*, called alſo the Leopoldine Academy, was founded in 1652, by Jo. Laur. Bauſchius, a phyſician: who, in imitation of the Engliſh, publiſhed an invitation to all phyſicians to communicate their extraordinary caſes; and, meeting with ſucceſs, was elected preſident. Their works were at firſt publiſhed ſeparately; but in 1670 a new ſcheme was laid for publiſhing a volume of obſervations every year. The firſt volume appeared in 1684, under the title of Ephemerides, and the work has been continued with ſome interruptions and variations of the title, &c. In 1687, the Emperor Leopold took the ſociety under his protection, granting the members ſeveral privileges, particularly that their preſidents ſhould be counts palatine of the holy Roman empire. This academy has no fixed reſidence or regular aſſemblies: inſtead of theſe, there is a kind of bureau, or office, firſt eſtabliſhed at Breſlau, and afterwards removed to Nuremberg, where letters, obſervations, &c. from correſpondents or members are taken in. The academy conſiſts of a preſident, two adjuncts or ſecretaries, and colleagues or members without reſtriction. The colleagues, at their admiſſion, oblige themſelves to two things: firſt, to chooſe ſome ſubject out of the animal, vegetable, or mineral kingdom, to handle, provided it had not been treated of by any colleague before; the ſecond, to apply themſelves to furniſh materials for the Annual Ephemerides. Each member to bear a ſymbol of the academy, *viz* a gold ring, whereon, inſtead of a ſtone, is a book open, and, on the face thereof, an eye; on the other ſide the motto of the academy, *Nunquam otioſus*.

II. Chirurgical *Academies*; as that inſtituted ſome years ago, by public authority, at Paris: the members of which were not only to publiſh their own and correſpondents obſervations and improvements; but to give an account of all that is publiſhed on ſurgery, and to compoſe a complete hiſtory of the art, by their extracts from all the authors, ancient and modern, who have wrote on it. A queſtion in ſurgery is annually propoſed by the academy, and a gold medal of two hundred livres value given to him who furniſhes the moſt ſatisfactory anſwer.

III. Eccleſiaſtical *Academies*; as that at Bologna in

Italy, inſtituted in 1687, employed in the examination of the doctrine, diſcipline, and hiſtory, of each age of the church.

IV. Cosmographical *Academies;* as that at Venice, called the *Argonauts*. This was inſtituted at the ſolicitation of F. Coronelli, for the improvement of geographical knowledge. Its deſign was to publiſh exact maps, both celeſtial and terreſtrial, as well particular as general, together with geographical, hiſtorical, and aſtronomical deſcriptions. Each member, in order to defray the expence of ſuch a publication, was to ſubſcribe a proportional ſum, for which they were to receive one or more copies of each piece publiſhed. For this end, three ſocieties are ſettled; one under F. Moro, provincial of the Minorites in Hungary; another under the Abbot Laurence au Rue Payenne au Marais; the third under F. Baldigiani, Jeſuit, profeſſor of mathematics in the Roman college. The device of this academy is the terraqueous globe, with the motto *Plus ultra*; and at its expence all the globes, maps, and geographical writings, of F. Coronelli have been publiſhed.

V. *Academies of* Sciences.—Theſe comprehend ſuch as are erected for improving natural and mathematical knowledge. They are otherwiſe called *Philoſophical* and *Phyſical* Academies.

The firſt of theſe was inſtituted at Naples, about the year 1560, in the houſe of Baptiſta Porta. It was called the Academy *Secretorum Naturæ;* and was ſucceeded by the Academy of *Lyncei*, founded at Rome by Prince Frederic Ceſi, towards the end of that century. Several of the members of this academy rendered it famous by their diſcoveries; among theſe was the celebrated Galileo. Several other academies were inſtituted about that time, which contributed greatly to the advancement of the ſciences; but none of them comparable to that of the *Lyncei*.

Some years after the death of Toricelli, the *Academy del Cimento* made its appearance, under the protection of Prince Leopold, afterwards Cardinal de Medicis. Redi was one of its chief members; and the ſtudies purſued by the reſt may be collected from thoſe curious experiments publiſhed in 1667, by their ſecretary, Count Laurence Magulotti, under the title of *Saggi di Naturalli Eſperienze;* a copy of which was preſented to the Royal Society, tranſlated into Engliſh by Mr. Waller, and publiſhed at London in 4to.

The *Academy degl' Inquieti*, afterwards incorporated into that of Della Traccia in the ſame city, followed the example of that of Del Cimento. Some excellent diſcourſes on phyſical and mathematical ſubjects, by Geminiano Montenari, one of the chief members, was publiſhed in 1667, under the title of *Penſieri Fiſico Matematici*.

The *Academy of Roſſano*, in the kingdom of Naples, was originally an academy of Belles Lettres, founded in 1540, and transformed into an Academy of Sciences in 1695 at the ſolicitation of the learned abbot, Don Giacinto Gimma; who being made preſident, under the title of Promoter General thereof, gave them a new ſet of regulations. He divided the academiſts into the following claſſes:—Grammarians, Rhetoricians, Poets, Hiſtorians, Philoſophers, Phyſicians, Mathematicians, Lawyers, and Divines, with a claſs apart for Cardinals and perſons of quality. To be admitted a member, a man muſt have ſome degrees in the faculty. The members are not allowed to take the title of *Academiſts* in the beginning of their books, without a written permiſſion from their preſident, which is not granted till the work has been examined by the cenſors of the Academy; and the permiſſion is the greateſt honour the Academy can confer, as they thereby adopt the work, and are anſwerable for it againſt all criticiſms that may be made upon it. To this law the preſident or promoter himſelf is ſubject; and no academiſt is allowed to publiſh any thing againſt the writings of another, without leave from the ſociety.

Several other Academies of *Sciences* have been founded in Italy; but, for want of being ſupported by princes, did not continue long. The loſs of them, however, was abundantly repaired by the inſtitution of others ſtill ſubſiſting; ſuch as, the *Academy of Filarmonici* at Verona; of *Ricovrati* at Padua, where a learned diſcourſe on the origin of ſprings was delivered by Sig. Valliſnieri, firſt profeſſor of phyſic in the univerſity of that city, and which was afterwards printed. To the Academy of the *Muti de Regio*, at Modena, the ſame Sig. Valliſnieri preſented an excellent diſcourſe on the ſcale of created beings, ſince inſerted in his hiſtory of the generation of man and animals printed at Venice in the year 1721.

F. Merſenne is ſaid to have given the firſt idea of a philoſophical Academy in France, towards the beginning of the 17th century, by the conferences of naturaliſts and mathematicians occaſionally held at his lodgings; at which Gaſſendi, Des Cartes, Hobbes, Roberval, Paſcal, Blondel, and others, aſſiſted. F. Merſenne propoſed to each certain problems to examine, or certain experiments to be made. Theſe private aſſemblies were ſucceeded by more public ones, formed by Mr. Montmort, and Mr. Thevenot, the celebrated traveller. The French example animated ſeveral Engliſhmen of diſtinction and learning to erect a kind of philoſophical academy at Oxford, towards the cloſe of Oliver Cromwell's adminiſtration; which, after the Reſtoration, was erected into a Royal Society. See Society. The Engliſh example, in its turn, animated the French. Lewis XIV. in 1666, aſſiſted by the counſels of Mr. Colbert, founded an Academy of Sciences at Paris, with a ſufficient revenue to defray the charge of experiments, and ſalaries to the members.

Royal Academy of Sciences.—After the peace of the Pyrenées, Lewis XIV being deſirous of eſtabliſhing the arts, ſciences, and literature, upon a ſolid foundation, directed M. Colbert to form a ſociety of men of known abilities and experience in the different branches, who ſhould meet together under the king's protection, and communicate their reſpective diſcoveries. Accordingly Mr. Colbert, having conferred with thoſe who were at that time moſt celebrated for their learning, reſolved to form a ſociety of ſuch perſons as were converſant in natural philoſophy and mathematics, to join to them other perſons ſkilled in hiſtory and other branches of erudition, along with thoſe who were entirely engaged in what are called the *Belles Lettres*, grammar, eloquence, and poetry. The geometricians and natural philoſophers were ordered to meet on Tueſdays and Saturdays, in a great hall of the king's library, where the books of mathematics and natural philoſophy were contained; the learned in Hiſtory to aſſemble on Mondays and Thurſdays, in the hall where the books of hiſtory were contained; and the claſs of Belles Lettres to aſſemble on Wedneſdays and Fridays. All the different claſſes were likewiſe ordered to meet together upon the firſt Thurſday of every month; and, by their reſpective ſecretaries, make a report of the proceedings of the foregoing month.

In a ſhort time, however, the claſſes of Hiſtory, Belles Lettres, &c. were united to the *French* Academy, which was originally inſtituted for the improvement and refining the French language, ſo that the Royal Academy contained only two claſſes, *viz.* that of natural philoſophy and mathematics.

In year 1696 the king, by a proclamation dated the 26th of January, gave this Academy a new form, and put it upon a more reſpectable footing.—It was now to be compoſed of four kinds of members, *viz. honorary, penſionary, aſſociates*, and *elèves*. Theſe laſt were a kind of pupils, or ſcholars, each of whom was attached to one of the penſionaries. The firſt claſs to contain ten perſons, and each of the reſt twenty. The honorary academiſts to be all inhabitants of France; the penſionaries all to reſide at Paris; eight of the aſſociates allowed to be foreigners; and the elèves all to live at Paris. The offi-

cers to be, a preſident named by the king, out of the claſs of honorary academiſts; and a ſecretary and treaſurer, to be perpetual. Of the penſionaries, three to be geometricians, three aſtronomers, three mechanics, three anatomiſts, three chemiſts, three botaniſts, and the remaining two to be ſecretary and treaſurer. Of the twelve aſſociates, two to apply themſelves to geometry, two to botany, and two to chemiſtry. The elèves to apply themſelves to the ſame kind of ſcience with the penſionaries they were attached to; and not to ſpeak, except when called by the preſident. No regular or religious to be admitted, except into the claſs of honorary academiſts; nor any perſon to be admitted either for aſſociate or penſionary, unleſs known by ſome conſiderable printed work, ſome machine, or other diſcovery. The aſſemblies were held on Wedneſdays and Saturdays, unleſs either of them happened to be a holiday, and then the aſſembly was held on the preceding day.—To encourage the members to purſue their labours, the king engaged not only to pay the ordinary penſions, but even to give extraordinary gratifications, according to the merit of their reſpective performances; furniſhing withal the expence of the experiments and other enquiries neceſſary to be made. If any member gave in a bill of charges of experiments he had made, or deſired the printing of any book, and brought in the charges of graving, the money was immediately paid by the king, upon the preſident's allowing and ſigning the bill. So, if an anatomiſt required live tortoiſes, for inſtance, for making experiments about the heart, &c. as many as he pleaſed were brought him at the king's charge. Their motto was, *Invenit et perfecit*.

In the year 1716, the Duke of Orleans, then regent, made an alteration in their conſtitution; augmenting the number of honoraries, and of aſſociates capable of being foreigners, to 12; admitting regulars among ſuch aſſociates; and ſuppreſſing the claſs of elèves, as it appeared to be attended with ſome inconveniences, particularly that of making too great an inequality among the Academiſts, and being productive of ſome miſunderſtandings and animoſities among the members. At the ſame time he created other two claſſes; one conſiſting of 12 adjuncts, who, as well as the aſſociates, were allowed a deliberative voice in matters relative to ſcience; and the other ſix free aſſociates, who were not attached to any particular ſcience, nor obliged to purſue any particular work.

After its re-eſtabliſhment in 1699, this Academy was very exact in publiſhing, every year, a volume containing either the works of its own members, or ſuch memoirs as had been compoſed and read to the Academy during the courſe of that year. To each volume is prefixed the hiſtory of the Academy, or an extract of the memoirs, and, in general, of whatever has been read or ſaid in the Academy; at the end of the hiſtory, are the eulogiums on ſuch Academiſts as have died that year.—M. Rouille de Meſly, counſellor to the parliament of Paris, founded two prizes, one of 2500, and the other of 2000 livres, which are alternately diſtributed by the parliament every year; the ſubject for the firſt muſt relate to phyſical aſtronomy, and thoſe for the latter to navigation and commerce.

Notwithſtanding the advantages which the members of this Academy enjoyed over others, in having their expences defrayed, and even being paid for their time and attendance, they have fallen under ſome imputations, particularly that of plagiariſm. The French revolution, however, occaſioned this Academy to be new modelled. See INSTITUTE.

The *Royal Society at Berlin* was founded in 1700, by Frederic II. king of Pruſſia, on the model of that of England, excepting that, beſides natural knowledge, it likewiſe comprehends the Belles Lettres. In 1710 it was ordained that the preſident ſhall be one of the counſellors of ſtate, and nominated by the king. The members were divided into four claſſes; the firſt for proſecuting phyſics, medicine, and chemiſtry; the ſecond for mathematics, aſtronomy, and mechanics; the third for the German language and the hiſtory of the country; the fourth for oriental learning, particularly as it may concern the propagation of the goſpel among infidels. Each claſs to elect a director for themſelves, who ſhall hold his poſt for life. The members of any of the claſſes have free admiſſion into the aſſemblies of any of the reſt.

The great promoter of this inſtitution was the celebrated Mr. Leibnitz, who accordingly was made the firſt director. The firſt volume of their Tranſactions was publiſhed in 1710, under the title of *Miſcellanea Berolinenſia*; and though they received but few marks of the royal favour for ſome time, they continued to publiſh new volumes in 1723, 1727, 1734, and 1740. At laſt, however, Frederic III. the late king of Pruſſia, gave new vigour to this Academy, by inviting to Berlin ſuch foreigners as were moſt diſtinguiſhed for their merit in literature, and encouraged his ſubjects to proſecute the ſtudy and cultivation of the ſciences by giving ample rewards; and thinking that the academy, which till that time had had ſome miniſter or opulent nobleman for its preſident, would find an advantage in having a man of letters at its head, he conferred that honour on M. Maupertuis. At the ſame time, he gave a new regulation to the academy, and took upon himſelf the title of its protector.

The Academiſts held two public aſſemblies annually; one in January, on the late king's birth-day; and the other in May, on the day of his acceſſion to the throne. At the latter of theſe was given, as a prize, a gold medal of 50 ducats value; the ſubject for this prize is ſucceſſively, natural philoſophy, mathematics, metaphyſics, and erudition.

The *Imperial Academy at Peterſburgh* was projected by Czar Peter the Great, who had taken the neceſſary meaſures for its eſtabliſhment, when he was prevented by death from putting them into execution. His ſucceſſor, the Czarina Catherine, laboured on the ſame plan; and in a ſhort time formed one of the moſt celebrated academies in Europe, compoſed of the moſt conſiderable foreigners, ſome of them ſettled at Peterſburgh. The memoirs of this academy, which are publiſhed in Latin, are highly valuable, particularly for the mathematical part. The academy, however, was in a very languiſhing condition, when the Empreſs Czarina Elizabeth aſcended the throne; but that princeſs, happily, naming Count Raſomowſki preſident, he gave it a new body of ſtatutes, and quickly reſtored it to its ancient ſplendour.

The building and apparatus of this academy are extraordinary, there being a fine library, obſervatory, &c. It partakes much of what we call an *Univerſity*; having regular profeſſors in the ſeveral faculties, who read lectures as in our ſchools. The ordinary aſſemblies are held twice a-week, and public or ſolemn ones thrice a-year. In the public aſſemblies an account is given of what has been done in the private ones. The academy has this modeſt motto, "*Paulatim.*"

The *Academy of Sciences*, called the *Inſtitute of Bologna*, was founded by Count Marſigli in 1712, for the cultivating of phyſics, mathematics, medicine, chemiſtry, and natural hiſtory. Its hiſtory is written by M. de Limiers, from memoirs furniſhed by the founder himſelf.

VI. *Academies of* LAW; as that famous one at Beryta, and that of the Sitientes at Bologna.

VII. *Academies of* HISTORY; as the *Royal Academy of Portugueſe Hiſtory* at Liſbon. This academy was inſtituted by King John V. in 1720. It conſiſts of a director, four cenſors, a ſecretary, and 50 members; to each of which is aſſigned ſome part of the eccleſiaſtical or civil hiſtory of the nation, which he is to treat either in Latin or Portugueſe. In the

church-history of each diocese, the prelates, synods, councils, churches, monasteries, academies, persons illustrious for sanctity or learning, places famous for miracles or relics, must be distinctly related in twelve chapters. The civil history comprises the transactions of the kingdom from the government of the Romans down to the present time. The members who reside in the country are obliged to make collections and extracts out of all the registers, &c. where they live. Their meetings to be once in fifteen days.

A medal was struck by this academy, in honour of their prince: the front of which was his effigy, with the inscription *Johannes* V. *Lusitanorum Rex*; and, on the reverse, the same prince is represented standing, and raising History almost prostrate before him, with the legend *Historia Resurges*. Underneath are the following words in abbreviature: REGia ACADemia HISToriæ LUSITanæ, INSTITuta VI. Idus Decembris MDCCXX.

VIII. *Academies of* ANTIQUITIES; as that at Cortona in Italy, and at Upsal in Sweden. The first is designed for the study of Hetrurian antiquities; the other for illustrating the northern languages, and the antiquities of Sweden, in which notable discoveries have been made by it. The head of the Hetrurian Academy is called *Lucomon*, by which the ancient governors of the country were distinguished. One of their laws is to give audience to poets only one day in the year; another is to fix their sessions, and impose a tax of a dissertation on each member in his turn.

The *Academy of Medals and Inscriptions* at Paris was set on foot by M. Colbert, under the patronage of Lewis XIV. in 1663, for the study and explanation of ancient monuments, and perpetuating great and memorable events, especially those of the French monarchy, by coins, relievos, inscriptions, &c. The number of members at first was confined to four or five, chosen out of those of the French Academy; who met in the library of Mr. Colbert, from whom they received his majesty's orders. The days of their meetings were not determined; but generally they met on Wednesdays, especially in the winter season: but, in 1691, the king having given the inspection of this academy to M. de Pontchartrain, comptroller-general, &c. he fixed their meetings on Tuesdays and Saturdays.

By a new regulation, dated the 16th of July, 1701, the academy was composed of ten *honorary* members; ten *associates*, each of whom had two declarative voices; ten *pensionaries*; and ten *elèves*, or pupils. They then met every Tuesday and Wednesday, in one of the halls of the Louvre; and had two public meetings yearly, one the day after Martinmas and the other the 16th after Easter. The class of *elèves* has been suppressed, and united to the associates. The king nominates their president and vice-president yearly; but their secretary and treasurer are perpetual. The rest are chosen by the members themselves, agreeably to the constitutions on that behalf given them.

One of the first undertakings of this academy was to compose, by means of medals, a connected history of the principal events of Lewis XIV.'s reign: but in this design they met with great difficulties, and of consequence it was interrupted for many years; but at length it was completed down to the advancement of the Duke of Anjou to the crown of Spain.

In this celebrated work, the establishment of the academy itself was not forgot. The medal on this subject represents Mercury sitting, and writing with an antique stylus on a table of brass; he leans with his left hand upon an urn full of medals, and at his feet are several others placed upon a card: the legend, *Rerum gestarum fides;* and on the exergue, *Academia regia inscriptionum et numismatum, instituta* M.DC.LXIII. signifying that the Royal Academy of Medals and Inscriptions, founded in 1663, ought to give to future ages a faithful testimony of all great actions. Besides this work, we have several volumes of their memoirs; and their history, written and continued by their secretaries.

IX. *Academies of* BELLES LETTRES, are those wherein eloquence and poetry are chiefly cultivated. These are very numerous in Italy, and not uncommon in other countries.

The *Academy of Umidi* at Florence has contributed greatly to the progress of the sciences by the excellent Italian translations given, by some of its members, of the ancient Greek and Latin historians. Their chief attention is to the Italian poetry, at the same time that they have applied themselves to the polishing of their language, which produced the *Academy La Crusca*.

The *Academy of Humorists, Umoristi*, had its origin at Rome from the marriage of Lorenzo Marcini, a Roman gentleman; at which several persons of rank were guests; and, it being carnival time, to give the ladies some diversion, they betook themselves to the reciting of verses, sonnets, speeches, first *ex tempore*, and afterwards premeditately; which gave them the denomination of *Belli Humori*. After some experience, coming more and more into the taste of these exercises, they resolved to form an Academy of Belles Lettres; and changed the title of *Belli Humori* for that of *Humoristi*; choosing for their device a cloud, which, after being formed of exhalations from the salt waters of the ocean, returns in a gentle sweet shower; with this motto from Lucretius, *Redit agmine dulci*.

In 1690, the *Academy of Arcadi* was established at Rome, for reviving the study of Poetry and of the Belles Lettres. Besides most of the politer wits of both sexes in Italy, this academy comprehends many princes, cardinals, and other ecclesiastics; and, to avoid disputes about pre-eminence, all appear masked after the manner of Arcadian shepherds. Within ten years from its first establishment, the number of *Academists* amounted to six hundred. They hold assemblies seven times a-year, in a mead or grove, or in the gardens of some nobleman of distinction. Six of these meetings are employed in the recitation of poems and verses of the Arcadi residing at Rome; who read their own compositions; except ladies and cardinals, who are allowed to employ others. The seventh meeting is set apart for the compositions of foreign or absent members.

This academy is governed by a Custos, who represents the whole society, and is chosen every four years, with a power of electing 12 others yearly for his assistance. Under these are two sub-custodes, one vicar or pro-custos, and four deputies or superintendants, annually chosen. The laws of the society are immutable, and bear a near resemblance to the ancient model.

There are five manners of electing members. The first is by *acclamation*. This is used when sovereign princes, cardinals, and ambassadors of kings, desire to be admitted; and the votes are then given *viva voce*. The second is called *annumeration*. This was introduced in favour of ladies and academical colonies, where the votes are taken privately. The third, *representation*, was established in favour of colonies and universities, where the young gentry are bred; who have each a privilege of recommending one or two members privately to be ballotted for. The fourth, *surrogation*, whereby new members are substituted in the room of those dead or expelled. The last, *destination*, whereby, when there is no vacancy of members, persons of poetical merit have the title of Arcadi conferred upon them, till such time as a vacancy shall happen. All the members of this body, at their admission, assume new pastoral names, in imitation of the shepherds of Arcadia. The academy has several colonies of Arcadi in different cities of Italy, who are all regulated after the same manner.

X. ACADEMIES *of Languages*; called, by some, *Grammatical Academies*; as,

The *Academy della Crusca* at Florence, famous for its vocabulary of the Italian tongue, was formed in 1582, but ſcarce heard of before the year 1584, when it became noted for a diſpute between Taſſo and ſeveral of its members. Many authors confound this with the Florentine academy. The diſcourſes which Toricelli, the celebrated diſciple of Galileo, delivered in the aſſemblies, concerning levity, the wind, the power of percuſſion, mathematics, and military architecture, are a proof that theſe academiſts applied themſelves to things as well as words.

The *Academy of Fructiferi* had its riſe in 1617, at an aſſembly of ſeveral princes and nobility of the country, who met with a deſign to refine and perfect the German tongue. It flouriſhed long under the direction of princes of the empire, who were always choſen preſidents. In 1668 the number of members aroſe to upwards of 900. It was prior in time to the French academy, which only appeared in 1629, and was not eſtabliſhed into an academy before the year 1635. Its hiſtory is written in the German tongue, by George Neumarck.

The *French Academy*, which had its riſe from a meeting of men of letters in the houſe of M. Conrart, in 1629. In 1635 it was erected into an academy, by Cardinal Richlieu, for refining and aſcertaining the French language and ſtyle.—The number of its members was limited to 40; out of whom a director, chancellor, and ſecretary, were to be choſen: the two former held their poſt for two months, the latter perpetual. The members of this academy enjoyed ſeveral privileges and immunities, among which was that of not being obliged to anſwer before any court but that of the king's houſhold. They met three times a-week in the Louvre; at breaking up, forty ſilver medals were diſtributed among them, having on one ſide the King of France's head, and on the reverſe, *Protecteur de l'Academie*, with laurel, and this motto, *A l'Immortalité*. By this diſtribution, the attendance of the *Academiſts* was ſecured, thoſe who were preſent receiving the ſurplus otherwiſe intended for the abſent. To elect or expel a member, at leaſt eighteen were required; nor could any be choſen unleſs he petitioned for it: by this expedient, the affront of refuſals from perſons elected was avoided. Religious were not admitted; nor could any nobleman, or perſon of diſtinction, be admitted on another footing than as a man of letters. None have been expelled, except for baſe and diſhoneſt practices; and there are but two inſtances of ſuch expulſions, the firſt of M. Granier for refuſing to return a depoſit, the other of the Abbé Furetierre for plagiariſm.—The deſign of this academy was to give not only rules, but examples, of good writing. They began with making ſpeeches on ſubjects taken at pleaſure, about twenty of which were printed. They met with great oppoſition from the parliament at their firſt inſtitution; it being two years before the patents granted by the king would be regiſtered. They have been ſeverely ſatyrized, and their ſtyle has been ridiculed as enervating inſtead of refining the French language. They are alſo charged with having ſurfeited the world by flattery, and having exhauſted all the topics of panegyric in praiſe of their founder; it having been a duty incumbent on every member, at his admiſſion, to make a ſpeech in praiſe of the King, the Cardinal, the Chancellor Seguier, and the perſon in whoſe place he was elected. The moſt remarkable work of this academy is a dictionary of the French tongue; which, after 50 years ſpent in ſettling the words and phraſes to be uſed in writing, was at laſt publiſhed in 1694.

The *Royal Spaniſh Academy* at Madrid held its firſt meeting in July, 1713, in the palace of its founder, the Duke d'Eſcalona. It conſiſted at firſt of eight academiſts, including the duke; to which number 14 others were afterwards added, the founder being choſen preſident or director. In 1714 the king granted them his confirmation and protection. Their device is a crucible in the middle of the fire, with this motto, *Limpia, Fya, y da Eſplendor*—"It purifies, fixes, and gives brightneſs." The number of members is limited to 24; the Duke d'Eſcalona to be director for life, but his ſucceſſors choſen yearly, and the ſecretary to be perpetual. Their object, as marked out by the royal declaration, was to cultivate and improve the national language: they were to begin with chooſing carefully ſuch words and phraſes as have been uſed by the beſt Spaniſh writers; noting the low, barbarous, or obſolete ones; and compoſing a dictionary wherein theſe may be diſtinguiſhed from the former.

XI. Academies *of Dancing*; as that once erected by Lewis XIV. with privileges above all the reſt.

XII. Academies *of Painting*: as the ci-devant *Academy of Painting and Sculpture* at Paris. This took its riſe from the diſputes that happened between the maſter painters and ſculptors in that capital; in conſequence of which, M. Le Brun, Sarazin, Corneille, and others of the king's painters, formed a deſign of inſtituting a particular academy; and, having preſented a petition to the king, obtained an arret, dated January 20, 1648. In the beginning of 1655 they obtained, from Cardinal Mazarin, a brevet, and letters patent, which were regiſtered in parliament; in gratitude for which favour, they choſe the cardinal for their protector, and the chancellor for their vice-protector. In 1663, by means of M. Colbert, they obtained a penſion of 4000 livres. The academy conſiſted of a protector, a vice-protector, a director, a chancellor, four rectors, adjuncts to the rectors, a treaſurer, four profeſſors, one of which was profeſſor of anatomy, and another of geometry; ſeveral adjuncts and counſellors, an hiſtoriographer, a ſecretary, and two uſhers.

The Academy of Painting held a public aſſembly every day for two hours in the afternoon, to which the painters reſorted either to deſign or to paint, and where the ſculptors modelled after a naked perſon. There were 12 profeſſors, each of whom kept the ſchool for a month; and there were 12 adjuncts to ſupply them in caſe of need. The profeſſor upon duty placed the naked man as he thought proper, and ſet him in two different attitudes every week. This they called *ſetting the model*. In one week of the month he ſets two models together, which was called *ſetting the group*. The paintings and models made after this model, were called *academics*, or *academy-figures*. They had likewiſe a woman who ſtood for a model in the public ſchool. Every three months, three prizes for deſign were diſtributed among the *elèves* or diſciples; two others for painting, and two for ſculpture, every year.

There was alſo an Academy of Painting, Sculpture, &c. at Rome, eſtabliſhed by Lewis XIV. wherein thoſe who had gained the annual prize at Paris were entitled to be three years entertained at the king's expence, for their further improvement.

XIII. *Academies of* Architecture; as that eſtabliſhed by M. Colbert in 1671, conſiſting of a company of ſkilful architects, under the direction of the ſuperintendant of the buildings.

XIV. *Academies of* Politics; as that at Paris, which conſiſted of ſix perſons, who met at the Louvre, in the chamber where the papers relating to foreign affairs were lodged. But this academy proved of little ſervice, as the kings of France were unwilling to truſt any but their miniſters with the inſpection of foreign affairs.

ACALANDRA, a town of Lucania, on the other ſide the Appennine (Strabo); now *Salandra*, in the Baſilicata, on the river Acalandrus.

ACAMANTIS, the ancient name of the iſland Cyprus, taken from one of its promontories, ſituate to the weſt.

ACAMAS, ſon of Theſeus, followed the reſt of the Grecian princes to the ſiege of Troy; and was deputed, with Diomedes, to the Trojans, in order to get Helen reſtored. Laodice, Priam's daughter, fell in love with him, ſtole a night with him, and had a ſon by him, called Munitus. He was one of the heroes who concealed themſelves in the wooden horſe. One of the tribes of Athens was called *Acamantides* from him, by the appointment of the oracle. He founded a city in Phrygia Major, called *Acamantium;* and made war againſt the Solyms.

ACAMBOU, or Aquamboe, a country of Africa, and one of the moſt powerful kingdoms on the coaſt of Guinea. The country is populous, and the commerce conſiderable; the people are brave, and fond of war, inclined to rapine, and cruel. Long. about 20. W. Greenwich. Lat. 6. N.

ACANTHOS (*Encycl.*), a town of Egypt, near which was ſhewn Xerxes's ditch, of ſeven ſtadia, in order to ſeparate mount Athos from the continent, and convey his ſhips, without doubling Athos, into the Singitic Bay. *Acanthos* is alſo a town of Epirus.

ACANTHUS (*Encycl.*), bears-breech. There are five *Species.* 1. The *mollis*, or common bear's-breech, a native of Italy, is the ſort that is uſed in medicine, and is ſuppoſed to be the *mollis acanthus* of Virgil: the leaves of this ſpecies are famous for having given riſe to the capital of the Corinthian pillars. 2. The *ſpinoſus*, or prickly bear's-breech; the leaves of which are deeply jagged in very regular order, and each ſegment is terminated with a ſharp ſpine, as are alſo the footſtalks of the leaves and the empalement of the flower, which renders it troubleſome to handle them. 3. *Ilicifolius*, or ſhrubby bear's-breech, grows naturally in both the Indies. It is an evergreen ſhrub, which riſes about four feet high; and is divided into many branches, garniſhed with leaves like thoſe of the common holly, and armed with ſpines in the ſame manner: the flowers are white, and ſhaped like thoſe of the common acanthus, but ſmaller. 4. The *nigra*, or Portugal bear's-breech, with ſmooth ſinuated leaves of a livid green colour, was diſcovered in Portugal by Dr. Juſſieu of the royal garden at Paris. 5. The *middle* bear's-breech, with entire leaves, having ſpines on their border, is ſuppoſed to be the acanthus of Dioſcorides.

They are all perennial plants. The firſt and ſecond ſpecies may be propagated either by ſeeds, or by off-ſets from the roots. The third, fourth, and fifth ſorts, are propagated only by ſeeds; which, as they do not ripen in Europe, muſt be obtained from the places in which they grow naturally: the plants are ſo tender, that they cannot be preſerved out of the ſtove in this country.

Acanthus is likewiſe uſed by Theophraſtus as a ſynonime of the acacia.

ACANUS, in botany, a ſynonime of carduus caſa-bonæ of Linnæus. See Carduus.

ACARNANIA, the firſt country of Free Greece, or Greece Proper, bounded on the weſt by the Sinus Ambracius, and ſeparated from Ætolia by the river Achelous on the eaſt, and by the Sinus Ambracius from Epirus. The people were called *Acarnanes*, denoting perſons unſhorn: other Etolians, to the eaſt of the Achelous, being called *Curetes* (Homer), from being ſhorn. According to Lucian, they were noted for effeminacy and incontinence; hence the proverb, *Porcellus Acarnanius.* This country was famous for an excellent breed of horſes; ſo that Ακαρνικος ιππος, is a proverbial ſaying for a thing excellent in its kind. It is now called *la Carnia* and *il Deſpotato.*

ACARON, or Accaron (*Encycl.*), a town of Paleſtine. It was the boundary of the Philiſtines to the north; ſtood at ſome diſtance from the ſea, near Bethſhemeſh; and was famous for the idol of Baalzebub.

ACARUS (*Encycl.*), a genus of inſects belonging to the order of aptera. The deſcription of a few of the moſt remarkable we here introduce. 1. The *ſiro*, or cheeſe-mite, a very minute ſpecies, already deſcribed. 2. The *ſanguiſugus.* The hinder part of the abdomen is crenated, the ſcutellum is oval and yellowiſh, and the beak is trifid. It is a native of America, and ſticks ſo faſt on the legs of travellers, ſucking their blood, that they can hardly be extracted. 3. The *telarius*, is of a greeniſh yellow colour. It has a ſmall ſting or weapon, with which it wounds the leaves of plants, and occaſions them to fold backward. They are very frequently to be met with in the autumn, incloſed in the folded leaves of the lime-tree. 4. The *exulcerans*, or itch-acarus, is a very ſmall ſpecies: its body is of a figure approaching to oval, and lobated; the head is ſmall and pointed; its colour is whitiſh, but it has two duſky ſemicircular lines on the back. It has long ſetaceous legs, but the two firſt are ſhort. It is found in the puſtules of the itch: authors in general have ſuppoſed that it cauſes that diſeaſe; but if this were ſo, it would be found more univerſally in thoſe puſtules. It is more probable that theſe only make a proper nidus for it. 5. The *batatas*, is of a blood-colour, and a little rough; the fore pair of legs are as long as the body. It inhabits the potatoes of Surinam. 6. The *ovinus*, or ſheep tick, has a flat body, of a roundiſh figure, but ſomewhat approaching to oval, and of a yellowiſh white colour, and has a ſingle large round ſpot on the back: the anus is viſible in the lower part of the body; the thorax is ſcarce conſpicuous; the head is very ſmall and black; the mouth is bifid: the antennæ are of a clavated figure, and of the length of the ſnout; the legs are ſhort and black. It is common on ſheep, and its excrements ſtain the wool green: it will live in the wool many months after it is ſhorn from the animal. 7. The *coleoptratorum*, or acarus of inſects, is extremely minute: its body is round, reddiſh, and covered with a firm and hard ſkin; the head is very ſmall, the neck ſcarce viſible; the legs are moderately long, the anterior pair longer than the others; it has a whiteneſs about the anus. It is frequent on the bodies of many inſects, which it infects, as the louſe does others; it runs very ſwiftly: the humble-bee, and many other of the larger inſects, are continually infeſted with it; but none ſo much as the common black beetle, which has thence been called the louſy beetle. 8. The *baccarum*, or ſcarlet tree-mite, is a ſmall ſpecies: its body is roundiſh, and the back not at all flatted, as it is in many others; the ſkin is ſmooth, ſhining, and gloſſy; and the whole animal ſeems diſtended, and ready to burſt; the colour is a bright red, but a little duſkier on the ſides than elſewhere: the head is very ſmall, and the legs ſhort; there is on each ſide a ſmall duſky ſpot near the thorax, and a few hairs grow from different parts of the body. It is very common on trees, particularly on the currant, on the fruit of which we frequently ſee it running. 9. The *longicornus*, or red ſtone-acarus, is very ſmall, and of a bright red colour: the body is round, and diſtended; the head is very ſmall, and pointed; the legs are moderately long, and of a paler red than the body: the antennæ are much longer than in any other ſpecies. It is frequent about old ſtone-walls and on rocks, and runs very nimbly. 10. The *aquaticus* is a ſmall ſpecies: the body is of a figure approaching to an oval, and the back appears depreſſed: it is of a bright and ſtrong ſcarlet colour. The head is ſmall; the legs are moderately long and firm, and are of a paler red than the body. It is common in ſhallow waters, where it runs very ſwiftly along the bottom. 11. The *holoſericeus* is a ſmall ſpecies: its body is roundiſh, but a little approaching to oval; the back ſomewhat depreſſed: it is of a fine ſcarlet colour, and covered with a velvety down. The head is very ſmall; the eyes are two, and very ſmall; the legs are ſhort and of a

paler red, and there is a ſmall black ſpot near the inſertion of the anterior ones. It is very common under the ſurface of the earth, and ſometimes on herbs and among hay. It is ſuppoſed to be poiſonous, if ſwallowed; but we do not ſeem to have any certain account of ſuch an effect. 12. The *longippes* (Pl. 9.) is the largeſt of the acarus kind: its body is roundiſh, of a duſky brown on the back, with a duſkier ſpot of a rhomboidal figure near the middle of it; the belly is whitiſh; the legs are extremely long and ſlender. On the back part of the head there ſtands a little eminence, which has on it a kind of double creſt, formed as it were of a number of minute ſpines: the eyes are ſmall and black, and are two in number. It is very common in our paſtures, towards the end of ſummer. Ray and Liſter call it *araneus cruſtatus longippes*; Mouffet, *araneus longpipes*; and, notwithſtanding its having but two eyes, it has been almoſt univerſally ranked among the ſpiders.

ACASTUS, in claſſic hiſtory, the ſon of Pelias king of Theſſaly, and one of the moſt famous hunters of his time, married Hippolyta, who falling deſperately in love with Peleus her ſon-in-law, and he refuſing to gratify her wiſhes, ſhe accuſed him to her huſband of a rape; on which he ſlew them both.

ACATALUS, the juniper berry.

ACATASTATOS, *inconſtant*, is an ancient phyſical term, applied to irregular fevers, whoſe paroxyſms are uncertain, and which are indicated by frequent changes in the urine. It is likewiſe applied to thoſe ſhivering fits in fevers, which have no conſtant return; and to turbid urine, that depoſits no regular ſediment.

ACAULOSE, or ACAULOUS, is applied, by botaniſts, to thoſe plants which have no proper ſtem, or CAULIS.

ACBAB, in natural hiſtory, a name given by the people of the Philippine iſlands to a bird, very like our common hen, which is very frequently wild among them. It lives on rice, and other vegetables, and does a great deal of miſchief; but is ſhort-winded, and does not fly well, ſo that it is eaſily deſtroyed.

ACBAR, the name of an idol of enormous ſize, which the Arabians are ſaid formerly to have worſhipped. It was with difficulty that Mahomet reſtrained them from this ſpecies of idolatry. Hyde's Diſſ. vol. i. p. 257.

ACCASDIR, a name given to a metal which we call TIN.

ACCEDONES. See ACCENDONES, below.

ACCENDONES (*Encycl.*). See GLADIATOR. The orthography of the word is conteſted: the firſt edition of Tertullion, by Rhenanus, has it *accedones*; an ancient manuſcript, *accendones*. Aquinas adheres to the former, Pitiſcus to the latter. The origin of the word, ſuppoſing it *accendones*, is from *accendo*, I kindle; ſuppoſing it *accedones*, from *accedo*, I accede, an i added to. The former places their diſtinguiſhing character in enlivening the combat by their exhortations and ſuggeſtions; the latter ſuppoſes them to be much the ſame with what among us are called *ſeconds*, among the Italians *patroni*; excepting that theſe latter only ſtand by to ſee the laws of the ſword duly obſerved, without intermeddling to give advice or inſtruction.

ACCENSI (*Encycl.*). Vegetius calls theſe *ſupernumerarii legionum*. Cato calls them *ferentarii*, in regard they furniſhed thoſe engaged in battle with weapons, drink, &c. Though Nonnius ſuggeſts another reaſon of that appellation, viz. becauſe they fought with ſtones, ſlings, and weapons *quæ ferruntur*, ſuch as are thrown, not carried in the hand. They were ſometimes alſo called *velites*, and *velati*, becauſe they fought clothed, but not in armour; ſometimes *adſcripticii*, and *adſcriptivi*; ſometimes *rorarii*. The *accenſi*, Livy obſerves, were placed at the rear of the army, becauſe no great matter was expected from them: they were taken out of the fifth claſs of citizens.

ACCENT, in muſic (*Encycl.*). Every bar or meaſure is divided into *accented* and *unaccented* parts. The accented parts are the principal; being thoſe intended chiefly to move and affect: it is on theſe the ſpirit of the muſic depends. The beginning and middle, or the beginning of the firſt half of the bar, and of the latter half of it, in common time; and the beginning of the three notes in triple time, are always the accented parts of the meaſures.

In common time, the firſt and third crotchet of the bar are on the accented part of the meaſure.—In triple time, where the notes always go by three and three, that which is in the middle of every three is always unaccented; the firſt and laſt accented. But the accent in the firſt is ſo much ſtronger, that in many caſes the laſt is accounted as if it had no accent. The harmony is always to be full and void of diſcords in the accented parts of the meaſure. In the unaccented parts this is not ſo abſolutely neceſſary; diſcords here paſſing without any great offence to the ear.

ACCENTER, in muſic, one of the three ſingers in a trio, viz. the perſon who ſings the higheſt part. See TRIO.

ACCEPTANCE, in commerce (*Encycl.*). The acceptance is uſually performed by him on whom the bill is drawn; upon its being preſented to him by the perſon on whoſe behalf it was drawn, or by ſome others by his order.

A ſmall matter amounts to an acceptance, ſo that there be a right underſtanding between both parties; as, "Leave your bill with me, and I will accept it;" or, "Call for it to-morrow, and it ſhall be accepted." This obliges as effectually by the cuſtom of merchants, and according to law, as if the party had actually ſubſcribed, or ſigned it, which is uſually done. But ſhould a man ſay, "Leave your bill with me; I will look over my accounts and books between the drawer and me, and call to-morrow, and accordingly the bill ſhall be accepted:" this ſhall not amount to a complete acceptance; for this mention of his books and accounts was really intended to give him an opportunity of examining if there were effects in his hands to anſwer; without which perhaps he would not accept the ſame; and ſo it was ruled by the Lord Chief-juſtice Hale, at Guildhall, London.

A bill may be accepted for part; becauſe the party, upon whom the ſame was drawn, had no more effects in his hands; which being uſually done, there muſt be a proteſt, if not for the whole ſum, yet at leaſt for the reſiduc; however, after payment of ſuch part there muſt be a proteſt for the remainder.

Bills payable at ſight are not to be accepted; as being to be acquitted at their preſenting; or in defect of payment, to be proteſted.—In bills drawn for a certain number of days after ſight, the acceptance muſt be dated; becauſe the time is to be accounted therefrom.—The form of this acceptance is, *Accepted, ſuch a day;* and then the ſignature.

Bills drawn, payable on a day named, or at uſance, or double uſance, need not be dated; uſance being reckoned from the date of the bill itſelf.—On theſe it is ſufficient to write, *Accepted*, and the ſignature.

If the bearer of a bill be contented with an acceptance to be paid in twenty days after ſight, where, in the bill itſelf, only eight days are expreſſed, he runs the riſque of the twelve additional days: ſo that if the accepter fail he has no remedy againſt the drawer. And if the bearer contents himſelf to receive a leſs ſum than is expreſſed, in part, he is to ſtand the chance of the reſt.

ACCI, a town of Tarraconenſis (Pliny, Ptolemy); formerly called *Aĕti*, ſuppoſed to be Guadix, to the eaſt of the city

of Granada, at the foot of a mountain, near the ſource of the rivulet Guadalantin. Now greatly decayed. It is the Colonia Accitana Gemella (coins); and was of ſome repute among the Roman colonies. The people were called Gemellenſes, becauſe the colony conſiſted of coloniſts from the third and ſixth legions.

ACCIAIOLI (Donato), a man famous for his learning and the honourable employments he poſſeſſed in Florence his native country, in the 15th century. He wrote, a Latin tranſlation of ſome of Plutarch's Lives; Commentaries on Ariſtotle's Ethics and Politics; and the Life of Charlemagne. He was ſent to France by the Florentines, to ſue for ſuccour from Lewis XI. againſt Pope Sextus IV. but died on his journey at Milan; his body was carried to Florence, and buried in the church of the Carthuſians. The ſmall fortune he left his children is a proof of his probity and diſintereſtedneſs. His daughters, like thoſe of Ariſtides, were married at the public expence, as an acknowledgment of his ſervices. His funeral eulogium was ſpoken by Chriſtopher Landini; and an elegant epitaph, by Politian, was inſcribed on his tomb.

ACCIPESIUS, in ichthyology, a name given by Athenæus and others of the Greek writers, to the ſturgeon, called by others *oniſcos*. See ACCIPENSER, below.

ACCIPENSER (*Encycl.*), in ichthyology, a genus of fiſhes belonging to the Amphibia Nantes of Linnæus. See Pl. 10. The ancients were acquainted with the huſo, the fiſh that affords iſinglaſs. Pliny mentions it under the name of ICHTHYOCOLLA; and ſays, that the glue that was produced from it had the ſame title; and afterwards adds, that it was made out of the belly of the fiſh. The huſo is the largeſt of the genus, and grows to 24 feet in length. It inhabits the Danube and the rivers of Ruſſia.

The ſturio, or ſturgeon, is probably the Ὀνίσκος of Dorion, as quoted by Athenæus, who ſays its mouth is always open, and that it conceals itſelf in the hot months. This ſhews it to be a fiſh of a cold nature; which is confirmed by the hiſtory of the European fiſh of this ſpecies given by Mr. Foſter, in his Eſſay on the *Volga*. He relates, that they are ſcarce ever found in that river in ſpring or ſummer, but in vaſt quantities in autumn and winter, when they crowd from the ſea under the ice, and are then taken in great numbers. The ſturgeon is ſeldom taken far out at ſea, but frequents ſuch parts as are not remote from the æſtuaries of great rivers. It is admired for the delicacy and firmneſs of its fleſh, which is white as veal, and extremely good when roaſted. It is generally pickled. The moſt we receive comes either from the Baltic rivers, or North America: thoſe cured at Pillau have been, till of late, in the greateſt repute; but through the encouragement given by the ſociety inſtituted for promoting trade and manufactures, the ſturgeon from our colonies begins to rival thoſe of the Baltic. Great numbers are taken during ſummer in the lakes Friſchehaff, and Curiſch-haff near Pilau, in large nets made of ſmall cord. The adjacent ſhores are formed into diſtricts, and farmed out to companies of fiſhermen, ſome of which are rented for ſix thouſand guilders, or near three hundred pounds, *per annum*. They are found in vaſt abundance in the American rivers in May, June, and July; at which time they leap ſome yards out of the water, and, falling on their ſides, make a noiſe to be heard in ſtill weather at ſome miles diſtance. Caviare is made of the roes of this, and alſo of all the other ſorts of ſturgeons, dried, ſalted, and packed up cloſe. Ichthyocolla, or iſinglaſs, is alſo made of the ſound of our fiſh, as well as that of the others; but in very ſmall quantity. The ſturgeon grows to a great ſize, to the length of 18 feet, and to the weight of 500 pounds, but it is ſeldom taken in our rivers of that bulk. The largeſt we have known caught in thoſe of Great Britain, weighed 460 pounds; which was taken about three years ago in the Eſk, where they are more frequently found than in our ſouthern waters. In the manner of breeding, this fiſh is an exception among the cartilaginous kind; being, like the bony fiſh, oviparous, ſpawning in water.

ACCIPITER (*Encycl.*). Pliny tells us, that in ſome caſes, particularly in marriage, this was eſteemed a bird of good omen, becauſe it never eats the hearts of other birds; intimating thereby, that no differences in a married ſtate ought to reach the heart. The accipiter was worſhipped as a divinity by the inhabitants of Tentyra, an iſland in the Nile, being conſidered by them as the image of the ſun; and hence we find that luminary repreſented, in hieroglyphics, under the figure of a hawk.

ACCIPITRINA, in botany, a name by which ſome authors have expreſſed the hawk-weed, and others, the flix-weed or *ſophia chirurgorum*. Ger. Emac.

ACCIUS (Lucius), a Latin tragic poet, the ſon of a freedman, and, according to St. Jerom, born in the conſulſhip of Hoſtilius Mancinus and Attilius Serranus, in the year of Rome 583; but there appears ſomewhat of confuſion and perplexity in this chronology. He made himſelf known before the death of Pacuvius, a dramatic piece of his being exhibited the ſame year that Pacuvius brought one upon the ſtage, the latter being then eighty years of age, and Accius only thirty. We do not know the name of this piece of Accius's, but the titles of ſeveral of his tragedies are mentioned by various authors. He wrote on the moſt celebrated ſtories which had been repreſented on the Athenian ſtage; as Andromache, Andromeda, Atreus, Clytemneſtra, Medea, Meleager, Philoctetes, the civil wars of Thebes, Tereus, the Troades, &c. He did not always, however, take his ſubjects from the Grecian ſtory; for he compoſed one dramatic piece wholly Roman: it was entitled *Brutus*, and related to the expulſion of the Tarquins. It is affirmed by ſome, that he wrote alſo comedies; which is not unlikely, if he was the author of two pieces, the Wedding, and the Merchant, which have been aſcribed to him. He did not confine himſelf to dramatic writing; for he left other productions, particularly his Annals, mentioned by Macrobius, Priſcian, Feſtus, and Nonius Marcellus. He has been cenſured for writing in too harſh a ſtyle, but in all other reſpects has been eſteemed a very great poet. He was ſo much eſteemed by the public, that a comedian was puniſhed for only mentioning his name on the ſtage. Cicero ſpeaks with great deriſion of one Accius who had written a hiſtory; and, as our author had written annals, ſome inſiſt that he is the perſon cenſured: but as Cicero himſelf, Horace, Quintilian, Ovid, and Paterculus, have ſpoken of our author with ſo much applauſe, we cannot think it is him whom the Roman orator cenſures with ſo much ſeverity.

There was alſo in this age a pretty good orator of the ſame name, againſt whom Cicero defended Cluentius. He was born in Piſaurum, and perhaps was a relation of our poet.

ACCIUS, a poet of the 16th century, to whom is attributed *A Paraphraſe on Æſop's Fables*, on which Julius Scaliger beſtows great encomiums.

ACCLAMATION (*Encycl.*). The acclamations of the Roman ſenate were ſomewhat more ſerious than the popular ones; but aroſe from the ſame principle, viz. a deſire of pleaſing the prince or his favourites; and aimed likewiſe at the ſame end, either to expreſs the general approbation and zeal of the company, or to congratulate him on his victories, or to make him new proteſtations of fidelity. Theſe acclamations were uſually given after a report made by ſome ſenator, to which the reſt all expreſſed their conſent by crying OMNES, OMNES; or elſe, ÆQUUM EST, JUSTUM EST. Sometimes

they began with acclamations, and ſometimes ended with them without other debates. It was after this manner that all the elections and proclamations of emperors, made by the ſenate, were conducted; ſomething of which practice is ſtill retained at modern elections of kings and emperors, where *Vivat Rex*, *Vive le Roy*, and *Long live the King*, are cuſtomary forms.

The Greeks borrowed the cuſtom of receiving their emperors in the public places from the Romans. Luitprand relates, that at a proceſſion where he was preſent, they ſung to the emperor Nicephorus, πολλα ετη; that is, "*Many years:*" which Codin expreſſes thus, by το ψαλλειν το πολυχρονιον, or by το πολυχρονιζειν; and the wiſh or ſalutation by πολυχρονισμα. And at dinner, the Greeks then preſent wiſhed with a loud voice to the emperor and Bardas, *Ut Deus annos multiplicet;* as he tranſlates the Greek. Plutarch mentions an acclamation ſo loud, upon occaſion of Flaminius's reſtoring liberty to Greece, that the very birds fell from heaven with the ſhout. The Turks practiſe ſomething like this on the ſight of their emperors and grand viziers, to this day.

For the acclamations wherewith authors, poets, &c. were received, who recited their works in public; it is to be obſerved, the aſſemblies for this purpoſe were held with great parade in the moſt ſolemn places, as the capitol, temples, the Athæneum, and the houſes of great men. Invitations were ſent every-where, in order to get the greater appearance. The chief care was that the acclamations might be given with all the order and pomp poſſible. Men of fortune who pretended to wit, kept able applauders in their ſervice, and lent them to their friends. Others endeavoured to gain them by preſents and treats. Philoſtratus mentions a young man named Vavus, who lent money to the men of letters, and forgave the intereſt to ſuch as applauded his exerciſes. Theſe acclamations were conducted much after the ſame manner as thoſe on the theatre, both as to the muſic and the accompaniments: they were to be ſuited both to the ſubject and to the perſon. There were particular ones for the philoſophers, for orators, for hiſtorians, and for poets. It would be difficult to rehearſe all the forms of them; one of the moſt uſual was *Sophos*, which was to be repeated three times. Martial comprehends ſeveral other uſual forms in this verſe:

Graviter, Cito, Nequitur, Euge, Beate.

Neither the Greeks nor Romans were barren on this head. The names of gods and heroes were given thoſe whom they would extol. It was not enough to do it after each head of diſcourſe, chiefly after the exordium; but the acclamations were renewed at every fine paſſage, frequently at every period.

The acclamations wherewith the ſpectators honoured the victories of the athletæ, were a natural conſequence of the impetuous motions which attended the gymnaſtic games. The cries and acclamations of the people, ſometimes expreſſing their compaſſion and joy, ſometimes their horror and diſguſt, are ſtrongly painted by different poets and orators.

ACCOLTI (Bernardo), ſecretary to the republic of Florence, was ſurnamed L'Unico, or the Non-Such, probably from the great extent of his underſtanding, the variety of ſciences he had acquired, and the excellency of his poetic vein; which not only gained him a ſeat among the academicians of the court of Urbino, but made that great Mæcenas, Pope Leo X. in 1520, create him prince of the ſtate of Nepi. He wrote many pieces; among others, a collection of beautiful poems, printed at Venice in 1519 and 1553.

ACCORD, in muſic. See CONCORD.

ACCORD, in painting, is the harmony that reigns among the lights and ſhades of a picture.

ACCURSIUS, a law profeſſor in the 13th century, born in Florence. His authority was for ſome time ſo great, that he was called the Idol of the Lawyers.

ACCURSIUS (Mariangelus), a famous critic of the 16th century, born at Aquilo in the kingdom of Naples. His Diatrebes, printed at Rome in folio, in 1524, on Ovid and Solinus, are a proof of his abilities in that kind of erudition. In his edition of Ammianus Marcellinus there are five books more than in any of the preceding ones; and he affirms he had corrected 5000 errors in that hiſtorian. His predominant paſſion was the ſearching for and collecting of old manuſcripts: yet he made Latin and Italian verſes; was complete maſter of the French, German, and Spaniſh tongues; and underſtood optics and muſic. He purged himſelf by oath, being charged for being a plagiary with regard to his Auſonius; it being reported, that he had appropriated to himſelf the labours of Fabricio Varana, biſhop of Camerino.

ACCUSATION (*Encycl.*). In Britain, by Magna Charta, no man ſhall be impriſoned or condemned on any accuſation, without trial by his peers, or the law: none ſhall be vexed with any accuſation, but according to the law of the land: and no man may be moleſted by petition to the king, &c. unleſs it be by indictment or preſentment of lawful men, or by proceſs at common law. Promoters of ſuggeſtions, are to find ſurety to purſue them; and if they do not make them good, ſhall pay damages to the party accuſed, and alſo a fine to the king. No perſon is obliged to anſwer upon oath to a queſtion whereby he may accuſe himſelf of any crime.

ACCUSIORUM COLONIA (Ptolemy); an inland town in the Cavares, in Gallia Norbonenſis: now *Grenoble*, in Dauphiné. See GRENOBLE.

ACCERRÆ, the ancient name of a town on the Clanius, in Campania, not far from Naples (Virgil); now ACCERRA.—The name alſo of another town (Plutarch, Polybius), now called *la Girola*, in the territory and to the ſouth-eaſt of Lodi, where the rivulet Serio falls into the Adda, to the weſt of Cremona and north of Placentia.

ACCIAIOLI (Donatus), a Florentine of great learning, who lived in the fifteenth century. He was honoured with many conſiderable employments in his native country; but, notwithſtanding his public engagements, he found means to devote part of his time to ſtudy. He had been a diſciple of Argyropylus the Byzantine; and he publiſhed commentaries on this profeſſor's Latin tranſlation of Ariſtotle's Ethics. He acknowledges, in his epiſtle dedicatory to Coſmo de Medicis, that he collected theſe commentaries from the lectures of Argyropylus; and that he had only enlarged the explications which he had heard. Simon Simonius and Gabriel are therefore in the wrong, after ſuch a declaration, when they accuſe him of publiſhing in his own name a work of Argyropylus. He tranſlated the lives of Alcibiades and Pemetrius from Plutarch; to which were alſo added thoſe of Annibal and Scipio, which ſome have imagined to be likewiſe from Plutarch; but this muſt be a miſtake, ſince we find neither of theſe two generals in this author. He wrote an abridgment of the life of Charlemagne; and ſome other works are alſo aſcribed to him.

He was ſent to France by the Florentines, to ſue for ſuccour from Louis XI. againſt Pope Sextus IV. but died on his journey at Milan; his body was carried to Florence, and buried in the church of the Carthuſians. The ſmall fortune he left his children is a proof of his probity and diſintereſtedneſs. His daughters, like thoſe of Ariſtides, were married at the public expence, as an acknowledgment of his ſervices.

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in this chronology. He made himself known before the death of Pacuvius, a dramatic piece of his being exhibited the same year that Pacuvius brought one upon the stage, the latter being then eighty years of age, and Accius only thirty. We do not know the name of this piece of Accius, but the titles of several of his tragedies are mentioned by various authors. He wrote on the most celebrated stories which had been represented on the Athenian stage, as Andromache, Andromeda, Atreus, Clytemnestra, Medea, Meleager, Philoctetes, the civil wars of Thebes, Tereus, the Troades, &c. He did not always, however, take his subjects from the Grecian story; for he composed one dramatic piece wholly Roman: it was entitled Brutus, and related to the expulsion of the Tarquins. It is affirmed by some, that he wrote also comedies, which is not unlikely, if he was the author of two pieces, the Wedding and the Merchant, which have been ascribed to him. He did not confine himself to dramatic writing, for he left other productions, particularly his Annals, mentioned by Macrobius, Priscian, Festus, and Nonius Marcellus. He has been censured for writing in too harsh a style, but in all other respects esteemed a very great poet. Aulus Gellius tells us, that Accius, being in his way to Asia, passed through Tarentum, where he paid a visit to Pacuvius, and read to him his play of Atreus; that Pacuvius told him his verse was lofty and sonorous, but somewhat harsh and crude. "It is, as you observe," said Accius, "nor am I sorry for it, since my future productions will be better on this account; for as in fruit, so in geniuses, those which are at first harsh and sour, become mellow and agreeable; but such as are at first soft and sweet, grow in a short time not ripe, but rotten." Accius was so much esteemed by the public, that a comedian was punished for only mentioning his name on the stage. Cicero speaks with great derision of one Accius who had written a history, and, as our author had written annals, some insist that he is the person censured; but as Cicero himself, Horace, Quintilian, Ovid, and Paterculus, have spoken of our author with so much applause, we cannot think it is he whom the Roman orator censures with so much severity.

There was also in this age a good orator of the same name, against whom Cicero defended Cluentius. He was born in Pisaurum, and perhaps was a relation of our poet.

ACCORDS (Stephen Tabourot, seigneur des), advocate in the parliament of Dijon in France, and king's advocate in the bailiwic and chancery of that city, born in the year 1549. He was a man of genius and learning, but too much addicted to trifles, as appears by his piece entitled "Les Bigarrures," printed at Paris in 1582. This was not his first production, for he had before printed some sonnets. His work entitled "Les Touches," was published at Paris in 1585; which is indeed a collection of witty poems, but most of them upon obscene subjects, and worked up rather in too loose a manner, according to the licentious taste of that age. His Bigarrures are written in the same strain. He was censured for this way of writing, which obliged him to publish an apology. La Croix du Maine says in one place, that Accords wrote a dictionary of French rhymes; but he afterwards corrected himself, having found that John le Fevre of Dijon, secretary to Cardinal De Givre, and canon of Langres, was the author thereof. Accords himself mentions him as the author, and declares his intention of compiling a supplement to his uncle Le Fevre's work; but, if he did, it never appeared in print. The lordship of Accords is an imaginary fief or title from the device of his ancestors, which was a drum, with the motto *à tous accords*, chiming with all. He died July 24, 1561, in the 46th year of his age.

ACEPHALI, the levellers in the reign of King Henry I. who acknowledged no head or superior. They were reckoned so poor, that they had not a tenement by which they might acknowledge a superior lord.

ACEPHALOUS, or ACEPHALUS, (*Encycl.*). Several opinions have been framed as to the origin of the fable of the Acephali. The first is that of Thomas Bartholin, who turns the whole into a metaphor; being convinced that the name Acephali was anciently given to such as had less brain, or conducted themselves less by the rules of prudence, than others. Olearius rather apprehends, that the ancient voyagers, viewing certain barbarous people from the coasts, had been imposed on by their uncouth dress; for that the Samogitians, being short of stature, and going in the severity of winter with their heads covered in hoods, seem at a distance as if they were headless. F Lasitau says, that by Acephali are only meant, people whose heads are sunk below their shoulders. In effect, Hulsius, in his epitome of Sir Walter Raleigh's voyage to Guiana, also speaks of a people which that traveller found in the province of Irvipanama, between the lakes of Panama and Caslipa, who had no head or neck; and Hondius, in his map, marks the place with the figures of these monsters. Yet De Laet rejects the story; being informed by other hands, that the inhabitants of the banks of the Caora, a river that flows out of the lake of Caslipa, have their head so far sunk between their shoulders, that many believed they had their eyes in their shoulders and their mouths in their breasts.

ACERNUM, a town of the Picentini (Pliny;) now ACERNO.

ACETITE, a new term used in chemistry to denote the combination of the acetous acid with other substances. The acetites named in the table of Chemical Nomenclature, proposed by De Morveau, Lavoisier, and Fourcroy, are those of pot-ash, soda, lime, ammoniac, lead, and copper.

An instance occurs in the improved method of preparing acetite of lead, formerly called *sugar of lead*, communicated to the *Conference des Mines*, in France, by M. Pontier.

After some historical details, a description of the apparatus required, &c. he proceeds to detail the process in the following way:

"When lead (says he) is almost entirely melted in the iron pot, it is taken out with an iron ladle, and before pouring it out, the ladle is rested upon one of the extremities of the copper pan, from whence, as from a centre, it is made with the hand to describe a semicircular motion, from left to right. By this means the lead is made to lie flat upon the surface of the copper, and it is obtained in plates of the thickness of a millimetre, more or less. These plates are detached by a workman with a pair of pincers, whilst another lades a fresh quantity of lead out of the melting pot, in order to continue the operation. When a sufficient number of these plates have been prepared, they are cut with a hatchet, upon a block of wood, into pieces of different sizes, which are put into the pans of stone-ware. Prepared in this manner, the lead dissolves in the vinegar much more readily than when it has been hammered, the effect of which operation is to bring its particles into closer contact with each other.

"Two or three kilogrammes are put into each of the stone-ware pans, the number of which is regulated according to the quantity of vinegar which we have, and that of the acetite of lead which we intend to prepare.

"To proceed to the distillation of the vinegar—we fill two-thirds of the cucurbit of the alembic with this liquid, and lute the jointings of the apparatus with a paste of rye-flour and water, which is covered with strips of linen or paper; after which we heat the furnace.

"For this purpoſe we employ, according to the local circumſtances, either pit-coal or wood; when we uſe the latter, there is no neceſſity for a grate. It is neceſſary that the water in the recipient ſhould be renewed from time to time during the courſe of the diſtillation, leſt it ſhould acquire too high a temperature: if there is a ciſtern or well in the neighbourhood of the place in which the diſtillation is carried on, it greatly facilitates this labour.

"The acetous acid which paſſes over is received into veſſels of glaſs or wood; but as this acid is leſs volatile than water, the diſtillation is continued almoſt to dryneſs; otherwiſe a large quantity of it would be loſt.

"Into each of the plates, upon which the lead has been placed, about a litre of this acetous acid is poured, after which they are diſpoſed upon ſhelves, one above the other, in order that, aided by the contact of the air, the oxygenation of the lead may take place. We find a white oxyde to be produced upon the ſurface of the metal that remains above the vinegar: the ſolution of this oxyde is effected by plunging the plates, upon which it has been produced, below the ſurface of the liquid, whilſt we put in their place thoſe which till then had remained immerſed. Theſe alternate changes are repeated twice or thrice a day, according to the degree of rapidity with which the plates become oxydated, the elevation of the temperature, the concentration of the acid, and the dryneſs of the atmoſphere. When, by the continued action of the vinegar, theſe plates have become thinner, and diminiſhed in bulk, new ones are added, in order that the pans may always be full.

"The acetous acid gradually aſſumes a greyiſh milky colour, becauſe, in diſſolving the oxyde of lead, it at the ſame time carries away ſome metallic parts, which are detached by the friction. Experience has ſhewn, that the weaker the vinegar is, the leſs the lead whitens, and the more conſiderable becomes the quantity of detached metallic parts; on which account we ought to employ the ſtrongeſt vinegar that we can procure.

"This liquor is poured into boilers of tinned copper, in which the combination is completed by ebullition, which, by vaporiſing the humidity, condenſes the particles of the vinegar, and renders them more capable of ſaturating and diſſolving that portion of the lead which before was only ſuſpended in the liquid. The volume of this ſolution is reduced to two-thirds, and, after having been filtrated, it is put into the other boiler, and evaporated to that point, at which a ſmall quantity of the liquid, when taken out, and ſuffered to cool, affords cryſtals. It is then filtrated once more, and put into earthen pans to cryſtallize.

"The reſiduum of the firſt filtration is either diſtilled in earthen pans with a freſh quantity of lead, or kept for an uſe of which we ſhall ſpeak hereafter. Twenty-four hours afterwards, when the cryſtals have properly depoſited themſelves, they are taken out, and ſuffered to dry in the ſhade; not in the ſun, as they eaſily effloreſce. This ſalt generally forms itſelf into oblong priſms, more or leſs white or yellowiſh, in proportion to the denſity of the mother-waters in which it has cryſtallized.

"The mother-water is again put to cryſtallize, but as it becomes more and more exhauſted, the cryſtals acquire more of the yellow tinge; on which account the manufacturers diſtinguiſh two ſpecies of ſalt; the one, greaſy to the feel, pulverulent, apt to form into balls, and of a greater ſpecific weight; the other very white, in the form of fine needles, and much lighter than the former, in conſequence of its containing none of the mother-water."

After having given a clear explanation of the operations practiſed in the manufacture of the acetite of lead, in the ſouthern provinces of France, M. Pontier propoſes ſome important improvements, and concludes his memoir with ſome remarks on the alterations, which he propoſes to be made in the manufacture of ſalt of lead: he juſtly conſiders the proceſs which oxydates and diſſolves at the ſame time the vinegar, to be the moſt economical; for, in his opinion, it would not be advantageous to diſſolve directly the white oxyde of lead, both on account of its high price, and the carbonate of lime which it contains, whereby a portion of the vinegar would be ſaturated and loſt. The ſame, however, would not hold good, in caſe the lead mines which exiſt in the country ſhould be wrought, and the metal converted into litharge on the ſpot: it would then be more advantageous to uſe it in this ſtate.

ACETOSA (*Encycl*) Sorrel. According to Linnæus's method, Sorrel ſeems more properly ranked in his 22d claſs, entitled *Dioecia*.—Of this genus there are reckoned eight *Species*. 1. The *pratenſis*, or common ſorrel, grows naturally in paſture-grounds in moſt places of England and Scotland, ſo requires no deſcription. It is alſo cultivated in gardens for culinary uſes, where it produces large leaves, though it is generally ſmall when growing in the fields. It is a perennial plant, and with proper management will continue many years. Its acid has been found by modern chemiſts to poſſeſs peculiar properties. See CHEMISTRY. 2. The *acetoſella*, or ſheep's ſorrel, grows naturally on dry banks, and on gravelly ground, where by its creeping roots it proves a very troubleſome weed, ſo is not admitted into gardens. It poſſeſſes the ſame medicinal virtues with the former. 3. The *ſcutata*, round-leaved garden or French ſorrel, is a more grateful acid than either of the former; ſo is preferably cultivated for culinary uſes. About Paris it is cultivated in almoſt as great quantity as any other eſculent plant. It has alſo been much cultivated in England ſince the introduction of French cookery; being an ingredient in many of their ſauces and ſoups. 4. The *digyna*, or low creeping ſorrel, grows naturally in the northern counties of England, Wales, and Scotland. The leaves have very ſhort footſtalks, are indented at both ends, and thick in proportion to their ſize. They grow near the ground, and ſeldom riſe above ſix inches high. The roots creep in the ground, whereby it multiplies exceedingly in a proper ſituation. It is ſometimes preſerved in gardens for the ſake of variety, but is not uſed in the kitchen, though it is applicable to the ſame purpoſes with the other ſpecies. 5. The *alpina*, or alpine ſorrel, is full as hardy as the common, and fitter for the uſe of the kitchen, as having larger and more ſucculent leaves, of an equally grateful acid taſte. 6. The *veſicaria*, or American annual ſorrel, is kept in ſome gardens for variety, but is not of any uſe. It is a native of America and Egypt. 7. The *roſea*, or Egyptian ſorrel, grows naturally only in that country; it has its name from the bladders of the ſeeds being of a fine roſe colour. 8. The *clunaria*, or ſorrel-tree, is a native of the Canary Iſlands, and riſes with a ſtrong woody ſtalk to the height of 10 or 12 feet. It is frequently kept in Britain in gardens. 9. The *ſterilis*, or northern barren ſorrel, is uſed for culinary purpoſes; and is preferable to the common kind, very rarely running to ſeed, and being fit for uſe all the year round.

ACETUM *Eſuriens*, a diſtilled vinegar, rectified by the help of verdigreaſe. It obtained this quaint name, becauſe concentrated vinegar creates an appetite.

ACETUM *Radicatum*, is likewiſe uſed to denote concentrated vinegar; but Boerhaave thinks the *tartarus regeneratus* is the *acetum radicatum* of the old chemiſts.

ACGIAH-SARAI, a town on the north ſhore of the Caſpian ſea.

ACHÆANS, the inhabitants of Achaia Propria, a Peloponnetian ſtate. This republic was not conſiderable in early times, for the number of its troops, nor for its wealth, nor for the extent of its territories; but it was famed for its probity, its juſtice, and its love of liberty. Its high reputation for theſe virtues was very ancient. The Crotonians and Sybarites, to re-eſtabliſh order in their towns, adopted the laws and cuſtoms of the Achæans. After the famous battle of Leuctra, a difference aroſe betwixt the Lacedæmonians and Thebans, who held the virtue of this people in ſuch veneration, that they terminated the diſpute by their deciſion. The government of the Achæans was democratical. They preſerved their liberty till the time of Philip and Alexander. But in the reign of thoſe princes, and afterwards, they were either ſubject to the Macedonians, who had made themſelves maſters of Greece, or oppreſſed by cruel tyrants. The Achæan commonwealth conſiſted of twelve inconſiderable towns in Peloponneſus. Its firſt annals are not marked by any great action, for they are not graced with one eminent character. After the death of Alexander, this little republic was a prey to all the evils which flow from political diſcord. A zeal for the good of the community was now extinguiſhed. Each town was only attentive to its private intereſt. There was no longer any ſtability in the ſtate; for it changed its maſters with every revolution in Macedonia. Towards the 124th Olympiad, about the time when Ptolemy Soter died, and when Pyrrhus invaded Italy, the republic of the Achæans recovered its old inſtitutions and unanimity. The inhabitants of Patra and of Dymæ were the firſt aſſertors of ancient liberty. The tyrants were baniſhed, and the towns again made one commonwealth. A public council was inſtituted, in which affairs of importance were diſcuſſed and determined. A regiſter was appointed to record the tranſactions of the council. This aſſembly had two preſidents, who were nominated alternately by the different towns. But inſtead of two preſidents, they ſoon elected but one. Many neighbouring towns which admired the conſtitution of this republic, founded on equality, liberty, the love of juſtice, and of the public good, were incorporated with the Achæans, and admitted to the full enjoyment of their laws and privileges.—The arms which the Achæans chiefly uſed, were ſlings. They were trained to the art from their infancy, by ſlinging from a great diſtance, at a circular mark of a moderate circumference. By long practice they took ſo nice an aim, that they were ſure, not only to hit their enemies on the head, but on any part of the face they choſe. Their ſlings were of a different kind from thoſe of the Balearians, whom they far ſurpaſſed in dexterity.

ACHÆI (Achæans); the inhabitants of Achaia Propria. In Livy, the people of Greece; for the moſt part called *Achivi*, by the Roman poets. In Homer, the general name for Grecians. See ACHÆANS.

ACHÆMENES, according to Herodotus, was father of Cambyſes, and grandfather of Cyrus the Firſt, king of Perſia. Moſt of the commentators of Horace are of opinion, that the Achæmenes whom that poet mentions, ode xii. of his 2d book, was one of the Perſian monarchs: but, if that were true, he muſt have reigned before the Medes ſubdued the Perſians; for we do not hear of any king of that name from the time that the Perſians founded that great monarchy, which is looked upon as the ſecond univerſal one. However this be, the epithet *Achæmenians* is frequently given to the Perſians, in the old Latin poets.

ACHÆMENES, ſon of Darius I. king of Perſia, and brother of Xerxes, had the government of Egypt beſtowed on him, after Xerxes had forced the Egyptians to return to their allegiance. He ſome time after commanded the Egyptian fleet in the celebrated expedition which proved ſo fatal to all Greece. The Egyptians having again taken up arms after the death of Xerxes, Achæmenes was ſent into Egypt to ſuppreſs the rebellion; but was vanquiſhed by Inarus, chief of the rebels, ſuccoured by the Athenians.

ACHÆUS, couſin-german to Seleucus Ceraunus and Antiochus the Great, kings of Syria, became a very powerful monarch, and enjoyed the dominions he had uſurped for many years; but at laſt he was puniſhed for his uſurpations in a dreadful manner, in the 140th year of Rome, as related by Polybius.

ACHAIA, a name taken for that part of Greece which Ptolemy calls *Hellas*; the younger Pliny, *Græcia*; now called *Livadia*: bounded on the north by Theſſaly, the river Sperchius, the Sinus Maliacus, and mount Oeta; on the weſt by the river Achelous; on the eaſt, turning a little to the north, it is waſhed by the Archipelago, down to the promontory of Sunium; on the ſouth, joined to the Peloponneſus, or Morea, by the iſthmus of Corinth, five miles broad. See LIVADIA.

ACHAIA PROPRIA, anciently a ſmall diſtrict in the north of Peloponneſus, running weſtward along the bay of Corinth, and bounded on the weſt by the Ionian Sea, on the ſouth by Elis and Arcadia, on the eaſt by Sicyonia: inhabitants, the ACHÆANS, properly ſo called; its metropolis, *Patræ*. It is now called *Romania Alta*, in the Morea.

Achaia was alſo taken for all thoſe countries that joined in the Achæan league, reduced by the Romans to a province. Likewiſe for Peloponneſus.

ACHAIÆ PRESBYTERI, or the Preſbyters of Achaia, were thoſe who were preſent at the martyrdom of St. Andrew the apoſtle, A.D. 59; and are ſaid to have written an epiſtle in relation to it. Bellarmin, and ſeveral other eminent writers in the church of Rome, allow it to be genuine; while Du Pin, and ſome others, expreſsly reject it.

ACHAIUS, ſon of Ethwin, was raiſed to the crown of Scotland after the death of Soluatius, A.D. 788. The Emperor Charlemagne ſent an embaſſy to deſire an alliance with him againſt the Engliſh, whoſe pirates ſo infeſted the ſeas, that the merchants could not carry on their trade. This alliance was concluded in France upon conditions ſo advantageous to the Scots, that Achaius, to perpetuate the memory of it, added to the arms of Scotland a double field fowed with lilies. He died in 819.

ACHAN, the ſon of Carmi, of the tribe of Judah, at the taking of Jericho concealed two hundred ſhekels of ſilver, a Babyloniſh garment, and a wedge of gold, contrary to the expreſs command of God. This ſin proved fatal to the Iſraelites, who were repulſed at the ſiege of Ai. In this dreadful exigence, Joſhua proſtrated himſelf before the Lord, and begged that he would have mercy upon his people. Achan was diſcovered by caſting lots, and he and his children were ſtoned to death. This expiation being made, Ai was taken by ſtratagem. Joſh. vii. 8, 9.

ACHAOVA, in the Materia Medica of the ancients, the name of an herb much celebrated in many diſtempers; but we are not aſſured at preſent, what is the plant that it truly belongs to. Some have eſteemed it, what is called in Egypt uchove, an herb nearly reſembling chamomile, but lower, and with broader leaves, approaching to thoſe of feverfew, and of a faint, but not diſagreeable ſmell. Avicenna ſeems however to have meant a different plant by this name, and probably the herb we call MARUM. *Proſper. Alp.*

ACHARACA, anciently a town of Lydia, ſituate between Tralles and Nyſa; in which were the temple of Pluto, and the cave Charonium, where patients ſlept in order to obtain a cure.

ACHARISTON, from *α*, *without*, and *χαρις*, *value*; under

this name Galen deſcribes ſome compoſitions of ſingular efficacy, which cured ſo quickly, that they were undervalued; as the Greek name implies.

ACHATES, the companion of Eneas, and his moſt faithful friend, celebrated in Virgil.

ACHATES (Sil. Italicus); a river of Sicily, now the *Drillo* (Cluverius); which runs from north to ſouth, almoſt parallel with, and at no great diſtance from, the Gela; and riſes in the north of the territory of Noto. It gave name to the Achates, or Agate, ſaid to be firſt found there.

ACHAZIB, or ACHZIB, a town of Galilee, in the tribe of Aſher, nine miles from Ptolemais.—Alſo a town in the more ſouthern parts of the tribe of Judah.

ACHELOUS, in fabulous hiſtory, wreſtled with Hercules, for no leſs a prize than Deianira, daughter to King Oenus: but as Achelous had the power of aſſuming all ſhapes, the conteſt was long dubious: at laſt, as he took that of a bull, Hercules tore off one of his horns; ſo that he was forced to ſubmit, and to redeem it by giving the conqueror the horn of Amalthea, the ſame with the Cornucopia or horn of plenty; which Hercules having filled with a variety of fruits, conſecrated to Jupiter. Some explain this fable, by ſaying, that Achelous is a winding river of Greece, whoſe ſtream was ſo rapid, that it roared like a bull, and overflowed its banks; but Hercules, by bringing it into two channels, broke off one of the horns, and ſo reſtored plenty to the country.

ACHELOUS, a river of Acarnania; which riſes in mount Pindus, and, dividing Ætolia from Acarnania, falls from north to ſouth into the Sinus Corinthiacus. It was formerly called *Thoas* from its impetuoſity, and *king of rivers* (Homer). The epithet *Achelous* is uſed for *Aqueus* (Virgil); the ancients calling all water *Achelous*, eſpecially in oaths, vows, and ſacrifices, according to Ephorus: now called *Aſpro Potamo*. Rivers are by the ancient poets called *Tauriformes*, either from the bellowing of their waters, or from their ploughing the earth in their courſe: Hercules, reſtraining by dykes and mounds the inundations of the *Achelous*, is ſaid to have broken off one of his horns, and to have brought back plenty to the country. *See the preceding article.*

ACHERDOUS, a rivulet of Theſſaly, running by the city Lamia (Strabo, Pauſanias). Alſo a river of Peloponneſus, running by Dymæ, in Achaia (Strabo); and by mount Lycæus in Arcadia (Pauſanias).

ACHERI (LUKE D'), a learned Benedictine of the congregation of St. Maur, was born at St. Quintin, in Picardy, in 1609; and made himſelf famous by printing ſeveral works, which till then were only in manuſcript: particularly, the epiſtle attributed to St. Barnabas; the works of Lanfrank, archbiſhop of Canterbury; a collection of ſcarce and curious pieces, under the title of Spicilegium, *i. e.* Gleanings, in thirteen volumes, quarto. The prefaces and notes, which he annexed to many of theſe pieces, ſhew him to be a man of genius and abilities. He had alſo ſome ſhare in the pieces inſerted in the firſt volumes of The acts of the ſaints of the order of St. Bennet, the title whereof acquaints us that they were collected and publiſhed by him and father Mabillon. After a very retired life, till the age of 73, he died at Paris the 29th of April, 1685, in the abbey of St. Germain in the fields, where he had been librarian.

ACHERON, a river of Epirus. The poets feigned it to have been the ſon of Ceres, whom ſhe hid in hell for fear of the Titans, and turned into a river, over which ſouls departed were ferried in their way to Elyſium.

ACHERON, a river of Theſprotia, in Epirus; which, after forming the lake Acheruſia, at no great diſtance from, falls into the ſea near the promontory of Chimerium, to the weſt of the Sinus Ambracius, in a courſe from north to ſouth.

ACHERON, or ACHEROS, a river of the Bruttii in Italy running from eaſt to weſt; where Alexander king of Epirus was ſlain by the Lucani, being deceived by the oracle of Dodona, which bid him beware of Acheron.

ACHERUSIA PALUS, a lake between Cumæ and the promontory Miſenum, now *il Lago della Colluccia* (Cluverius). Some confound it with the *Lacus Lucrinus*, and others with the *Lacus Averni*. But Strabo and Pliny diſtinguiſh them. The former takes it to be an effuſion, exundation, or waſhes of the ſea, and therefore called by Lycophron, Αχηρσια χυσις. —Alſo a lake of Epirus, through which the Acheron runs.—There is alſo an *Acheruſia*, a peninſula of Bithynia on the Euxine, near Heraclea; and a cave there of the ſame name, through which Hercules is fabled to have deſcended to hell to drag forth Cerberus.

ACHIA, a kind of cane that grows in the Eaſt Indies, which is pickled green in the country, with ſtrong vinegar, pepper, and ſome other ſpices and ingredients. This pickle comes to Europe in a ſort of earthen jars, about a foot high, and the ſame in breadth, growing narrower at the mouth. The bits of cane are an inch and a half in diameter, and a little above two inches long, almoſt of the ſame conſiſtency with pickled cucumbers. They are of a pale yellow colour; and, inſtead of pulps, their inſide is a cloſe, fibrous ſubſtance, like that of the common canes when the outſide coat is off. The Dutch bring home great quantities of this pickle, which their cold climate makes them think wholeſome. They generally eat it towards the end of their meals, judging it very good to quicken the appetite and ſtrengthen the ſtomach.

ACHILLÆA (*Encycl.*). YARROW, MILFOIL, or NOSEBLEED. Of this plant the principal ſpecies are, 1. The *millefolium*, or common yarrow, is found naturally on banks, and by the ſides of foot-paths, in moſt parts of England. It moſt commonly bears white flowers, though a variety of it is found which bears purple ones. Theſe however do not long continue to bear flowers of this colour, if tranſplanted into gardens. It becomes a troubleſome weed where it is once allowed to get a footing. The cultivation of it is recommended by Mr. Anderſon, in his Eſſays on Agriculture, as a proper food for cattle. 2. The *ſantolina*, or eaſtern ſneezwort, is ſometimes cultivated in gardens; it has large yellow flowers, which ſtand upon pretty long foot-ſtalks placed ſingly, not in bunches as in the common kind. It has leaves like lavender-cotton, which, when rubbed, emit a ſtrong oily odour. The flowers appear in June and July. 3. The *tomentoſa*, or woolly yarrow, is a native of the ſouth of France and Spain, but lives in the open air in England. The flowers are of a bright yellow, and continue long in beauty, growing in cluſters at the top of the ſtalks, which ſeldom riſe above a foot high. The leaves are finely cut, and very hoary. 4. The *abrotaniſolia*, or tall eaſtern yarrow, is a native of the iſlands in the Archipelago: it grows to the height of two feet and a half, with large umbels of yellow flowers on the top; the leaves reſemble thoſe of the common wormwood, and are cut into long narrow ſegments. 5. The *clavenna*, or Alpine umbelliferous wormwood, takes its name from the mountains of which it is a native. It ſeldom grows above ſix or ſeven inches in height; it ſupports umbels of white flowers, like thoſe of the common ſneezwort, which appear in April and May. The leaves are ſilvery, and ſhaped like thoſe of wormwood, which often decay in the autumn and winter. 6. The *tanacetifolia*, or eaſtern ſneezwort, with tanſey leaves, is a very humble plant, ſeldom riſing above ſix inches in height. The flowers are nearly as large as thoſe of the common ſneezwort, white, and growing in flat umbels. They appear in June and July. The leaves of the plant have ſome likeneſs to thoſe of the common wormwood, are very hoary, grow cloſe to the ground, and decay in au-

tumn ſo as to make little appearance in winter. Like the laſt ſpecies, this is a native of the Alps. 7. The *ageratum*, or ſweet maudlin, formerly much uſed in medicine and for culinary purpoſes. The common maudlin flowers in June and July, and the ſeeds are ripe in September. 8. The *Egyptiaca*, or hoary ſneezwort, is a native of the Archipelago. It hath very hoary leaves, which remain all the year; and the plants growing cloſe and low, make a pretty appearance at all ſeaſons. The flowers are yellow, and are produced in umbels on the top of the ſtalks; they appear in June, and continue till the end of September. 9. The *ptarmica*, or common ſneezwort, grows wild. There is a variety, however, with double flowers, commonly known by the name of double maudlin. This ſpecies creeps greatly by the roots, ſo as ſoon to overſpread a large ſpot of ground. If planted in pots, ſo as to confine its roots from creeping, the ſtalks grow cloſe together, and make a tolerable appearance when in flower. 10. The *macrophylla*, or Alpine ſneezwort, with feverfew leaves, is a native of the Alps. It produces many ſtalks riſing near three feet high; having looſe branching umbels of white flowers on their top, reſembling thoſe of the common ſneezwort, but larger. 11. The *nana*, or hoary Alpine milfoil, is likewiſe a native of the Alps; the leaves are hoary, and the umbels of its flowers are more compact than the former: the ſtalks do not riſe more than a foot high. 12. The *nobilis*, or ſweet milfoil (ſee Pl. 9.), approaches to the nature of the common milfoil; but its leaves are of a paler green, and are neither ſo long nor ſo much cut off as thoſe of the common milfoil are: they have a ſtrong ſweet ſcent when bruiſed. 13. The *alpina*, or white maudlin, bears ſome reſemblance to the common ſneezwort; but the leaves are longer, of a deeper green colour, and deeply indented in their edges; the flowers are white, and the roots creep far under ground. The plant will riſe, in good land, to the height of four feet.

Achillæa, a name frequently given by the ancients to the gum called dragons-blood.

ACHILLES (*Encycl.*). He was a native of Phthia, in Theſſaly; and, according to the poets, his mother fed him by day with ambroſia, and by night covered him with celeſtial fire. She dipped him alſo in the waters of the river Styx, by which his whole body became invulnerable, except that part of his heel by which ſhe held him; and afterwards intruſted him to the care of the centaur Chiron, who, to give him the ſtrength neceſſary for martial toil, fed him with honey, and the marrow of lions and wild boars, &c. To prevent his going to the ſiege of Troy, ſhe diſguiſed him in female apparel, and hid him among the maidens at the court of King Lycomedes: but Ulyſſes diſcovering him, perſuaded him to follow the Greeks. Achilles diſtinguiſhed himſelf by a number of heroic actions at the ſiege. Being diſguſted, however, with Agamemnon for the loſs of Briſeis, he retired from the camp. But returning to avenge the death of his friend Patroclus, he ſlew Hector, faſtened his corpſe to his chariot, and dragged it round the walls of Troy. At laſt Paris, the brother of Hector, wounded him in the heel with an arrow, while he was in the temple treating about his marriage with Philoxena, daughter to King Priam. Of this wound he died, and was interred on the promontory of Sigæum; and after Troy was taken, the Greeks ſacrificed Philoxena on his tomb. It is ſaid, that Alexander, ſeeing this tomb, honoured it by placing a crown upon it; at the ſame time crying out, that "Achilles was happy in having, during his life, ſuch a friend "as Patroclus; and, after his death, a poet like Homer."

Achilles, a name which the ſchools give to the principal argument alleged by each ſect of philoſophers in behalf of their ſyſtem. In this ſenſe we ſay, this is his Achilles; that is, his maſter proof; alluding to the ſtrength and importance of Achilles among the Greeks. Zeno's argument againſt motion, is peculiarly termed Achilles.—That philoſopher made a compariſon between the ſwiftneſs of Achilles, and the ſlowneſs of a tortoiſe: arguing, that if the tortoiſe were one mile before Achilles, and the motion of Achilles 100 times ſwifter than that of the tortoiſe, yet he would never overtake it. But this ſophiſm is eaſily ſolved, by expreſſing the whole relative diſtance run by the tortoiſe before Achilles overtook him, by the following ſeries, $\frac{1}{100} + \frac{1}{10000} + \frac{1}{1000000}$, &c. the ſum of which is $\frac{1}{99}$ of a mile; and the diſtance run by Achilles is one mile more; ſo that when Achilles had run $1\frac{1}{99}$ of a mile, he would have overtaken the tortoiſe.

ACHILLINI (Alexander), born at Bologna, and doctor of philoſophy in that univerſity. He flouriſhed in the 15th and 16th centuries, and by way of eminence was ſtyled the Great Philoſopher. He was a ſtedfaſt follower and accurate interpreter of Averroes upon Ariſtotle, but moſt admired for his acuteneſs and ſtrength of arguing in private and public diſputations. He made a ſurpriſing quick progreſs in his ſtudies, and was very early promoted to a profeſſorſhip in the univerſity, in which he acquitted himſelf with ſo much applauſe, that his name became famous throughout all Italy. He continued at Bologna till the year 1506; when the univerſity of Padua made choice of him to ſucceed Antonio Francatiano in the firſt chair of philoſophy, and his fame brought vaſt numbers of ſtudents to his lectures at Padua: but the war, wherein the republic of Venice was engaged againſt the league of Cambray, putting a ſtop to the lectures of that univerſity, he withdrew to his native country, where he was received with the ſame marks of honour and diſtinction as before, and again appointed profeſſor of philoſophy in Bologna. He ſpent the remainder of his life in this city, where he died, and was interred with great pomp in the church of St. Martin the Great, which belongs to the Carmelite friars. Jovius, who knew Achillini, and heard his lectures, ſays, that he was a man of ſuch exceeding ſimplicity, and ſo unacquainted with addreſs and flattery, that he was a laughing-ſtock to the pert and ſaucy young ſcholars, although eſteemed on account of his learning. He wrote ſeveral pieces on philoſophical ſubjects, which he publiſhed, and dedicated to John Bentivogli.

Achillini (Claudius), grandſon of the former, read lectures at Bologna, Ferrara, and Parma; where he was reputed a great philoſopher, a learned divine, an excellent lawyer, an eloquent orator, a good mathematician, and an elegant poet. He accompanied Cardinal Ludovino, who went as legate into Piedmont; but being afterward neglected by this cardinal, when he become pope under the name of Gregory XV. he left Rome in diſguſt and retired to Parma; where the duke appointed him profeſſor of law, with a good ſalary. He publiſhed a volume of Latin Letters, and another of Italian poems, which gained him great reputation: he died in 1640, aged 66.

ACHIOTTE, or Achiotti (*Encycl.*). The ſame with what the French commonly call *Rocou*, and the Dutch *Orleane*. It has been commonly eſteemed a kind of argilla, or earth; but later obſervers find it a flower, or ſeed of a tree, which grows chiefly in very hot countries, as Yucatan or Campechy, and Guatimala. It is about the ſize of a plum-tree, only more tufted; its branches being longer than the trunk. The fruit is incloſed in a rind like a cheſnut, except that it is of an oval figure. It begins to open croſs-wiſe from the middle to the top; and ſubdivides into four parts, having in the middle a beautiful carnation-coloured flower. The tree has no leaves; but inſtead thereof ſhoots out filaments like thoſe of ſaffron, only bigger and longer. Between theſe

grow little ſoft vermillion-coloured grains, about the ſize of pepper-corns; which the Indians, ſeparating from the filaments, bake in cakes of about half a pound each; in which form the drug is brought into Europe. The poor people uſe Achiotte inſtead of ſaffron: others mix it as an ingredient in chocolate, during the grinding of the cacoa, the quantity of two drams to a pound, to give it a reddiſh colour, &c.; though this practice was formerly more frequent than at preſent, the opinion of its being an earth, which even Mr. Ray fell into, having diſcredited its uſe. Some alſo uſe it to dye wax of a vermillion colour. F. Labat deſcribes the achiotte ſomewhat differently; eſpecially the preparation of it for dyeing. The tree, according to him, produces yearly its crops of flowers, of a carnation colour, not unlike wild roſes. Theſe are ſucceeded by a kind of rough pods, or fruit reſembling cheſnuts, full of ſmall grains: which being fermented in water, and this water afterwards paſſed through a caribbe ſieve, it contracts a red colour. It is then boiled, ſcummed, ſet on the fire again, and ſtirred; till at length it thickens, and will fall looſe from the ſpatula; which is the achiotte or rocou in perfection; though to make it more beautiful, they have two further proceſſes, which are deſcribed by F. Labat. According to Savary, to procure the achiotte, they ſhake out the grains in an earthen veſſel, ſoak and then waſh them in ſeveral repeated warm waters, till they have diſcharged all their vermillion colour: after which, letting the water ſtand to ſettle, the fecula at the bottom is taken and formed into little cakes and balls; which when pure and not adulterated either with red earth or fine brick-duſt, are highly valued. Some alſo uſe fire to boil the achiotte, and give it a farther conſiſtence.

ACHISH, king of Gath, to whom David retired; and who gained a complete victory over Saul, which was fatal both to that prince and his ſon Jonathan.

ACHITOPHEL, a counſellor, who, revolting from David king of Iſrael, ſided with his rebellious ſon Abſalom; to whom he gave crafty advice, which not being complied with, he hanged himſelf.

ACHLAR, a river of the greater Armenia, otherwiſe called *Araſs*, *Cuinez*, and by the ancients *Araxis*.

ACHMET, ſon of Sarim, has left a book concerning the interpretation of dreams according to the doctrine of the Indians, Perſians, and Egyptians, which was tranſcribed out of Greek into Latin by Leo Tuſcus in 1160. He lived in the 9th century.

ACHMET GEDUC, a famous general under Mahomet II. and Bajazet II. in the 15th century. When Mahomet II. died, Bajazet and Zezan both claimed the throne: Achmet ſided with the former, and by his bravery and conduct fixed the crown on his head. But Bajazet took away his life; ſhining virtue being always an unpardonable crime in the eyes of a tyrant.

ACHOR, a valley of Jericho, lying along the river Jordan, not far from Gilgal; ſo called from Achan, the troubler of Iſrael, being there ſtoned to death.

ACHOR (*Encycl.*), in medicine, Trallian ſays, is a ſore on the outſide of the head, full of little perforations, which diſcharge a humour like ichor, whence its name. He further ſays, that the cerion reſembles an achor; but that the mouths of the perforations are larger, reſembling the cells of a honey-comb, whence the name; the matter is alſo nearly of the conſiſtence of thin honey. When theſe diſeaſes ſpread, the ſerum which ouzes out dries, and forms a ſcab.—The achor differs from the favus and tinea only in the degree of virulence. It is called *favus* when the perforations are large, and *tinea* when they are like thoſe which are made by moths in cloth. But generally by tinea is underſtood a dry ſcab on the hairy ſcalp of children, with thick ſcales and an offenſive ſmell. When this diſorder affects the face, it is called *cruſta lactea*; which, when it happens to children, if in other reſpects they are healthy, the beſt treatment, beſides keeping the belly moderately lax, is anointing the part now and then with *Ung. hydrarg. nitrat.* Attention ſhould alſo be paid to cleanlineſs and a moderate diet. An iſſue may be made and continued, keeping the hair ſhort and waſhing the head with ſoap ſuds.—Some caſes are very difficult of cure, and attended with violent itching, a pale countenance, &c. but ſtill the ſame method generally ſucceeds in all the ſpecies and degrees of virulence. Small doſes of calomel may be given as an alterative, rather than as a laxative; and the vin. antim. in ſuch doſes, at proper intervals, as the ſtomach will eaſily retain. Externally, the *unguent è pice* may alſo do good, or cream mixed with ſalt in fine powder. If the humour is repelled, give warm ſudorifics until it return. Writers of medical obſervations afford divers anomalous inſtances of *achores*, viz. Some found even in aged people; ſome not on the head, but the feet; others reſembling the venereal diſeaſe; others which diſappeared upon cutting the hair, and returned on its growing anew; others followed by a thickneſs of hearing, others by panics, and others by a gutta ſerena. Their drying up has ſometimes been followed by a fever, their repulſion inwards by an epilepſy.

ACHRADINA (Plutarch, Cicero, Livy); one of the four cities or diviſions of Syracuſe, and the ſtrongeſt, largeſt, and moſt beautiful part of it; ſeparated by a very ſtrong wall from the outer town, *Tycha* and *Neapolis*. It was adorned with a very large forum, with beautiful porticos, a moſt elegant prytaneum, a ſpacious ſenate-houſe, and a ſuperb temple of Jupiter Olympius. (Plutarch.)

ACHRAS (*Encycl.*). In Vol. I. a botanical error (repeated alſo in ſome ſucceeding inſtances) has occurred. Monogynia *order*, and hexandria *claſs*, is there too obvious a blunder to paſs unobſerved by the botaniſt; and *too obvious* indeed to require, on our part, minute correction in every inſtance.

ACIDALUS, a fountain in Orchomenus a city of Bœotia, in which the Graces, who are ſacred to Venus, bathed. Hence the epithet *Acidalia*, given to Venus (Virgil).

ACIDS (*Encycl.*). To this article we are induced to add an account of an apparatus for the diſtillation of acids and other ſubſtances; the invention of the ingenious tranſlator of Berthollet's Elements of the Art of Dyeing, and by him annexed to that work. See Plate 10.; where A repreſents the retort, the neck of which is ground into and paſſed through the thick ſtopper B, repreſented below ſeparately at *b*, with its ground ſtopper *a*, which may be put in when the neck of the retort is withdrawn. The external part of the ſtopper B is accurately ground into the wide neck of the receiver C, the narrow neck of which is ground into the wide neck of the receiver D, the narrow neck of which is ground into that of the receiver E; in the receiver D there is alſo another aperture in its ſuperior part, into which the tube H, open at both ends, is fitted by grinding, ſo that its lower extremity may reach to the lowermoſt part of the receiver, and conſequently be immerſed in any fluid that may be contained in it. Into the ſmall neck of the receiver D, there is alſo ground a crooked tube I, forming a little more than one fourth of a circle, open at both ends, and extending to very near the lower part of the receiver E, the ſmall neck of which receives a ſimilar crooked tube K; and is received into the wider neck of F, which receives the tube L in like manner, and is received into G, the narrow neck of which alſo receives a crooked tube M N, open at both ends, and bent as repreſented in the plate; ſo as to convey any aerial fluid into the ſmall inverted cup, where it is collected and directed to paſs by

the hole repreſented in the plate, into one of the four inverted bottles placed above it, by means of the moveable frame P; which having four notches to retain the bottles in an upright inverted poſition, is moveable on the centre ſupport kept ſteady by means of a heavy leaden foot, in the centre of a flat pan of water, which covers the mouths of the bottles. The water which iſſues from the bottles when the air is introduced, and which would make the pan overflow, is directed by a notch in its lip, and the pipe Q into the bucket R placed under the frame, which raiſed upon four legs ſerves to ſupport the whole apparatus, the different parts of which being ſucceſſively applied to each other, beginning with the receiver C, are kept in a fixed poſition by ſlips of wood hollowed out ſo as to fit the curvature of the receivers, as repreſented below detached at S s. Heat is applied to the matter contained in the retort A, by means of the lamp placed below it, which is upon Mr. Argand's principle, and a very uſeful acquiſition to the laboratory: of this 1 repreſents the chimney, which is moſt conveniently made of thin metal, as braſs, copper, or common tinned iron plate, which being opake, the flame of the lamp within is not ſeen. Metallic chimneys are preferred, becauſe they are not liable to be broken, and becauſe it is the heat and not the light which is here wanted; 2 is the bent wire ſerving to elevate or depreſs the wick; 3 the reſervoir for the oil; 4 the ſupport of this, with a ſmall cup to receive the oil which may drop from within the wick without being conſumed; 5 a pin with its ſcrew for fixing the lamp at any diſtance from the retort."

The uſe and advantages of this apparatus are thus explained by the inventor.

"In the plate, the apparatus is repreſented as employed in the diſtillation of a ſubſtance, the vapours of which condenſe with difficulty, ſuch as the oxygenated marine acid. Let it be ſuppoſed then that the common ſalt, and calx or oxyd of manganeſe, have been put into the retort: the vitriolic acid is next introduced by means of a retort funnel; and this being withdrawn, the neck of the retort is immediately introduced into the ſtopper B, the other parts of the apparatus being previouſly diſpoſed as in the plate. The lamp is then brought under the retort, but at a moderate diſtance, that the retort may not be cracked by the too ſudden application of the heat, nor the vapours be driven over too rapidly into the receivers. As ſoon as the heat is applied, the ſalt is rendered fluid by the vitriolic acid, and the marine acid getting pure air from the manganeſe, begins to paſs over into the receiver C, in the ſtate of oxygenated marine acid: into this, no water has been put, in order that the vapours of the common marine acid may here be condenſed ſeparately. The vapours of the oxygenated acid meeting with no water here, paſs into the receiver D, where a ſmall quantity is put, by which a part is condenſed, but another part paſſes over into the receiver E; but for this purpoſe it muſt go through the tube I to the bottom of the water which is placed in that receiver, and that part which is not condenſed there, muſt riſe up through it in bubbles, as repreſented in the plate: theſe, circulating in the receiver E if not condenſed, will paſs through K, and the water in F into its upper part, and in like manner to L, where if not condenſed, they will be conveyed through the tube M N by means of the cup into the bottles, each of which will in its turn be brought over the little cup, while the others being filled with the air, will be removed and replaced by freſh ones filled with water, without any loſs of the air, or interruption to the proceſs: at the ſame time all inconvenience from the overflowing of the water will be obviated by the tube Q. To thoſe who have been accuſtomed to employ the different kinds of apparatus hitherto in uſe for the diſtillation of the acids, particularly the marine acid, I conceive the advantages of this will be ſufficiently evident; but to thoſe who have had little or no experience in this reſpect, it may not be improper to mention a few particulars. Firſt then, in this apparatus, there is no neceſſity for having the retort tubulated, for the neck of the retort being ground into the ſtopper B, is as eaſily introduced into that while fitted into the firſt receiver, as the ſtopper would be into the ſuperior opening in the retort. This joint is more likely alſo to be cloſe, as the neck of the retort is expanded when heat is applied, rather ſooner than the orifice into which it is inſerted, becauſe it is to the retort that the heat is more immediately applied; whereas in the tubulated retort, the reverſe of this takes place, the opening being in the retort itſelf, and the ſtopper being foreign, and heated only through the medium of the retort. The neck of the retort is ground into the piece B, and not into the receiver C, becauſe the retorts being much more frequently broken, the neck of this receiver would ſoon be worn out by the grinding; beſides in this way, when the retort is broken, the receiver being large, is not ſo conveniently ground as the piece B, and it is alſo in this way conſtantly preſerved clean, and never dirtied by the ſand or other ſubſtances uſed in grinding. In the receiver D, there is the tube H, which being open at both ends, but having its lower extremity immerſed in the water, allows a paſſage for the atmoſpheric air downwards, when the vapour is ſuddenly condenſed by the diminution of heat; but prevents the eſcape of the vapour upwards: for when the vapour preſſes on the ſurface of the fluid in D with an increaſed force, a column of the fluid there, is raiſed in the tube, which is ſomewhat more than equal in height to the perpendicular altitude of the immerſed part of all the other tubes taken together.

"This tube, which has been called a tube of ſafety, is an uſeful addition to the apparatus, and is ſaid to be the invention of a Mr. Welter. In Mr. Lavoiſier's apparatus there is one to each of the bottles, but this does not appear to me to be neceſſary, as the abſorption is never rapid except in the retort, and the firſt, or at moſt, the two firſt receivers; and in the apparatus here repreſented, there is no crooked tube between the firſt and ſecond receiver, which might convey the liquor of the ſecond into the firſt receiver. When only one tube is employed, the quantity of fluid at firſt put into D ſhould be but ſmall, as a part of that from E may poſſibly paſs over into D.

"This apparatus has many advantages over any that I have ſeen. Its joints are ground inſtead of being luted, and I always find that the purity of the product is injured by lute, either during the operation, or when the product is removed: as all the joints are concentric, they are eaſily ground; the joints are very ſtrong: many of the joints cover others, ſo that ſome of them may be bad without much injury to the apparatus; any of the joints of the tubes I, K, L, for inſtance, may be bad, with very little inconvenience, as any perſon may be convinced by leaving any of the tubes a little looſe. When a moderate degree of heat only is required, we have no occaſion for a furnace, a lamp anſwering the purpoſe of one completely, and indeed having ſeveral advantages over it.

"For firſt, we have the heat more immediately in our power, as we can raiſe, or lower, or remove it altogether, by merely changing the elevation of the lamp; and we have an eaſy rule for this management of the heat, in the velocity with which the air bubbles paſs through the fluid in the different receivers, and in the height of the fluid in the tube H. It may not be improper to remark, that when the heat is ſuddenly removed, if the diameter of the tube H be ſmall, it will be proper to blow a little air through it, leſt the water ſhould get into the receiver D from E.

"Secondly, it enables us to eſtimate the weight of the products at any time during an operation: the weight of the retort and ingredients having been previouſly noted, we can at any time during the proceſs that we judge proper, remove the retort, ſtopping the hole from which it was withdrawn with the ſmall ſtopper *a*, weigh it and return it (this need not take up more than half a minute), and in the difference of the weights we have the weight of the product.

"In every caſe where the lamp is ſuddenly withdrawn while the retort is hot, and always when an operation is finiſhed, it will be proper to furround the retort with a quantity of dry tow, flannel, or any other rare ſubſtance which tranſmits heat very ſlowly, that it may not be cracked by the ſudden change of temperature: another circumſtance which ſhould be attended to, in order to prevent the breaking of the retort, is, that its neck ſhould be placed with ſuch a degree of inclination, as to allow the drops formed in it by the condenſed ſteam, to run freely into the receiver; as if they ſhould fall back, when the reſiduum in the retort is growing dry, they will certainly crack the hot glaſs. In the apparatus which the annexed plate repreſents, this end is accompliſhed by inclining the ſupport of the whole apparatus as there repreſented; but it may be done in a way which I have adopted, ſince that drawing was made, and which ſeems preferable in ſome reſpects, particularly in this, that it admits of the ſupport being horizontal, which enables us to put more water into the receivers. The retort is made to incline by the hole in the piece B, which receives its neck paſſing obliquely through it, ſo as to make the end of the retort within the receiver, to dip conſiderably, while its own external part ground into the receiver C, is in a horizontal poſition: it is perhaps needleſs to add, that by varying the ſhape of the receivers, their effect may in ſome meaſure be varied; thus, by making them of an elliptical ſhape inſtead of globular, if the ſhort axis of the ellipſes be placed horizontally, we may proportionally increaſe the preſſure of the condenſed vapour on the ſurface of the fluid they contain, whereas, if the long one be placed in that direction, we may increaſe the ſurface of the fluid expoſed to its action. It ſeems alſo unneceſſary to obſerve, that if the uſe of a furnace be preferred to that of the lamp, all the other advantages of the apparatus remain the ſame: and if the retort be of a large ſize, that a furnace muſt neceſſarily be employed, as the neck of the retort might not be able to ſupport the weight of the matter it contained."

ACIDALIUS (Valens), would, in all probability, have been one of the greateſt critics in theſe latter ages, had he lived longer to perfect thoſe talents which nature had given him. He was born at Wittſtock, in Brandenburg; and having viſited ſeveral academies in Germany, Italy, and other countries, where he was greatly eſteemed, he afterwards took up his reſidence at Breſlaw, the metropolis of Sileſia. Here he remained a conſiderable time, in expectation of ſome employment; but nothing offering he turned Roman-catholic, and was choſen rector of a ſchool at Nieſſa. It is related, that about four months after, as he was following a proceſſion of the hoſt, he was ſeized with a ſudden phrenzy; and being carried home, expired in a very ſhort time. But Thuanus tells us, that his exceſſive application to ſtudy was the occaſion of his untimely death; and that his ſitting up a-nights in compoſing his Conjectures on Plautus, brought upon him a diſtemper which carried him off in three days, on the 25th of May, 1595, being juſt turned of 28. He wrote a Commentary on Quintus Curtius; alſo, Notes on Tacitus, on the Twelve Panegyrics; beſides ſpeeches, letters, and poems. His poetical pieces are inſerted in the *Delicæ* of the German poets, and conſiſt of epic verſes, odes, and epigrams. A little piece, printed in 1595, under the title of *Mulieres non eſſe homines*, "That women were not of the human ſpecies," was falſely aſcribed to him. But the fact was, that Acidalius happening to meet with the manuſcript, and thinking it very whimſical, tranſcribed it, and gave it to the bookſeller, who printed it. The performance was highly exclaimed againſt, inſomuch that the bookſeller being ſeized, he diſcovered the perſon who gave him the manuſcript, and a terrible outcry was made againſt Acidalius. A ſtory goes, that being one day to dine at a friend's houſe, there happened to be ſeveral ladies at table, who ſuppoſing him to be the author, were moved with ſo much indignation, that they threatened to throw their plates at his head. Acidalius, however, ingeniouſly diverted their wrath. In his opinion, he ſaid the author was a judicious perſon, the ladies being certainly more of the ſpecies of *angels* than of *men*. Mr Baillet has given him a place among his *Enfans célébrés*; and ſays, that he wrote a comment upon Plautus when he was but 17 or 18 years old, and that he compoſed ſeveral Latin poems at the ſame age.

ACIDULÆ. Mineral waters that contain a briſk ſpirit, when unaccompanied with heat, are thus named; but if they are hot alſo, they are called *thermæ*.

ACILA (Strabo); OCILA (Pliny); and OCELIS (Ptolemy): a ſtaple or mart town in Arabia Felix, on the Arabic gulf, from which, according to Pliny, they ſet ſail for India. Now *Zidon*.

ACILIUS GLABRIO (Marcus), conſul in the year of Rome 562, and 211 years before the Chriſtian æra, diſtinguiſhed himſelf by his bravery and conduct in gaining a complete victory over Antiochus the Great, king of Syria, at the Straits of Thermopylæ in Theſſaly, and on ſeveral other occaſions. He built the Temple of Piety at Rome, in conſequence of a vow he made before the above-mentioned battle; and the reaſon of his giving it that name, is very remarkable. The ſtory is mentioned by Pliny, Valerius Maximus, and others.

ACINIPPO, a town of Bætica (Pliny); its ruins, called *Ronda la Viega*, are to be ſeen near Arunda, in the kingdom of Granada.

ACIS, in fabulous hiſtory, the ſon of Faunus and Simethis, was a beautiful ſhepherd of Sicily, who being beloved by Galatea, Polyphemus the giant was ſo enraged, that he daſhed out his brains againſt a rock; after which Galatea turned him into a river, which was called by his name.

ACIS (Ovid, Theocritus); a river of Sicily, running from a very cold ſpring, in the woody and ſhady foot of mount Ætna, eaſtward into, and not much above a mile from, the ſea, along green and pleaſant banks, with the ſpeed of an arrow, from which it takes its name. It is now called *Aci Jaci*, or *Chiaci*, according to the different Sicilian dialects: Antonine calls it *Acius*. Alſo the name of a hamlet at the mouth of the *Acis*.

ACOMINATUS (Nicetas), was ſecretary to Alexius Comnenus and to Iſaacus Angelus ſucceſſively. he wrote an hiſtory from the death of Alexius Comnenus in 1118, where Zonaras ended his, to the year 1203, which has undergone many impreſſions, and is much applauded by the beſt critics.

ACONITUM (*Encycl.*). See a figure of this poiſonous plant in Plate 10.

ACONITUM *Hyemale*. See HELLEBORUS.

ACONTIUS (James), a philoſopher, civilian, and divine, born at Trent, in the 16th century: he embraced the reformed religion; and, coming into England in the reign of Queen Elizabeth, was much honoured by her, which he acknowledges in a book dedicated to that queen. This work is his celebrated Collection of the Stratagems of Satan, which has been ſo often tranſlated, and borne ſo many editions.

ACOUSTICS (*Encycl.*), the ſcience which inſtructs us in the nature of ſound, is divided by ſome writers into DIACOUSTICS, which explains the properties of thoſe ſounds that come directly from the ſonorous body to the ear; and CATACOUSTICS, which treats of reflected ſounds: but ſuch diſtinction does not appear to be of any real utility.

ACQUA-CHE-TAVELLA, a celebrated fountain of Italy, in Calabria Citerior, a province of Naples. It is near the mouth of the river Crata, and the ruins commonly called *Sibari Rovinata*. It has been ſaid to beautify thoſe who waſhed in it.

ACRA (Joſephus); one of the hills of Jeruſalem, on which ſtood the lower town, which was the Old Jeruſalem; to which was afterwards added Zion, or the city of David. Probably called *Acra*, from the fortreſs which Antiochus built there, in order to annoy the temple, and which Simon Maccabæus took and razed to the ground.

ACRA JAPYGIA (Pliny); *Salentina* (Ptolemy); now *Capo di San Maria di Leuca;* a promontory in the kingdom of Naples, to the ſouth eaſt of Otranto, where formerly was a town, now lying in ruins, on the Ionian ſea, over againſt the Montes Acroceraunii of Epirus.

ACRÆ, in the ancient geography, a town of Sicily, whoſe inhabitants were called *Acrenſes*. It ſtood to the ſouth of Syracuſe, at the diſtance of 24 miles, near the place now called the monaſtery of *Santa Maria d'Arcia*, on an eminence, as appears from Silius Italicus. The Syracuſans were the founders of it, according to Thucydides, 70 years after the building of Syracuſe, or 665 before Chriſt. Hence the epithet *Acræus*.

ACRAGAS, or AGRAGAS (anc. geog.), ſo called by the Greeks, and ſometimes by the Romans (Virgil); but more generally *Agrigentum* by the latter; a town of Sicily. In Greek Medals the inhabitants are called ΑΚΡΙΤΑΝΤΙΝΟΙ, and *Agrigentini* by Cicero. The town ſtood upon a mountain, at the confluence of the Acragas and Hypſa, near the port called Εμπορειον by Ptolemy, but Επλιμενιον, or the Dock, by Strabo; and in the time of the latter, ſcarce a trace of all that ſide remained. In the year before Chriſt 584, the people of Gela built Acragas, 108 years after building their own city. It took its name from the river running by it; and being but two miles from, enjoying all the conveniences that could come by, the ſea. It was a place of great ſtrength, ſtanding on the top of a very ſteep rock, and waſhed on the ſouth ſide by the river Acragas, now called *Fiume di Gergenti*, and on the ſouth-weſt by the Hypſa, with a citadel to the ſouth-eaſt, externally ſurrounded by a deep gulf, which made it inacceſſible but on the ſide next the town. It was famous for the tyrant Phalaris and his brazen bull. They were a people luxurious in their tables, and magnificent in their dwellings; of whom Empedocles, in Diogenes Laertius, ſays, that they lived to-day as if they were to die to-morrow, and built as if they were to live for ever. The country round the city was laid out in vine and olive yards, in the produce of which they carried on a great and profitable commerce with Carthage. E. long. 13. 30. Lat. 37. 20.

ACRATH (anc. geog.), a place in Mauritania Tingitana (Ptolemy); now ſuppoſed to be *Velez de Gomara*; a fortified town in the kingdom of Fez, with a citadel and commodious harbour on the Mediterranean, ſcarce a mile diſtant from Penon de Velez, a Spaniſh fort. W. Long. 5. Lat. 34. 45.

ACRIBEIA, a term purely Greek, literally denoting an exquiſite or delicate accuracy; ſometimes uſed in our language for want of a word of equal ſignification.

ACRIDOPHAGI. (*Encycl.*) Though the circumſtances of theſe people, as related by Diodorus Siculus, ſhould be deemed fabulous, yet may the *acridophagia* be true. It is well known, that to this day the inhabitants of Ethiopia, Arabia, &c. frequently uſe locuſts as food. The reader will not be diſpleaſed if we lay before him the reſult of Dr. Haſſelquiſt's enquiries as to this particular, who travelled in Syria and Egypt ſo late as the year 1752. This ingenious gentleman, who travelled with a view to improve natural hiſtory, informs us, that he aſked Franks, and many other people who had lived long in theſe countries, whether they had ever heard that the inhabitants of Arabia and Ethiopia, &c. uſed locuſts as food. They anſwered that they had. He likewiſe aſked the ſame queſtion of Armenians, Cophtes, and Syrians, who lived in Arabia, and had travelled in Syria and near the Red-ſea; ſome of whom ſaid they had heard of ſuch a practice, and others that they had often ſeen the people eat theſe inſects. He at laſt obtained complete ſatisfaction on this head from a learned ſheck at Cairo, who had lived ſix years in Mecca. This gentleman told him, in preſence of M. le Grand, the principal French interpreter at Cairo, and others, that a famine frequently rages at Mecca when there is a ſcarcity of corn in Egypt, which obliges the inhabitants to live upon coarſer food than ordinary: That when corn is ſcarce, the Arabians grind the locuſts in hand-mills, or ſtone-mortars, and bake them into cakes, and uſe theſe cakes in place of bread: That he has frequently ſeen locuſts uſed by the Arabians, even when there was no ſcarcity of corn; but then they boil them, ſtew them with butter, and make them into a kind of fricaſſee, which he ſays is not diſagreeably taſted, for he had ſometimes taſted theſe locuſt-fricaſſees out of curioſity. From this account, we may ſee the folly of that diſpute among the divines about the nature of St. John's food in the wilderneſs: ſome maintaining the original word to ſignify the fruits of certain trees; others, a kind of birds, &c.: but thoſe who adhered to the literal meaning of the text were at leaſt the moſt orthodox, although their arguments were perhaps not ſo ſtrong as they might have been, had they had an opportunity of quoting ſuch an author as Haſſelquiſt.

ACRISIUS, king of Argos (fab hiſt.); being told by the oracle that he ſhould be killed by his grandchild, ſhut up his only daughter Danae in a brazen tower: but Jupiter coming down in a golden ſhower, begot Perſeus upon her: after Perſius had ſlain the Gorgons, he carried Meduſa's head to Argos; which Acriſius ſeeing, was turned into a ſtatue.

ACRITAS (anc. geog.), a promontory of Meſſenia, near Methone (Ptolemy); running into the ſea, and forming the beginning of the bay of Meſſene. Now called *Capo di Gallo*, between Methone to the weſt, and Corone to the eaſt, where the Sinus Coronæus begins.

ACROATHOUM, or ACROTHOUM (anc. geog.), a town ſituated on the top of mount Athos, where the inhabitants, according to Mela, were longer lived by half than in any other country: called by the modern Greeks, Αγιον ορος; by the Italians, *La Cima di Monte Santo*.

ACROCERAUNIA, or MONTES CERAUNII (anc. geog.), mountains running out into the ſea (ſo called from their being often thunder-ſtruck; ſeparating the Ionian ſea from the Adriatic; where Illyria ends and Epirus begins (Horace); now called *Monti della Chimera*.

ACROCORINTHUS (anc. geog.), a high and ſteep hill, hanging over the city of Corinth, which was taken within the walls, as an acropolis, or citadel. On its top ſtood a temple of Venus; and lower down iſſued the fountain Pyrene, yielding not a plentiful, but a clear ſtream of water (Pliny).

ACRON, a celebrated phyſician of Agrigentum, who firſt thought of lighting large fires, and purifying the air with perfumes, to put a ſtop to the peſtilence that ravaged Athens, and which was attended with ſucceſs. He lived about four hundred and ſeventy-three years before the Chriſtian æra.

ACROPOLIS (anc. geog.), the citadel, and one of the divi-

ſions, of Athens; called *Polis*, becauſe conſtituting the firſt and original city; and the *Upper* Polis, to diſtinguiſh it from the Lower, which was afterwards built round it in a large open plain; and hence its name (Pauſanias). To the north it had a wall, built by the Pelaſgi, and therefore called *Pelaſgic;* and to the ſouth a wall, by Cymon the ſon of Miltiades, out of the Perſian ſpoils, many ages after the building of the north wall (Plutarch). It had nine gates, and was therefore called *Enneapylon;* yet but one principal gate or entrance, the aſcent to which was by a flight of ſteps of white marble, built by Pericles with great magnificence (Plutarch).

ACROPOLITA (George), one of the writers of the Byzantine hiſtory, was born at Conſtantinople, in the year 1220, and brought up at the court of the emperor John Ducas at Nice. He was employed in the moſt important affairs of the empire; being ſent ambaſſador to Lariſſa, to eſtabliſh a peace with Michael of Epirus; and was conſtituted judge to try Michael Comnenus, ſuſpected of engaging in a conſpiracy. Theodorus Laſcaris, the ſon of John, whom he had taught logic, appointed him governor of all the weſtern provinces in the empire. In 1255 he was taken priſoner in a war with Michael Angelus; but gaining his liberty in 1260, by means of the emperor Palæologus, he was ſent by him ambaſſador to Conſtantine prince of Bulgaria; and was employed on ſeveral other negociations. He wrote, A Continuation of the Greek Hiſtory, from the Taking of Conſtantinople by the Latins, till it was recovered by Michael Palæologus in 1261, which makes part of the Byzantine hiſtory; A Treatiſe concerning Faith, Virtue, and the Soul; An Expoſition upon the Sermons of St. Gregory Nazianzen: and other pieces. Gregory Cyprian, patriarch of Conſtantinople, in his encomium upon him, prefixed to Acropolita's hiſtory, is perhaps ſomewhat extravagant in his praiſe, when he ſays he was equal to Ariſtotle in philoſophy, and to Plato in the knowledge of divine things and attic eloquence.

ACROSTICUM, or RUSTYBACK (*Encycl.*), in botany; erroneouſly there ſpelt ACROSTICHIUM.

ACTS *of the Apoſtles* (*Encycl.*). The council of Laodicea places the Acts of the Apoſtles among the canonical books, and all the churches have acknowledged it as ſuch without any controverſy. There were ſeveral *ſpurious* ACTS OF THE APOSTLES; particularly, I. *Acts*, ſuppoſed to be written by Abdias, the pretended biſhop of Babylon, who gave out that he was ordained biſhop by the apoſtles themſelves when they were upon their journey into Perſia. II. *The Acts of St. Peter:* this book came originally from the ſchool of the Abionites. III. *The Acts of St. Paul*, which is entirely loſt. Euſebius, who had ſeen it, pronounces it of no authority. IV. *The Acts of St. John the Evangeliſt*; a book made uſe of by the Encratites, Manichæans, and Priſcillianiſts. V. *The Acts of St. Andrew;* received by the Manichæans, Encratites, and Apotactics. VI. *The Acts of St. Thomas the Apoſtle*; received particularly by the Manichæans. VII. *The Acts of St. Philip:* this book the Gnoſtics made uſe of. VIII. *The Acts of St. Matthias.* Some have imagined, that the Jews for a long time had concealed the original acts of the life and death of St. Matthias, written in Hebrew; and that a monk of the abbey of St. Matthias at Treves, having got them out of their hands, procured them to be tranſlated into Latin, and publiſhed them. But the critics will not allow them to be authentic. See CANON.

ACTS *of Pilate;* a relation ſent by Pilate to the emperor Tiberius, concerning Jeſus Chriſt, his death, reſurrection, aſcenſion, and the crimes of which he was convicted before him. It was a cuſtom among the Romans, that the proconſuls and governors of provinces ſhould draw up acts, or memoirs, of what happened in the courſe of their government, and ſend them to the emperor and ſenate. The heretics corrupted theſe acts, at leaſt forged others in imitation of them; and, in the reign of the Emperor Maximin, the Gentiles, to throw an odium on the Chriſtian name, ſpread about ſpurious Acts of Pilate; which the emperor, by a ſolemn edict, ordered to be ſent into all the provinces of the empire, and enjoined the ſchool-maſters to teach and explain them to their ſcholars, and make them learn them by heart. Theſe acts, both the genuine and the ſpurious, are loſt. There is indeed extant, in the Pſeudo-Hegeſippus, a letter from Pilate to the emperor Claudius, concerning Jeſus Chriſt. But it diſcovers itſelf at firſt ſight not to be authentic.

ACTÆA (*Encycl.*). The firſt ſpecies hath a perennial root, but the ſtalks annually decay. It may be propagated either by ſeeds, or parting the roots, which ſhould be tranſplanted in autumn. The ſeeds ſhould be ſown ſoon after they are ripe, or they will lie a whole year in the ground before they vegetate. They ſhould be ſown in a ſhady border; and as all the plants do not come up at the ſame time, the border ſhould not be diſturbed till the following autumn, when they ſhould be tranſplanted into a ſhady border, where they may be allowed to remain and flower.—The ſecond ſpecies may be propagated in the ſame manner; only the plants ſhould be allowed three feet every way, on account of their wide-ſpreading leaves. This ſpecies delights in a light moiſt ſoil, and a ſhady ſituation. —The third is uſually propagated by ſeeds ſent annually from North America: it thrives in the ſame kind of ſoil as the former; and is very hardy, requiring no other culture than the common flowering ſhrubs. The plants ſhould not be often removed, for that will prevent their flowering ſtrong.—The fourth requires a moiſt loamy ſoil, and ſhady ſituation. It may be propagated in the ſame manner as the others.

ACTÆON, in fabulous hiſtory, the ſon of Ariſtæus and Autonoe; a great hunter. He was turned by Diana into a ſtag, for looking on her while bathing; and died by his own dogs.

ACTE, ACTÆA, or ATTHIS, ancient names of Attica. Pliny extends it to the iſthmus of Corinth, ſo as to include Megaris. Others make this laſt a diſtinct diſtrict, becauſe Megara was always the rival and enemy of the Athenians. If ſo, then Attica was bounded on the weſt by Megara; on the north by Boeotia, ſeparated from it by high mountains, through which there was a difficult paſſage; on the ſouth by the Saronic bay, with the Egean ſea on the eaſt. It was called *Acte* from its maritime ſituation; hence *Attica* and *Attica*, and the epithets *Actæus* and *Atticus* (Ovid). Hence alſo *Actias* for *Athenienſis* (Virgil).

ACTION (*Encycl.*). The abbé Girard makes a further diſtinction between the words *Action* and *Act*. The former, according to him, has more relation to the power that acts than the latter; whereas the latter has more relation to the effect produced than the former: and hence the one is properly the attribute of the other. Thus we may properly ſay, "Be ſure to preſerve a preſence of mind in all your actions; and take care that they are all acts of equity." Dr. Reid is of opinion that no being can be an *agent*, or perform an *action*, in the proper ſenſe of the word, which does not poſſeſs, in ſome degree, the powers of will and underſtanding. If this opinion be juſt, it is obvious, that what they call the powers of nature, ſuch as *impulſe*, *attraction*, *repulſion*, *electricity*, &c. are not, ſtrictly ſpeaking, *powers* or *cauſes*, but the effects of the agency of ſome active and intelligent being; and that *phyſical cauſes*, to make uſe of common language, are nothing more than *laws* or *rules*, according to which the *agent* produces the effect. This doctrine has been very ably controverted.

ACTIUM (anc. geog.), a town ſituated on the coaſt of Acarnania, in itſelf inconſiderable, but famous for a temple of Apollo, a ſafe harbour, and an adjoining promontory of the ſame name, in the mouth of the Sinus Ambracius, over againſt Nicopolis, on the other ſide of the bay: it afterwards became more famous on account of Auguſtus's victory over Antony and Cleopatra; and for quinquennial games inſtituted there, called *Actia*, or *Ludi Actiaci*. Hence the epithet *Actius*, given to Apollo (Virgil). *Actiaca æra*, a computation of time from the battle of Actium. The promontory is now called *Capo ci Figalo*.

ACTIUS, in mythology, a ſurname of Apollo, from Actium, where he was worſhipped.

ACTUARIUS, a celebrated Greek phyſician, of the 13th century, and the firſt Greek author who has treated of mild purgatives, ſuch as caſſia, manna, ſenna, &c. His works were printed in one volume folio, by Henry Stephens, in 1567.

ACUNA (Chriſtophero de), a Spaniſh Jeſuit, born at Burgos. He was admitted into the ſociety in 1612, being then but 15 years of age. After having devoted ſome years to ſtudy, he went to America, where he aſſiſted in making converts in Chili and Peru. In 1640 he returned to Spain, and gave the king an account how far he had ſucceeded in the commiſſion he had received to make diſcoveries on the river of the Amazons; and the year following he publiſhed a deſcription of this river, at Madrid. Acuna was ſent to Rome, as procurator of his province. He returned to Spain with the title of Qualificator of the Inquiſition; but ſoon embarked again for the Weſt Indies, and was at Lima in 1675, when Father Southwell publiſhed at Rome the Bibliothêque of the Jeſuit writers. Acuna's work is entitled, *Nuevo deſcubrimento del gran rio de las Amazonas*; *i. e.* "A new diſcovery of the great river of the Amazons." He was ten months together upon this river, having had inſtructions to enquire into every thing with the greateſt exactneſs, that his majeſty might thereby be enabled to render the navigation more eaſy and commodious. He went on board a ſhip at Quito with Peter Texeira, who had already been ſo far up the river, and was therefore thought a proper perſon to accompany him in this expedition. They embarked in February 1639, but did not arrive at Para till the December following. It is thought that the revolutions in Portugal, by which the Spaniards loſt all Braſil, and the colony of Para at the mouth of the river of the Amazons, were the cauſe that the relation of this Jeſuit was ſuppreſſed; as it could not be of any advantage to the Spaniards, they were afraid it might prove of great ſervice to the Portugueſe. The copies of this work became extremely ſcarce, ſo that the publiſhers of the French tranſlation at Paris aſſerted, that there was not one copy of the original extant, excepting one in the poſſeſſion of the tranſlator, and, perhaps, that in the Vatican library. M. de Gomberville was the author of this tranſlation: it was publiſhed after his death, with a long diſſertation. An account of the original may be ſeen in the Paris Journal, in that of Leipſic, and in Chevereau's Hiſtory of the World.

ADAM (Robert), a celebrated architect, was born in 1728, at Kirkaldy, in the county of Fife. He was the ſecond ſon of W. Adam, eſq. of Maryburgh, an architect of diſtinguiſhed merit. He received his education at the univerſity of Edinburgh. The friendſhips he formed were with men who have ſince eminently diſtinguiſhed themſelves by their literary productions; among whom were Mr. David Hume, Dr. Robertſon, Dr. Adam Smith, Dr. Adam Ferguſſon, and Mr. John Home. At a more advanced time of life he had the good fortune to enjoy the friendſhip and ſociety of Archibald duke of Argyle, the late Mr. Charles Townſend, the Earl of Mansfield, and ſeveral other of the moſt illuſtrious men of the age.—Mr. Adam, after his return from Italy, was appointed architect to his majeſty, in the year 1762; which office, being incompatible with a ſeat of parliament, he reſigned in 1768, on his being elected to repreſent the county of Kinroſs. It is ſomewhat remarkable that the arts ſhould be deprived at the ſame time of two of their greateſt ornaments, Sir Joſhua Reynolds and Mr. Adam; and it is difficult to ſay which of them excelled moſt in his particular profeſſion. Sir Joſhua introduced a new and ſuperior ſtyle of portrait-painting. It is equally true that Mr. Adam produced a total change in the architecture of this country; and his fertile genius in elegant ornament was not confined to the decoration of buildings, but has been diffuſed into almoſt every branch of manufacture. His talents extended beyond the line of his own profeſſion; he diſplayed in his numerous drawings in landſcape a luxuriance of compoſition, and an effect of light and ſhadow, which have ſcarcely ever been equalled. To the laſt period of his life, Mr. Adam diſplayed an increaſing vigour of genius and refinement of taſte; for, in a ſpace of one year preceding his death, he deſigned eight great general works, beſide 25 private buildings, ſo various in their ſtyle, and beautiful in their compoſition, that they have been allowed, by the beſt judges, ſufficient of themſelves to eſtabliſh his fame unrivaled as an artiſt. His death, which happened March 2, 1792, was occaſioned by the burſting of a blood-veſſel in his ſtomach.

Adam's *Apple*. See Citrus.

Adam's *Needle*. See Yucca.

Adam's *Peak*, a high mountain of the Eaſt Indies, in the iſland of Ceylon, on the top of which they believe the firſt man was created.

Adam or Adom, a town in Peræa, or on the other ſide the Jourdan, over-againſt Jericho, where the Jourdan began to be dried up on the paſſage of the Iſraelites; (Joſhua).

ADAMA, or Admah, one of the towns that were involved in the deſtruction of Sodom; (Moſes).

ADAMAS, in aſtrology, a name given to the moon.

ADAMITES (*Encycl.*). Epiphanius tells us, that the Adamites were ſo called from their pretending to be re-eſtabliſhed in the ſtate of innocence, and to be ſuch as Adam was at the moment of his creation, whence they ought to imitate him in his nakedneſs. They deteſted marriage; maintaining, that the conjugal union would never have taken place upon earth had ſin been unknown; and that the privilege of enjoying women in common, was one of the rights which flowed from their eſtabliſhment in original purity.

This obſcure and deteſtable ſect did not at firſt laſt long; but it was revived in the twelfth century by one Tandamus, ſince known by the name of *Tanchelin*, who propagated his errors at Antwerp, in the reign of the emperor Henry V. He maintained, that there ought to be no diſtinction between prieſts and laymen, and that fornication and adultery were meritorious actions. Tanchelin had a great number of followers, and was conſtantly attended by 3000 of theſe profligates in arms. His ſect did not however continue long after his death: but another appeared under the name of *Turlupins*, in Savoy and Dauphiny; where they committed the moſt brutal actions in open day.

About the beginning of the fifteenth century, one Picard, a native of Flanders, ſpread theſe errors in Germany and Bohemia, particularly in the army of the famous Ziſca, notwithſtanding the ſevere diſcipline he maintained. Picard pretended that he was ſent into the world as a new Adam, to re-eſtabliſh the law of nature; and which, according to him, conſiſted in expoſing every part of the body, and having all the women in common. This ſect found alſo ſome partizans in Poland, Holland, and England: they aſſembled in the night; and it

is aſſerted, that one of the fundamental maxims of their ſociety was contained in the following verſe: "*Jura, perura, ſecretum prodere noli.*"

ADDERS-TONGUE. See OPHIOGLOSSUM.

ADDISON (Lancelot), ſon of Lancelot Addiſon, a clergyman, was born at Mouldiſmeaburne, in the pariſh of Croſby Ravenſworth, in Weſtmoreland, in the year 1632. He was educated at Queen's College, Oxford; and at the Reſtoration of King Charles II. accepted of the chaplainſhip of the garriſon of Dunkirk: but that fortreſs being delivered up to the French in 1662, he returned to England, and was ſoon after made chaplain to the garriſon of Tangier; where he continued ſeven years, and was greatly eſteemed. In 1670 he returned to England, and was made chaplain in ordinary to the king; but his chaplainſhip of Tangier being taken from him on account of his abſence, he found himſelf ſtraightened in his circumſtances, when he ſeaſonably obtained the rectory of Milſton in Wiltſhire, worth about 120l. per ann. He afterwards became a prebendary of Sarum; took his degree of doctor of divinity at Oxford; and in 1683 was made dean of Lichfield, and the next year archdeacon of Coventry. His life was exemplary; his converſation pleaſing, and greatly inſtructive; and his behaviour as a gentleman, a clergyman, and a neighbour, did honour to the place of his reſidence. He wrote, 1. A Short Narrative of the Revolutions of the Kingdoms of Fez and Morocco: 2. The preſent Hiſtory of the Jews: 3. A Diſcourſe on Catechiſing: 4. A modeſt Plea for the Clergy: 5. An Introduction to the Sacrament: 6. The Firſt State of Mahometiſm: and ſeveral other pieces. This worthy divine died on the 20th of April, 1703, and left three ſons: Joſeph, the ſubject of the next article; Gulſton, who died while governor of Fort St. George; Lancelot, maſter of arts, and fellow of Magdalen College in Oxford; and one daughter, firſt married to Dr. Sarte, prebendary of Weſtminſter, and afterwards to Daniel Combes, eſq.

ADDISON (Joſeph), one of the brighteſt geniuſes that this or any other country has produced, was the ſon of Dean Addiſon, the ſubject of the laſt article. He was born at Milſton, near Ambreſbury, in Wiltſhire, on the 11th of May, 1672; and not being thought likely to live, was baptized the ſame day. He received the firſt rudiments of his education at the place of his nativity, under the reverend Mr. Naſh; but was ſoon removed to Saliſbury, under the care of Mr. Taylor; and from thence to the Charter-houſe, where he commenced his acquaintance with Sir Richard Steele. About fifteen, he was entered at Queen's College, Oxford, where he applied very cloſely to the ſtudy of claſſical learning, in which he made a ſurpriſing proficiency. In the year 1687, Dr. Lancaſter, dean of Magdalen College, having, by chance, ſeen a Latin poem of Mr. Addiſon's, was ſo pleaſed with it, that he immediately got him elected into that houſe, where he took up his degrees of bachelor and maſter of arts. His Latin pieces, in the courſe of a few years, were exceedingly admired in both univerſities; nor were they leſs eſteemed abroad, particularly by the celebrated Boileau, who is reported to have ſaid, that he would not have written againſt Perrault, had he before ſeen ſuch excellent pieces by a modern hand. He publiſhed nothing in Engliſh before the twenty-ſecond year of his age; when there appeared a ſhort copy of verſes written by him, and addreſſed to Mr. Dryden, which procured him great reputation from the beſt judges. This was ſoon followed by a tranſlation of the Fourth Georgic of Virgil (omitting the ſtory of Ariſtæus), much commended by Mr. Dryden. He wrote alſo the Eſſay on the Georgics prefixed to Mr. Dryden's tranſlation. There are ſeveral other pieces written by him about this time; among the reſt, one dated the 3d of April, 1694, addreſſed to H. S. that is, Dr. Sacheverel, who became afterwards ſo famous, and with whom Mr. Addiſon lived once in the greateſt friendſhip; but their intimacy was ſome time after broken off by their diſagreement in political principles. In the year 1695, he wrote a poem to King William on one of his campaigns, addreſſed to Sir John Somers, lord-keeper of the great ſeal. This gentleman received it with great pleaſure, took the author into the number of his friends, and beſtowed on him many marks of his favour. Mr. Addiſon had been cloſely preſſed, while at the univerſity, to enter into holy orders; and had once reſolved upon it: but his great modeſty, his natural diffidence, and an uncommonly delicate ſenſe of the importance of the ſacred function, made him afterwards alter his reſolution; and having expreſſed an inclination to travel, he was encouraged thereto by his patron above mentioned, who, by his intereſt, procured him from the crown a penſion of 300l. per annum to ſupport him in his travels. He accordingly made a tour to Italy in the year 1699; and, in 1701 he wrote a poetical epiſtle from Italy to the Earl of Halifax, which has been univerſally eſteemed as a moſt excellent performance. It was tranſlated into Italian verſe by the Abbot Antonio Maria Salvini, Greek profeſſor at Florence. In the year 1705 he publiſhed an account of his travels dedicated to Lord Somers; which, though at firſt but indifferently received, yet in a little time met with its deſerved applauſe. In the year 1702, he was about to return to England, when he received advice of his being appointed to attend Prince Eugene, who then commanded for the emperor in Italy: but the death of King William happening ſoon after, put an end to this affair, as well as his penſion; and he remained for a conſiderable time unemployed. But an unexpected incident at once raiſed him, and gave him an opportunity of exerting his fine talents to advantage: for in the year 1704, the lord-treaſurer Godolphin happened to complain to Lord Halifax, that the Duke of Marlborough's victory, at Blenheim, had not been celebrated in verſe in the manner it deſerved; and intimated, that he would take it kindly, if his lordſhip, who was the known patron of the poets, would name a gentleman capable of doing juſtice to ſo elevated a ſubject. Lord Halifax replied, ſomewhat haſtily, that he did know ſuch a perſon, but would not mention him; adding, that long had he ſeen, with indignation, men of no merit maintained in luxury at the public expence, whilſt thoſe of real worth and modeſty were ſuffered to languiſh in obſcurity. The treaſurer anſwered very coolly, that he was ſorry there ſhould be occaſion for ſuch an obſervation, but that he would do his endeavour to wipe off ſuch reproaches for the future; and he engaged his honour, that whoever his lordſhip named, as a perſon capable of celebrating this victory, ſhould meet with a ſuitable recompence. Lord Halifax thereupon named Mr. Addiſon; inſiſting, however, that the treaſurer himſelf ſhould ſend to him; which he promiſed. Accordingly he prevailed on Mr. Boyle (afterwards Lord Carlton), then chancellor of the exchequer, to make the propoſal to Mr. Addiſon; which he did in ſo polite a manner, that our author readily undertook the taſk. The lord-treaſurer had a ſight of the piece, when it was carried no farther than the celebrated ſimile of the angel; and was ſo pleaſed with it, that he immediately appointed Mr. Addiſon a commiſſioner of appeals, vacant by the promotion of Mr. Locke, choſen one of the lords commiſſioners for trade. The Campaign is addreſſed to the Duke of Marlborough; it gives a ſhort view of the military tranſactions in 1704, and contains a noble deſcription of the two great actions at Schellenberg and Blenheim. The poem will be admired as long as the victory is remembered. In 1705 he attended Lord Halifax to Hanover; and the enſuing year was appointed under-ſecretary to Sir Charles Hedges, ſecretary of ſtate; in which office he acquitted himſelf ſo well, that the Earl of Sunder-

land, who ſucceeded Sir Charles in December, continued Mr. Addiſon in his employment. A taſte for operas beginning at this time to prevail in England, and many perſons having ſolicited Mr. Addiſon to write one, he complied with their requeſt, and compoſed his Roſamond. This however, whether from the defect of the muſic, for which our language is ſaid by ſome to be very improper, or from the prejudices in favour of the Italian taſte, did not ſucceed upon the ſtage: but the poetry of it has, and always will be, juſtly admired. About this time, Sir Richard Steele compoſed his comedy of the Tender Huſband, to which Mr. Addiſon wrote a prologue. Sir Richard ſurpriſed him with a dedication of this play, and acquainted the public, that he was indebted to him for ſome of the moſt excellent ſtrokes in the performance. The Marquis of Wharton, being appointed lord-lieutenant of Ireland in 1709, took Mr. Addiſon with him as his ſecretary. Her Majeſty alſo made him keeper of the records of Ireland, and, as a farther mark of her favour, conſiderably augmented the ſalary annexed to that place. Whilſt he was in this kingdom, the Tatler was firſt publiſhed; and he diſcovered his friend Sir Richard Steele to be the author, by an obſervation on Virgil, which he had communicated to him. He afterwards aſſiſted conſiderably in carrying on this paper, which the author acknowledges. The Tatler being laid down, the Spectator was ſet on foot, and Mr. Addiſon furniſhed great part of the moſt admired papers; thoſe which he wrote are diſtinguiſhed by one of the letters of the muſe, C, L, I, O. The Spectator made its firſt appearance in March 1711, and was brought to a concluſion in September 1712. He had likewiſe a conſiderable ſhare in the Guardian, another paper in the ſame taſte, which entertained the town in 1713 and 1714. His celebrated Cato appeared in 1713. He formed the deſign of a tragedy upon this ſubject when he was very young, and wrote it when on his travels: he retouched it in England, without any intention of bringing it on the ſtage; but his friends being perſuaded it would ſerve the cauſe of liberty, he was prevailed on by their ſolicitations, and it was accordingly exhibited on the theatre with a prologue by Mr. Pope, and an epilogue by Dr. Garth. It was received with the moſt uncommon applauſe, having run thirty-five nights without interruption; and all parties, however divided, agreed in giving this play the commendation it deſerved. It was no leſs eſteemed abroad, having been tranſlated into French, Italian, and German; and it was acted at Leghorn, and ſeveral other places, with vaſt applauſe. The Jeſuits at St. Omer's made a Latin verſion of it, and the ſtudents acted it with great magnificence. Her majeſty Queen Anne ſignified an inclination of having the play dedicated to her; but the author having propoſed to dedicate it elſewhere, to avoid giving offence, publiſhed it without a dedication. He had formed a deſign of writing another tragedy upon the death of Socrates; but this he never carried into execution. He intended alſo to have compoſed an Engliſh dictionary upon the plan of the Italian (Della Cruſca); but, upon the death of the queen, being appointed ſecretary to the lords juſtices, he had not leiſure to carry on ſuch a work. When the Earl of Sunderland was appointed lord-lieutenant of Ireland, Mr. Addiſon was again made ſecretary for the affairs of that kingdom; and, upon the earl's being removed from the lieutenancy, he was choſen one of the lords of trade. In 1715 he began the Freeholder, a political paper, which was much admired, and proved of great uſe at that juncture. He publiſhed alſo, about this time, verſes to Sir Godfrey Kneller upon the king's picture, and ſome to the Princeſs of Wales with the tragedy of Cato. In April 1717, his majeſty King George appointed our author one of his principal ſecretaries of ſtate; but the fatigue of his employment having brought upon him an aſthmatic diſorder, with which he had been before afflicted, he reſigned his office, and retired from buſineſs. In his retirement he applied himſelf to a religious work, the Evidences of the Chriſtian Religion, which he had begun long before; part of which, ſcarce finiſhed, has been printed in his works. He intended alſo to have given an Engliſh paraphraſe of ſome of David's pſalms; but a long and painful relapſe cut ſhort all his deſigns, and carried off this great man on the 17th of June, 1719, in the 54th year of his age. He died at Holland-houſe, near Kenſington, leaving behind him one daughter by the counteſs of Warwick, to whom he was married in 1716. After his deceaſe, Mr. Tickell, by the author's inſtructions, publiſhed his works in four volumes 4to. In this edition, there are ſeveral pieces hitherto unmentioned, viz. The Diſſertation on Medals; which, though not publiſhed till after his death, yet he had collected the materials, and began to put them in order, at Vienna, in 1702. A pamphlet, entitled, The Preſent State of the War, and the Neceſſity of an Augmentation, conſidered. The late Trial and Conviction of Count Tariff. The Whig Examiner came out on the 14th of September, 1716: there were five of theſe papers attributed to Mr. Addiſon, and they are the ſevereſt pieces he ever wrote. The Drummer, or the Haunted Houſe, a comedy not taken notice of in this edition, was publiſhed afterwards as Mr Addiſon's, by Sir Richard Steele. He is ſaid alſo to have been the author of a performance, entitled *Diſſertatio de inſignioribus Romanorum Poetis*, and of a Diſcourſe on Ancient and Modern Learning.

ADEL (*Encycl.*). This country produces corn, and feeds a great number of cattle. The inhabitants drive a trade in gold, ſilver, ivory, oil, frankincenſe, a ſort of pepper, and other merchandizes of Arabia and the Indies. The king was formerly a vaſſal to the grand negus of Abyſſinia: but being Mahometans, and the Abyſſinians a ſort of Chriſtians, they could not agree; and in 1535 came to an open rupture, when the Adelines threw off the yoke, ſeeking protection from the Grand Signior. The principal places are, Adela, ſeated in the centre of the country, and is the town where the king reſides: Zeila, near the Arabian Sea, is a rich town, and has a good trade: Barbora, near the ſea-coaſt, is an ancient trading town. It rains very ſeldom in this country.

ADELME, or ALDHELM, ſon to Kenred, nephew to Ina, king of the Weſt Saxons; after having been educated abroad, was abbot of Malmſbury 30 years. He was the firſt Engliſhman who wrote in Latin, the firſt who brought poetry into England, and the firſt biſhop of Sherburn. He lived in great eſteem till his death, which happened in 709. He was canonized, and many miracles were told of him. He is mentioned with great honour by Camden and Bayle, and his life was written by William of Malmſbury.

ADFECTED *equation* is that where the unknown quantity is found in two or more different degrees, or powers, E. gr. $x^3 - px^2 + qx = a^2b$; where there are three different powers of x; viz. x^3, x^2, and x^1. See EQUATION.

AD FINES (Antonine), a town of Switzerland, ſuppoſed to be the modern *Pfin*, in the north of the diſtrict of Turgow, on the rivulet Thur, not far from the borders of Suabia, about half-way between Conſtance and Frauenfield. So called, becauſe when Cecinna, general of the emperor Vitellius, with the auxiliary Rhetians, defeated the Helvetii, the former extended their borders thus far, their territory ending here; and, in time of the Romans, it was the laſt town in this quarter, and of ſome repute.

ADHA. (*Arab.*) A feſtival, which the Mahometans celebrate on the tenth day of the month *Dhoulhegiat*, which is the twelfth and laſt of their year. This month being particularly deſtined for the ceremonies which the Pilgrims obſerve

at Mecca, it takes its name from thence, for the word ſignifies the *month of Pilgrimage*. On that day they ſacrifice with great ſolemnity, at Mecca, and no where elſe, a ſheep, which is called by the ſame name as the feſtival itſelf. The Turks commonly call this feſtival the *Great Beiram*, to diſtinguiſh it from the leſſer, which ends their faſt, and which the Chriſtians of the Levant call the *Eaſter of the Turks*. The Mahometans celebrate this feſtival, out of the city of Mecca, in a neighbouring valley; and ſometimes they ſacrifice there a camel. See BAIRAM.

ADMIRAL (*Encycl.*). Authors are divided with regard to the origin and denomination of this important officer, whom we find eſtabliſhed in moſt kingdoms that border on the ſea. But the moſt probable opinion is that of Sir Henry Spelman, who thinks, that both the name and dignity were derived from the Saracens, and, by reaſon of the holy wars, brought amongſt us; for *admiral*, in the Arabian language, ſignifies a prince, or chief ruler, and was the ordinary title of the governors of cities, provinces, &c. and therefore they called the commander of the navy by that name, as a name of dignity and honour. And indeed there are no inſtances of admirals in this part of Europe before the year 1284, when Philip of France, who attended St. Louis in the wars againſt the Saracens, created an admiral. Du Cange aſſures us, that the Sicilians were the firſt, and the Genoeſe the next, who gave the denomination of admiral to the commanders of their naval armaments; and that they took it from the Saracen or Arabic *Emir*, a general name for every commanding officer. As for the exact time when the word was introduced among us, it is uncertain: ſome think it was in the reign of Edward I. Sir Henry Spelman is of opinion that it was firſt uſed in the reign of Henry III. becauſe neither the laws of Oleron made in 1266, nor Bracton, who wrote about that time, make any mention of it; and that the term *admiral* was not uſed in a charter in the eighth of Henry III. wherein he granted this office to Richard de Lacey, by theſe words *Maritimam Angliæ;* but in the 56th year of the ſame reign, not only the hiſtorians, but the charters themſelves, very frequently uſe the word *admiral*.

ADMIRATION, in general, denotes ſurpriſe, wonder, or aſtoniſhment, at any extraordinary event. Sometimes alſo it ſignifies the expreſſion of wonder. The point of admiration, in grammar, is marked thus [!].

ADMONITION, in eccleſiaſtical affairs, a part of diſcipline much uſed in the ancient church. It was the firſt act, or ſtep, towards the puniſhment or expulſion of delinquents. In caſe of private offences, it was performed according to the evangelical rule, privately: in caſe of public offence, openly, before the church. If either of thoſe ſufficed for the recovery of the fallen perſon, all further proceedings in the way of cenſure ceaſed: if they did not, recourſe was had to excommunication.

ADOLLAM, or ODOLLAM (anc. geog.), a town in the tribe of Judah, to the eaſt of Eleutheropolis. David is ſaid to have hid himſelf in a cave near this town (Bible).

ADONI, a town in the peninſula of Hindoſtan, on one of the branches of the river Tungebadda. It was, not many years ago, a fine city, extremely well fortified, and the capital of a ſmall feudatory province of Golconda. It is 175 miles S. W. of Hydrabad, and 310 N. W. of Madras. E. long. 77. 0. N. Lat. 15. 37.

ADONIS, ſon to Cinyras, king of Cyprus, the darling of the goddeſs Venus: being killed by a wild boar in the Idalian woods, he was turned into a flower of a blood-colour, ſuppoſed to be the Anemone. Venus was inconſolable; and no grief was ever more celebrated than this, moſt nations having perpetuated the memory of it by a train of anniverſary ceremonies. See ADONIA. Among Shakſpeare's poems, is a long one on the ſubject of Venus's extraordinary affection for Adonis.

ADRA, a ſea-port town of Granada, in Spain, 47 miles S. E. of Granada. W. Long. 2. 37. N. lat. 36. 42.

ADRAMMELECH, one of the gods of the inhabitants of Sepharvaim, who were ſettled in the country of Samaria, in the room of thoſe Iſraelites who were carried beyond the Euphrates. The Sepharvaites made their children paſs through fire, in honour of this idol, and another called Anamelech. It is ſuppoſed, that Adrammelech meant the ſun, and Anamelech the moon: the firſt ſignifies *the magnificent king;* the ſecond *the gentle king*. See ANAMELECH.

ADRAMYTTIUM (anc. geog.), now *Andramiti;* a town of Myſia Major, at the foot of mount Ida, an Athenian colony, with a harbour and dock near the Caicus. *Adramyttenus* the epithet; as, *Adramyttenus Sinus*, a part of the Ægean Sea, on the coaſt of Myſia; *Adramyttenus Conventus*, ſeſſions or aſſizes. The eighth in order of the nine *Conventus Juridici* of the province of Aſia.

ADRANUM, or HADRANUM (anc. geog.), now *Aderno*, a town of Sicily, built by the elder Dionyſius, at the foot of mount Ætna (Diodorus Siculus), four hundred years before Chriſt. So called from the temple of Aranus, or Hadranus, a god much worſhipped by the Sicilians; with a river of the ſame name (Stephanus), now *Fiume d'Aderno*. The inhabitants, *Hadranitani*, and *Adranitæ*.

ADRASTUS, king of Argos, ſon of Talaus and Lyſianiſſa, daughter of Polybius, king of Sicyon, acquired great honour in the famous war of Thebes, in ſupport of Polynices his ſon-in-law, who had been excluded the ſovereignty of Thebes by Eteocles his brother, notwithſtanding their reciprocal agreement. Adraſtus, followed by Polynices and Tydeus, his other ſon-in-law, by Capaneus and Hippomedon his ſiſter's ſons, by Amphiaraus his brother-in-law, and by Parthenopæus, marched againſt the city of Thebes; and this is the expedition of the Seven Worthies, which the poets have ſo often ſung. They all loſt their lives in this war, except Adraſtus, who was ſaved by his horſe called Arion. This war was revived ten years after by the ſons of thoſe deceaſed warriors, which was called the war of the Epigones, and ended with the taking of Thebes. None of them loſt their lives, except Ægialeus ſon of Adraſtus; which afflicted him ſo much, that he died of grief in Megara, as he was leading back his victorious army.

ADRAZZO, or AJACCIO. The ſame with ADJAZZO.

ADRIA, or HADRIA (anc. geog.), the name of two towns in Italy. One in the country of the Veneti, on the river Tartarus, between the Padus and the Atheſis, called *Atria* by Pliny and Ptolemy, but *Adrias* by Strabo. Another on the river Vomanus, in the territory of the Piceni (to which Antonine's Itinerary from Rome is directed), the country of the anceſtors of the emperor Adrian. From which of theſe the Adriatic ſea is denominated, is matter of doubt. A third opinion is, that it is ſo called from Adrias the ſon of Joan, of Italian origin (Euſtathius in Dionyſium).

ADRIAN, or HADRIAN (Publius Ælius), the Roman emperor, was born at Rome Jan. 24, in the year of Chriſt 76. His father left him an orphan, at ten years of age, under the guardianſhip of Tragan, and Cælius Tatianus, a Roman knight. He began to ſerve very early in the armies, having been tribune of a legion before the death of Domitian. He was the perſon choſen by the army of Lower Mœſia, to carry the news of Nerva's death to Trajan, ſucceſſor to the empire. The extravagant expences which Adrian ran into in his youth, made him loſe this emperor's favour; but having recovered it by a reformation in his behaviour, he was married to Sabina, a grand niece of Trajan's, and the empreſs Plotina became his great friend and patroneſs. When he was quæſtor,

he delivered an oration in the ſenate; but his language was then ſo rough and unpoliſhed, that he was hiſſed; this obliged him to apply to the ſtudy of the Latin tongue, in which he became a great proficient, and made a conſiderable figure for his eloquence. He accompanied Trajan in moſt of his expeditions, and particularly diſtinguiſhed himſelf in the ſecond war againſt the Daci; and having before been quæſtor, as well as tribune of the people, he was now ſucceſſively prætor, governor of Pannonia, and conſul. After the ſiege of Atra in Arabia was raiſed, Trajan, who had already given him the government of Syria, left him the command of the army; and at length, when he found death approaching, it is ſaid he adopted him. The reality of this adoption is by ſome diſputed, and is thought to have been a contrivance of Plotina; but however this may be, Adrian, who was then in Antiochia, as ſoon as he received the news thereof, and of Trajan's death, declared himſelf emperor, on the 11th of Auguſt, 117. No ſooner had he arrived at the imperial dignity, than he made peace with the Perſians, to whom he yielded up great part of the conqueſts of his predeceſſors; and from generoſity, or policy, he remitted the debts of the Roman people, which according to the calculation of thoſe who have reduced them to modern money, amounted to twenty-two millions five hundred thouſand golden crowns; and he cauſed to be burnt all the bonds and obligations relating to thoſe debts, that the people might be under no apprehenſion of being called to an account for them afterwards. He went to viſit all the provinces, and did not return to Rome till the year 118, when the ſenate decreed him a triumph, and honoured him with the title of Father of his country; but he refuſed both, and deſired that Trajan's image might triumph. The following year he went to Mæſia, to oppoſe the Sarmatæ. In his abſence ſeveral perſons of great worth were put to death; and though he proteſted he had given no orders for that purpoſe, yet the odium thereof fell chiefly upon him. No prince travelled more than Adrian; there being hardly one province in the empire which he did not viſit. In 120 he went into Gaul, and from thence to Britain, where he took care to have a wall or rampart built, as a defence againſt thoſe who would not ſubmit to the Roman government. In 121 he returned into France; thence he went into Spain, to Mauritania, and at length into the Eaſt, where he quieted the commotions raiſed by the Parthians. After having viſited all the provinces of Aſia, he returned to Athens in 125, where he paſſed the winter, and was initiated in the myſteries of Eleuſinian Ceres. He went from thence to Sicily, and ſaw Mount Ætna. He returned to Rome the beginning of the year 129; and, according to ſome, he went again, the ſame year, to Africa; and, after his return from thence, to the Eaſt. He was in Egypt in the year 132, reviſited Syria the year following, returned to Athens in 134, and to Rome in 135. The proſecution againſt the Chriſtians was very violent under his reign; but it was at length ſuſpended, in conſequence of the remonſtrances of Quadratus biſhop of Athens, and Ariſtides, two Chriſtian philoſophers, who preſented the emperor with ſome books in favour of the Chriſtian religion. He conquered the Jews; and, by way of inſult, erected a temple to Jupiter, on Mount Calvary, and placed a ſtatue of Adonis in the manger of Bethlehem: he cauſed alſo the images of ſwine to be engraved on the gates of Jeruſalem.

Adrian reigned 21 years, and died at Baiæ in the 63d year of his age. The Latin verſes he addreſſed to his ſoul on his death-bed *, ſhew his uncertainty and doubts in regard to the other world. He was a prince adorned with great virtues, but they were mingled with great vices. He was generous, induſtrious, polite, and exact; he maintained order and diſcipline; he adminiſtered juſtice with indefatigable application, and puniſhed rigorouſly all thoſe who did not faithfully execute the offices with which they were entruſted; he had a great ſhare of wit and a ſurpriſing memory; he was well verſed in moſt of the polite arts and ſciences, and is ſaid to have written ſeveral works. On the other hand, he was cruel, envious, laſcivious, ſuperſtitious, and ſo weak as to give himſelf up to the ſtudy of magic: and what can be more infamous than his paſſion for Antinous?

Adrian, having no children by Sabina, adopted Lucius Aurelius Annius Ceionius Commodus Verus; but Lucius dying the 1ſt of January, 138, he then adopted Titus Antoninus, on condition that he ſhould adopt Marcus Annius Verus, and the ſon of Lucius Verus.

Adrian IV. (Pope), the only Engliſhman who ever had the honour of ſitting in the papal chair. His name was Nicholas Brekeſpere; and he was born at Langley, near St. Alban's, in Hertfordſhire. His father having left his family, and taken the habit of the monaſtery of St. Alban's, Nicholas was obliged to ſubmit to the loweſt offices in that houſe, for daily ſupport. After ſome time, he deſired to take the habit in that monaſtery, but was rejected by the abbot Richard. "He was examined," ſays Matthew Paris, "and being found inſufficient, the abbot civilly enough ſaid to him, Wait, my ſon, and go to ſchool a little longer, till you are better qualified." But if the character given of young Brekeſpere, by Pitts, be a juſt one, the abbot was certainly to be blamed for rejecting a perſon who would have done great honour to his houſe: he was, according to that author, a handſome and comely youth, of a ſharp wit, and ready utteranee; circumſpect in all his words and actions, polite in his behaviour, neat and elegant; full of zeal for the glory of God, and that according to ſome degree of knowledge; ſo poſſeſſed of all the moſt valuable endowments of mind and body, that in him the gifts of Heaven exceeded nature: his piety exceeded his education; and the ripeneſs of his judgment and his other qualifications exceeded his age. Having met with this repulſe, he reſolved to try his fortune in another country, and accordingly went to Paris; where, though in very poor circumſtances, he applied himſelf to his ſtudies with great aſſiduity, and made a wonderful proficiency. But having ſtill a ſtrong inclination to a religious life, he left Paris, and removed to Provence, where he became a regular clerk in the monaſtery of St. Rufus. He was not immediately allowed to take the habit; but paſſed ſome time, by way of trial, in recommending himſelf to the monks by a ſtrict attention to all their commands. This behaviour, together with the beauty of his perſon, and prudent converſation, rendered him ſo acceptable to thoſe religious, that after ſome time they intreated him to take the habit of the canonical order. Here he diſtinguiſhed

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* The verſes are theſe:

Animula vagula, blandula,
Hoſpes, comeſque corporis,
Quæ nunc abibis in loca
Pallidula, rigida, nudula,
Nec, ut ſoles, dabis jocos?

Thus tranſlated by Pope:

Ah! fleeting ſpirit! wand'ring fire,
That long haſt warm'd my tender breaſt,
Muſt thou no more this frame inſpire?
No more a pleaſing, chearful gueſt,
Whither, ah whither art thou flying?
To what dark undiſcover'd ſhore?
Thou ſeem'ſt all trembling, ſhiv'ring, dying,
And wit and humour are no more!

himſelf ſo much by his learning and ſtrict obſervance of the monaſtic diſcipline, that, upon the death of the abbot, he was choſen ſuperior of that houſe; and we are told that he rebuilt that convent. Pope Eugenius III. being appriſed of the great merit of Nicholas, and thinking he might be ſerviceable to the church in a higher ſtation, created him cardinal-biſhop of Alba in 1146. In the ſame year his Holineſs ſent him legate to Denmark and Norway; where, by his fervent preaching and diligent inſtructions, he converted thoſe barbarous nations to the Chriſtian faith: and erected Upſal into an archiepiſcopal ſee. When he returned to Rome, he was received by the pope and cardinals with great marks of honour: and Pope Anaſtaſius, who ſucceeded Eugenius, happening to die at this time, Nicholas was unanimouſly choſen to the holy ſee, in November 1154, and he took the name of *Adrian*. When the news of his promotion reached England, king Henry II. ſent Robert abbot of St. Alban's, and three biſhops, to Rome, to congratulate him on his election; upon which occaſion Adrian granted very conſiderable privileges to the monaſtery of St. Alban's, particularly an exemption from all epiſcopal juriſdiction, excepting to the ſee of Rome. Adrian, in the beginning of his pontificate, boldly withſtood the attempts of the Roman people to recover their ancient liberty under the conſuls, and obliged thoſe magiſtrates to abdicate their authority, and leave the government of the city to the pope. In 1155 he drove the heretic Arnaud of Breſſe, and his followers, out of Rome. The ſame year he excommunicated William king of Sicily, who ravaged the territories of the church, and abſolved that prince's ſubjects from their allegiance. About the ſame time, Frederic king of the Romans, having entered Italy with a powerful army, Adrian met him near Sutrium, and concluded a peace with him. At this interview, Frederic conſented to hold the pope's ſtirrup whilſt he mounted on horſeback. After which, his holineſs conducted that prince to Rome, and in St. Peter's church placed the imperial crown on his head, to the great mortification of the Roman people, who aſſembled in a tumultuous manner, and killed ſeveral of the Imperialiſts. The next year a reconciliation was brought about between the pope and the Sicilian king, that prince taking an oath to do nothing farther to the prejudice of the church, and Adrian granting him the title of *king of the two Sicilies*. He built and fortified ſeveral caſtles, and left the papal dominions in a more flouriſhing condition than he found them. But notwithſtanding all his ſucceſs, he was extremely ſenſible of the diſquietudes attending ſo high a ſtation; and declaring to his countryman John of Saliſbury, that all the former hardſhips of his life were mere amuſement to the misfortunes of the popedom; that he looked upon St. Peter's chair to be the moſt uneaſy ſeat in the world; and that his crown ſeemed to be clapped burning on his head. He died September 1, 1159, in the fourth year and tenth month of his pontificate; and was buried in St. Peter's church, near the tomb of his predeceſſor Eugenius.—There are extant ſeveral letters, and ſome homilies, written by Pope Adrian.

ADRIAN, cardinal prieſt, of the title of St. Chryſogonus, was a native of Cornetto in Tuſcany. Innocent VIII. ſent him nuncio into Scotland and into France; and after he had been clerk and treaſurer of the apoſtolic chamber, pope Alexander VI. whoſe ſecretary he had been, honoured him with the cardinal's hat. His life was a continued ſcene of odd alterations. He narrowly eſcaped death the day Alexander VI. poiſoned himſelf by miſtake. Afterwards he drew upon himſelf the hatred of Julius II. ſo that he was obliged to go and hide himſelf in the mountains of Trent. Having been recalled by Leo X. he was ſo ungrateful, that he engaged in a conſpiracy againſt him. The pope pardoned his fault: but the cardinal, not caring to truſt to this, made his eſcape, and it could never be known exactly what was become of him. He was one of the firſt that effectually reformed the Latin ſtyle. He ſtudied Cicero with great ſucceſs, and made many excellent obſervations on the propriety of the Latin tongue. The treatiſe he compoſed *De Sermone Latino*, is a proof of this. He had begun a Latin tranſlation of the Old Teſtament. He wrote *De Vera Philoſophia:* this treatiſe was printed at Cologn, 1548.

ADRIAN VI. (Pope), was born at Utrecht in 1459. His father was not able to maintain him at ſchool, but he got a place at Louvain in a college in which a certain number of ſcholars were maintained *gratis*. It is reported that he uſed to read in the night-time by the light of the lamps in the churches or ſtreets. He made a conſiderable progreſs in all the ſciences; led an exemplary life; and there never was a man leſs intriguing and forward than he was. He took his degree of doctor of divinity at Louvain; was ſoon after made canon of St. Peter's, and profeſſor of divinity at Utrecht, and then dean of St. Peter's and vice-chancellor of the univerſity. He was obliged to leave an academical life, to be tutor to the archduke Charles. This young prince made no great progreſs under him: however, never was a tutor more conſiderably rewarded; for it was by Charles V.'s credit he was raiſed to the papal throne. Leo X. had given him the cardinal's hat in 1517. After this pope's death, ſeveral cabals in the conclave ended in the election of Adrian, with which the people of Rome were very much diſpleaſed. He would not change his name, and in every thing he ſhewed a great diſlike for all oſtentation and ſenſual pleaſures, though ſuch an averſion had been long ago out of date. He was very partial to Charles V. and did not enjoy much tranquillity under the triple crown. He lamented much the wicked morals of the clergy, and wiſhed to eſtabliſh a reformation of manners among them. He died Sept. 14, 1523.

ADRIANI (Joanni Battiſta), was born of a patrician family at Florence, in 1511. He wrote a Hiſtory of his own Times, in Italian; which is a continuation of Guicciardini, beginning at the year 1536; to which, Thuanus acknowledges himſelf greatly indebted: beſide which, he compoſed ſix funeral orations, on the emperor Charles V. and other noble perſonages; and is thought to have been the author of a long letter on ancient painters and ſculptors, prefixed to the third volume of Vaſari. He died at Florence in 579.

ADRIANISTS, in eccleſiaſtical hiſtory, a ſect of heretics divided into two branches; the firſt were diſciples of Simon Magus, and flouriſhed about the year 34. Theodoret is the only perſon who has preſerved their name and memory; but he gives us no account of their origin. Probably this ſect, and the ſix others which ſprung from the Simonians, took their name from the particular diſciples of Simon. The ſecond were the followers of Adrian Hamſtead, the anabaptiſt; and held ſome particular errors concerning Chriſt.

ADRIANO A SIERRA, or mountain of Adriano, in the province of Biſcay, in Spain. There is a road over it to Aalba and Old Caſtile, which is very difficult: at its beginning there is a dark path of 50 paces cut through a rock; after which is the mountain that muſt be paſſed over, which is one of the higheſt of the Pyrenées. Theſe mountains are little frequented; and there are no inhabitants, except a few ſhepherds.

ADRIANUM (or ADRIATICUM) MARE (anc. geog.), now the Gulf of Venice, a large bay in the Mediterranean, between Dalmatia, Sclavonia, Greece, and Italy. It is called by the Greeks, Αδριας Κολπος; and *Adria* by the Romans, as *Arbiter Adriæ Notus* (Hor.); Cicero calls it *Hadrianum Mare*; Virgil has *Hadriaticas Undas*. It is commonly called *Mare Adriaticum*, without an aſpiration; but whether it ought to have one, is a diſpute: if the appellation is from *Hadria*, the town

of the Piceni, it muſt be written *Hadriaticum*, becauſe the emperor's name, who thence derives his origin, is on coins and ſtones *Hadrianus*; but if from the town in the territory of Venice, as the more ancient, and of which that of the Piceni is a colony, this will juſtify the common appellation *Adriaticum*.

ADUACA (Antonine); or ATUACA (*Encycl.*); contracted from *Atuacua* (Cæſar); anciently a large and famous city of the Tungri; now a ſmall and inconſiderable village, called *Tongeren*, in the biſhopric of Liege, to the north-weſt of the city of Liege, in the territory of Haſpengow, on the rivulet Jecker, that ſoon after falls into the Maeſe. E. Long. 5. 22. Lat. 50. 54.

ADVENTURE ISLAND, a ſmall iſland in the South Sea, ſo called from the ſhip Adventure, in which Capt. Furneaux ſailed to the South Sea. Capt. Cook found the people to be mild and chearful, with little of that wild appearance which ſavages in general have. They were, however, almoſt totally devoid of activity or genius, and were nearly on a level with the wretched natives of Tierra del Fuego. Long. 147. 29. W. Lat. 43. 21. S.

ADVENTURERS (*Encycl.*). The ſociety of adventurers had its firſt eſtabliſhment from John duke of Brabant in 1248. It was afterwards tranſlated into England, and ſucceſſively confirmed by Edward III. and IV. Richard III. Henry IV. V. and VII. who gave it the appellation of *Merchant Adventurers*.

ADULA, a mountain of Navarre, in Spain, lying between Pampeluna and St. Jeun de Pié de Port.

ADULE, or ADULIS (anc. geog.), a town of Egypt built by fugitive ſlaves, diſtant from its port on the Red Sea twenty ſtadia. Pliny calls the inhabitants *Adulitæ*. The epithet is either *Adulitanus*; as, *Monumentum Adulitanum*, or the pompous inſcription of the ſtatue of Ptolemy Euergetes, publiſhed by Leo Alatius at Rome in 1631, and to be found in Spon and Thevenot: or *Adulicus*; as *Adulicus Sinus*, a part of the Red Sea.

ADULTERY (*Encycl.*). In many countries this crime has been capital; in others venial, and attended only with ſlight pecuniary mulcts. Some of the penalties are ſerious, and even cruel; others of a humorous kind. Even contrary things have been enacted as puniſhments for adultery. By ſome laws, the criminals are forbid marrying together, in caſe they became ſingle; by others, they are forbid to marry any beſides each other; by ſome, they are incapacitated from ever committing the ſame crime again; by others, they are glutted till it becomes nauſeous to themſelves, as in the reign of Theodoſius already alluded to.

Among the rich Greeks, adulterers were allowed to redeem themſelves by a pecuniary fine; the woman's father, in ſuch caſes, returned the dower he had received from her huſband, which ſome think was refunded by the adulterer. Another puniſhment among thoſe people was, putting out the eyes of adulterers.

The Athenians had an extraordinary way of puniſhing adulterers, called παραλιμ@ αραφανοιδωσις, practiſed at leaſt on the poorer ſort who were not able to pay the fines. This was an awkward ſort of empalement, performed by thruſting one of the largeſt radiſhes up the anus of the adulterer, or, in defect thereof, a fiſh with a large head, called *mugil*, mullet. Alcæus is ſaid to have died this way, though it was doubted whether the puniſhment was reputed mortal. Juvenal and Catullus ſpeak of this cuſtom, as received alſo among the Romans, though not authorized by an expreſs law, as it was among the Greeks.

Among the Romans, we are told, that the wife's father was allowed to kill both parties, committing adultery, when *caught in the fact*, provided he did it immediately, killing both together, and as it were with one blow. The ſame power ordinarily was not indulged the huſband, except the crime were committed with ſome mean or infamous perſon; though, in other caſes, if his rage carried him to put them to death, he was not puniſhed as a murderer. On many occaſions, however, revenge was not carried ſo far; but mutilating, caſtrating, cutting off the ears, noſes, &c. ſerved the turn. The puniſhment allotted by the *lex Julia*, was not, as many have imagined, death; but rather baniſhment, or deportation, being interdicted fire and water: though Octavius appears, in ſeveral inſtances, to have gone beyond his own law, and to have put adulterers to death. Under Macrinus, many were burnt at a ſtake. Conſtantine firſt by law made the crime capital. Under Conſtantius and Conſtant, adulterers were burnt, or ſewed in ſacks and thrown into the ſea. Under Leo and Marcian, the penalty was abated to perpetual baniſhment, or cutting off the noſe. Under Juſtinian, a further mitigation was granted; at leaſt in favour of the wife, who was only to be ſcourged, loſe her dower, and be ſhut up in a monaſtery: after two years, the huſband was at liberty to take her back again; if he refuſed, ſhe was ſhaven, and made a nun for life; but it ſtill remained death in the huſband. The reaſon alleged for this difference is, that the woman is the weaker veſſel. Matthæus declaims againſt the empreſs Theodora, who is ſuppoſed to have been the cauſe of this law, as well as of others procured in favour of the ſex from that emperor.

Under Theodoſius, women convicted of this crime were puniſhed after a very ſingular manner, *viz.* by a public conſtupration; being locked up in a narrow cell, and forced to admit to their embraces all the men that would offer themſelves. To this end, the gallants were to dreſs themſelves on purpoſe, having ſeveral little bells faſtened to their clothes, the tinkling of which gave notice to thoſe without of every motion. This cuſtom was again aboliſhed by the ſame prince.

To the ſcandal of Britain, adultery is a growing crime, notwithſtanding the heavy pecuniary damages given in our courts of juſtice, in many caſes. It is reckoned a ſpiritual offence, that is, cognizable by the ſpiritual courts. The common law takes no further notice of it, than to allow the party grieved an action and damages. This practice is often cenſured by foreigners, as making too light of a crime, the bad conſequences of which, public as well as private, are ſo great. But perhaps this penalty, by civil action, is more wiſely calculated to prevent the frequency of the offence, which ought to be the end of all laws, than a ſeverer puniſhment. He that by a judgment of law is, according to circumſtances, ſtripped of great part of his fortune, thrown into priſon till he can pay it, or forced to fly his country, will, no doubt, in moſt caſes, own that he pays dearly for his amuſement.

ADVOW, in law, ſignifies the patron of a church, or he who has a right to preſent to a benefice.

ADZENOTA, a ſmall town of Valencia, in Spain, ſeated on the mountains Pegna Goloſa. Long. 2. 16. W. Lat. 39. 10. N.

ÆACUS, the ſon of Jupiter by Ægina. When the iſle of Ægina was depopulated by a plague, his father, in compaſſion to his grief, changed all the ants upon it into men and women, who were called *Myrmidons*, from μυρμηξ an ant. The foundation of the fable is ſaid to be, that when the country had been depopulated by pirates, who forced the few that remained to take ſhelter in caves, Æacus encouraged them to come out, and by commerce and induſtry recover what they had loſt. His character for juſtice was ſuch, that, in a time of univerſal drought, he was nominated by the Delphic oracle to intercede for Greece, and his prayer was anſwered. The Pagans alſo imagined that Æacus, on account of his impartial juſtice, was

choſen by Pluto one of the three judges of the dead; and that it was his province to judge the Europeans.

ÆGADES, or ÆGATES, three ſmall iſlands, lying on the W. ſide of Sicily, oppoſite the main land, between Marſella and Trapani; their names are Levenzo, Favignana, and Maretama.

ÆGÆ, or ÆGÆA (anc. geog.), the name of *Ædeſſa*, ſo called from the following adventure: Caranus, the firſt king of Macedonia, being ordered by the oracle to ſeek out a ſettlement in Macedonia, under the conduct of a flock of goats, ſurpriſed the town of Ædeſſa, during a thick fog and rainy weather, in following the goats, that fled from the rain; which goats ever after, in all his military expeditions, he cauſed always to precede his ſtandard; and in memory of this he called Ædeſſa *Ægæa*, and his people *Ægeadæ*. And hence probably, in the prophet Daniel, the he-goat is the ſymbol of the king of Macedon.

ÆGEAN SEA (anc. geog.), now the *Archipelago*, a part of the Mediterranean, ſeparating Europe from Aſia and Africa; waſhing, on one hand, Greece and Macedonia; on the other, Caria and Ionia. The origin of the name is greatly diſputed. Feſtus advanced three opinions: one, that it is ſo called from the many iſlands therein, at a diſtance appearing like ſo many goats: another, becauſe Ægæa queen of the Amazons periſhed in it: a third opinion is, becauſe Ægeus, the father of Theſeus, threw himſelf headlong into it.

ÆGELSTAWIK, a good harbour, lying about half a mile from the town of Soddertledge in Sudermania, in Sweden.

ÆGEUS, in fabulous hiſtory, was king of Athens, and the father of Theſeus. The Athenians having baſely killed the ſon of Minos king of Crete, for carrying away the prize from them, Minos made war upon the Athenians; and being victorious, impoſed this ſevere condition on Ægeus, that he ſhould annually ſend into Crete, ſeven of the nobleſt of the Athenian youths, choſen by lot, to be devoured by the Minotaur. On the fourth year of this tribute, the choice fell on Theſeus: or, as others ſay, he himſelf intreated to be ſent. The king, at his ſon's departure, gave orders, that as the ſhip ſailed with black ſails, it ſhould return with the ſame in caſe he periſhed; but if he became victorious, he ſhould change them into white. When Theſeus returned to Crete, after killing the Minotaur, and forgot to change the ſails in token of his victory, according to the agreement with his father; the latter, who watched the return of the veſſel, ſuppoſing by the black ſails that his ſon was dead, caſt himſelf headlong into the ſea, which afterwards obtained the name of the Ægean Sea. The Athenians decreed Ægeus divine honours; and ſacrificed to him as a marine deity, the adopted ſon of Neptune.

ÆGIMURUS (anc. geog.), an iſland on the bay of Carthage, about 30 miles diſtant from that city (Livy); now the *Galetta*: this iſland being afterwards ſunk in the ſea, two of its rocks remained above water, which were called *Aræ*, and mentioned by Virgil, becauſe the Romans and Carthaginians entered into an agreement or league to ſettle their mutual boundaries on theſe rocks.

ÆGINA, in fabulous hiſtory, the daughter of Æſopus, king of Bœotia, was beloved by Jupiter, who debauched her in the ſimilitude of a lambent flame, and then carried her from Epidaurus to a deſert iſland called Oenope, which afterwards obtained her own name.

ÆGINA (anc. geog.), now *Engia*, an iſland on the Saronic Bay, or Bay of Engia, twenty miles diſtant from the Piræeus, formerly vying with Athens for naval power, and at the ſea-fight of Salamin diſputing the palm of victory with the Athenians. It was the country and kingdom of Æacus, who called it *Ægina* from his mother's name, it being before called *Oenopia* (Ovid). The inhabitants were called *Æginetæ* and *Æginenſis*. The Greeks had a common temple in Ægina. The ſoil was gleby underneath, but rocky on the ſurface: yet yielding plenty of barley. The Æginetæ applied to commerce; and were the firſt who coined money, called Νομισμα Αγγαιον: hence *Ægineticum æs*, formerly in great repute. The inhabitants were called *Myrmydons*, or a nation of ants, from their great application to agriculture. See ÆACUS. *(Suppl.)*

ÆGINETA (Paulus), a celebrated ſurgeon of the iſland of Ægina, from whence he derived his name. According to Mr. Le Clerc's calculation, he lived in the fourth century; but Abulpharagius the Arabian, who is allowed to give the beſt account of thoſe times, places him with more probability in the ſeventh. His knowledge in ſurgery was very great, and his works are deſervedly famous. Fabricius ab Aquapendente has thought fit to tranſcribe him in a great variety of places. Indeed the doctrine of Paulus Ægineta, together with that of Celſus, and Albucaſis, make up the whole text of this author. He is the firſt writer who takes notice of the cathartic quality of rhubarb; and according to Dr. Milward, is the firſt in all antiquity who deſerves the title of man-midwife.

ÆGINHARD, the celebrated ſecretary and ſuppoſed ſon-in-law of Charlemagne. He is ſaid to have been carried through the ſnow on the ſhoulders of the affectionate and ingenious Imma, to prevent his being tracked from her apartments by the emperor her father: a ſtory which the elegant pen of Addiſon has copied and embelliſhed from an old German chronicle, and inſerted in the third volume of the Spectator. He was a native of Germany, and educated by the munificence of his imperial maſter, of which he has left the moſt grateful teſtimony in his preface to the life of that monarch. Æginhard, after the loſs of his lamented wife, is ſuppoſed to have paſſed the remainder of his days in religious retirement, and to have died ſoon after the year 840. He wrote the life of Charlemagne, and Annals from 741 to 889.

ÆGIPAN, in heathen mythology, a denomination given to the god Pan, becauſe he was repreſented with the horns, legs, feet, &c. of a goat.

ÆGISTHUS, ſon of Thyeſtes by his own daughter Philopeia, who, to conceal her ſhame, expoſed him in the woods: ſome ſay he was taken up by a ſhepherd, and ſuckled by a goat, whence he was called Ægiſthus. He corrupted Clytemneſtra the wife of Agamemnon; and with her aſſiſtance ſlew her huſband, and reigned ſeven years in Mycenæ. He was, together with Clytemneſtra, ſlain by Oreſtes. Pompey uſed to call Julius Cæſar *Ægiſthus*, on account of his having corrupted his wife Mutia, whom he afterward put away, though he had three children by her.

ÆGIUM (anc. geog.), a town of Achaia Propria, five miles from the place where Helice ſtood, and famous for the council of the Acheans, which uſually met there, on account either of the dignity, or commodious ſituation of the place. It was alſo famous for the worſhip of Ομαγυριος Ζευς, *Conventional Jupiter*, and of *Panachæan Ceres*. The territory of Ægium was watered by two rivers, viz. the Phœnix and Meganitas. The epithet is *Ægienſis*. There is a coin in the cabinet of the king of Pruſſia, with the inſcription of ΑΙΓΙ, and the figure of a tortoiſe, which is the ſymbol of Peloponneſus, and leaves no doubt as to the place where it was ſtruck.

ÆGLEFINUS, or HADDOCK, in ichthyology, a ſpecies of the gadus. See GADUS.

ÆGOS POTAMOS (anc. geog.), a river in the Thracian Cherſoneſus, falling with a ſouth-eaſt courſe into the Helleſpont, to the north of Seſtos; alſo a town, ſtation, or road for ſhips, at its mouth. Here the Athenians, under Conon, through the fault of his colleague Iſocrates, received ſo fatal a blow from the Lacedæmonians under Lyſander, in a ſea-engagement, as to coſt them their liberty and their all.

ÆGYPTILLA (*Encycl.*), in natural hiſtory, the name of a ſtone deſcribed by the ancients. The deſcriptions left us of this remarkable foſſil tell us, that it was variegated with, or compoſed of, veins of black and white, or black and blueiſh, with ſometimes a plate or vein of whitiſh red. The authors of theſe accounts ſeem to have underſtood by this name the ſeveral ſtones of the onyx, ſardonyx, and camæa kind, all which we have at preſent common among us, but none of which poſſeſs any of the ſtrange properties attributed to this.

ÆGYPTUS (fab. hiſt.) was the ſon of Beleus, and brother of Danaus.

ÆINATÆ, in antiquity (*Encycl.*), erroneouſly there ſpelt ÆINAUTÆ

ÆLIAN (Claudius), born at Præneſte in Italy. He taught rhetoric at Rome, according to Perizonius, under the emperor Alexander Severus. He was ſurnamed Μελιγλωσσος, Honeymouth, on account of the ſweetneſs of his ſtyle. He was likewiſe honoured with the title of Sophiſt, an appellation in his days given only to men of learning and wiſdom. He loved retirement, and devoted himſelf to ſtudy. He greatly admired and ſtudied Plato, Ariſtotle, Iſocrates, Plutarch, Homer, Anacreon, Archilochus, &c. and, though a Roman, gives the preference to the writers of the Greek nation. His two moſt celebrated works are, his Various Hiſtory, and Hiſtory of Animals. He compoſed likewiſe a book on Providence, mentioned by Euſtathius; and another on Divine Appearances, or The Declarations of Providence. There have been ſeveral editions of his Various Hiſtory.

ÆLII PONS (anc. geog.), one of the fortreſſes near the wall or rampart, or, in the words of the Notitia, through the line of the hither wall; built, as is thought, by Adrian. Now Porteland (Camden), in Northumberland, between Newcaſtle and Morpeth.

ÆMILIUS (Paulus), the ſon of Lucius Paulus, who was killed at the battle of Cannæ, was twice conſul. In his firſt conſulate he triumphed over the Ligurians; and in the ſecond ſubdued Perſeus king of Macedonia, and reduced that country to a Roman province, on which he obtained the ſurname of Macedonicus. He returned to Rome loaded with glory, and triumphed for three days. He died 168 years before Chriſt.

ÆMILIUS (Paulus), a celebrated hiſtorian, born at Verona, who obtained ſuch reputation in Italy, that he was invited into France by the Cardinal of Bourbon, in the reign of Lewis XII. in order to write the hiſtory of the kings of France in Latin, and was given a canonry in the cathedral of Paris. He was near thirty years in writing that hiſtory, which has been greatly admired; and died at Paris on the 5th of May, 1529.

ÆNARIA (anc. geog.), an iſland on the bay of Cumæ, or over-againſt Cumæ in Italy (Pliny). It is alſo called *Inarime* (Virgil); and now *Iſchia:* ſcarce three miles diſtant from the coaſt, and the promontory Miſenus to the weſt; twenty miles in compaſs; called *Pithecuſa* by the Greeks. It is one of the Oenotrides, and fenced round by very high rocks, ſo as to be inacceſſible but on one ſide: it was formerly famous for its earthen ware. See ISCHIA.

ÆNEAS (fab. hiſt.), a famous Trojan prince, the ſon of Anchiſes and Venus. At the deſtruction of Troy, he bore his aged father on his back, and ſaved him from the Greeks; but being too ſolicitous about his ſon and houſehold gods, loſt his wife Creuſa in the eſcape. Landing in Africa, he was kindly received by Queen Dido: but quitting her coaſt, he arrived in Italy, where he married Lavinia the daughter of King Latinus, and defeated Turnus, to whom ſhe had been contracted. After the death of his father-in-law, he was made king of the Latins, over whom he reigned three years: but joining with the Aborigines, he was ſlain in a battle againſt the Tuſcans. Virgil has rendered the name of this prince immortal, by making him the hero of his poem.

ÆNEAS (Gazeus), or ÆNEAS of Gaza, by profeſſion a ſophiſt, was originally a Platonic philoſopher, but afterwards became a Chriſtian, and flouriſhed about the year 487. His age is aſcertained from his aſſuring us, that he ſaw the African confeſſors, whoſe tongues were cut out by Hunneric, king of the Vandals, in 484, under the reign of the emperor Zeno: and in this we may believe him. But can we ſo ſafely believe him, when he affirms, that he heard theſe confeſſors ſpeak very plainly and diſtinctly, after their tongues were indeed cut out? He wrote a dialogue, entitled, Theophraſtus, concerning the immortality of the ſoul, and the reſurrection of the body; and which he has enlivened with many curious enquiries into the ſentiments of the philoſophers, and with many agreeable ſtories. This dialogue was firſt tranſlated into Latin, and publiſhed at Baſil, in 1516: afterwards in Greek and Latin at Baſil, in 1560, with other pieces: afterwards at Leipſic, 1658, with a tranſlation and notes, by Barthius, in quarto.

ÆNCINA (*Encycl.*). This iſland lies in the bay of Engia, and the town of that name contains about 800 houſes and a caſtle; and near it are the ruins of a magnificent ſtructure, which was probably a temple.

ÆNIGMA (*Encycl.*). In Greek, Αινιγμα, is formed of αινιττεσθαι, *obſcure innuere*, to hint a thing darkly, and of αινος, an obſcure ſpeech or diſcourſe. The popular name is *riddle*; from the Belgic *raeden*, or the Saxon *araethan*, to interpret. Fa. Bouhours, in the Memoirs of Trevoux, defines an ænigma, A diſcourſe, or painting, including ſome hidden meaning, which is propoſed to be gueſſed.

The alchemiſts are great dealers in the ænigmatic language, their proceſſes for the philoſophers ſtone being generally wrapped up in riddles: e. g. *Fac ex mare et fœmina circulum, inde quadrangulum, hinc triangulum, fac circulum, et habebis lapidem philoſophorum.*—F. Meneſtrier has attempted to reduce the compoſition and reſolution of ænigmas to a kind of art, with fixed rules and principles, which he calls the philoſophy of *ænigmatic* images.

There are ſome ænigmas in hiſtory, complicated to a degree which much tranſcends all rules, and has given great perplexity to the interpreters of them. Such is that celebrated ancient one, *Ælia Lælia Criſpis*, about which many of the learned have puzzled their heads. There are two exemplars of it: one found 140 years ogo, on a marble near Bolognia; the other in an ancient MS. written in Gothic letters, at Milan. It is controverted between the two cities, which is to be reputed the more authentic.

The Bononian *Ænigma.*

D. M.
Ælia Lælia Criſpis,
Nec vir, nec mulier,
Nec androgyna;
Nec puella, nec juvenis,
Nec anus;
Nec caſta, nec meretrix,
Nes pudica;
Sed omnia:
Sublata
Neque fame, neque ferro,
Neque veneno;
Sed omnibus:
Nec cælo, nec terris,
Nec aquis,

Sed ubique jacet.
Lucius Agatho Priſcius,
Nec maritus, nec amator,
Nec neceſſarius;
Neque mœrens, neque gaudens,
Neque flens;
Hanc,
Nec molem, nec pyramidem,
Nec ſepulchrum,
Sed omnia,
Scit et neſcit, cui poſuerit.

That is to ſay, *To the gods manes, Ælia Lælia Criſpis, neither man, nor woman, nor hermaphrodite; neither girl, nor young woman, nor old; neither chaſte, nor a whore; but all theſe: killed neither by hunger, nor ſteel, nor poiſon; but by all theſe: reſts neither in heaven, nor on earth, nor in the waters; but every-where. Lucius Agatho Priſcius, neither her huſband, nor lover, nor friend; neither ſorrowful, nor joyful, nor weeping, certain, or uncertain, to whom he rears this monument, neither erects her a temple nor a pyramid, nor a tomb, but all theſe.* In the MS. at Milan. inſtead of *D.M.* we find *A.M. P.P.D.* and at the end the following addition:

Hoc eſt ſepulchrum intus cadaver non habens.
Hoc eſt cadaver ſepulchrum extra non habens,
Sed cadaver idem eſt & ſepulchrum.

We find near 50 ſeveral ſolutions of this ænigma advanced by learned men. Marius Michael Angelus maintains *Ælius Lælia Criſpus* to ſignify rain-water falling into the ſea. Ri. Vitus firſt explained it of Niobe turned to a ſtone, afterwards of the rational ſoul, and afterwards of the Platonic idea; Jo. Turrius, of the *materia prima;* Fr. Schottus, of an eunuch; Nic. Bernardus, of the philoſophers ſtone, in which he is followed by Borrichius; Zach. Fontinus, of three human bodies in the ſame ſituation, and buried by three different men at the ſame time; Neſmondius, of a law-ſuit; Jo. Gaſ. Gerartius, of love; Zu. Boxhornius, of a ſhadow; P. Terronus, of muſic; Fort Licetus, of generation, friendſhip, and privation; M. Ov. Montalbanus, of hemp; Car. Cæſ. Malvaſia, of an abortive girl promiſed in marriage; Pet. Mengulus, of the rule of chaſtity, preſcribed by the founder of the military religion of St. Mary; M. de Ciconia, of pope Joan; Heumannus, of Lot's wife; and laſtly, J.C.S. an anonymous writer in the Leipſic Acts, of the Chriſtian church.

ÆOLIÆ INSULÆ, now *Iſole di Lipari* (anc. geog.), ſeven iſlands, ſituated between Sicily and Italy (Strabo, Diodorus Siculus, Mela); ſo called from Æolus, who reigned there about the time of the Trojan war. The Greeks called them *Hephæſtiades;* and the Romans, *Vulcaniæ*, from their fiery eruptions. They are alſo called *Liparæorum Inſulæ*, from the principal iſland Lipara. Dionyſius Periegetes calls them Πλαζαι, becauſe circumnavigable.

ÆOLUS, in mechanics, a ſmall machine, the invention of Mr. Tidd, calculated for changing the air in rooms when too hot or unfit for reſpiration. It ſupplies the place of a ſquare in the window, and works with very little noiſe, like the ſails of a common window ventilator.

ÆON (*Encycl.*). The Valentinians, who, in the firſt ages of the church, blended the conceits of the Jewiſh cabaliſts, the Platoniſts, and the Chaldean philoſophers, with the ſimplicity of the Chriſtian doctrine, invented a kind of Theogony, or Genealogy of Gods (not unlike that of Heſiod), whom they called by ſeveral glorious names, and all by the general appellation of Æons: among which they reckoned Ζωη, *Life;* Λογος, *Word;* Μονογενης, *Only begotten;* Πληρωμα, *Fullneſs;* and many other divine powers and emanations, amounting in number to thirty: which they fancied to be ſucceſſively derived from one another; and all from one ſelf-originated deity, named *Bythus*, i. e. *profound* or *unfathomable;* whom they called likewiſe, *The moſt high and ineffable Father.* See VALENTINIANS.

ÆQUIMELIUM, in antiquity, a place in Rome, where ſtood the houſe of Spurius Melius, who, by largeſſes corrupting the people, affected the ſupreme power: refuſing to appear before the dictator Cincinnatus, he was ſlain by Servilius Ahala, maſter of the horſe; his houſe was razed to the ground; and the ſpot on which it ſtood was called *Area Æquimelii.* (Livy.)

FLOS ÆRIS, among alchemiſts, ſmall ſcales procured from copper melted by a ſtrong heat; it is ſometimes uſed for ærugo or verdigriſe.

AEROGRAPHY (*Encycl.*), a deſcription of the air. In the laſt line but two of that article for "rational" read "rationale."

ÆSCHINES, a Socratic philoſopher, the ſon of Charinus a ſauſage-maker. He was continually with Socrates; which occaſioned this philoſopher to ſay, that the ſauſage-maker's ſon was the only perſon who knew how to pay a due regard to him. It is ſaid that poverty obliged him to go Sicily, to Dionyſius the Tyrant; and that he met with great contempt from Plato, but was extremely well received by Ariſtippus, to whom he ſhewed ſome of his dialogues, and received from him a handſome reward. He would not venture to profeſs philoſophy at Athens, Plato and Ariſtippus being in ſuch high eſteem; but he ſet up a ſchool to maintain himſelf. He afterwards wrote orations for the Forum. Phrynicus, in Photius, ranks him amongſt the beſt orators, and mentions his orations as the ſtandard of the pure Attic ſtyle. Hermogenes has alſo ſpoken very highly of him.—He alſo wrote ſeveral dialogues, of which there are only three extant: 1. Concerning Virtue, whether it can be taught. 2. Eryxias, or Eraſiſtratus; concerning riches, whether they are good. 3. Axiochus; concerning death, whether it is to be feared. Mr. Le Clerc has given a Latin tranſlation of them, with notes, and ſeveral diſſertations, entitled *Sylvæ Philologicæ.*

ÆSCHINES, a celebrated orator, contemporary with Demoſthenes, and but juſt his inferior. Some ſay that Iſocrates, ſome ſay that Socrates, ſome that Gorgias, was his maſter. Being overcome by Demoſthenes, he went to Rhodes, and opened a ſchool there; and afterwards removed to Samos, where he died at the age of ſeventy-five. There are only three of his orations extant, which however are ſo very beautiful, that Fabricius compares them to the three graces. One is againſt Timarchus, his accuſer, whom he treated ſo ſeverely, as to make him weary of life; and ſome have ſaid, that he did actually lay violent hands upon himſelf. Another is an Apology for himſelf againſt Demoſthenes, who had accuſed him of perfidy in an embaſſy to Philip. The third, againſt Cteſiphon, who had decreed the golden crown to Demoſthenes. This excellent oration, together with that of Demoſthenes againſt it, was tranſlated by Cicero into Latin, as St. Jerome and Sidonius informs us. The three orations were publiſhed by Aldus, 1513, and by Henry Stephens among other orators 1575, in Greek.

ÆSCHYLUS, the tragic poet, was born at Athens. Authors differ in regard to the time of his birth, ſome placing it in the 65th, others in the 70th Olympiad; but according to Stanley, who relies on the Arundelian marbles, he was born in the 63d Olmpiad. He was the ſon of Euphorion, and brother to Cynegirus and Aminias, who diſtinguiſhed themſelves in the battle of Marathon, and the ſea-fight of Salamis, at which engagements Æſchylus was likewiſe preſent. In this

laſt action, according to Diodorus Siculus, Aminias, the younger of the three brothers, commanded a ſquadron of ſhips, and behaved with ſo much conduct and bravery, that he ſunk the admiral of the Perſian fleet, and ſignalized himſelf above all the Athenians. To this brother our poet was, upon a particular occaſion, obliged for ſaving his life: Ælian relates, that Æſchylus being charged by the Athenians with certain blaſphemous expreſſions in ſome of his pieces, was accuſed of impiety, and condemned to be ſtoned to death: they were juſt going to put the ſentence in execution, when Aminias, with a happy preſence of mind, throwing aſide his cloak, ſhewed his arm without a hand, which he had loſt at the battle of Salamis, in defence of his country. This ſight made ſuch an impreſſion on the judges, that, touched with the remembrance of his valour, and with the friendſhip he ſhewed for his brother, they pardoned Æſchylus. Our poet, however, reſented the indignity of this proſecution, and reſolved to leave a place where his life had been in danger. He became more determined in this reſolution when he found his pieces leſs pleaſing to the Athenians than thoſe of Sophocles, though a much younger writer. Some affirm, that Æſchylus never ſat down to compoſe but when he had drank liberally. He wrote a great number of tragedies, of which there are but ſeven remaining: and notwithſtanding the ſharp cenſures of ſome critics, he muſt be allowed to have been the father of the tragic art. In the time of Theſpis, there was no public theatre to act upon; the ſtrollers driving about from place to place in a cart. Æſchylus furniſhed his actors with maſques, and dreſſed them ſuitably to their characters. He likewiſe introduced the buſkin, to make them appear more like heroes.—The ancients give Æſchylus alſo the praiſe of having been the firſt who removed murders and ſhocking ſights from the eyes of the ſpectators. He is ſaid likewiſe to have leſſened the number of the chorus. M. Le Fevre has obſerved, that Æſchylus never repreſented women in love, in his tragedies; which, he ſays, was not ſuited to his genius: but, in repreſenting a woman tranſported with fury, he was incomparable. Longinus ſays, that Æſchylus has a noble boldneſs of expreſſion; and that his imagination is lofty and heroic. It muſt be owned, however, that he affected pompous words, and that his ſenſe is too often obſcured by figures: this gave Salmaſius occaſion to ſay, that he was more difficult to be underſtood than the ſcripture itſelf. But notwithſtanding theſe imperfections, this poet was held in great veneration by the Athenians, who made a public decree that his tragedies ſhould be played after his death. He was killed in the 69th year of his age, by an eagle letting fall a tortoiſe upon his head as he was walking in the fields. He had the honour of a pompous funeral from the Sicilians, who buried him near the river Gela; and the tragedians of the country performed plays and theatrical exerciſes at his tomb.—The beſt edition of his plays is that of London, 1663, fol. with a Latin tranſlation and a learned commentary by Tho. Stanley.

ÆSCULANUS, or ÆRES, in mythology, a deity who preſided over the coinage of copper-money.

ÆSCULAPIUS, in the heathen mythology, the god of phyſic, was the ſon of Apollo and the nymph Coronis. He was educated by the centaur Chiron, who taught him phyſic; by which means Æſculapius cured the moſt deſperate diſeaſes. But Jupiter, enraged at his reſtoring to life Hippolitus who had been torn in pieces by his own horſes, killed him with a thunderbolt. According to Cicero, there were three deities of this name: the firſt, the ſon of Apollo, worſhipped in Arcadia, who invented the probe, and bandages for wounds; the ſecond, the brother of Mercury, killed by lightning; and the third, the ſon of Ariſippus and Arſinoe, who firſt taught the art of tooth-drawing and purging. At Epidaurus, Æſculapius's ſtatue was of gold and ivory, with a long beard, his head ſurrounded with rays, holding in one hand a knotty ſtick, and the other entwined with a ſerpent; he was ſeated on a throne of the ſame materials as his ſtatue, and had a dog lying at his feet. The Romans crowned him with laurel, to repreſent his deſcent from Apollo; and the Phaliaſini repreſented him as beardleſs. The cock, the raven, and the goat, were ſacred to this deity. His chief temples were at Pergamus, Smyrna, Trica a city in Ionia, and the iſle of Coos; in all which, votive tablets were hung up; ſhewing the diſeaſes cured by his aſſiſtance. But his moſt famous ſhrine was at Epidaurus; where, every five years, games were inſtituted to him, nine days after the Iſthmian games at Corinth.

ÆSOP, the Phrygian, lived in the time of Solon, about the 50th Olympiad, under the reign of Crœſus the laſt king of Lydia. As to genius and abilities, he was greatly indebted to nature; but in other reſpects not ſo fortunate, being born a ſlave and extremely deformed. St. Jerom, ſpeaking of him, ſays he was unfortunate in his birth, condition in life, and death; hinting thereby at his deformity, ſervile ſtate, and tragical end. His great genius however enabled him to ſupport his misfortunes; and in order to alleviate the hardſhips of ſervitude, he compoſed thoſe entertaining and inſtructive fables which have acquired him ſo much reputation. He is generally ſuppoſed to have been the inventor of that kind of writing; but this is conteſted by ſeveral, particularly Quintilian, who ſeems to think that Heſiod was the firſt author of fables. Æſop, however, certainly improved this art to a very great degree; and hence it is that he has been accounted the author of this ſort of productions.

The firſt maſter whom Æſop ſerved, was one Caraſius Demarchus, an inhabitant of Athens; and there in all probability he acquired his purity in the Greek tongue. After him he had ſeveral maſters; and at length came under a philoſopher named Idmon or Iadmon, who enfranchiſed him. After he had recovered his liberty, he ſoon acquired a great reputation amongſt the Greeks; ſo that, according to Meziriac, the report of his wiſdom having reached Crœſus, he ſent to enquire after him, and engaged him in his ſervice. He travelled through Greece, according to the ſame author; whether for his own pleaſure, or upon the affairs of Crœſus, is uncertain; and paſſing Athens ſoon after Piſiſtratus had uſurped the ſovereign power, and finding that the Athenians bore the yoke very impatiently, he told them the fable of the frogs who petitioned Jupiter for a king. The images made uſe of by Æſop are certainly very happy inventions to inſtruct mankind; they poſſeſs all that is neceſſary to perfect a precept, having a mixture of the uſeful with the agreeable. "Æſop the fabuliſt (ſays Aulus Gellius) was deſervedly eſteemed wiſe, ſince he did not, after the manner of the philoſophers, rigidly and imperiouſly dictate ſuch things, as were proper to be adviſed and perſuaded; but, framing entertaining and agreeable apologues, he thereby charms and captivates the human mind."—Æſop was put to death at Delphi. Plutarch tells us, that he came there with a great quantity of gold and ſilver, being ordered by Crœſus to offer a ſacrifice to Apollo, and to give a conſiderable ſum to each inhabitant: but a quarrel ariſing betwixt him and the Delphians, he ſent back the money to Crœſus; for he thought thoſe for whom the prince deſigned it, had rendered themſelves unworthy of it. The inhabitants of Delphi contrived an accuſation of ſacrilege againſt him; and pretending they had convicted him, threw him headlong from a rock. For this cruelty and injuſtice, we are told, they were viſited with famine and peſtilence; and conſulting the oracle, they received for anſwer, that the god de-

ſigned this as a puniſhment for their treatment of Æſop: they endeavoured to make an atonement, by raiſing a pyramid to his honour.

Æsop, a Greek hiſtorian, who wrote a romantic hiſtory of Alexander the Great: it is not known at what time he lived. His work was tranſlated into Latin by one Julius Valerius, who is not better known than Æſop. Freinſhemius has the following paſſage concerning this work: "Julius Valerius wrote a fabulous Latin hiſtory of Alexander, which by ſome is aſcribed to Æſop, by others to Caliſthenes. Hence Antoninus, Vincentius, Uſpargenſis, and others, have greedily taken their romantic tales. It may not be amiſs to quote here the opinion of Barthius, in his Adverſaria: "There are many things (ſays this author) in the learned monk, who ſome years ago publiſhed a life of Alexander the Great, full of the moſt extravagant fictions; yet this romance had formerly ſo much credit, that it is quoted as an authority even by the beſt writers. It is the ſame author that Franciſcus Juretus mentions under the name of Æſop." This work was publiſhed in German at Straſburg, in 1486.

Æsop (Clodius), a celebrated actor, who flouriſhed about the 670th year of Rome. He and Roſcius were contemporaries, and the beſt performers who ever appeared upon the Roman ſtage, the former excelling in tragedy, the latter in comedy. Cicero put himſelf under their direction to perfect his action. Æſop lived in a moſt expenſive manner, and at one entertainment is ſaid to have had a diſh which coſt above eight hundred pounds; this diſh, we are told, was filled with ſinging and ſpeaking birds, ſome of which coſt near 50l. The delight which Æſop took in this ſort of birds proceeded, as Mr. Boyle obſerves, from the expence. He did not make a diſh of them becauſe they could ſpeak, this motive being only by accident, but becauſe of their extraordinary price. If there had been any birds that could not ſpeak, and yet more ſcarce and dear than theſe, he would have procured ſuch for his table. Æſop's ſon was no leſs luxurious than his father, for he diſſolved pearls for his gueſts to ſwallow. Some ſpeak of this as a common practice of his; but others mention his falling into this exceſs only on a particular day, when he was treating his friends. Horace ſpeaks only of one pearl of great value, which he diſſolved in vinegar, and drank. Æſop, notwithſtanding his expences, is ſaid to have died worth above 160,000l. When he was upon the ſtage, he entered into his part to ſuch a degree, as ſometimes to be ſeized with a perfect ecſtacy: Plutarch mentions it as reported of him, that whilſt he was repreſenting Atreus deliberating how he ſhould revenge himſelf on Thyeſtes, he was ſo tranſported beyond himſelf in the heat of action, that with his truncheon he ſmote one of the ſervants croſſing the ſtage, and laid him dead on the ſpot.

ÆSYMNIUM (*Encycl.*). Æſymnus the Megarean, conſulting the oracle in what manner the Megareans might be moſt happily governed, was anſwered, *If they held conſultation with the more numerous:* whom he taking for the dead, built the *Æſymnium*, and a ſenate-houſe that took within its compaſs the monument; imagining, that thus the dead would aſſiſt at their conſultations. (Pauſanias.)

ÆTHIOPS *Mineral* (*Encycl.*). For the reference to "Pharmacy," read Chemistry, p. 445.

AETION, a celebrated painter, who has left us an excellent picture of Roxana and Alexander, which he exhibited at the Olympic games: it repreſents a magnificent chamber, where Roxana is ſitting on a bed of a moſt ſplendid appearance, which is rendered ſtill more brilliant by her beauty. She looks downwards, in a kind of confuſion, being ſtruck with the preſence of Alexander ſtanding before her. A number of little Cupids flutter about, ſome holding up the curtain, as if to ſhew Roxana to the prince, whilſt others are buſied in undreſſing the lady; ſome pull Alexander by the cloak, who appears like a young baſhful bridegroom, and preſent him to his miſtreſs: he lays his crown at her feet, being accompanied by Epheſtion, who holds a torch in his hand, and leans upon a youth, who repreſents Hymen. Several other little Cupids are repreſented playing with his arms; ſome carry his lance, ſtooping under ſo heavy a weight, others bearing along his buckler, upon which one of them is ſeated, whom the reſt carry in triumph; another lies in ambuſh in his armour, waiting to frighten the reſt as they paſs by. This picture gained Aetion ſo much reputation, that the preſident of the games gave him his daughter in marriage.

AETIUS, one of the moſt zealous defenders of Arianiſm, was born in Syria, and flouriſhed about the year 336. After being ſervant to a grammarian, of whom he learned grammar and logic, he was ordained deacon, and at length biſhop, by Eudoxus patriarch of Conſtantinople. St. Epiphanius has preſerved 47 of his propoſitions againſt the Trinity. His followers were called Aetians.

Aetius, a famous phyſician, born at Amida in Meſopotamia, and the author of a work entitled *Tetrabiblos*, which is a collection from the writings of thoſe phyſicians who went before him. He lived, according to Dr. Freind, at the end of the 5th or the beginning of the 6th century.

Aetius, governor of Gallia Narbonenſis in the reign of Valentinian III. forced the Franks who were paſſing into Gaul to repaſs the Rhine. He defeated the Goths; and routed Attila king of the Huns, who invaded Gaul with an army of 700,000 men. But the emperor, jealous of the merit of this great man, killed him in 454 with his own hand, under the pretence that he had permitted the invaſion of the Huns, after Attila's defeat.

ÆTNA (*Encycl.*). Concerning the dimenſions of mount Ætna, we can ſcarce extract any thing conſiſtent, even from the accounts of the lateſt and moſt ingenious travellers. Pindar, who lived about 435 years before Chriſt, calls it the *Pillar of Heaven*, on account of its great height. All modern writers likewiſe agree, that this mountain is very high, and very large; but differ exceſſively as to its height and magnitude: ſome making it no leſs than twelve miles high, others eight, others ſix, ſome four, while Mr. Brydone, and Sir William Hamilton, who lately aſcended to its higheſt ſummit, reduce its height to little more than two miles; nay, by ſome, it is reduced to 10,036 feet, ſomewhat leſs than two miles. No leſs remarkable are the differences concerning its circumference: ſome making it only ſixty miles round, others 100; and Signior Recupero, from whom Mr. Brydone had his information in this reſpect, affirms it to be no leſs than 183 miles in circuit.

But if we are embarraſſed with the circumference of Ætna, we are much more ſo with the accounts relating to its height; and one circumſtance, particularly, creates almoſt inſurmountable difficulties. It is agreed upon by all travellers, and among the reſt by Sir William Hamilton, that from Catania, where the aſcent firſt begins, to the ſummit, is not leſs than thirty miles. The deſcent on the other ſide we have no account of; but, whatever ſuppoſition we make, the height of the mountain muſt be prodigious. If we ſuppoſe it likewiſe to be thirty miles, and that mount Ætna can be repreſented by an equilateral triangle, each of whoſe ſides is thirty miles, we will have an amazing elevation indeed, no leſs than twenty-ſix miles perpendicular!—Such a height being beyond all credibility, we muſt contract the ſides of our triangle, in proportion to its baſis. We ſhall begin with allowing ten miles for the

difference between a ſtraight line from Catania to the ſummit, and the length of the road, occaſioned by the inequalities of the mountain; and ſuppoſing the deſcent on the other ſide to be ſomewhat ſhorter, we may call it fifteen miles. Mount Ætna will now be repreſented by a ſcalene triangle, whoſe baſe is thirty miles, its longeſt ſide twenty, and its ſhorteſt fifteen; from which proportions we will ſtill find its height to be betwixt eight and nine miles.—This is ſtill incredible; and when all the various relations concerning the height of Ætna are compared, we hope it will not be thought preſumptuous in us to give it as our opinion, that the true dimenſions of this mountain are as yet unknown.

Concerning the products and general appearance of this volcano, authors are much better agreed.—The journey from Catania to its ſummit has been lately deſcribed by three travellers, M. D'Orville, Mr. Brydone, and Sir William Hamilton. All theſe agree, that this ſingle mountain affords an epitome of the different climates throughout the whole world: towards the foot, it is very hot; farther up, more temperate; and grows gradually more and more cold the higher we aſcend. At the top, it is perpetually covered with ſnow: from thence the whole iſland is ſupplied with that article, ſo neceſſary in a hot climate, and without which the natives ſay Sicily could not be inhabited. So great is the demand for this commodity, that the biſhop's revenues, which are conſiderable, ariſe from the ſale of mount Ætna's ſnow; and he is ſaid to draw 10col. a-year from one ſmall portion lying on the north ſide of the mountain. Great quantities of ſnow and ice are likewiſe exported to Malta and Italy, making a conſiderable branch of commerce. On the north ſide of this ſnowy region, Mr. Brydone was aſſured, that there are ſeveral ſmall lakes which never thaw; and that the ſnow mixed with the aſhes and ſalts of the mountain are accumulated to a vaſt depth. The quantity of ſalts contained in this mountain, he, with great probability, conjectures to be one reaſon of the preſervation of its ſnows; for ſalt increaſes the coldneſs of ſnow to a ſurpriſing degree.

In the middle of the ſnowy region ſtands the great *crater*, or mouth of Ætna; from which, though contrary to the uſual method of travellers, we ſhall begin our particular account of this mountain. Sir William Hamilton deſcribes the crater as a little mountain, about a quarter of a mile perpendicular, and very ſteep, ſituated in the middle of a gently inclining plain, of about nine miles in circumference. It is entirely formed of ſtones and aſhes; and, as that gentleman (then Mr. Hamilton) was told by ſeveral people of Catania, had been thrown up about twenty-five or thirty years before that time (1762). Before this mountain was thrown up, there was only a prodigious large chaſm, or gulph, in the middle of the above-mentioned plain; and it has been remarked, that about once in 100 years the top of Ætna falls in; which undoubtedly muſt be the caſe at certain periods, or the mountain behoved continually to increaſe in height. As this little mountain, though emitting ſmoke from every pore, appeared ſolid and firm, Mr. Hamilton and his companions went up to the very top. In the middle is a hollow, about two miles and a half in circumference, according to Mr. Hamilton; three miles and a half, according to Mr. Brydone; and three or four according to Mr. D'Orville. The inſide is cruſted over with ſalts and ſulphur of different colours. It goes ſhelving down, from the top, like an inverted cone; the depth, in Mr. Hamilton's opinion, nearly correſponding to the height of the little mountain. From many places of this ſpace iſſue volumes of ſulphureous ſmoke, which being much heavier than the circumambient air, inſtead of aſcending in it, roll down the ſide of the mountain, till, coming to a more denſe atmoſphere, it ſhoots off horizontally, and forms a large tract in the air, according to the direction of the wind; which, happily for our travellers, carried it exactly to the ſide oppoſite to which they were placed. In the middle of this funnel is the tremendous and unfathomable gulph, ſo much celebrated in all ages, both as the terror of this life, and the place of puniſhment in the next. From this gulph continually iſſue terrible and confuſed noiſes, which in eruptions are increaſed to ſuch a degree as to be heard at a prodigious diſtance. Its diameter is probably very different at different times: for Mr. Hamilton obſerved, by the wind clearing away the ſmoke from time to time, that the inverted hollow cone was contracted almoſt to a point; while Mr. D'Orville and Mr. Brydone found the opening very large. Both Mr. Brydone and Mr. Hamilton found the crater too hot to deſcend into it: but Mr. D'Orville was bolder; and accordingly he and his fellow-traveller, faſtened to ropes which two or three men held at a diſtance for fear of accidents, deſcended as near as poſſible to the brink of the gulph; but the ſmall flames and ſmoke which iſſued from it on every ſide, and a greeniſh ſulphur and pumice-ſtones, quite black, which covered the margin, would not permit them to come ſo near as to have a full view. They only ſaw diſtinctly in the middle, a maſs of matter which roſe, in the ſhape of a cone, to the height of ſixty feet, and which towards the baſe, as far as their ſight could reach, might be 600 or 800. While they were obſerving this ſubſtance, ſome motion was perceived on the north ſide, oppoſite to that whereon they ſtood; and immediately the mountain began to ſend forth ſmoke and aſhes. This eruption was preceded by a ſenſible increaſe of its internal roarings; which, however, did not continue; but after a moment's dilatation, as if to give it vent, the volcano reſumed its former tranquillity; but as it was by no means proper to make a long ſtay in ſuch a place, our travellers immediately returned to their attendants.

On the ſummit of mount Ætna, Mr. Hamilton was ſenſible of a difficulty in reſpiration from the too great ſubtilty of the air, independent of what aroſe from the ſulphureous ſmoke of the mountain. Mr. Brydone takes no notice of this; which probably aroſe from the air being in a more rarefied ſtate at the time of Mr. Hamilton's obſervation, than of Mr. Brydone's; the barometer, as obſerved by the former, ſtanding at eighteen inches and ten lines, by the latter at nineteen inches ſix and one half lines.

In theſe high regions there is generally a very violent wind, which, as all our travellers found it conſtantly blowing from the ſouth, may poſſibly be commonly directed from that point. Here Mr. Brydone's thermometer fell to 27°.

The top of Ætna being above the common region of vapours, the heavens appear with exceeding great ſplendor.—Mr. Brydone and his company obſerved, as they aſcended in the night, that the number of ſtars ſeemed to be infinitely increaſed, and the light of each of them appeared brighter than uſual; the whiteneſs of the milky way was like a pure flame which ſhot acroſs the heavens; and, with the naked eye, they could obſerve cluſters of ſtars that were inviſible from below. Had Jupiter been viſible, he is of opinion that ſome of his ſatellites might have been diſcovered with the naked eye, or at leaſt with a very ſmall pocket-glaſs. He likewiſe took notice of ſeveral of thoſe meteors called *falling-ſtars*; which appeared as much elevated as when viewed from the plain: a proof, according to Mr. Brydone, that "theſe bodies move in regions much beyond the bounds that ſome philoſophers have aſſigned to our atmoſphere."

To have a full and clear proſpect from the ſummit of mount Ætna, it is neceſſary to be there before ſun-riſe; as the vapours raiſed by the ſun, in the day-time, will obſcure every

object: accordingly, our travellers took care to arrive there early enough; and all agree, that the beauty of the prospect from thence cannot be expressed.—Here Mr. Brydone and Mr. Hamilton had a view of Calabria in Italy, with the sea beyond it; the Lipari islands, and Stromboli, a volcano at about seventy miles distance, appeared just under their feet; the whole island of Sicily, with its rivers, towns, harbours, &c. appeared distinct, as if seen on a map. Massa, a Sicilian author, affirms, that the African coast as well that of Naples, with many of its islands, have been discovered from the top of Ætna. The visible horizon here, is not less than 800 or 900 miles in diameter. The pyramidal shadow of the mountain reaches across the whole island, and far into the sea on the other side, forming a visible tract in the air, which, as the sun rises above the horizon, is shortened, and at last confined to the neighbourhood of Ætna. The most beautiful part of the scene, however, in Mr. Brydone's opinion, is the mountain itself, the island of Sicily, and the numerous islands lying round it. These last seem to be close to the skirts of Ætna; the distances appearing reduced to nothing.

This mountain is divided into three zones, which might properly enough be distinguished by the names of *torrid, temperate,* and *frigid:* they are, however, known by the names of the *Piedmontese,* or *Regione culta,* the cultivated, or fertile region; the *Sylvosa,* woody, or temperate zone; and the *Regione deserta,* the frigid, or desert zone, or region. All these are plainly distinguished from the summit. The *Regione deserta* is marked out by a circle of snow and ice, which extends on all sides to the distance of about eight miles, beginning at the foot of the crater. Greatest part of this region is smooth and even. This is immediately succeeded by the *Sylvosa,* or woody regions; which forms a circle of the most beautiful green, surrounding the mountain on all sides. This region is variegated with a vast number of mountains of a conical form, thrown up by Ætna in those eruptions which burst out from its sides. Mr. Hamilton counted forty-four on the Catania side, each having its crater, many with large trees flourishing both within and without the crater. All these, except a few of late date, have acquired a wonderful degree of fertility. The circumference of this zone, or great circle, according to Recupero, is not less than seventy or eighty miles. It is everywhere succeeded by the *Regione culta*; which is much broader than the rest, and extends on all sides to the foot of the mountain. Here terrible devastations are sometimes committed by the eruptions; and the whole region is likewise full of conical mountains thrown up by them. The circumference of this region is, by Recupero, reckoned 183 miles; but we have already given our reasons for rejecting these dimensions.—This region is bounded by the sea to the south and south-east; and on all other sides by the rivers Semetus and Alcantara, which form the boundaries of mount Ætna.

About a mile below the foot of the great crater, are found the ruins of an ancient structure, called *Il Torre del Filosofo,* by some supposed to have been built by the philosopher Empedocles, who took up his habitation here, the better to study the nature of mount Ætna. By others they are supposed to be ruins of a temple of Vulcan. They are of brick, and seem to have been ornamented with marble. Somewhere in this region also, Mr. D'Orville found a great oblong block of polished marble, eight or ten feet high, and three or four thick; though how it came there was quite unaccountable to him. From Mr. D'Orville's and Mr. Brydone's accounts, we must reckon this part of the mountain pretty steep: but Mr. Hamilton says, that the ascent was so gradual, as not to be in the least fatiguing; and had it not been for the snows, they might have rode on their mules to the very foot of the crater.

The woody region descends eight or nine miles below the *Regione deserta,* but differs greatly in the temperature of its climate. Mr. Hamilton observed a gradual decrease of the vegetation as he advanced; the under part being covered with large timber trees, which grew gradually less as he approached the third region, at last they degenerated into the small plants of the northern climates. He also observed quantities of juniper and tansey; and was informed by his guide, that later in the season (he visited Ætna in June 1769) there are a great many curious plants, and in some places rhubarb and saffron in great plenty. In Carrera's history of Catania, there is a list of all the plants and herbs of Ætna, in alphabetical order.

This region is extolled by Mr. Brydone as one of the most delightful spots on earth. He lodged for a night in a large cave near the middle, formed by one of the most ancient lavas. It is called *La Spelonca del Capriole,* or the goats cavern; because it is frequented by those animals, which take refuge there in bad weather. Here his rest was disturbed by a mountain thrown up in the eruption 1766. It discharged great quantities of smoke, and made several explosions like heavy cannon fired at a distance; but they could observe no appearance of fire.

This gentleman likewise visited the eastern side of the *Regione Sylvosa,* intending to have ascended that way to the summit, and descended again on the south side to Catania; but found it impracticable; though what the insurmountable difficulties were, he does not mention. On this side, part of the woody region was destroyed, in 1755, by an immense torrent of boiling water, which issued from the great crater. Its traces were still very visible, about a mile and a half broad, and in some places more. The soil was then only beginning to recover its vegetative power, which it seems this torrent had destroyed for 14 years.—Near this place are some beautiful woods of cork, and evergreen oak, growing absolutely out of the lava, the soil having hardly filled the crevices; and not far off, our traveller observed seven little mountains that seemed to have been formed by a late eruption. Each of these had a regular cup, or crater, on the top; and, in some, the middle gulph, or *Voragine,* as the Sicilians call it, was still open. Into these gulphs Mr. Brydone tumbled down stones, and heard the noise for a long time after. All the fields round, to a considerable distance, were covered with large burnt stones discharged from these little volcanoes.

The woody region, especially the east side, called *Carpinetto,* abounds with very large chestnut-trees; the most remarkable of which has been called, from its size, *Castagno de Cento Cavalli,* or chestnut-tree of a hundred horse. Mr. Brydone was greatly disappointed at the sight of this tree, as it is only a bush of five large ones growing together: but his guides assured him, that all these five were once united into one stem; and Signior Recupero told him, that he himself had been at the expence of carrying up peasants with tools to dig round this bush of trees, and found all the stems united below ground in one root. The circumference, as measured by Messrs Brydone and Glover, who accompanied him, amounted to 204 feet. Another of these, about a mile and a half higher on the mountain, is called *Castagna del Galca:* it rises from one solid stem to a considerable height; after which it branches out, and is a much finer object than the other: this was measured two feet above the ground, and found to be 76 feet in circumference. A third, called *Castagno del Nave,* is pretty nearly of the same size; and Massa, one of the most esteemed Sicilian authors, affirms that he has seen solid oaks there upwards of 40 feet round. All these grow on a thick rich soil, which seems originally to have been formed of ashes thrown out by the mountain. Here the barometer stood at 26 inches 5 lines and a half, indicating an elevation of near 4000 feet.

The Piedmonteſe diſtrict is covered with towns, villages, monaſteries, &c. and is well peopled, notwithſtanding the danger of ſuch a ſituation: but the fertility of the ſoil tempts people to inhabit that country; and their ſuperſtitious confidence in their ſaints, with the propenſity mankind have to deſpiſe danger which they do not ſee, render them as ſecure there as in any other place. Here, Sir William Hamilton obſerves, they keep their vines low, contrary to the cuſtom of thoſe who inhabit mount Veſuvius; and they produce a ſtronger wine, but not in ſuch abundance: here alſo many terrible eruptions have burſt forth; particularly one in 1669. At the foot of the mountain raiſed by that eruption, is a hole, through which Sir William Hamilton deſcended, by means of a rope, into ſeveral ſubterraneous caverns, branching out, and extending much farther than he choſe to venture, the cold there being exceſſive, and a violent wind extinguiſhing ſome of the torches. Many other caverns are known in this and the other regions of Ætna; particularly one near this place called *La Spelonca della Palomba* (from the wild pigeons building their neſts there). Here Mr. Brydone was told that ſome people had loſt their ſenſes, from having advanced too far, imagining they ſaw devils and damned ſpirits.—Some of theſe caverns are made uſe of as magazines for ſnow; which they are well adapted for, on account of their extreme cold. Theſe are with great probability ſuppoſed by Sir William Hamilton to be the hollows made by the iſſuing of the lava in eruptions.

In this region the river *Acis*, ſo much celebrated by the poets, in the fable of Acis and Galatea, takes its riſe. It burſts out of the earth at once in a large ſtream, runs with great rapidity, and about a mile from its ſource throws itſelf into the ſea. Its water is remarkably clear; and ſo extremely cold, that it is reckoned dangerous to drink it: it is ſaid, however, to have a poiſonous quality, from being impregnated with vitriol; in conſequence of which, cattle have been killed by it. It never freezes, but is ſaid often to contract a greater degree of cold than ice.

Having thus given an account of this mountain in its quiet and peaceable ſtate, we muſt now deſcribe the appearance it puts on during the time of an eruption, when it ſpreads deſtruction for many miles round, and is capable of ſtriking the boldeſt with terror.—Here we are ſurpriſed to find ourſelves at a loſs; for though there are many particular accounts of the eruptions of Veſuvius, we cannot, after the moſt diligent ſearch, find that any writer hath accurately deſcribed the phenomena attending an eruption of Ætna.—Borelli, indeed, an Italian writer, publiſhed a natural hiſtory of this mountain for the year 1669, when a very terrible eruption happened; but as this treatiſe is not now to be found, in this part of the world at leaſt, we muſt ſupply the deficiency in the beſt manner we can, by ſuch hints as can be obtained from the writings of Sir William Hamilton and Mr. Brydone, together with a very imperfect account given by ſome Engliſh merchants who happened to be in Catania at that time, and recorded in the Philoſophical Tranſactions, No. 51.

Sir William Hamilton, who has examined both Veſuvius and Ætna in a very accurate manner, never had an opportunity of ſeeing an eruption of the latter; but as he is of opinion that the two volcanoes agree perfectly in all reſpects, only that the latter is on a much larger ſcale than the former, we hope it will not be unacceptable to our readers to give an account of ſome of the general appearances of Veſuvius when in a ſtate of eruption, the better to help their ideas concerning Ætna.

It has been already obſerved, that a ſmoke conſtantly iſſues from the top of Ætna, and that its internal noiſes never ceaſe. The caſe is the ſame with Veſuvius: and Sir William Hamilton obſerved, that in bad weather the ſmoke was more conſiderable, as well as the noiſes much louder, than when it was fair; ſo that in bad weather he had frequently heard the inward exploſions of the mountain at Naples, ſix miles diſtant from Veſuvius. He alſo obſerved the ſmoke that iſſued from the mountain in bad weather to be very white, moiſt, and not near ſo offenſive as the ſulphureous ſtreams from various cracks in the ſide of the mountain.

The firſt ſymptom of an approaching eruption is an increaſe of the ſmoke in fair weather: after ſome time, a puff of black ſmoke is frequently ſeen to ſhoot up in the midſt of the white, to a conſiderable height. Theſe puffs are attended with conſiderable exploſions: for while Veſuvius was in this ſtate, Sir William Hamilton went up to its top, which was covered with ſnow; and perceiving a little hillock of ſulphur, about ſix feet high, which had been lately thrown up, and burnt with a blue flame at the top, he was examining this phenomenon, when ſuddenly a violent report was heard, a column of black ſmoke ſhot up with violence, and was followed by a reddiſh flame. Immediately a ſhower of ſtones fell; upon which he thought proper to retire. Phenomena of this kind, in all probability, precede the eruptions of Ætna, in a much greater degree.—The ſmoke at length appears wholly black in the day-time, and in the night has the appearance of flame; ſhowers of aſhes are ſent forth, earthquakes are produced, the mountain diſcharges volleys of red-hot ſtones to a great height in the air. The force by which theſe ſtones are projected, as well as their magnitude, ſeems to be in proportion to the bulk of the mountain. Signior Recupero aſſured Mr. Brydone, that he had ſeen immenſely large ones thrown perpendicularly upwards to the height of 7000 feet, as he calculated from the time they took to arrive at the earth after beginning to deſcend from their greateſt elevation. The largeſt ſtone, or rather rock, that was ever known to be emitted by Veſuvius, was 12 feet long, and 45 in circumference. This was thrown a quarter of a mile; but much larger ones have been thrown out by mount Ætna, almoſt in the proportion in which the latter exceeds Veſuvius in bulk. Along with theſe terrible ſymptoms, the ſmoke that iſſues from the crater is ſometims in a highly electrified ſtate. In this caſe, the ſmall aſhes which are continually emitted from the crater, are attracted by the ſmoke, and riſe with it to a great height, forming a vaſt black, and to appearance denſe, column; from this column continual flaſhes of forked or zig-zag lightning iſſue, ſometimes attended with thunder, and ſometimes not, but equally powerful with ordinary lightning. This phenomenon was obſerved by Sir William Hamilton in the ſmoke of Veſuvius, and has alſo been taken notice of in that of Ætna; and where this electrified ſmoke hath ſpread over a tract of land, much miſchief hath been done by the lightning proceeding from it.

When theſe dreadful appearances have continued ſometimes four or five months, the *lava* begins to make its appearance. This is a ſtream of melted mineral matters, which in Veſuvius commonly boils over the top; but very ſeldom does ſo in Ætna; owing to the great weight of the lava, which, long before it can be raiſed to the vaſt height of mount Ætna, burſts out through ſome weak place in its ſide. Upon the appearance of the lava, the violent eruptions of the mountain generally, though not always, ceaſe; for if this burning matter gets not ſufficient vent, the commotions increaſe to a prodigious degree.—In the night-time the lava appears like a ſtream of fire, accompanied with flame: but in the day-time it has no ſuch appearance; its progreſs is marked by a white ſmoke, which by the reflection of the red-hot matter in the night aſſumes the appearance of flame. All the above-mentioned ſymptoms preceded the great eruption of Ætna in 1669. As we cannot find a particular account of what happened at the breaking forth of the lava in mount Ætna in 1669, we

muſt content ourſelves with giving the reader ſome idea of this tremendous proceſs of nature from Sir William Hamilton's account of the breaking forth of the lava in Veſuvius, no more than a quarter of a mile's diſtance from the place where he ſtood. "I was making my obſervations," ſays he, "on the lava, which had already, from the ſpot where it firſt broke out, reached the valley; when, on a ſudden, about noon, I heard a violent noiſe within the mountain, and about a quarter of a mile off the place where I ſtood; the mountain ſplit, and with much noiſe; from this new mouth, a fountain of liquid fire ſhot up many feet high, and then, like a torrent, rolled on directly towards us. The earth ſhook, at the ſame time that a volley of pumice-ſtones fell thick upon us; in an inſtant, clouds of black ſmoke and aſhes cauſed almoſt a total darkneſs; the exploſions from the top of the mountain were much louder than any thunder I ever heard, and the ſmell of ſulphur was likewiſe very offenſive. My guide, alarmed, took to his heels; and I muſt confeſs I was not at my eaſe. I followed cloſe, and we ran near three miles without ſtopping; as the earth continued to ſhake under our feet, I was apprehenſive of the opening of a freſh mouth, which might have cut off our retreat. I alſo feared that the violent exploſions would detach ſome of the rocks off the mountain of Somma, under which we were obliged to paſs; beſides, the pumice-ſtones, falling upon us like hail, were of ſuch a ſize as to cauſe a diſagreeable ſenſation upon the part where they fell. After having taken breath, as the earth ſtill trembled greatly, I thought it moſt prudent to leave the mountain and return to my villa; where I found my family in a great alarm at the continual and violent exploſions of the volcano, which ſhook our houſe to its very foundation, the doors and windows ſwinging upon their hinges.—The noiſe and ſmell of ſulphur increaſing, we removed from our villa to Naples: and I thought proper, as I paſſed by Portici, to inform the court of what I had ſeen; and humbly offered it as my opinion, that his Sicilian majeſty ſhould leave the neighbourhood of the threatening mountain.—I obſerved, in my way to Naples, which was in leſs than two hours after I had left the mountain, that the lava had actually covered three miles of the very road through which we had retreated. It is aſtoniſhing that it ſhould have run ſo faſt; as I have ſince ſeen, that the river of lava in the Atrio di Cavallo was 60 and 70 feet deep, and in ſome places near two miles broad. When his Sicilian majeſty quitted Portici, the noiſe was greatly increaſed; and the concuſſion of the air from the exploſions was ſo violent, that, in the king's palace, doors and windows were forced open, and even one door there, which was locked, was nevertheleſs burſt open. At Naples, the ſame night, many windows and doors flew open: (the windows at Naples open like folding-doors). In my houſe, which is not on the ſide of the town next Veſuvius, I tried the experiment of unbolting my windows, when they flew wide open upon every exploſion of the mountain. Beſides theſe exploſions, which were very frequent, there was a continued ſubterraneous and violent rumbling noiſe, which laſted this night about five hours."

No doubt the ſame terrible appearances are put on by Ætna at the time its lavas break forth; but in a much greater degree, in proportion to the ſuperior ſize of the mountain.—The appearance, and indeed the effects, of the lava itſelf, are very dreadful. When it firſt iſſues, the lava appears very fluid, and runs with the rapidity of a ſwift river: but even then it ſurpriſingly reſiſts the impreſſion of ſolid bodies; for Sir William Hamilton could not pierce that of Veſuvius with a ſtick driven againſt it with all his force; nor did the largeſt ſtone he was able to throw upon it ſink, but made a ſlight impreſſion, and then floated along. This happened almoſt at the very mouth, when the lava appeared liquid as water, and when he ſaw it running with a rapidity equal to the river Severn at the paſſage near Briſtol.—A deſcription of the lava iſſuing from mount Ætna in 1669 was ſent to the court of England by Lord Winchelſea, who at that time happened to be at Catania in his way home from an embaſſy at Conſtantinople. His account is not now to be procured; but Mr. Hamilton found a copy in Sicily, and hath given an extract, part of which follows. "When it was night, I went upon two towers in divers places; and I could plainly ſee, at ten miles diſtance, as we judged, the fire begin to run from the mountain in a direct line, the flame to aſcend as high and as big as one of the greateſt ſteeples in your majeſty's kingdoms, and to throw up great ſtones into the air; I could diſcern the river of fire to deſcend the mountain of a terrible fiery or red colour, and ſtones of a paler red to ſwim thereon, and to be ſome as big as an ordinary table. We could ſee this fire to move in ſeveral other places, and all the country covered with fire, aſcending with great flames in many places, ſmoking like to a violent furnace of iron melted, making a noiſe with the great pieces that fell, eſpecially thoſe that fell into the ſea. A cavalier of Malta, who lives there, and attended me, told me, that the river was as liquid, where it iſſues out of the mountain, as water, and came out like a torrent with great violence, and is five or ſix fathom deep, and as broad, and that no ſtones ſink therein."

The account given in the Philoſophical Tranſactions is to the ſame purpoſe. We are there told, that the lava is "nothing elſe than diverſe kinds of metals and minerals, rendered liquid by the fierceneſs of the fire in the bowels of the earth, boiling up and guſhing forth as the water doth at the head of ſome great river; and having run in a full body for a ſtone's caſt or more, began to cruſt or curdle, becoming, when cold, thoſe hard porous ſtones which the people call *Sciarri*." Thoſe, though cold in compariſon of what firſt iſſues from the mountain, yet retained ſo much heat as to reſemble huge cakes of ſea-coal ſtrongly ignited, and came tumbling over one another, bearing down or burning whatever was in their way.—In this manner the lava proceeded ſlowly on till it came to the ſea, when a moſt extraordinary conflict enſued betwixt the two adverſe elements. The noiſe was vaſtly more dreadful than the loudeſt thunder, being heard through the whole country to an immenſe diſtance; the water ſeemed to retire and diminiſh before the lava, while clouds of vapour darkened the ſun. The whole fiſh on the coaſt were deſtroyed, the colour of the ſea itſelf was changed, and the tranſparency of its waters loſt for many months.

While this lava was iſſuing in ſuch prodigious quantity, the merchants, whoſe account is recorded in the Philoſophical Tranſactions, attempted to go up to the mouth itſelf; but durſt not come nearer than a furlong, leſt they ſhould have been overwhelmed by a vaſt pillar of aſhes, which to their apprehenſion exceeded twice the bigneſs of St. Paul's ſteeple in London, and went up into the air to a far greater height; at the mouth itſelf was a continual noiſe, like the beating of great waves of the ſea againſt rocks, or like diſtant thunder, which ſometimes was ſo violent as to be heard 60, or even 100 miles off, to which diſtance alſo part of the aſhes were carried.—Some time after, having gone up, they found the mouth from whence this terrible deluge iſſued to be only a hole about 10 feet diameter. This is alſo confirmed by Mr. Brydone; and is probably the ſame through which Sir William Hamilton deſcended into the ſubterranean caverns already mentioned.

Mount Ætna, as we have already remarked, has been a celebrated Volcano from the remoteſt antiquity. Diodorus Siculus mentions eruptions of it as happening 500 years before the Trojan war, or 1693 years before the Chriſtian æra.

Many others are recorded by hiſtorians in different ages, but none are particularly deſcribed. The mountain ſeems ſometimes to lie dormant for many years, or even centuries; when it breaks out again with great fury, and will ſometimes burn for years together. Since 1669 there have been ſeveral eruptions, but none of them comparable to that one. The laſt happened in 1766. The lava ſprung up into the air to a conſiderable height, twelve miles below the ſummit; but formed a ſtream only ſix miles in length, and one mile in breadth.

The extent, antiquity, &c. of the lavas, as well as the opinions of philoſophers concerning the origin of the internal fire, are ſubjects which belong to the general article VOLCANO.

AFER (Domitius), born at Niſmes, a famous orator under Tiberius and the three ſucceeding emperors. Quintillian makes frequent mention of him, and commends his pleadings. But he diſgraced his talents, by turning informer againſt ſome of the moſt diſtinguiſhed perſonages in Rome. He died A.D. 59.

AFFINITY, in Chemiſtry (*Encycl.*). See CHEMISTRY. Conſult alſo the copious tables given under ELECTIVE *Attraction*.

AFGHANS, are a people in India who inhabit a province of CABUL or CABULISTAN (ſee *Encycl.*), and have always been connected with the kingdoms of Perſia and Hindoſtan. They boaſt of being deſcended from Saul the firſt king of Iſrael; of whoſe advancement to the royal dignity they give an account which deviates not very widely from the truth. They ſay indeed, that their great anceſtor was raiſed from the rank of a ſhepherd, not from any princely qualities which he poſſeſſed, but becauſe his ſtature was exactly equal to the length of a rod which the angel Gabriel had given to the prophet Samuel as the meaſure of the ſtature of him whom God had deſtined to fill the throne of Iſrael.

SAUL, whoſe deſcent, according to ſome of them, was of Judah, and according to others of Benjamin, had, they ſay, two ſons, BERKIA and IRMIA, who ſerved David, and were beloved by him. The ſons of Berkia and Irmia were AFGHAN and USBEC, who during the reigns of David and Solomon, diſtinguiſhed themſelves, the one for his corporeal ſtrength, and the other for his learning. So great indeed was the ſtrength of *Afghan*, that we are told it ſtruck terror even into demons and genii.

This hero uſed frequently to make excurſions to the mountains, where his progeny, after his death, eſtabliſhed themſelves, lived in a ſtate of independence, built forts, and exterminated infidels. When the ſelect of creatures (the appellation which this people gave to *Mahomet*) appeared upon earth, his fame reached the *Afghans*, who fought him in multitudes under their leaders *Khalid* and *Abdul Reſpid*, ſons of *Walid*; and the prophet honouring them with this reception—"Come, O *Muluc*, or Kings!" they aſſumed the title of *Melic*, which they retain to this day.

The hiſtory, from which this abſtract is taken, gives a long and unintereſting detail of the exploits of the Afghans, and of their zeal in overthrowing the temples of idols. It boaſts of the following monarchs of their race who have ſat upon the throne of *Delhi:* Sultan BEHLOLE, *Afghan* LODI, Sultan SECANDER, Sultan IBRAHIM, SHIR SHAH, ISLAM SHAH, ADIL SHAH SUR It alſo numbers the following kings of *Gaur* deſcended from the Afghan chiefs: SOLAIMAN *Shah Garzani*, BEYAZID *Shah*, and KUTB *Shah*; beſides whom, their nation, we are told, has produced many conquerors of provinces. The Afghans are ſometimes called *Solaimani*, either becauſe they were formerly the ſubjects of Solomon king of Iſrael, or becauſe they inhabit the mountains of Solomon. They are likewiſe called PATANS, a name derived from the *Hindi* verb *Paitna* "to ruſh," which was given to them by one of the Sultans whom they ſerved, in conſequence of the alacrity with which they had attacked and conquered his enemies. The province which they occupy at preſent was formerly called *Roh*; and hence is derived the name of the *Rohillas*. The city which was eſtabliſhed in it by the *Afghans* was called by them *Paiſhwer* or *Paither*, and is now the name of the whole diſtrict. The ſects of the Afghans are very numerous; of which the principal are, *Lodi*, *Lohouni*, *Sur*, *Serwani*, *Yuſufzibi*, *Bangiſh*, *Dilazaui*, *Khetti*, *Yaſin*, *Khail*, and *Beloje*. They are *Muſulmans*, partly of the *Sunni*, and partly of the *Shiek* perſuaſion.

Though they are great boaſters, as we have ſeen, of the antiquity of their origin, and the reputation of their race, other *Muſulmans* reject their claim, and conſider them as of modern, and even of baſe, extraction.

This is probably a calumny; for it ſeems inconſiſtent with their attention to the purity of their deſcent—an attention which would hardly be paid by a people not convinced of their own antiquity. They are divided into four claſſes. The firſt is the *pure* claſs, conſiſting of thoſe whoſe fathers and mothers were *Afghans*. The ſecond claſs conſiſts of thoſe whoſe fathers were *Afghans* and mothers of another nation. The third claſs contains thoſe whoſe mothers were *Afghans* and fathers of another nation. The fourth claſs is compoſed of the children of women whoſe mothers were *Afghans* and fathers and huſbands of a different nation. Perſons who do not belong to one of theſe claſſes are not called *Afghans*.

This people have at all times diſtinguiſhed themſelves by their courage, both ſingly and unitedly, as principals and auxiliaries. They have conquered for their own princes and for foreigners, and have always been conſidered as the main ſtrength of the army in which they ſerved. As they have been applauded for virtues, they have alſo been reproached for vices, having ſometimes been guilty of treachery, and of acting the baſe part even of aſſaſſins.

Such is the account of the Afghans publiſhed in the ſecond volume of the Aſiatic Reſearches. It was tranſlated from a Perſian abridgment of a book written in the Puſhto language, and called *The Secrets of the Afghans*, and communicated by Henry Vanſittart, eſq. to Sir William Jones, then preſident of the Aſiatic Society. Their claim to a deſcent from Saul king of Iſrael, whom they called MELIC TALUT, is probably of not a very ancient date; for the introduction of the angel Gabriel with his rod, gives to the whole ſtory the air of one of thoſe many fictions which Mahomet borrowed from the later rabbins. Sir William Jones, however, though he ſurely gave no credit to this fable, ſeems to have had no doubt but the Afghans are deſcendants of Iſrael. "We learn (ſays he) from ESDRAS, that ten tribes, after a wandering journey, came to a country called *Arſareth*, where we may ſuppoſe they ſettled: now the *Afghans* are ſaid by the beſt *Perſian* hiſtorians to be deſcended from the *Jews*. They have traditions among themſelves of ſuch a deſcent; and it is even aſſerted, that their families are diſtinguiſhed by the names of *Jewiſh* tribes, although, ſince their converſion to *Iſlam*, they ſtudiouſly conceal their origin from all whom they admit not to their *ſecrets*. The *Puſhto* language, of which I have ſeen a dictionary, has a manifeſt reſemblance to the *Chalduick*; and a conſiderable diſtrict under their dominion is called *Hazareh*, or *Hazaret*, which might eaſily have been changed into the word uſed by ESDRAS. I ſtrongly recommend an enquiry into the literature and hiſtory of the *Afghans*."

A circumſtantial account of the Afghans has been written by a late Chief of the *Rohillahs*, HAFIZ RHAMAT *Khan*; and from this work the oriental ſcholar may derive much uſeful information.

AFRANIUS, a Latin poet, who wrote comedies in imita-

tion of Menander, commended by Tully and Quintilian: he lived in the 170th Olympiad.

AFRICANUS (Julius), an excellent hiſtorian of the third century, the author of a chronicle which was greatly eſteemed, and in which he reckons 5500 years from the creation of the world to Julius Cæſar. This work, of which we have now no more than what is to be found in Euſebius, ended at the 221ſt year of the vulgar æra. Africanus alſo wrote a letter to Origen on the hiſtory of Suſanna, which he reckoned ſuppoſititious; and we have ſtill a letter of his to Ariſtides, in which he reconciles the ſeeming contradictions in the two genealogies of Chriſt recorded by St. Matthew and St. Luke.

AFRIQUE, St. a ſmall town in France, in the department of Aveiron, late Rouergue, 6 miles E. of Vabres.

AGA (*Encycl.*). The aga of the janiſſaries is the only perſon who is allowed to appear before the Grand Signior without his arms acroſs his breaſt in the poſture of a ſlave. Eunuchs at Conſtantinople are in poſſeſſion of moſt of the principal poſts of the ſeraglio: the title *aga* is given to them all, whether in employment or out. For ſome years, the *aga* of Algiers was the ſupreme officer; and governed the ſtate in the place of baſhaw, whoſe power dwindled to a ſhadow. But the ſoldiery riſing againſt the *boluk baſhis*, or *agas*, maſſacred moſt of them, and transferred the ſovereign power to the calif, with the title of *Dey*, or King.

AGAMEMNON, the ſon of Atreus by Erope, was captain-general of the Trojan expedition. It was foretold to him by Caſſandra, that his wife Clytemneſtra would be his death: yet he returned to her: and accordingly was ſlain by Ægiſthus, who had gained upon his wife in his abſence, and by her means got the government into his own hands.

AGAMENTICUS, a mountain of North America, in the province of Main. It is a noted landmark for ſailors, about eight miles from the ſea, in lat. 43. 16. a few miles weſtward from Wells.

AGANIPPE (*Encycl*). This fountain was ſacred to the muſes, and ran into the river Permeſſeus; (Pliny, Pauſanias). Ovid ſeems to make *Aganippe* and *Hippocrene* the ſame. Solinus more truly diſtinguiſhes them, and aſcribes the blending them to poetical licenſe.

AGARD (Arthur), a learned Engliſh antiquarian, born at Toſton in Derbyſhire, in the year 1540. His fondneſs for Engliſh antiquities induced him to make many large collections; and his office as deputy chamberlain of the exchequer, which he held 45 years, gave him great opportunities of acquiring ſkill in that ſtudy. Similarity of taſte brought him acquainted with Sir Robert Cotton, and other learned men, who aſſociated themſelves under the name of *The Society of Antiquarians*, of which ſociety Mr. Agard was a conſpicuous member. He made the doomſday-book his peculiar ſtudy; and compoſed a work purpoſely to explain it, under the title of *Tractatus de uſu et obſcurioribus verbis libri de Domeſday*: he alſo compiled a book for the ſervice of his ſucceſſors in office, which he depoſited with the officers of the king's receipt, as a proper index for ſucceeding officers. All the reſt of his collection, containing at leaſt twenty volumes, he bequeathed to Sir Robert Cotton; and died in 1615.

AGATHA, St. a town in the kingdom of Naples, with a biſhop's ſee. It is 20 miles N. E. of Naples. Long. 14. 36. E. lat 41. 5. N.

AGATHIAS, or as he calls himſelf in his epigrams, AGATHIUS, diſtinguiſhed by the title of *Scholaſticus*, a Greek hiſtorian in the 6th century under Juſtinian. He was born at Myrina, a colony of the ancient Æolians, in Aſia the Leſs, at the mouth of the river Phythicus. He was an advocate at Smyrna. Though he had a taſte for poetry, he was yet more famous for his hiſtory, which begins with the 26th year of Juſtinian's reign, where Procopius ends. It was printed in Greek and Latin, with Bonaventure Vuleanius's, at Leyden, 1594, in 4to.; and in Paris at the king's printing-houſe, 1660, in folio.

AGATHO, a tragic and comic poet, diſciple to Prodicus and Socrates, applauded in Plato's dialogues for his virtue and beauty. His firſt tragedy obtained the prize; and he was crowned in the preſence of upwards of 30,000 men, the 4th year of the 90th Olympiad. There is nothing now extant of his, except a few quotations in Ariſtotle, Athenæus, and others.

AGATHOCLES, the famous tyrant of Sicily, ſon of a potter at Reggio. He was a thief, common ſoldier, centurion, general, and a pirate, all in a regular ſucceſſion. He defeated the Carthaginians ſeveral times in Sicily, and was once defeated himſelf. He firſt made himſelf tyrant of Syracuſe, and then of all Sicily; after which, he vanquiſhed the Carthaginians again both in Sicily and Africa. But at length having ill ſucceſs, and being in arrears with his ſoldiers, they mutinied, forced him to fly his camp, and cut the throats of his children, whom he left behind. Recovering himſelf again, he relieved Corfou, beſieged by Caſſander; burnt the Macedonian fleet; returned to Sicily, murdered the wives and children of thoſe who had murdered his; afterwards meeting with the ſoldiers themſelves, he put them all to the ſword; and ravaging the ſea-coaſt of Italy, took the city of Hipponium. He was at length poiſoned by his grandſon Archagathus, in the 72d year of his age, 290 years before Chriſt, having reigned 28 years.

AGATHYRNA, or AGATHYRNUM, AGATHYRSA (Polybius); AGATHYRSUM (Strabo); a town of Sicily; now *S. Marco*; as old as the war of Troy, being built by Agathyrnus, ſon of Æolus, on an eminence. The gentilitious name is *Agathyrnæus*; or, according to the Roman idiom, *Agathyrnenſis*.

AGATTON, a town near the mouth of the Formoſo, on the coaſt of Guinea, 80 miles S. of Benin. Long. 7. 6. E. Lat. 7. 20. N.

AGDE (*Encycl.*), a town of France, ſituated in the department of Herault and late province of Languedoc, with a biſhop's ſee. The dioceſe is ſmall, but it is one of the richeſt countries in the kingdom. It produces fine wool, wine, oil, corn, and ſilk. It is ſeated on the river Herault, a mile and a quarter from its mouth, where it falls into the gulph of Lyons, and where there is a fort built to guard its entrance. It is well peopled; the houſes are built of black ſtone, and there is an entrance into the city by four gates. The greateſt part of the inhabitants are merchants or ſeamen. The public buildings are but mean; the cathedral is ſmall, and not very handſome: the biſhop's palace is an old building, but convenient enough. The city is extended along the river, where it forms a little port, wherein ſmall craft may enter. Before the revolution, there was a great concourſe of pilgrims and other devout people to the chapel of Notre Dame de Grace. It is a little without the city, between which and the chapel there are about 13 or 14 oratories, which they viſited with naked feet. The convent of the Capuchins is well built, and on the outſide are lodgings and apartments for the pilgrims who came to perform their *neuvaine* or nine days' devotion. The chapel is diſtinct from the convent.

AGENABAT, a town of Tranſylvania, 10 miles N. E. of Hermanſtadt. Long. 24. 50. E. Lat. 46 32. N.

AGENORIA, in mythology, the goddeſs of courage and induſtry, as *Vacuna* was of indolence.

AGER, a town of Catalonia, in Spain. Long. 1. 50. E. Lat. 41. 50. N.

AGER PICENUS (Cicero, Salluſt, Livy); and ſometimes

Picenum (Cæsar, Pliny); a territory of Italy to the south-east of Umbria, reaching from the Apennine to the Adriatic. The people are called *Picentes* (Cicero, Livy); distinct from the Picentini on the Tuscan sea, though called by Greek writers Πικεντινοι. This name is said to be from the bird *Picus*, under whose conduct they removed from the Sabines, of whom they were a colony.

AGESILAUS, king of the Lacedæmonians, the son of Archidamus, was raised to the throne notwithstanding the superior claim of Leotychides. As soon as he came to the throne, he advised the Lacedæmonians to be beforehand with the King of Persia, who was making great preparations for war, and to attack him in his own dominions. He was himself chosen for this expedition; and gained so many advantages over the enemy, that if the league which the Athenians and the Thebans formed against the Lacedæmonians had not obliged him to return home, he would have carried his victorious arms into the very heart of the Persian empire. He gave up, however, all these triumphs readily, to come to the succour of his country, which he happily relieved by his victory over the allies in Bœotia. He obtained another near Corinth; but to his great mortification, the Thebans afterward gained several over the Lacedæmonians. These misfortunes at first raised somewhat of a clamour against him. He had been sick during the first advantages which the enemy gained; but as soon as he was able to act in person, by his valour and prudence he prevented the Thebans from reaping the advantages of their victories; insomuch that it was generally believed, had he been in health at the beginning, the Lacedæmonians would have sustained no losses, and that all would have been lost had it not been for his assistance. It cannot be denied but he loved war more than the interest of his country required; for if he could have lived in peace, he had saved the Lacedæmonians several losses, and they would not have been engaged in many enterprises which in the end contributed much to weaken their power. He died in the third year of the 104th Olympiad, being the 84th year of his age, and 41st year of his reign.

AGESIPOLIS I. king of Lacedæmon, succeeded his father Pausanias, colleague of Agesilaus II. He ravaged the country of Mantinea, subdued that city, and pillaged Olynthia. He died about 380 years before Jesus Christ, and was embalmed in honey, according to the custom of the Lacedæmonians. He died without issue, and was succeeded by Cleombrotus his brother, the father of Agesipolis II. who was more remarkable for his apophthegms than his actions.

AGIMERE, or AZMERE, the capital of a territory of the same name in Hindoostan Proper, built at the foot of a very high mountain; on the top of which is a fortress of great strength. It is about 230 miles by the road W. from Agra; and yet the famous emperor Acbar, says Major Rennell, made a pilgrimage on foot, to the tomb of a saint there, to implore the divine blessing on his family, which at that time consisted only of daughters: but after this pilgrimage, he had three sons added to it. Jehanguire, his son, occasionally kept his court here; and this occasioned the visits of Sir Thomas Roe to this place from Surat. Long. 75. 20. E. Lat. 26. 35. N.

AGISYMBA (anc. geog.), a district of Libya Interior, according to Agathemerus, situated to the south-east of the Æthiopes Anthropophagi; the parallel passing through which, at 16° to the south of the equator, was the utmost extent of the knowledge of the ancients to the south (Ptolemy).

AGLIONBY (John), an English divine, chaplain in ordinary to king James I. a man of universal learning, who had a very considerable hand in the translation of the New Testament appointed by King James I. in 1604.

AGMAT, a town of Africa, on the river of the same name, in Morocco. It is seated on the declivity of one of the mountains of Atlas, where the air is good, and the country fertile, 16 miles S. of Morocco. Long. 7. 15. W. Lat. 30. 56. N.

AGNADELLOA, a village of the Milanese, famous for two battles: the first, in 1509; the second, in 1705. It is scate lon the canal between Adda and Serio, five miles S. E. of Cassana. Long. 9. 26. E. Lat. 45. 25. N.

AGNANO, a circular lake, in the kingdom of Naples, seven miles from Puzzoli. It is about half a mile in diameter, surrounded by mountains; and on its margin is situated the famous Grotta del Cane.

AGNOETÆ (*Encycl.*). Eulogius, patriarch of Alexandria, ascribes this heresy to certain solitaries in the neighbourhood of Jerusalem, who built their opinion upon the text Mark xiii. 32. "Of that day and hour knoweth no man, no not the angels who are in heaven; neither the Son, but the Father only."—The same passage was made use of by the Arians; and hence the orthodox divines of those days were induced to give various explications thereof. Some allege, that our Saviour here had no regard to his divine nature, but only spoke of his human. Others understand it thus, That the knowledge of the day of judgment does not concern our Saviour considered in his quality of Messiah, but God only: which is the most natural solution.

AGNON, a small river of Bourgogne in France, otherwise called *Ignon*.

AGNONE, a city of the kingdom of Naples, in the province of the Hither Abruzzo, called by some *Anclone*.

AGON (*Encycl.*). Among the games of this kind celebrated at Athens, were the *agon gymnicus*, the *agonmemeus* instituted by the Argives in the 53d Olympiad, and the *agon olympius* instituted by Hercules 430 years before the first Olympiad. The Romans also in imitation of the Greeks, instituted contests of this kind. The emperor Aurelian established one under the name of *agon solis*, the contest of the sun; Diocletian another, which he called *agon capitolinus*, which was celebrated every fourth year, after the manner of the Olympic games. Hence the years, instead of *lustra*, are sometimes numbered by *agones*.

AGONY, any extreme pain. It is also used for the pangs of death. Much of the terror of death consists in the pangs and convulsions wherewith the agony seems attended; though we have reason to believe, that the pain in such cases is ordinarily not extremely acute; a course of pain and sickness having usually stupified and indisposed the nerves for any quick sensations. However, various means have been thought of for mitigating the agony of death. Lord Bacon considers this as part of the province of a physician; and that not only when such a mitigation may tend to a recovery, but also when, there being no further hopes of a recovery, it can only tend to make the passage out of life more calm and easy. Complacency in death, which Augustus so much desired, is certainly no small part of happiness. Accordingly the author last cited ranks *enthanasia*, or the art of dying easily, among the desiderata of science; and does not even seem to disapprove of the course Epicurus took for that end,

——*Hinc stygias ebrius hausit aquas.*

Opium has been applied for this purpose, with the applause of some, but the condemnation of more.

AGOSTA, a town of Sicily, with an excellent harbour. The greatest part of it was swallowed up by an earthquake in 1693. Long. 15. 15. E. Lat. 37. 35. N.

AGRA (*Encycl.*). This is looked upon as the largest city in the province, and is in the form of a half-moon. A man on horseback can hardly ride round it in a day. It is surrounded with a wall of red stone, and with a ditch 100 feet wide. The Great Mogul, of whose dominions it is a part,

ſometimes reſides here: his palace is prodigiouſly large, and the ſeraglio commonly contains above 1000 women. There are upwards of 800 baths in this town; but that which travellers moſt admire, is the mauſoleum of one of the Mogul's wives, which was 20 years in building. The indigo of Agra is the moſt valuable of all that comes from the Eaſt Indies. It is ſeated on the river Jemma, about 50 miles above its confluence with the Tehemel, and is 300 miles N. E. of Surat. E. long. 79. 12. N. lat. 26. 29.

AGREEMENT, in law, ſignifies the conſent of ſeveral perſons to any thing done or to be done. It alſo denotes a kind of writing or legal inſtrument by which the ſubſcribing parties are bound to the performance of ſome ſpecific act or covenant, on certain terms and conditions therein ſpecified. Written agreements are not valid unleſs legally ſtamped within a limited time.

AGRESTÆ, among phyſicians, denotes unripe grapes, ſaid to be of a cooling nature.

AGRI, or Acri, a river of the kingdom of Naples, which ariſing in the Apennine mountains, not far from Marſico Nuovo, falls into the gulph of Tarento.

AGRICOLA (Cneus Junius), born at Frejus in Provence, was made lieutenant in Veſpaſian's time to Vettius Bolanus in Britain; and, upon his return, was ranked by that emperor among the patricians, and made governor of Aquitania. This poſt he held three years; and upon his return was choſen conſul, and afterward appointed governor of Britain, where he greatly diſtinguiſhed himſelf. He reformed many abuſes occaſioned by the avarice or negligence of former governors; put a ſtop to extortion; and cauſed juſtice to be impartially adminiſtered. Veſpaſian dying about this time, his ſon Titus, knowing the great merit of Agricola, continued him in the government. In the ſpring, he marched towards the north, where he made ſome new conqueſts, and ordered forts to be built for the Romans to winter in. He ſpent the following winter in concerting ſchemes to bring the Britons to conform to the Roman cuſtoms: he thought the beſt way of diverting them from riſing and taking arms, was to ſoften their rough manners, by propoſing to them new kinds of pleaſure, and inſpiring them with a deſire of imitating the Roman manners. Soon after this, the country was adorned with magnificent temples, porticos, baths, and many other fine buildings. The Britiſh nobles had at length their ſons educated in learning; and they who before had the utmoſt averſion to the Roman language, now began to ſtudy it with great aſſiduity: they wore likewiſe the Roman habit; and, as Tacitus obſerves, they were brought to conſider thoſe things as marks of politeneſs, which were only ſo many badges of ſlavery. Agricola, in his third campaign, advanced ſo far as the Tweed; and in his fourth, he ſubdued the nations betwixt the Tweed and the friths of Edinburgh and Dumbritton, into which the rivers Glotta and Bodotria diſcharge themſelves; and here he built fortreſſes to ſhut up the nations yet unconquered. In his fifth, he marched beyond the friths; where he made ſome new acquiſitions, and fixed garriſons along the weſtern coaſts, over againſt Ireland. In his ſixth campaign he paſſed the river Bodotria, ordering his fleet, the firſt which the Romans ever had in thoſe parts, to row along the coaſts, and take a view of the northern parts. In the following ſpring, the Britons raiſed an army of 30,000 men; and the command was given to Galgacus, who, according to Tacitus, made an excellent ſpeech to his countrymen on this occaſion. Agricola likewiſe addreſſed his men in very ſtrong and eloquent terms. The Romans gained the victory, and 10,000 of the Britons are ſaid to have been killed. This happened in the reign of the emperor Domitian; who, growing jealous of the glory of Agricola, recalled him, under pretence of making him governor of Syria. Agricola died ſoon after, and his death is ſuſpected to have been occaſioned by poiſon given to him by that emperor. Tacitus the hiſtorian married his daughter, wrote his life, and laments his death in the moſt pathetic manner.

Agricola (George), a German phyſician, famous for his ſkill in metals. He was born at Glaucha in Miſnia, the 24th of March, 1494. The diſcoveries which he made in the mountains of Bohemia gave him ſo great a deſire of examining accurately into every thing relating to metals, that though he had engaged in the practice of phyſic at Joachimſtal by advice of his friends, he ſtill proſecuted his ſtudy of foſſils with great aſſiduity; and at length removed to Chemnitz, where he entirely devoted himſelf to this ſtudy. He ſpent in purſuit of it the penſion he had of Maurice duke of Saxony, and part of his own eſtate; ſo that he reaped more reputation than profit from his labours. He wrote ſeveral pieces upon this and other ſubjects; and died at Chemnitz the 21ſt of November, 1555, a very firm Papiſt. In his younger years he ſeemed not averſe to the Proteſtant doctrine; and he highly diſapproved of the ſcandalous traffic of indulgences, and ſeveral other things in the church of Rome. In the latter part of his life, however, he attacked the Proteſtant religion; which rendered him ſo odious to the Lutherans, that they ſuffered his body to remain unburied for five days together; ſo that it was obliged to be removed from Chemnitz to Zeits, where it was interred in the principal church.

Agricola (John), a Saxon divine born at Iſlebe in 1492. He went as chaplain to Count Mansfield, when that nobleman attended the Elector of Saxony to the diet of Spire in 1526, and that of Auſburgh in 1530. He was of a reſtleſs ambitious temper, rivalled and wrote againſt Melancthon, and gave Count Mansfield occaſion to reproach him ſeverely. He obtained a profeſſorſhip at Wittemberg, where he taught particular doctrines, and became founder of the ſect of Antinomians; which occaſioned warm diſputes between him and Luther, who had before been his very good friend. But though he was never able to recover the favour either of the Elector of Saxony, or of Luther, he received ſome conſolation from the fame he acquired at Berlin; where he became preacher at court; and was choſen in 1548, in conjunction with Julius Phlug, and Michael Heldingus, to compoſe the famous *Interim*, which made ſo much noiſe in the world. He died at Berlin in 1566.

AGRIMONOIDES, the trivial name of a ſpecies of the agrimonia.

AGRIGNAN, one of the iſlands of the Ladrones, about 40 miles in compaſs. Long. 146. 0. E. Lat. 19. 40. N.

AGRIPPA (Herod), ſon of Ariſtobulus, by Berenice, and the grandſon of Herod the Great. He was caſt into priſon by Tiberius for wiſhing Caius emperor, who gave him a chain of gold equal in weight to thoſe which he had worn in priſon, and afterwards made him king of Judea. He put St. James to death, impriſoned St. Peter, and, for allowing the deifying ſhouts of the people, was eaten up with worms.

Agrippa II. ſon of the preceding Herod, was made king of Chalcide; but three or four years after, he was deprived of that kingdom by Claudius, who gave him in the place of it other provinces. In the war Veſpaſian carried on againſt the Jews, Herod ſent him a ſuccour of 2000 men; by which it appears, that, though a Jew by religion, he was yet entirely devoted to the Romans, whoſe aſſiſtance indeed he wanted, to ſecure the peace of his own kingdom. He lived to the third year of Trajan, and died at Rome A. C. 100. He was the ſeventh and laſt king of the family of Herod the Great. It was before him and Berenice his ſiſter, that St. Paul pleaded his cauſe at Cæſarea.

AGRIPPA (Marcus Viſpanius), ſon-in-law to Auguſtus, of mean birth, but one of the moſt conſiderable generals among the Romans. Auguſtus's victory over Pompey and Mark Anthony was owing to his counſel: he adorned the city with the pantheon, baths, aqueducts, &c.

AGRIPPA (Cornelius), born at Cologne in 1486, a man of conſiderable learning, and, by common report, a great magician; for the monks at that time ſuſpected every thing of hereſy or ſorcery which they did not underſtand. He compoſed his *Treatiſe of the Excellence of Women*, to inſinuate himſelf into the favour of Margaret of Auſtria, governeſs of the Low-countries. He accepted of the charge of hiſtoriographer to the emperor, which that princeſs gave him. The treatiſe of the *Vanity of the Sciences*, which he publiſhed in 1530, enraged his enemies extremely; as did that of *Occult Philoſophy*, which he printed ſoon after at Antwerp. He was impriſoned in France for ſomething he had written againſt Francis I.'s mother; but was enlarged, and went to Grenoble, where he died in 1534. His works are printed in two volumes octavo.

AGRIPPINA, daughter of Germanicus, ſiſter of Caligula, and mother of Nero; a woman of wit, but exceſſively lewd: ſhe was thrice married; the laſt time to Claudius, her own uncle, whom ſhe poiſoned to make way for Nero, her ſon. Nero afterward cauſed her to be murdered in her chamber, when ſhe bid the executioner ſtab her firſt in the belly, that had brought forth ſuch a monſter.

AGRIPPINA COLONIA UBIORUM (Pliny, Suetonius), now *Cologne*: ſo called from Agrippina, the daughter of Germanicus, and mother of Nero, who had a colony ſent thither at her requeſt by the Emperor Claudius, to honour the place of her birth. See COLOGNE.

AGUA DE PAO, a town in the iſland of St. Michael, one of the Azores. Long. 25. 40. W. Lat. 38. 0. N.

AGUAS BELLAS, a town of Portugal, in Eſtramadura. Long. 8. 5. W. Lat. 39. 40. N.

AGUE (*Encycl.*). That article ſhould have referred to Intermittent Fever, under MEDICINE.

AGUILA, a town of the kingdom of Fez, in Africa, ſeated on the river Aguila.

AGUILONIUS (Francis), a Jeſuit, born at Bruſſels: he was rector of the Jeſuits' college at Antwerp, and eminent for his ſkill in mathematics. He was the firſt who introduced that ſcience among the Jeſuits in the Low-countries: he wrote a book of Optics, and was employed in finiſhing his Catoptrics and Dioptrics, when death prevented him in 1617.

AGUIRRA (Joſeph Sænz de), a Benedictine, and one of the moſt learned men of the 17th century, was born March 24, 1630. He was cenſor and ſecretary of the ſupreme council of the Inquiſition in Spain, and interpreter of the ſcriptures in the univerſity of Salamanca. He printed three volumes in folio upon Philoſophy, a Commentary upon Ariſtotle's ten books of Ethics, and other pieces. He died at Rome, Auguſt 19, 1699.

AGURANDE, a ſmall town of France, in the department of Indre, and late province of Berry. Long. 2. 10. E. Lat. 47. 20. N.

AGURIUM, or AGYRIUM (anc. geog.), a town of Sicily in the Val di Demona, near the river Semetus. The people were called *Populus Agyrinenſis*, by Cicero; *Agyrinus*, by Pliny. It was the birth-place of Diodorus Siculus, as he himſelf teſtifies; but he calls it *Argyrium*, as it is now called *S. Philippo d'Argirone*, which modern name ſeems to confirm that *Argyrium* is the true reading.

AHAB, ſon of Omri king of Iſrael, ſucceeded his father, A.M. 3086, and ſurpaſſed all his predeceſſors in impiety and wickedneſs.

AHALOTH. See XYLO-ALOES.

AI (anc. geog.), a town in Judea, to the north of Jericho, called Αἶα by Joſephus, and the inhabitants *Ainatæ*.

AICH, a town of Bavaria, on the Par. It was taken by the Swedes in 1634, and afterward reduced to aſhes. Long. 11. 20. E. Lat. 48. 30. N.

AJALON (anc. geog.), a town of the tribe of Dan, one of the Levitical. Another in the tribe of Benjamin, in whoſe valley Joſhua commanded the moon to ſtand ſtill, being then in her decreaſe, and conſequently to be ſeen at the ſame time with the ſun.

AJAX, the ſon of Oileus, was one of the principal generals that went to the ſiege of Troy: he raviſhed Caſſandra, the daughter of Priam, even in the temple of Minerva, where ſhe thought to have found ſanctuary. It is ſaid he made a ſerpent, of fifteen feet long, ſo familiar with him, that it ate at his table, and followed him like a dog. The Locrians had a ſingular veneration for his memory.

AJAX, the ſon of Telamon, was, next to Achilles, the moſt valiant general among the Greeks at the ſiege of Troy: he commanded the troops of Salamis, and performed many great actions, of which we have an account in the Iliad, in *Dictys Cretenſis*, and in the 23d book of Ovid's Metamorphoſes. He was ſo enraged, that the arms of Achilles were adjudged to Ulyſſes, that he immediately became mad. The Greeks paid great honours to him after his death, and erected a magnificent monument to his memory upon the promontory of Rheteum.

AICHSTAT (*Encycl.*). This town is remarkable for a curious piece of workmanſhip, called the Sun of the Holy Sacrament, which is in the church: it is of maſſy gold, of great weight, and is enriched with 350 diamonds, 1400 pearls, 250 rubies, and other precious ſtones. This place is moderately large, and ſeated in a valley on the river Altmul, 10 miles N. of Newburgh, and 37 S. of Neuremberg. The biſhopric is 45 miles in length, and 17 in breadth; and the biſhop is chancellor of the church of Mayence or Mentz.

AIDAN, a famous Scottiſh biſhop of Lindisfarne, or Holy Iſland, in the 7th century, was employed by Oſwald king of Northumberland in the converſion of the Engliſh, in which he was very ſucceſsful. He died in 651.

AIELLO, a ſmall town in Abruzzo Ulteriore, in the kingdom of Naples, belonging to the hereditary prince of Modena. Long. 15. 20. E. Lat. 41. 40. N.

AIGLE (*Encycl.*). Through the Aigle and Bex lies the great road from Valais into Italy. When you paſs by Villeneuve, which is at the head of the lake of Geneva, you enter into a deep valley three miles wide, bordered on one ſide with the Alps of Switzerland, and on the other with thoſe of Savoy, and croſſed by the river Rhone. Six miles from thence you meet with Aigle, a large town, ſeated in a wide part of the valley, where there are vineyards, fields, and meadows. The governor's caſtle is on an eminence that overlooks the town, and has a lofty marble tower. This government has nine large pariſhes; and is divided into four parts, Aigle, Bex, Olon, and Ormont. This laſt is among the mountains, and joins to Rougement. It is a double valley, abounding in paſture-lands. Ivorna, in the diſtrict of Aigle, was in part buried by the fall of a mountain, occaſioned by an earthquake in 1584.

AIGLE (*Encycl.*), a ſmall town in France, is ſituated in the department of Orne. It is 23 miles from D'Evereux, and 38 from Rouen. It is ſurrounded with walls and ditches, has ſix gates, three ſuburbs, and three pariſhes. It trades in corn, toys, and more particularly in needles and pins. E. long. 1. 5. N. lat. 48. 35.

AIGNAN, St. a ſmall town of France, in the department of Loire and Cher, and late province of Blaſois. It is in the form of an amphitheatre, at the foot of which runs the Cher, at the diſtance of 60 miles from Bourges.

AIGUE-PERSE, a ſmall town of France, in the department of Puy-de-Dome, and late province of Auvergne. It is 18 miles N. of Clermont, and 261 S. of Paris. It has a fountain, once regarded as a prodigy, its cold water having the appearance of boiling. But the chemiſts can now imitate theſe cold fermentations by a mixture of ferruginous and vitriolic particles. The water of this ſpring is ſaid to be fatal to the animals that drink it. Long. 3. 20. E. Lat. 46. 6. N.

AILAH, a ſmall ancient town of Arabia Petrea, on the E. ſide of the Red Sea, near the road which the pilgrims take from Egypt to Mecca. Long. 36. 40. E. Lat. 29. 10. N.

AILANA, Ailath, or Aheloth, anciently a town of Arabia Petræa, ſituated near the Sinus Elanites of the Red Sea. It was alſo called *Elath*, and *Eloth* (Stephanus, Strabo, Moſes). The ſame with *Elana*.

AILRED, or Ealred, abbot of Reveſby in Lincolnſhire, in the reigns of Stephen and Henry II. He was born in 1109, of a noble family, and educated in Scotland with Henry the ſon of King David. On his return to England, he became a monk of the Ciſtertian order, in the monaſtery of Reveſby, of which he afterwards was made abbot. He died on the 12th of January, 1166, aged 57, and was buried in his monaſtery. "He was (ſays Leland) in great eſteem during his life; celebrated for the miracles wrought after his death; and admitted into the catalogue of ſaints." He was author of ſeveral works; moſt of which were publiſhed by Gilbo the Jeſuit, at Douay, 1631; part of them may be alſo found in the *Bibliotheca Ciſtercienſis*, and *Bibliotheca Patrum*. His principal work is the *Speculum charitatis*. Leland, Bale, and Pits, mention ſeveral manuſcripts which never were publiſhed.

AILSA, a great inſulated rock, to the ſouth of the iſle of Arran, in Scotland. Its baſe is about two miles in circumference. It conſiſts of a ſtupendous aſſemblage of precipitous cliffs, riſing in a wild ſeries, forming a pyramidal mountain, 900 feet high, acceſſible only on the north-eaſt. The ruins of a chapel, and of a caſtle, are ſtill ſeen; and within 30 yards of the latter, is a ſpring of freſh water. The lower parts are inhabited by goats and rabbits: and the lofty ſummits are the refuge of innumerable ſea-fowl.

AIME, or Axima, a ſmall town in Savoy, on the river Iſere.

AIN, a department of France, lately the province of Breſſe. It takes its name from a river which riſes at the foot of Mount Jura, and falls into the Rhone above Lyons.

AINSA, a town of Spain, in Arragon, on the river Ara.

AINSWORTH (Dr. Henry), an eminent nonconformiſt divine, who, about the year 1590, diſtinguiſhed himſelf among the Browniſts; which drew upon him ſuch troubles, that he was obliged to retire to Holland, and became miniſter of a church at Amſterdam. His ſkill in the Hebrew language, and his excellent Annotations on the Holy Scriptures, which are ſtill highly eſteemed, gained him great reputation. He alſo wrote ſeveral pieces in defence of the Browniſts, and ſeveral other works.

Ainsworth (Robert), born at Woodyale in Lancaſhire, in 1660, was maſter of a boarding-ſchool at Bethnal-green, from whence he removed to Hackney, and to other places in the neighbourhood of London. After acquiring a moderate fortune, he retired, and lived privately till the time of his death, which happened in 1743. We are indebted to him for the beſt Latin and Engliſh Dictionary extant: he publiſhed it in quarto, 1736; and in 1752, the fourth edition, under the care of Doctor Ward, of Greſham College, and the Rev. William Younge, was enlarged to two volumes folio.

AIRANI (*Encycl.*). This ſect are otherwiſe called *Airaniſtæ*; and are ſaid to have taken their name from one *Airas*, who diſtinguiſhed himſelf at the head of this party, in the reigns of Valentinian and Gratian.

AIRAY (Henry), provoſt of Queen's College in Oxford, was born in Weſtmoreland, in the year 1560, educated in grammatical learning by the care of Bernard Gilpin, uſually called the Northern Apoſtle, and by him ſent to St. Edmund's Hall, in Oxford, in the year 1579. Mr. Airay ſoon removed from St. Edmund's Hall to Queen's College, where he became a ſolicitor. In 1583 he took his bachelor's degree, and in 1586 he commenced maſter of arts and fellow. About this time he went into orders, and became a conſtant and zealous preacher in the univerſity, particularly in the church of St. Peter in the Eaſt, adjoining to Queen's College. In 1594 he took the degree of bachelor in divinity, and four years after was choſen provoſt of his college. In 1600 he proceeded in divinity, and ſix years after was choſen vice-chancellor. He wrote the following pieces, which were publiſhed after his death. 1. Lectures upon the whole Epiſtle of St. Paul to the Phillippians. London, 1618, 4to. 2. The juſt and neceſſary Apology touching his Suit in Law, for the Rectory of Charlton on Otmore, in Oxfordſhire. London, 1621, 8vo. 3. A Treatiſe againſt bowing at the Name of Jeſus. Airay was a zealous Calviniſt, and a great ſupporter of thoſe of his party; who concur in giving him the character of a perſon of great holineſs, integrity, learning, gravity, and indefatigable pains in the diſcharge of his miniſterial function. He died in Queen's College the 10th of October, 1616, aged 57.

Airay (Chriſtopher), vicar of Milford in Hampſhire, was born at Clifton in Weſtmoreland, and admitted a ſtudent in Queen's College, in Oxford, in Michaelmas term, 1621; where, having paſſed through the ſervile offices, and taken the degree of maſter of arts, he was elected a fellow. Soon after, agreeably to the ſtatutes of that houſe, he went into holy orders, and, in 1642, took the degree of bachelor of divinity. He wrote a Collection of the Rules of Logic, for the uſe of the ſtudents in the univerſity.

AIRE, in geography, a ſea-port town in Scotland, ſituated in N. lat. 55. 30. and W. long. 4. 40. at the mouth of a river of the ſame name, which diſcharges itſelf into the frith of Clyde. Aire is the chief town of the county, and very ancient. About a mile north from the town, there is a lazar-houſe, commonly called *the King's chapel*, which King Robert de Bruce ſet apart for the maintenance of lepers.

AIRESHIRE, a county of Scotland, the capital of which is the town of Aire. It lies eaſtward of the frith of Clyde.

AISNE, a department of France, including the late provinces of Soiſſonnois and Vermandois. It takes its name from a river, which runs by Soiſſons, and falls into the Oiſe, near Compiegne.

AIUS LOCUTIUS, the name of a deity to whom the Romans erected an altar.—The words are Latin, and ſignify "a ſpeaking voice."—The following accident gave occaſion to the Romans erecting an altar to the Aius Locutius. One M. Ceditius, a plebeian, acquainted the tribunes, that, in walking the ſtreets by night, he had heard a voice over the temple of Veſta, giving the Romans notice that the Gauls were coming againſt them. This intimation was however neglected; but after the truth was confirmed by the event, Camillus acknowledged this voice to be a new deity, and erected an altar to it under the name of the *Aius Locutius*.

AIX (*Encycl.*), is now the metropolitan ſee of the department of the mouth of the Rhone. It is a well-built city; and moſt like Paris of any place in the kingdom, as well for the largeneſs of the buildings, as in reſpect of the politeneſs of the inhabitants. It is embelliſhed with abundance of fine fountains, and ſeveral beautiful ſquares. The Preacher's ſquare is on the ſide of a hill; it is about 160 yards in length, and is ſurrounded with trees, and houſes, built with ſtone, three ſtories high. The town-hall is at one end of the city, and is diſ-

tributed into ſeveral fine apartments: the two loweſt are taken up by the board of accounts, and by the ſeneſchal; that above was formerly deſigned for the ſeſſions of parliament. The hotel of the city is a handſome building, but hid by the houſes of the narrow ſtreet in which it is placed. The cathedral church is a Gothic ſtructure. The church of the fathers of the Oratory is a handſome building; and not far from thence is the chapel of the Blue Penitents, which is full of paintings. The convent of Preachers is very fine; in their church was a ſilver ſtatue of the Virgin Mary almoſt as big as the life, which, no doubt, the revolutioniſts have diſpoſed of in another manner. There are other churches and buildings which, during the monarchy, contained a great number of rarities. The baths without the city have good buildings, raiſed at a vaſt expence, for the accommodation of thoſe that drink the waters. E. Long. 5. 32. N. lat. 43. 32.

AKENSIDE (Dr. Mark), a celebrated phyſician and poet, born at Newcaſtle upon Tyne in 1721; where, and at the univerſities of Edinburgh and Leyden, he was educated. He was afterward admitted by mandamus to the degree of doctor in phyſic at Cambridge; and was appointed one of the queen's phyſicians, upon the eſtabliſhment of her houſehold. He was poſſeſſed of a fine luxuriant fancy; which, though he wrote many pieces, particularly odes, is principally diſplayed in that admired poem, The Pleaſures of Imagination; which, however, he did not live to finiſh according to his plan. He died of a putrid fever in 1770.

AKIBA, a famous rabbin, flouriſhed a little after the deſtruction of Jeruſalem by Titus. He kept the flocks of a rich citizen of Jeruſalem till the 40th year of his age, and then applied himſelf to ſtudy in the academies for 24 years; and was afterwards one of the greateſt maſters in Iſrael, he having 24,000 ſcholars. He declared for the impoſtor Barcochebas, whom he owned for the Meſſiah; and not only anointed him king, but took upon himſelf the office of his maſter of the horſe. The troops which the Emperor Hadrian ſent againſt the Jews, who, under the conduct of this falſe Meſſiah, had committed horrid maſſacres, exterminated this faction. Akiba was taken, and put to death with great cruelty. He lived 120 years; and was buried with his wife in a cave upon a mountain not far from Tiberias, and his 24,000 ſcholars were buried round about him upon the ſame mountain. It is imagined he invented a ſuppoſititious work under the name of the patriarch Abraham.

ALADULIA (*Encycl.*), is ſituated in that part of Turkey called Natolia, between the mountains of Antitaurus, which ſeparate it from Amaſia on the north, and from Carimania on the weſt. It has the Mediterranean ſea on the ſouth; and the Euphrates, or Frat, on the eaſt, which divides it from Diarbeker. It comprehends the Leſſer Armenia of the ancients, and the eaſt part of Cilicia. Formerly it had kings of its own; but the head of the laſt king was cut off by Selim I. emperor of the Turks, who had conquered the country. It is now divided into two parts: the north, comprehended between Taurus, Antitaurus, and the Euphrates, is a beglerbeglic, which bears the name of Maraſh, the capital town; and the ſouth, ſeated between mount Taurus and the Mediterranean, is united to the beglerbeglic of Aleppo. The country is rough, ragged, and mountainous; yet there are good paſtures, and plenty of horſes and camels. The people are hardy and thieviſh. The capital is Malattigah.

ALAGOA, a town in the iſle of St. Michael, one of the Azores.

ALAIN (Chartier), ſecretary to Charles VII. king of France, born in the year 1386. He was the author of ſeveral works in proſe and verſe; but his moſt famous performance was his Chronicle of King Charles VII. Bernard de Girard, in his preface to the Hiſtory of France, ſtyles him "an excellent hiſtorian, who has given an account of all the affairs, particulars, ceremonies, ſpeeches, anſwers, and circumſtances, at which he was preſent himſelf, or had information of." Giles Coroxet tells us, that Margaret, daughter to the King of Scotland, and wife to the dauphin, paſſing once through a hall where Alain lay aſleep, ſhe ſtopped and kiſſed him before all the company who attended: ſome of them telling her, that it was ſtrange ſhe ſhould kiſs a man who had ſo few charms in his perſon, ſhe replied, "I did not kiſs the man, but the mouth from whence proceed ſo many excellent ſayings, ſo many wiſe diſcourſes, and ſo many elegant expreſſions." Mr. Fontenelle, among his Dialogues of the Dead, has one upon this incident, between the Princeſs Margaret and Plato. Mr. Paſquier compares Alain to Seneca, on account of the great number of beautiful ſentences interſperſed throughout his writings.

ALAIS, a town of France, is ſituated in the department of Gard, and late province of Languedoc, on the river Gardon, at the foot of the Cevennes. The Jeſuits had a college in this place; and a fort was built here in 1689.

ALALCOMENIUS, in Grecian antiquity, the Bœotian name of the month, called, by the Athenians, *Mœmacterion*.

ALAMANNI (Lewis), was born at Florence, of a noble family, on the 28th of October, 1495. He was obliged to fly his country for a conſpiracy againſt Julius de Medici, who was ſoon after choſen pope under the name of Clement VII. During this voluntary baniſhment, he went into France; where Francis I. from a love to his genius and merit, became his patron. This prince employed him in ſeveral important affairs, and honoured him with the collar of the order of St. Michael. About the year 1540, he was admitted a member of the Inflammati, an academy newly erected at Padua, chiefly by Daniel Barbaro and Ugolin Martelli. After the death of Francis, Henry duke of Orleans, who ſucceeded him in 1537, ſhewed no leſs favour to Alamanni; and in the year 1551 ſent him as his ambaſſador to Genoa: this was his laſt journey to Italy; and being returned to France, he died at Amboiſe on the 18th of April, 1556, being in the 61ſt year of his age. He left many beautiful poems, and other valuable performances, in the Italian language. We have alſo ſome notes of his upon Homer's Iliad and Odyſſey; thoſe upon the Iliad were printed in the Cambridge edition of Homer in 1689, and Joſhua Barnes has alſo inſerted them in his fine edition of Homer, in 1711.

ALAMOS (Balthaſar), a Spaniſh writer, born at Medina del Campo in Caſtile. After having ſtudied the law at Salamanca, he entered into the ſervice of Anthony Perez, ſecretary of ſtate under Philip II. He was in high eſteem and confidence with his maſter, upon which account he was impriſoned after the diſgrace of this miniſter; he was kept in confinement eleven years, when Philip III. coming to the throne, ſet him at liberty, according to the orders given by his father in his will. Alamos continued in a private capacity, till the Duke of Olivarez, the favourite of Philip IV. called him to public employments. He was appointed advocate-general in the court of criminal cauſes, and in the council of war. He was afterwards choſen counſellor of the council of the Indies, and then of the council of the king's patrimony, and a knight of the order of St. James. He was a man of wit as well as judgment, but his pen was ſuperior to his tongue. He died in the eighty-eighth year of his age. His Spaniſh tranſlation of Tacitus, and the aphoriſms which he added in the margin, gained him great reputation: the aphoriſms, however, have been cenſured by ſome authors, particularly by Mr. Amelot, who ſays, "that they are quite different from what one would expect; that inſtead of being more conciſe and ſententious than the text, the words of the text are always more ſo than the aphoriſm."

This work was publiſhed at Madrid in 1614, and was to have been followed, as mentioned in the king's privilege, with a Commentary, which, however, has never yet appeared. The author compoſed the whole during his impriſonment. He left ſeveral other works, but they were never printed.

ALAN (Cardinal William), was born at Roſſal in Lancaſhire, in the year 1532. He went to Oxford at the age of fifteen, and in 1550 was elected fellow of Oriel College. In 1556, being then only twenty-four years old, he was choſen principal of St. Mary's Hall, and one of the proctors of the univerſity. In 1558 he was made canon of York; but, upon Queen Elizabeth's acceſſion to the throne, he left England, and ſettled at Louvain in an Engliſh college, of which he became the chief ſupport. In 1565 he viſited his native country; but, on account of his extreme activity in the propagation of the Roman-catholic religion, he was obliged to fly the kingdom in 1568. He went firſt to Mechlin, and then to Douay, where he was made doctor of divinity. Soon after he was appointed canon of Cambray, and then canon of Rheims. He was created cardinal on the 28th of July, 1587, by the title of *St. Martin in Montibus*; and obtained from the King of Spain a rich abbey in the kingdom of Naples, and afterwards the biſhopric of Mechlin. It is ſuppoſed to have been by the advice and inſtigation of this prieſt, that Philip II. attempted to invade England. He died on the 20th of October, 1594, aged ſixty-three; and was buried in the Engliſh college at Rome. He was a man of conſiderable learning, and an elegant writer. He wrote many books in defence of the Romiſh religion. The moſt remarkable are, 1. *A Defence of the Twelve Martyrs in one Year.* Tho. Alfield was hanged for bringing, and publiſhing, this and other of Alan's works, into England, in the year 1584. 2. *A Declaration of the Sentence of Sextus V.* &c. A work intended to explain the Pope's bull for the excommunication of Queen Elizabeth, and to exhort the people of England to take up arms in favour of the Spaniards. Many thouſand copies of this book, printed at Antwerp, were put on board the Armada; but the enterpriſe failing, they were afterwards deſtroyed. 3. *Of the Worſhip due to Saints and their Relicts*, 1583. This treatiſe was anſwered by Lord Burleigh, and is eſteemed the moſt elegant of the cardinal's writings.

ALAN (of Lynn), a famous divine in the 15th century, was born at Lynn, in the county of Norfolk, and educated in the univerſity of Cambridge; where he applied himſelf diligently to the ſtudy of philoſophy and divinity, and, having taken the degree of doctor, became an eminent preacher. Bale, who gives Alan an advantageous character, yet blames him for uſing allegorical and moral expoſitions of ſcripture. But he is particularly famous for the great pains he took in making indexes to moſt of the books he read. Alan flouriſhed about the year 1420, and wrote ſeveral pieces, particularly, 1. Of the different Senſes of Scripture. 2. The Morality of the Scriptures. 3. Remarkable Diſcourſes. 4. A Method of intrepreting Scripture. 5. Lectures on Divinity. 6. Explications of Ariſtotle. At length he became a Carmelite, in the town of his nativity, and was buried in the convent of his order.

ALAND, Sir John Forteſcue, LL. D. R. S. S. baron of the Exchequer, puiſne judge of both benches to King George the Firſt, and a peer of England in the ſubſequent reign; was born 7th March, 1670; ſecond ſon to Edmund Forteſcue, of London, eſq.

This judge was deſcended from Sir John Forteſcue, lord chief-juſtice, and lord high-chancellor of England, under King Henry the Sixth. Sir John Forteſcue Aland added his latter name of Aland in compliment to his lady, who was the eldeſt daughter to Henry Aland, eſq. of Waterford in Ireland.

Sir John Forteſcue Aland, when at Oxford, greatly improved his natural endowments, and deſervedly had the reputation of being a general ſoldier; and as he was intended for the profeſſion of the law, upon leaving the univerſity, he became a member of the Inner Temple, where he was choſen reader in the year 1716, as appears by a ſubſcription to his arms ("azure, a bend engrailed argent, cottiſes or;" creſt "a plain ſhield argent;" ſupporters "two greyhounds argent, collar and lined gules;" motto "*Forte ſcutum ſalus ducum*"); they are in the parliament chamber of that ſociety, and in Guillim's Heraldry; in alluſion to the connection between the family name "Forteſcue," and the firſt two words of the motto "Forte ſcutum." Sir Walter Raleigh hath ſtyled our judge's anceſtor, the *bulwark* of the law. He was called to the bar about the happy æra of the glorious Revolution; in which ſituation he ſhone with meridian luſtre.

In the year 1714, our barriſter was appointed ſolicitor-general to his Royal Highneſs the Prince of Wales, afterwards King George the Second, and in 1716 was conſtituted ſolicitor-general to the king, in the room of Nicholas Lechmere, reſigned; which arduous and important office he executed ſo much to the ſatisfaction of his majeſty, that he was ſoon promoted to be one of the barons of the Exchequer; and on 15th May, 1718, was conſtituted one of the juſtices of the court of King's Bench, in the place of Sir John Pratt. After the acceſſion of his late majeſty King George the Second, all the judges had new patents, except Mr. Juſtice Forteſcue Aland, whoſe commiſſion was ſuperſeded; and the reaſon generally aſſigned was, his opinion on the following grand queſtion, viz. "Whether the education and care of his majeſty's (King George the Firſt) grand-children, in England, and of Prince Frederic (late father to King George the Third), eldeſt ſon of his Royal Highneſs the Prince of Wales (late grand-father to King George the Third), when his majeſty ſhould think fit to cauſe him to come into England, and the ordering the places of abode, and appointing their governors, and governeſſes, and other inſtructors, and attendants, and ſervants, and the care and approbation of their marriages, when grown up, belonged of right to his majeſty, as king of the realm or not?"

Ten judges, among whom was Sir John Forteſcue Aland, were of opinion that their education and the approbation of their marriages did belong to his majeſty. But we very much doubt the authenticity of the ſaid general aſſertion of the cauſe for removing Sir John Forteſcue Aland, becauſe a king of the diſpoſition of George the Second would, on the contrary, revere a judge of ſuch Roman fortitude, and bleſſed with all the cardinal virtues of his office, courage, integrity, and abilities; and who gave ſo convincing a proof of his being poſſeſſed of every qualification requiſite for forming the complete character of a judge. But be our arguments well founded or not, and whether his late majeſty did act from the unjuſt motive above ſuggeſted, he ſoon ſatisfied mankind and the judge, that all reſentment had ſubſided, and that he was reſolved to pay to our judge the tribute due to his merit; for, upon the death of Spencer Cowper (which happened the very next year after Sir John Forteſcue Aland's removal), his majeſty was pleaſed to conſtitute him one of the juſtices of his court of Common Pleas, viz. 27th January, 1728, Hilary Term, 2 George II.; and what is rather a ſingular circumſtance, he ſucceeded Spencer Cowper, who ſucceeded our judge, on being ſuperſeded in manner and for the cauſe above mentioned.

Sir John Forteſcue Aland continued on the bench of the court of Common Pleas, from Michaelmas vacation, 2 George II. 1728, until Trinity Term, 19 and 20, A. D. 1746, when he reſigned the ſame, having ſat in the ſuperior courts of Weſtminſter for the long period of thirty years, and eighteen of them in the court alluded to. In honour to the judicial inte-

grity and abilities of Sir John, his majeſty was pleaſed to create him a peer of Ireland, by the ſtyle and title of John lord Forteſcue Aland, baron Forteſcue of Credan, in the kingdom of Ireland, by privy ſeal, dated at Kenſington, 26th June, 1746, 19 George II. and by patent dated at Dublin, 15th Auguſt, ſame year.

Sir John left behind him the following juridical writings: 1. The Difference between an Abſolute and Limited Monarchy, as it more particularly regards the Engliſh Conſtitution. 2. Reports of ſelect Caſes in all the Courts of Weſtminſter Hall, *tempore* William the Third and Queen Anne; alſo the Opinion of all the Judges of England, relating to the greateſt Prerogatives of a Queen Conſort.

ALANORARIUS, in our old cuſtoms, was a keeper of ſpaniels, ſetting-dogs, &c. for the uſe of ſportſmen. The word is derived from *alan*, a gothic term for a *greyhound*.

ALAQUECA, a ſtone brought from the Eaſt Indies in ſmall gloſſy fragments, ſaid to ſtop hæmorrhages by external application.

ALARAF (*Encycl.*), gives the denomination to the ſeventh chapter of the Alcoran, wherein mention is made of this wall. Mahomet ſeems to have copied his al araf, either from the great gulf of ſeparation mentioned in the New Teſtament, or from the Jewiſh writers, who alſo ſpeak of a thin wall dividing heaven from hell. Mahometan writers differ extremely as to the perſons who are to be found on al araf. Some take it for a ſort of limbus for the patriarchs, prophets, &c. others place here ſuch whoſe good and evil works ſo exactly balance each other, that they deſerve neither reward nor puniſhment. Others imagine this intermediate ſpace to be poſſeſſed by thoſe who, going to war without their parents' leave, and ſuffering martyrdom there, are excluded paradiſe for their diſobedience, yet eſcape hell becauſe they are martyrs.

ALASCANI (*Encycl.*), a ſect of Antilutherans, are ſaid to have taken the name from one Joannes a Laſco, a Poliſh baron, ſuperintendant of the church of that country, in England. See the next article.

ALASCO (John), a Poliſh nobleman of the 16th century, who, imbibing the reformed opinions, was expelled his country, and became preacher to a Proteſtant congregation at Embden; but foreſeeing perſecution there, came to England about the year 1551, while the reformation was carrying on under Edward the Sixth. The publication of the Interim driving the Proteſtants to ſuch places as afforded them toleration, 380 were naturalized here, and obtained a charter of incorporation, by which they were erected into an eccleſiaſtical eſtabliſhment, independent on the church of England. The Auguſtine friars' church was granted them, with the revenues, for the maintainance of Alaſco as ſuperintendant, with four aſſiſtant miniſters, who were to be approved by the king: and this congregation lived undiſturbed until the acceſſion of Queen Mary, when they were all ſent away. They were kindly received, and permitted to ſettle at Embden; and Alaſco at laſt, after an abſence of twenty years, by the favour of Sigiſmund returned to his own country, where he died in 1560. Alaſco was much eſteemed by Eraſmus, and the hiſtorians of his time ſpeak greatly in his praiſe: we have of his writing *De Cœna Domini liber; Epiſtola continens ſummam Controverſiæ de Cœna Domini, &c.* He had ſome particular tenets; and his followers are called *Alaſcani* in church hiſtory. See the preceding article.

ALATED ANIMALS, ſuch as are furniſhed with wings.

ALATED *Leaves*, in botany, ſuch as are compoſed of ſeveral pinnated ones. See PINNATED.

ALATERNOIDES, in botany, a ſynonime of a ſpecies of the myrica. See MYRICA.

ALATRI, a town in the Campagna of Rome, on a hill, with a biſhop's ſee; 40 miles S. E. of Rome. Long. 13. 8. E. Lat. 41. 30. N.

ALATYR, a town of Ruſſia, in Aſia, on the river Suru, in the government of Kaſan, and 40 miles E. of Kaſan.

ALBA, a town of Italy, in Montferrat, with a biſhop's ſee. It was ceded in 1631 to the Duke of Savoy, and is ſeated on the river Tanaro, 20 miles S. E. of Turin. Long. 8. 5. E. Lat. 44. 46. N.

ALBA (anc. geog.), a town of the Marſi in Italy, ſituated on the north ſide of the Lacus Fucinus, ſtill retaining its name. The inhabitants were called *Albani*, and *Albenſes*.

ALBA HELVIORUM, or *Albauguſta*, in ancient geography (Pliny, Ptolemy); afterwards called *Vivarium*, now *Viviers*, in the ſouth-eaſt of Languedoc, on the Rhone. In the lower age the inhabitants were called *Albenſes*, and their city, *Civitas Albenſium*, in the Notitia Galliæ. E. long. 4. 45. Lat. 44. 50.

ALBA JULIA (anc. geog.), now *Weiſſenburg* a town of Tranſylvania, on the river Mariſius, or Meriſch, to the weſt of Hermanſtat, ſuppoſed to be called *Alba Julia*, after Julia Domna, the mother of Caracalla. There are, however, ſeveral inſcriptions found at or near Weiſſenburg, which bear COL. APUL. that is *Colonia Apulenſis*, without the leaſt mention of *Alba Julia*, though inſcribed after Caracalla's time. Add, that Ulpian, reciting the colonies of Dacia, calls this colony *Apulenſis*, and neither *Alba* nor *Julia*. Whence there is a ſuſpicion, that *Alba Julia* is a corruption of *Apulum*. It was alſo called *Apulum Auguſtum*. E. long. 25. 0. Lat. 46. 46.

ALBA LONGA (anc. geog.), a colony from Lavinium, in Latium, eſtabliſhed by Aſcanius, the ſon of Æneas, at the foot of the Mons Albanus: called *Alba*, from a white ſow found by Æneas, which farrowed 30 white pigs on that ſpot; which circumſtance was interpreted to portend the building of a city there in 30 years after (Propertius). The epithet *Longa* was added on account of its length. It was the royal reſidence, till the building of Rome, as was foretold by Anchiſes (Virgil); was deſtroyed by Tullus Hoſtilius, all but the fane or temple; and the inhabitants were tranſplanted to Rome (Strabo).

ALBA POMPEIA (anc. geog.), on the river Ceba, now *Ceva*, in Liguria, the birth-place of the Emperor Pertinax; a colony either eſtabliſhed at firſt by Pompey, or re-eſtabliſhed by him after having been before ſettled by Scipio. The inhabitants were called *Alpenſes Pompeiani*. At this day the town is ſimply called *Alba*, without any epithet.

ALBANA (anc. geog.), a ſea-port town of Albania, on the Caſpian ſea, between the rivers Caſius and Albanus, now called *Bachu*, or *Bachy*, giving name to the Caſpian ſea, viz. *Mar de Bahu*. E. long. 49. 0. Lat. 40. 0.

ALBAHURIM, *figura ſexdecim laterum*, a figure of great importance according to aſtrological phyſicians, who built their prognoſtics on it.

ALBANIA (*Encycl.*), a province of Turkey in Europe, is bounded by Livadia on the ſouth, by Theſſaly and Macedonia on the eaſt, and on the north by Boſnia and Dalmatia. The people are ſtrong, large, courageous, and good horſemen; but are ſaid to be of a thieviſh diſpoſition: the grand-ſeignior procures excellent ſoldiers from hence, particularly cavalry, known by the name of *Arnauts*. There are ſeveral large towns in this province; and the inhabitants are almoſt all Chriſtians of the Greek church, and deſcended from the ancient Scythians. Formerly it was part of the kingdom of Macedonia. Their chief manufacture is carpets. The principal places are Durazzo, Velona, Antivari, Scutari, Croya, Aleſſo, Dibra, Dolcigno, and Albanapoli.

ALBANIA (*Encycl.*), a country of Aſia, is bounded on the weſt by Iberia; on the eaſt by the Caſpian ſea, on the north by mount Caucaſus, on the ſouth by Armenia and the river Cyrus, now Kur; which, ſpringing from the *Moſchian* moun-

tains that ſeparate Colchis from Armenia, and watering the country of *Mokan*, receives the Aragus and Araxes, and falls into the Caſpian ſea within a ſmall diſtance from the ſouthern borders of this country.—The whole country formerly called *Albania*, now goes under the names of *Shirwan* and *Eaſt Georgia*, and is extremely fruitful and pleaſant. The ancient hiſtorians take notice of the Albanian men being tall, ſtrong bodied, and, generally ſpeaking, of a very graceful appearance; far excelling all other nations in comelineſs, as well as ſtature. Modern travellers take no notice of the appearance of the men; but extol the beauty of the women, which ſeems to be unnoticed by the ancients. The Albanians were anciently an independent and pretty powerful people; but we find no mention made of their king, till the reign of Alexander the Great, to whom the king of Albania is ſaid to have preſented a dog of an extraordinary fierceneſs and ſize.—It does not appear that the Albanians were ever conquered by the Romans, even when their power was at its greateſt height; though, when they ventured to engage in war with that powerful empire, they were always defeated, as might naturally be expected.

ALBANO (Franceſco), a celebrated hiſtory and landſcape painter, born at Bologna in 1578, who ſtudied firſt in the ſchool of Dennis Calvert at the ſame time with Guido, but placed himſelf afterward under the direction of the Caracci, and completed his ſtudies at Rome. For the moſt part he painted in a ſmall ſize, and choſe his ſubjects from poetic or fabulous hiſtory: he was fond of introducing cupids, in a variety of actions and attitudes. It has been objected to him, that he was apt to preſerve too great a ſimilitude in his figures, and in the air of his heads; which aroſe from his painting after his wife and children as models. The ſtyle of his landſcape is very agreeable, as his ſcenes and objects were ſtudied from nature. In the king of Sardinia's palace at Turin, are the Four Elements painted by him, which are of extraordinary beauty, and well preſerved. He died in 1660. He had a brother Giovanni Battiſta Albano, who was his diſciple, and became an admirable painter in his ſtyle: he died in 1668.

ALBAN (St.), is ſaid to have been the firſt perſon who ſuffered martyrdom for Chriſtianity in Britain; he is therefore uſually ſtyled the protomartyr of this iſland. He was born at Verulam, and flouriſhed towards the end of the third century. In his youth he took a journey to Rome, in company with Amphibalus a monk of Caerleon, and ſerved ſeven years as a ſoldier under the emperor Diocleſian. At his return home, he ſettled in Verulam; and, through the example and inſtructions of Amphibalus, renounced the errors of paganiſm, in which he had been educated, and became a convert to the Chriſtian religion. It is generally agreed, that Alban ſuffered martyrdom during the great perſecution under the reign of Diocleſian; but authors differ as to the year when it happened: Bede and others fix it in 286; ſome refer it to the year 296; but Uſſerius reckons it amongſt the events of 303. The ſtory and circumſtances relating to his martyrdom, according to Bede, are as follows. Being yet a pagan (or at leaſt it not being known that he was a Chriſtian), he entertained Amphibalus in his houſe. The Roman governor being informed thereof, ſent a party of ſoldiers to apprehend Amphibalus; but Alban, putting on the habit of his gueſt, preſented himſelf in his ſtead, and was carried before that magiſtrate. The governor having aſked him of what family he was? Alban replied, "To what purpoſe do you enquire of my family? if you would know my religion, I am a Chriſtian." Then being aſked his name, he anſwered, "My name is Alban; and I worſhip the only true and living God, who created all things." The magiſtrate replied, if you would enjoy the happineſs of eternal life, delay not to ſacrifice to the great gods." Alban anſwered, "The ſacrifices you offer are made to devils; neither can they help the needy, or grant the petitions of their votaries." His behaviour ſo enraged the governor, that he ordered him immediately to be beheaded. In his way to execution, he was ſtopped by a river, over which was a bridge ſo thronged with ſpectators that it was impoſſible to croſs it; the ſaint, as we are told, lifted up his eyes to heaven, and the ſtream was miraculouſly divided, and afforded a paſſage for himſelf and a thouſand more perſons. Bede does not indeed give us the name of this river; but, notwithſtanding this omiſſion, the miracle, we ſuppoſe, will not be the leſs believed. This wonderful event converted the executioner upon the ſpot, who threw away his drawn ſword, and falling at St. Alban's feet, deſired he might have the honour to die with him. This ſudden converſion of the headſman occaſioning a delay in the execution, till another perſon could be got to perform the office, St. Alban walked up to a neighbouring hill, where he prayed for water to quench his thirſt, and a fountain of water ſprung up under his feet: here he was beheaded, on the 23d of June. The executioner is ſaid to have been a ſignal example of divine vengeance; for as ſoon as he gave the fatal ſtroke, his eyes dropt out of his head. We may ſee the opinion of Mr. Milton in regard to this narrative, in his hiſtory of England: his words are theſe, ſpeaking of St. Alban, "The ſtory of whoſe martyrdom, ſoiled and worſe martyred with the fabling zeal of ſome idle fancies, more fond of miracles than apprehenſive of the truth, deſerves no longer digreſſion. Between 4 or 500 years after St. Alban's death, Offa king of the Mercians built a very large and ſtately monaſtery to his memory; and the town of St. Alban's in Hertfordſhire takes its name from our protomartyr.

ALBANS, St. (*Encycl.*), a market town of Hertfordſhire, is ſeated near the ruins of an ancient Roman city, by Tacitus called *Verolam*; and by the Saxons *Watlingceſter*, becauſe it is ſeated on the road called *Watling-ſtreet*. Nothing now remains of Verolam, but the ruins of old walls; in the fields adjacent to which they continue to find Roman coins, as they formerly found teſſellated pavements. In memory of St. Alban, Offa king of the Mercians, *anno* 795, erected an abbey, calling it *St. Alban's*; and near it the town of the ſame name was afterwards built. The church of the abbey is remaining to this day: time and the weather have made it look like ſtone on the outſide; but if you break a bit off, the redneſs of the brick immediately appears. When the monaſteries were diſſolved, the townſmen paid £. 400 to prevent its being levelled with the ground, and have ſince converted it into a pariſh-church, which, for its largeneſs, beauty, and antiquity, claims a particular regard. It had a very noble font of ſolid braſs, in which the children of the kings of Scotland were uſed to be baptized; and was brought from Edinburgh, by Sir Philip Lea, when that city was in flames; but in the times of the late civil wars, it was taken away. Not many years ſince, a tomb was diſcovered in this church, ſaid to be that of Humphrey duke of Glouceſter: when the leaden coffin was opened, the body was pretty entire, being preſerved in a ſort of pickle. There was a ſtately croſs in the middle of the town, as there were in many other places where queen Eleanor's body reſted when it was brought out of the north for interment at Weſtminſter; but it has been demoliſhed, as ſome ſay, by the inhabitants.

ALBANUS MONS (anc. geog.), now called *Mont Albano*, 16 miles from Rome, near where Alba Longa ſtood.

ALBANUS MONS (anc. geog.), to the north of Iſtria, called *Albius* by Strabo; the extremity of the Alps, which, together with the mountains to the eaſt, joining it, called

Montes Bebii, ſeparate the farther Liburnia and Dalmatia from Pannonia.

ALBEMARLE, or AUMARLE (*Encycl.*), a town of France, in the department of the Lower Seine, and late province of Normandy. From hence the noble family of Keppel takes the title of *Earl*. Before the revolution, the ſerges of this town were in high eſteem. It is ſeated on the declivity of a hill, on the confines of Picardy.

ALBERONI (Julius), the ſon of a poor gardener, in the ſuburbs of Placentia, born in 1664; who, by his great abilities and good fortune, roſe from this low original, to the employment of firſt miniſter of ſtate at the court of Spain, and to the dignity of Cardinal. He rouſed that kingdom out of the lethargy it had ſunk into for a century paſt; awakened the attention and raiſed the aſtoniſhment of all Europe, by his projects; one of which was to ſet the Pretender on the throne of Great Britain. He was at length deprived of his employment, and baniſhed to Rome: he died in 1752, at the great age of 89. His *Teſtament Politique*, collected from his memoirs and letters, was publiſhed at Lauſanne in 1753.

ALBERTI (Leone Battiſta), was deſcended from a noble family in Florence; and was perfectly acquainted with painting, ſculpture, and architecture. He wrote of all three in Latin; but his ſtudies did not permit him to leave any thing conſiderable behind him in painting. He was employed by Pope Nicholas V. in his buildings, which he executed in a beautiful manner; and his work on architecture, which conſiſts of ten books, is greatly eſteemed. He alſo wrote ſome treatiſes of morality, and a piece on arithmetic. He died in 1485.

ALBERTUS (Magnus), a Dominican friar, and afterwards archbiſhop of Ratiſbon, was one of the moſt learned men and moſt famous doctors of the 13th century. He was by the ignorant charged with being a magician, and making a machine reſembling a man, which they fooliſhly imagined explained all the difficulties he propoſed to it. He died at Cologne, November 15, 1280. His works were printed at Lyons, in 1651, in 21 volumes folio.

ALBI, or ALBY (*Encycl.*), an ancient town of France, lately the capital of the territory of the Albigeois in Languedoc, and an archiepiſcopal ſee. It is now the epiſcopal ſee of the department of Tarn, and contains 10,000 inhabitants. In point of architecture and decorations, the principal church is one of the moſt curious in France: it is celebrated for an organ, which, to the merit of conſtruction and perſpective, unites a tone and a *vox humana* in the higheſt perfection. The inhabitants were called Albigenſes: they were the firſt that diſputed the authority of the pope, and they were condemned by a council held here in 1176. The environs of Alby are charming: the magnificent walk, called *La Lice*, is a terrace, commanding a great mall, which is ſo deep, that it ſerves the town for foſſes. The adjacent territory produces all kinds of grain, excellent wines, flax, hemp, ſaffron, aniſeed, coriander, and woad. The fine paſtures afford wool of a good quality, which is manufactured into knit ſtockings for the ſoldiers, ratteens of all colours, ſhalloons, coarſe woollens, &c. The wax candles of Alby are equal in whiteneſs to thoſe of Mans.

ALBIGENSES (*Encycl.*). This ſect had their name, it is ſuppoſed, either by reaſon there were great numbers of them in the dioceſe of Albi, or becauſe they were condemned by a council held in that city. In effect, it does not appear that they were known by this name, before the holding of this council. Other names given to them are *Henricians*, *Abelardiſts*, *Bulgarians*, &c.; ſome on account of the qualities they aſſumed; others on that of the country from whence it is pretended they were derived: and others on account of perſons of note who adopted their cauſe, as Peter de Brius, Arnold de Breſſe, Abelard, Henry, &c. Berengarius, if not Wickliff himſelf, is by ſome ranked in the number. The *Albigenſes* are frequently confounded with the *Waldenſes*; from whom, however, they differ in many reſpects, both as being prior to them in point of time, as having their origin in a different country, and as being charged with divers hereſies, particularly Manicheiſm, from which the *Waldenſes* are exempt. But ſeveral Proteſtant writers have vindicated them from that imputation. Dr. Allix ſhews, that a great number of *Manichees* did ſpread over the weſtern countries from Bulgaria; and ſettled in Italy, Languedoc, and other places, where there were alſo *Albigenſes*; by which means being both under the imputation of *hereſy*, they came, either by ignorance or malice, to be confounded, and called by the ſame common name, though in reality entirely different.

Other errors imputed to them by their opponents, the monks of thoſe days, were, That they admitted two Chriſts; one evil, who appeared on earth; the other good, who has not yet appeared: They denied the reſurrection of the body; and maintained human ſouls to be dæmons impriſoned in our bodies, by way of puniſhment for their ſins: That they condemned all the ſacraments of the church; rejected baptiſm as uſeleſs; held the euchariſt in abhorrence; excluded the uſe of confeſſions and penance; maintained marriage unlawful; laughed at purgatory, prayers for the dead, images, crucifixes, &c.—There were likewiſe ſaid to be two claſſes of them, the Perfect and the Believers. The perfect boaſted of their living in continence, of eating neither fleſh, eggs, nor cheeſe. The believers lived like other men, and were even looſe in their morals; but they were perſuaded they ſhould be ſaved by the faith of the perfect, and that none were damned who received impoſition of hands from them. But from theſe charges alſo they are generally acquitted by Proteſtants; who conſider them as the pious inventions of the Romiſh church, whoſe members deem it meritorious by any means to blacken heretics.

However this be, the Albigenſes grew ſo formidable, that the Catholics agreed upon a holy league or croiſade againſt them. They were at firſt ſupported by Raimond count of Toulouſe. Pope Innocent III. deſirous to put a ſtop to their progreſs, ſent a legate into their country; which failing, he ſtirred up Philip Auguſtus king of France, and the other princes and great men of the kingdom, to make war upon them. Upon this the Count of Toulouſe, who had ſided with them, made his ſubmiſſion to the Pope, and went over to the Catholics: but ſoon after, finding himſelf plundered by the croiſaders, he declared war againſt them, and was joined by the King of Arragon. His army was defeated at the ſiege of Muret, where he himſelf was killed, and the defeat followed by the ſurrender of the city of Toulouſe, and the conqueſt of the greateſt part of Languedoc and Provence. His ſon Raimond ſucceeded him; who agreed with the king and the pope to ſet up the inquiſition in his eſtates, and to extirpate the Albigenſes. In an aſſembly held at Milan, the Archbiſhop of Toulouſe drew up articles; agreeable to which the count made a moſt ample declaration againſt them, which he publiſhed at Toulouſe in 1253. From this time the Albigenſes dwindled by little and little, till the times of the reformation; when ſuch of them as were left fell in with the VAUDOIS, and became conformable to the doctrine of Zuinglius and the diſcipline of Geneva.

The curious reader who deſires to know more concerning the hiſtory of the *Albigenſes*, may conſult *Prateol.* Elench. Hær.

ALBIGENSES (*Encycl.*), as ſynonimous with *Waldenſes*. This word is applied by Camerarius, Thuanus, and ſeveral other

writers. The reaſon ſeems to be, that both parties agreed in their oppoſition to the papal innovations and incroachments, though in divers other reſpects ſaid to be different enough. The biſhop of Meaux labours hard to ſupport a diſtinction between the two ſects, alleging that the *Albigenſes* were heretics and Manichees; whereas the *Waldenſes* were only ſchiſmatics, not heretics; being ſound as to articles of faith, and only ſeparating from the church of Rome on account of ceremonies and diſcipline. Dr. Allix endeavours to ſet aſide the diſtinction; and ſhews that both of them held the ſame opinions; and were equally condemned and held for heretics: and this not for points of faith, but for declaiming againſt the papal tyranny and idolatry, and holding the pope to be the Antichriſt; which laſt, according to M. de Meaux, conſtitutes nothing leſs than Manicheiſm. In this ſenſe the Lollards and Wickliffites in England were not only Albigenſes, but Manichees.

ALBINTEMELIUM, Albintimilium (Tacitus); or at full length, Albium Intemelium (Pliny, Strabo); now *Vintimiglia*, ſituated on the ſouth-weſt of the territory of Genoa, near the borders of the county of Nice, with a port on the Mediterranean, at the mouth of the rivulet Rotta, almoſt about half way between Monaco and S. Remo. E. Long. 7. 40. Lat. 43. 17.

ALBIOECE, or Alebece (Pliny, Strabo); otherwiſe called *Reii Apollinares*, from their ſuperſtitious worſhip of Apollo; alſo *Civitas Reienſium*; now *Riez*, in Provence, about 18 leagues to the north-eaſt of Toulon, on the north ſide of the rivulet Verdon; was originally a Roman colony (Inſcription). It is ſometimes written *Regium*. The people were called *Albici* (Cæſar). E. Long. 1. 0. Lat. 43. 20.

ALBINOVANUS, a Latin poet, whom Ovid ſurnamed the *Divine*. There is now nothing of his extant, except an Elegy on Druſus, and another on the death of Mecænas.

ALBRICIUS, born at London, was a great philoſopher, a learned and able phyſician, and well verſed in all the branches of polite literature. He lived in the 11th century, and wrote ſeveral works in Latin, particularly, 1. Of the Origin of the Gods. 2. The Virtues of the Ancients. 3. The Nature of Poiſon, &c.

ALBUMAZAR, a learned Arabian aſtronomer in the tenth century, who wrote a treatiſe, *Of the Revolution of the Years*.

ALBUQUERQUE (Alphonſo), a native of Portugal. Little is known of this great commander before he was appointed by his king, Emanuel, to the command of a ſquadron deſtined for India, where, by his exploits, he raiſed the arms of his country to the higheſt pitch of glory.

Emanuel, A. D. 1503, diſpatched ſix ſhips to India, under the command of Albuquerque, and the ſame year three more under his couſin, Francis Albuquerque. The arrival of the Portugueſe ſo alarmed the garriſon that then had poſſeſſion of Cochin, that they precipitately left it. Alphonſo Albuquerque then ſailed to Coulon to load three ſhips, which he completed without oppoſition, made an alliance with the people, and returned to Cochin. On his return he found the Zamorin ready to enter into a treaty of peace with him, which was concluded.

In 1508 Alphonſo was appointed to ſucceed to the government of India, and diſpatched with five ſhips; he ſailed in company with Cugna, another Portugueſe officer. Having plundered and taken ſome towns on the coaſt of Arabia, they ſailed to Zocatora, and made themſelves maſters of the fort there. After which Cugna returned to Portugal, and Albuquerque began to act alone.

He immediately formed the deſign of attacking Ormuz iſland, ſituated at the mouth of the Perſian Gulph, and ſubject to a king of its own, who had extended his dominions over ſeveral cities in Arabia. With a ſmall army of 470 men, he proceeded along the Arabian coaſt, took many towns, and proceeded to the iſland itſelf. He found ſeveral ſhips fitted for war in the harbour; theſe it was determined to burn. However, he firſt offered peace to the king, who entered into a treaty, with a view to gain time until a reinforcement arrived. The expected force came, and an engagement enſued, in which the Portugueze were victorious. Albuquerque then preſſed the city, and the king finding no reſource, ſolicited peace, on condition of becoming tributary to the king of Portugal. This was agreed to. Albuquerque went on ſhore, had an interview with the king, and knowing the perfidy of the Arabians, began to build a fortreſs. While this was carrying on ſome deputies arrived from the king of Perſia, to demand tribute of the king of Ormuz. The latter conſulted Albuquerque, who with great ſpirit told the deputies that his maſter paid no tribute, but arms. Albuquerque was, however, forced to deſiſt by the perfidy of his officers, and to repair on board his fleet. He then renewed the war; but receiving a letter from the governor (Almeed) blaming his conduct, he proceeded for India: when, after ſome heſitation, Almeed reſigned the government to him, and ſailed to Europe.

Being now inveſted with the ſupreme command, he prepared a fleet, and ſailed againſt Calicut, where, in a deſperate and imprudent attack, he was dangerouſly wounded and forced to retreat.

Albuquerque being recovered, went to ſea with twenty-three ſhips, two thouſand Portugueze, and ſeveral Indian auxiliaries, deſigned for Ormuz; but, by the perſuaſion of Timoia, a piratical prince, changed his intention, and proceeded to attack Goa. The forts near it on the continent were taken and deſtroyed; and learning that the city was in the greateſt conſternation, he ſent deputies to offer the people his protection, and the enjoyment of their religion. The citizens accepted the conditions, and Albuquerque entered Goa the following day, being the 16th of February, 1510. This city has long been the head of the Portugueze dominions in India. Here Albuquerque fixed his winter quarters, and behaved himſelf in ſuch a manner as to merit the eſteem of every one. But, while he was thus employed, ſome of the chief Portugueze began to murmur againſt him. However, by ſeizing and impriſoning the leaders, he quieted the diſturbance. The enemy being informed of the diſſenſions of the Portugueze, made an attack upon the iſland, and landing men, laid ſiege to the city, preſſing it hard. The ſituation of Albuquerque became now truly diſtreſſing, an enemy vaſtly ſuperior without, diſcontent among his officers within, and his troops greatly diminiſhed. Theſe circumſtances determined him to embark on board his ſhips, and evacuate the city, which he effected after a fierce combat, having firſt ſet fire to the magazines.

He then ſteered to a place called Rapander to winter; but the enemy ſoon obliged him to remove, and take ſhelter between the continent and the iſland of Divar, where he was informed his enemies were alſo preparing to make an attack upon him. In this extremity, being alſo very ſcarce of proviſions, he determined to make a deſperate effort on a ſtrong caſtle, called Pangin. Accordingly, having ſtationed a force to prevent ſuccours being ſent to it, he proceeded under cover of the night, and ſucceeded in ſurpriſing both the fort and camp of the enemy, both which were taken without much reſiſtance.

Such an unexpected turn of good fortune determined him

not only to object to offers of peace, but alſo to make an attack on Goa. In this he ſucceeded, having in the attack killed 3000 of the enemy.

Such ſucceſs induced him to aim at greater enterprizes. Having collected his forces, he ſailed from Goa to the iſland of Sumatra, and in every voyage made many captures; then having concluded a treaty with the princes of this iſland, he proceeded to the city of Malacca, and made himſelf maſter of it. Having ſettled affairs there, he returned to Goa, laid ſiege to the city of Benaſtar, and having been unſucceſsful, conſented to a peace with the Zamorin. He then built a fort at Calicut, and ſailed to Aden, in hopes of making himſelf maſter of it, but was diſappointed, and obliged to return. Soon after he fell ſick and died, having firſt had the mortification to hear of his being recalled by the king.

To this great man the Portugueze owe the foundation of the immenſe power they once poſſeſſed in India; and, had they purſued the maxims he laid down, might poſſibly have enjoyed to this day. He was a man of great humanity, dreaded for his bravery, and beloved for his benevolent diſpoſition. His death was moſt ſincerely felt by all the people of Goa, where he was buried with great funeral honours.

ALCA (*Encycl.*), or AUK, in ornithology, a genus of the order of anſeres. To our article in Vol. I. we have omitted to annex the delineations, ſo eſſential in ſubjects of natural hiſtory, which we now ſupply. In Pl. 12. of this volume will be found repreſentations of the firſt, ſecond, and ſeventh ſpecies of this bird.

ALCÆUS, a famous ancient lyric poet, was born at Mitylene, in the iſland of Leſbos. He flouriſhed in the 44th Olympiad, at the ſame time with Sappho, who was likewiſe of Mitylene. In the time of Alcæus, Mitylene ſuffered under the oppreſſion of Pittacus. He headed a ſtrong party for the deliverance of his country; but in this proved unſucceſsful, and was taken priſoner by Pittacus, who gave him his liberty, although he had been treated by him in a moſt abuſive manner.

Alcæus was much addicted to the deteſtable Greek vice, the love of boys. The name of his favourite was Lycus, of whom Horace ſpeaks; and who is probably the boy whom Cicero notes for having a mole upon his finger, which, in the poet's eye, was a beauty.

The poetical abilities of Alcæus are undiſputed; and though his writings were chiefly in the lyric ſtrain, yet his muſe was capable of treating the ſublimeſt ſubjects with a ſuitable dignity.

ALCÆUS, an Athenian tragic poet, and, as ſome think, the firſt compoſer of tragedies. He renounced his native country Mitylene, and paſſed for an Athenian. He left ten pieces, one of which was Paſiphaë, that which he produced when he diſputed with Ariſtophanes, in the fourth year of the 97th Olympiad.

There is another ALCÆUS mentioned in Plutarch, perhaps the ſame whom Porphyrius mentions as a compoſer of ſatirical iambics and epigrams, and who wrote a poem concerning the plagiariſm of Euphorus the hiſtorian. He lived in the 145th Olympiad.

We are told likewiſe of one ALCÆUS, a Meſſenian, who lived in the reign of Veſpaſian and Titus. We know not which of theſe it was who ſuffered for his lewdneſs a very ſingular kind of death, which gave occaſion to the following epitaph:

Αλκαιε ταφος ετθ, &c.

This is Alcæus's tomb, who died by a radiſh,
The daughter of the earth, and puniſher of adulterers.

This puniſhment inflicted on adulterers, was, thruſting one of the largeſt radiſhes up the anus of the adulterer: or, for want of radiſhes, they made uſe of a fiſh with a very large head, which Juvenal alludes to:

Quoſdam mœchos et mugilis intrat.

The mullet enters ſome behind.

Hence we may underſtand the menace of Catullus,

Ah! tum te miſerum, malique fati,
Quem attractis pedibus, patente porta,
Percurrent raphanique mugileſque. EPIG. XV.

Ah! wretched thou, and born to luckleſs fate,
Who art diſcover'd by the unſhut gate!
If once, alas! the jealous huſband come,
The radiſh, or the ſea-fiſh, is thy doom.

ALCAIC ODE (*Encycl.*). The following ſtrophe is of this ſpecies, which Horace calls *minaces Alcæi camenæ.*

Non poſſidentem multa vocaveris
Recte beatum: rectius occupat
Nomen beati, qui deorum
Munericus ſapienter uti, &c.

ALCAMER, an ancient and handſome town of the United Provinces, in North Holland. In the environs, they make the beſt butter and cheeſe in Holland, and have the fineſt tulips. It is 17 miles N. by W. of Amſterdam. Long. 4.43. E. Lat. 52. 40. N.

ALCAMO, a town of Sicily, in the valley of Mazaro, at the foot of Mount Bonifati. Long. 13. 52. E. Lat. 38. 2. N.

ALCEDO (*Encycl.*), in ornithology. There are ſeven ſpecies of the Alcedo, moſt worthy of notice, viz.

1. The *ipſida*, or common kingfiſher (ſee Pl. 12.), haunts the ſhores of Europe and Aſia. It is not much larger than a ſwallow; its ſhape is clumſy; the bill diſproportionably long; it is two inches from the baſe to the tip; the upper chap black, and the lower yellow. But the colours of this bird atone for its inelegant form: the crown of the head and the coverts of the wings are of a deep blackiſh green, ſpotted with bright azure; the back and tail are of the moſt reſplendent azure; the whole under-ſide of the body is orange-coloured; a broad mark of the ſame paſſes from the bill beyond the eyes; beyond that is a large white ſpot: the tail is ſhort, and conſiſts of twelve feathers of a rich deep blue; the feet are of a reddiſh yellow, and the three joints of the out-moſt toe adhere to the middle toe, while the inner toe adheres only by one.

From the diminutive ſize, the ſlender ſhort legs, and the beautiful colours of this bird, no perſon would be led to ſuppoſe it one of the moſt rapacious little animals that ſkims the deep. Yet it is for ever on the wing, and feeds on fiſh; which it takes in ſurpriſing quantities, when we conſider its ſize and figure. It takes its prey after the manner of the oſprey, balancing itſelf at a certain diſtance above the water for a conſiderable ſpace, then darting into the deep, and ſeizing the fiſh with inevitable certainty. While it remains ſuſpended in the air, in a bright day, the plumage exhibits a beautiful variety of the moſt dazzling and brilliant colours. This ſtriking attitude did not eſcape the notice of the ancients; for Ibycus, as quoted by Athenæus, ſtyles theſe birds αλκυονες τανυσιπτεροι, the halcyons with expanded wings. It makes its neſt in holes in the ſides of the cliffs, which it ſcoops to the depth of three feet; and lays from five to nine eggs, of a moſt beautiful ſemi-tranſparent white: the neſt is very

fetid, by reaſon of the remains of the fiſh brought to feed the young. The female begins to lay early in the ſeaſon; and excludes her firſt brood about the beginning of April. The male, whoſe fidelity exceeds even that of the turtle, brings her large proviſions of fiſh while ſhe is thus employed; and ſhe, contrary to moſt other birds, is found plump and fat at that ſeaſon. The male, that uſed to twitter before this, now ent the neſt as quietly and as privately as poſſible. The young ones are hatched at the expiration of twenty days; but are ſeen to differ as well in their ſize as in their beauty.

This ſpecies is the αλκυων αφωνος, or mute halcyon of Ariſtotle, which he deſcribes with more preciſion than is uſual with that great philoſopher: after his deſcription of the bird, follows that of its neſt, than which the moſt inventive of the ancients have delivered nothing that appears at firſt ſight more fabulous and extravagant. He relates, that it reſembled thoſe concretions that are formed by the ſea-water; that it reſembled the long-necked gourd; that it was hollow within; that the entrance was very narrow, ſo that, ſhould it over-ſet, the water could not enter; that it reſiſted any violence from iron, but could be broke with a blow from the hand; and that it was compoſed of the bones of the Belon, or ſea-needle. The neſt had medical virtues aſcribed to it; and from the bird was called *Halcyoneum*. In a fabulous age, every odd ſubſtance that was flung aſhore received that name; a ſpecies of tubular coral, a ſponge, a zoophite, and a miſcellaneous concrete, having by the ancients been dignified with that title from their imaginary origin. Yet much of this ſeems to be founded on truth. The form of the neſt is juſtly deſcribed; and the materials which Ariſtotle ſays it was compoſed of, are not entirely of his own invention. Whoever has ſeen the neſt of the kingfiſher, will obſerve it ſtrewed with the bones and ſcales of fiſh; the fragments of the food of the owner and its young.—On the foundation laid by the philoſopher, ſucceeding writers formed other tales extremely abſurd; and the poets, indulging the powers of imagination, dreſſed the ſtory in all the robes of romance. This neſt was a floating one:

Incubat *halcyone* pendentibus æquore nidis.
Ovid. *Met.* lib. xi.

It was therefore neceſſary to place it in a tranquil ſea, and to ſupply the bird with charms to allay the fury of a turbulent element during the time of its incubation; for it had, at that ſeaſon, power over the ſeas and the winds.

Χ' αλκυιος ϛορησευντι τα κυματα, την τε θαλασσαν,
Τον τε νοτον, τον τ' ευρον, ος εσχατα φυκια κινεί
Α'λκυονης, γλαυκαις Νηρηισι ταις τε μαλιϛα
Ορηιδων εφιλαθεν. Theocrit. *Idyl.* vii. l. 57.

May *Halcyons* ſmooth the waves, and calm the ſeas,
And the rough ſouth-eaſt ſink into a breeze;
Halcyons, of all the birds that haunt the main,
Moſt lov'd and honour'd by the *Nereid* train. Fawkes.

Theſe birds were equally favourites with Thetis as with the Nereids;

Dilectæ *Thetidi* Halcyones. Virg. *Georg.* I. 399.

as if to their influence theſe deities owed a repoſe in the midſt of the ſtorms of winter, and by their means were ſecured from thoſe winds that diſturb their ſubmarine retreats, and agitated even the plants at the bottom of the ocean.

Such are the accounts given by the Roman and Sicilian poets. Ariſtotle and Pliny tell us, that this bird is moſt common in the ſeas of Sicily: that it ſat only a few days, and thoſe in the depth of winter; and during that period the mariner might ſail in full ſecurity; for which reaſon they were ſtyled *Halcyon days*.

Perque dies placidos hiberno tempore ſeptem
Incubat *Halcyone* pendentibus æquore nidis:
Tum via tuta maris: ventos cuſtodit, et arcet
Æolus egreſſu. Ovid. *Met.* lib. XI.

Alcyone, compreſs'd,
Seven days ſits brooding on her watery neſt,
A wintry queen; her fire at length is kind,
Calms every ſtorm, and huſhes every wind. Dryden.

In after-times, theſe words expreſſed any ſeaſon of proſperity: theſe were the *Halcyon days* of the poets; the brief tranquillity, the *ſeptem placidi dies*, of human life.

The poets alſo made it a bird of ſong. Virgil ſeems to place it in the ſame rank with the linnet;

Littoraque *Halcyonem* reſonant, et *Acanthida* dumi.
Georg. III. 338.

And Silius Italicus celebrates its muſic, and its floating neſt:

Cum ſonat *Halcyone* cantu, nidoſque natantes
Immota geſtat ſopitis fluctibus unda. *Lib.* XIV. 275.

But theſe writers ſeem to have transferred to our ſpecies, the harmony that belongs to the *vocal alcedo*, one of the loti birds of the ancients.

As the ancients have had their fables concerning this bird, ſo have the modern vulgar. It is an opinion generally received among them, that the fleſh of the kingfiſher will not corrupt, and that it will even baniſh all vermin. This has no better foundation than that which is ſaid of its always pointing, when hung up dead, with its breaſt to the north. The only truth which can be affirmed of this bird when killed is, that its fleſh is utterly unfit to be eaten; while its beautiful plumage preſerves its luſtre longer than that of any other bird we know.

The other ſpecies are, 2 The erathaca, with a ſhort tail, a blue back, a yellow bill, a purple head and rump, and the throat and oppoſite part of the neck white. It is a native of Bengal. 3. The alcyon with a ſhort black tail, white belly, and ferruginous breaſt. It is a native of America. Its cry, its ſolitary abode about rivers, and its manner of feeding, are much the ſame as of thoſe in Britain. It preys not only on fiſh, but likewiſe on lizards. 4. The todus, with a ſhort green tail, a blood-coloured throat, and a white belly. It is a native of America; and is the green ſparrow, or green humming-bird, of Edwards. 5. The ſmyrnenſis, with a ſhort green tail, ferruginous wings, and a green back. It is a native of Africa, and Aſia. 6. The rudis, with a ſhort brown tail variegated with white. It is a native of Perſia and Egypt. 7. The dea, with two very long feathers in the tail, a blackiſh blue body, and greeniſh wings. It is a native of Surinam. All theſe likewiſe dive in the water, and catch fiſh with their long beaks.

ALCIAT (Andrew), a great lawyer, who flouriſhed in the 16th century, born at Milan. He mixed much of polite learning in the explication of the laws, and happily drove out the barbarity of language which till then had reigned in the lectures and writings of lawyers; for which Thuanus highly praiſes him. He publiſhed a great many law-books, and ſome notes upon Tacitus. His Emblems have been much admired, and tranſlated into French, Italian, and Spaniſh; and ſeveral learned men have written commentaries on them.

ALCIBIADES (*Encyc.*), an Athenian general. It was the fate of this great man to live at a time when his country was a ſcene of confuſion. The Greeks, grown inſolent from their conqueſts in Perſia, turned their arms againſt each other, and ſtruggled together under the conduct of the two moſt opulent ſtates, Athens and Lacedæmon. Alcibiades, in the midſt of an expedition he had planned againſt the enemy of

his country, was recalled home to anſwer ſome charge of a private nature; but fearing the violence of his enemies, inſtead of going to Athens, he offered his ſervices at Sparta, where they were readily accepted. By his advice the Lacedæmonians made a league with Perſia, which gave a very favourable turn to their affairs. But his credit in the republic raiſing jealouſies againſt him, he privately reconciled himſelf to his country, and took again the command of an Athenian army. Here victory, waiting as it were at his command, attended all his motions. The loſs of ſeven battles obliged the Spartans to ſue for peace. He enjoyed his triumphs, however, only a ſhort time at Athens. One unſucceſsful event made him again obnoxious to the malice of his citizens; and he found it expedient to retire from Athens. In his abſence the Spartans again took the lead, and at the fatal battle of Ægos entirely ſubdued the Athenian power. Alcibiades, though an exile, endeavoured to reſtore the power of his country; of which the Spartans having intelligence, procured him to be aſſaſſinated. He was a man of admirable accompliſhments, but indifferently principled; of great parts; and of an amazing verſability of genius.

ALCINOUS, king of the Phæacians, in the iſland now called *Corfu*, was ſon of Nauſithous, and grandſon of Neptune and Peribea. It is by his gardens this king has chiefly immortalized his memory. He received Ulyſſes with much civility, when a ſtorm had caſt him on his coaſt. The people here loved pleaſure and good cheer, yet were ſkilful ſeamen; and Alcinous was a good prince.

ALCMAN, a lyric poet, who flouriſhed in the 27th Olympiad. He was born at Sparta; and compoſed ſeveral poems, of which only ſome fragments are remaining, quoted by Athenæus and ſome other ancient writers. He was very amorous; accounted the father of gallant poeſy; and is ſaid to have been the firſt that introduced the cuſtom of ſinging love-ſongs in company. He is reported to have been one of the greateſt eaters of his age; upon which Mr. Bayle remarks, that ſuch a quality would have been extremely inconvenient, if poetry had been at that time upon ſuch a footing as it has been often ſince, not able to procure the poet bread. He died of a ſtrange diſeaſe; for he was eaten up with lice.

ALCMENA, the daughter of Electryo king of Mycenæ, and wife of Amphitryon. Jupiter putting on the ſhape of her huſband while he was abroad in the wars, begot Hercules upon her: he made that night as long as three ordinary ones.

ALCOA ARBOR, the name of a tree in St. Helena, ſaid to emulate ebony.

ALCOCK (John), doctor of laws, and biſhop of Ely in the reign of King Henry VII. born at Beverly in Yorkſhire, and educated at Cambridge. He was firſt made dean of Weſtminſter, and afterwards appointed maſter of the rolls. In 1471, he was conſecrated biſhop of Rocheſter; in 1476, he was tranſlated to the ſee of Worceſter; and in 1486, to that of Ely, in the room of Dr. John Morton, preferred to the ſee of Canterbury. He was a prelate of great learning and piety; and ſo highly eſteemed by King Henry, that he appointed him lord preſident of Wales, and afterwards lord chancellor of England. Alcock founded a ſchool at Kingſton-upon-Hull, and built the ſpacious hall belonging to the epiſcopal palace at Ely. He was alſo the founder of Jeſus' College in Cambridge, for a maſter, ſix fellows, and as many ſcholars. This houſe was formerly a nunnery, dedicated to St. Radigund: and, as Godwin tells us, the building being greatly decayed, and the revenues reduced almoſt to nothing, the nuns had all forſaken it, except two; whereupon Biſhop Alcock procured a grant from the crown, and converted it into a college. But Cambden and others tell us, that the nuns of that houſe were ſo notorious in their incontinence, that King Henry VII. and Pope Julius II. conſented to its diſſolution: Bale accordingly calls this nunnery *ſpiritualium meretricum cœnobium*, "a community of ſpiritual harlots." Biſhop Alcock wrote ſeveral pieces, amongſt which are the following: 1. *Mons Perfectionis*. 2. *In Pſalmos Penitentiales*. 3. *Homiliæ Vulgares*. 4. *Meditationes Piæ*. He died October 1ſt, 1500; and was buried in the chapel he had built at Kingſton-upon-Hull.

ALCONCHOE, a caſtle of Spain, on the frontiers of Eſtramadura, ſeated on the river Alcaraque, that falls into the Guadiana, 20 miles S. by W. of Badajoz. Long. 6. 58. W. Lat. 38. 12. N.

ALCOUTIM, a town of Portugal, in the province of Algarva. It is ſeated on the river Guadiana, and contains about 1000 inhabitants. Long. 7. 20. W. Lat. 37. 20. N.

ALCUDIA, a town in Majorca, conſiſting of about 1000 houſes, between two large harbours. Long. 3. 0. E. Lat. 39. 50. N.

ALCUINUS (Flaccus), an eccleſiaſtic of the eighth century. Where he was born, is a matter of diſpute; but, according to the moſt probable opinion, it was in Yorkſhire. It is pretty certain, however, that he was educated firſt under Bede, and afterwards by Egbert archbiſhop of York, by whom he was made keeper of the library of that city (A). He thence roſe to be deacon of the church, and afterwards became abbot of Canterbury. In the year 793 he went over to France, upon the invitation of Charlemagne, by whom he was greatly careſſed, and amply provided for. He was not only honoured with his friendſhip and confidence, but became his inſtructor in rhetoric, logic, mathematics, and divinity. He attended him to the council of Francfort; and, at his return, was preſented with the abbeys of Ferrara, St. Jodocus, and St. Lupus. He retired at laſt to the abbey of St. Martin at Tours, where he ſpent the latter part of his life, and died in the year 804. Doubtleſs, he was one of the beſt ſcholars and wiſeſt men of his time. France was chiefly indebted to him for her improvements in literature. The univerſities of Paris, Tours, Fulden, Soiſſons, and many others, owe to him their origin and increaſe; and to him was owing the inſtitution of learned academies, at leaſt the firſt one we read of was ſet on foot by the emperor at his inſtigation. His works were collected and publiſhed by Andrew du Cheſne in one volume folio, Paris, 1617. They conſiſt of, 1. Tracts upon ſcripture. 2. Tracts upon doctrine, diſcipline, and morality. 3. Hiſtorical treatiſes, letters, and poems. Since this edition, there has been publiſhed an incredible number of tracts, poems, &c. aſcribed to this author, moſt of which, in all probability were not his.

ALCYONIUM STAGNUM (anc. geog.), a lake in the territory of Corinth, whoſe depth was unfathomable, and in vain attempted to be diſcovered by Nero: through this lake Bacchus is ſaid to have deſcended to hell, to bring back Semele; (Pauſanias).

ALCYONIUS (Peter), a learned Italian, who flouriſhed in the 16th century. He was well verſed in the Greek and Latin tongues, and wrote ſome pieces of eloquence which met with great approbation. He was corrector of the preſs a conſiderable time for Aldus Manutius, and is entitled to a ſhare in the praiſes given to the editions of that learned printer. He publiſhed a treatiſe concerning baniſhment,

(A) William of Malmſbury calls this library *omnium liberalium artium armarium*. It was deſtroyed by fire in the reign of King Stephen, with great part of the city of York.

which contained ſo many fine paſſages intermixed with others quite the reverſe, that it was thought he had tacked to ſomewhat of his own, ſeveral fragments of a treatiſe of *Cicero de gloria*; and that afterwards, in order to ſave himſelf from being detected in this theft, he burnt the manuſcript of Cicero, the only one extant. Paulus Manutius, in his commentary upon theſe words of Cicero, "Librum tibi celeriter mittam de gloria—I will ſpeedily ſend you my treatiſe on glory," has the following paſſage relating to this affair: "He means (ſays he) his two books On Glory, which were handed down to the age of our fathers; for Bernard Juſtinian, in the index of his books, mentions *Cicero de Gloria*. This treatiſe however, when Bernard had left his whole library to a nunnery, could not be found, though ſought after with great care: nobody doubted but Peter Alcyonius, who, being phyſician to the nunnery, was entruſted with the library, had baſely ſtole it. And truly, in his treatiſe Of Baniſhment, ſome things are found interſperſed here and there, which ſeem not to favour of Alcyonius, but of ſome higher author." The two orations he made after the taking of Rome, wherein he repreſented very ſtrongly the injuſtice of Charles V. and the barbarity of his ſoldiers, were excellent pieces. There is alſo an oration aſcribed to him, on the knights who died at the ſiege of Rhodes.

ALDEA, a town of Portugal, in Eſtramadura, 10 miles S. E. of Liſbon. Long. 8. 55. W. Lat. 38. 36. N.

ALDERBURY, a village in Wiltſhire, on a healthy hill, in a good ſporting country, and near the Avon. It carries on a manufacture of fuſtians, and received conſiderable damage by a fire in Sept. 1777, when 200 houſes were deſtroyed. It is two miles from Saliſbury.

ALDHELM, or ADELM (St.), an Engliſh divine, was biſhop of Shireburn in the time of the Saxon heptarchy. William of Malmeſbury ſays, that he was the ſon of Kenred, or Kenter, brother of Ina king of the Weſt Saxons. He was born at Caer Bladon, now Malmeſbury, in Wiltſhire. He had part of his education abroad in France and Italy, and part at home under Maildulphus an Iriſh Scot, who had built a little monaſtery where Malmeſbury now ſtands. Upon the death of Maildulphus, Aldhelm, by the help of Eleutherius biſhop of Wincheſter, built a ſtately monaſtery there, and was himſelf the firſt abbot thereof. When Hedda biſhop of the Weſt Saxons died, the kingdom was divided into two dioceſes, viz. Wincheſter and Shireburn, and King Ina promoted Aldhelm to the latter, comprehending Dorſetſhire, Wiltſhire, Devonſhire, and Cornwall: he was conſecrated at Rome by Pope Sergius I. and Godwin tells us that he had the courage to reprove his holineſs for having a baſtard. Aldhelm, by the directions of a dioceſan ſynod, wrote a book againſt the miſtake of the Britons concerning the celebration of Eaſter, which brought over many of them to the catholic uſage in that point. He likewiſe wrote a piece, partly in proſe and partly in hexameter verſe, in praiſe of virginity, dedicated to Ethelburga abbeſs of Barking, and publiſhed amongſt Bede's Opuſcula, beſides ſeveral other treatiſes, which are mentioned by Bale and William of Malmeſbury. The monkiſh authors, according to cuſtom, have aſcribed ſeveral miracles to Aldhelm; and they tell us, that, in order to put his virtue to trial, he uſed frequently to lay all night with a young woman, and yet without violating his chaſtity. He is ſaid to have been the firſt Engliſhman who ever wrote in Latin, and, as he himſelf tells us in one of his treatiſes on metre, the firſt who introduced poetry into England. Aldhelm lived in great eſteem till his death, which happened May the 25th, 709.

ALDHUN, the firſt biſhop of Durham, ſucceeded Elfsig in the biſhopric of Lindisfarne or Holy Iſland, in the year 990. He was of a noble family, but, according to Simeon of Durham, more ennobled by his virtues and religious deportment. He ſat about ſix years in the ſee of Lindisfarne, during which time that iſland was greatly expoſed to the incurſions of the Daniſh pirates. This made him think of removing from thence; though Simeon of Durham ſays he was put upon it by an admonition from heaven. However, taking with him the body of St. Cuthbert, which had been buried there about 113 years, and accompanied by all the monks and the reſt of the people, he went away from Holy Iſland; and, after wandering about ſome time, at laſt he ſettled with his followers at Dunelm, now called Durham; where he gave riſe both to the city and cathedral church. He had a daughter named Eegfrid, whom he gave in marriage to Uchtred, ſon of Waltheof, earl of Northumberland, and with her ſix towns belonging to the epiſcopal ſee, upon condition that he ſhould never divorce her. But that young lord afterwards repudiating her, Aldhun received back the church lands he had given with her. This prelate educated King Ethelred's two ſons, Alfred and Edward; and, when their father was driven from his throne by Swane king of Denmark, he conducted them, together with Queen Emma, into Normandy, to Duke Richard, the queen's brother. This was in the year 1017, a little before Biſhop Aldhun's death. For the next year, the Engliſh having received a terrible overthrow in a battle with the Scots, the good biſhop was ſo affected with the news, that he died a few days after, having enjoyed the prelacy twenty-nine years.

ALDPORT, an ancient name for Mancheſter.

ALDRICH (Robert), biſhop of Carliſle, was born at Burnham in Buckinghamſhire about the year 1493, and educated at Eaton-ſchool; from whence, in 1507, he was elected ſcholar of King's College, Cambridge, where he took his degrees in arts, and was afterwards proctor of the univerſity. In 1525 he was appointed maſter of Eaton-ſchool, then became fellow of that college, and finally provoſt. In 1529 he went to Oxford, where, being firſt incorporated bachelor of divinity, in the following year he proceeded doctor in that faculty: in 1531 he was made arch-deacon of Colcheſter; in 1534, canon of Windſor; and the ſame year, regiſtrary of the order of the garter. He was conſecrated biſhop of Carliſle in the year 1537, and died at Horncaſtle in Lincolnſhire in 1556. He wrote, 1. *Epiſtola ad Gul. Hormannum*, in Latin verſe; printed in Horman's *Antibojcon*, Lond. 1521, of which book Pitts erroneouſly makes Aldrich the author. 2. *Epigrammata varia.* 3 *Latin verſes, and another epiſtle to Horman*, prefixed to the *Vulgaria puerorum* of that author, Lond. 1519, 4to. 4. *Anſwers to certain queries concerning the abuſes of the maſs*; alſo *about receiving the ſacrament.*

ALDRICH (Dr. Henry), an eminent Engliſh divine and philoſopher, born at London in 1647, was educated at Weſtminſter ſchool under the famous Dr. Buſby, and admitted of Chriſt-church College, Oxford. He had a great ſhare in the controverſy with the Papiſts in the reign of James II. and biſhop Burnet ranks him among thoſe who examined all the points of popery with a ſolidity of judgment, clearneſs of argument, depth of learning, and vivacity of writing, far beyond any who had before that time written in our language. He rendered himſelf ſo conſpicuous, that at the revolution, when Maſſey the popiſh dean of Chriſt-church fled, his deanery was conferred on him. In this ſtation he behaved in an exemplary manner, and that fabric owes much of its beauty to his ingenuity: it was Aldrich who deſigned the beautiful ſquare called *Peckwater-Quadrangle*, which is eſteemed an excellent piece of architecture. In imitation of his predeceſſor Dr. Fell, he publiſhed, yearly, a piece of ſome ancient Greek author, as a preſent to the ſtudents of his houſe: he

publiſhed *A Syſtem of Logic*, with ſome other pieces; and the reviſing Clarendon's Hiſtory of the Rebellion, was intruſted to him and Biſhop Spratt. He died about the year 1711.

ALDROVANDUS (Ulyſſes), profeſſor of philoſophy and phyſic at Bologna, the place of his nativity, was a moſt curious enquirer into natural hiſtory, and travelled into the moſt diſtant countries on purpoſe to inform himſelf of their natural productions. Minerals, metals, plants, and animals, were the objects of his curious reſearches; but he applied himſelf chiefly to birds, and was at great expence in having figures of them drawn from the life. Aubert le Mire ſays, that he gave a certain painter, famous in that art, a yearly ſalary of two hundred crowns, for thirty years and upwards; and that he employed at his own expence Lorenzo Bennini and Cornelius Swintus, as well as the famous engraver Chriſtopher Coriolanus. Theſe expences ruined his fortune, and at length reduced him to the utmoſt neceſſity; and it is ſaid that he died blind in an hoſpital at Bologna, at a great age, in 1605.

Mr. Bayle obſerves, that antiquity does not furniſh us with an inſtance of a deſign ſo extenſive and ſo laborious as that of Aldrovandus, with regard to natural hiſtory; that Pliny indeed has treated of more ſubjects, but only touches them lightly, whereas Aldrovandus has collected all he could meet with. His compilation, or what at leaſt was compiled upon his plan, conſiſts of ſeveral volumes in folio, ſome of which were printed after his death. He himſelf publiſhed his Ornithology, or Hiſtory of Birds, in three folio volumes, in 1599; and his ſeven books Of Inſects, which make another volume of the ſame ſize. The volume Of Serpents, three Of Quadrupeds, one Of Fiſhes, that Of exſanguineous Animals, the Hiſtory of Monſters, with the Supplement to that Of Animals, the treatiſe Of Metals, and the Dendrology or Hiſtory of Trees, were publiſhed at ſeveral times after his death, by the care of different perſons.

ALDUABIS (anc. geog.), a river of Celtic Gaul, which riſing from mount Jura, ſeparating the Sequani from the Helvetii, and running through the county of Burgundy, or the Franche Comté, environs almoſt on every ſide the city of Beſançon; and running by Dole, falls into the Saone near Chalone. In Cæſar it is called *Alduaſdubis*; in Ptolemy, *Dubis*: now *le Doux*.

ALEANDER (Jerome), cardinal and archbiſhop of Brindiſi, was born in 1480; and diſtinguiſhed himſelf at the beginning of the reformation, by the oppoſition he made to Luther: for being ſent into Germany as the pope's nuncio in 1519, he acted, as occaſion ſerved, in the character both of ambaſſador and doctor; and declaimed three hours together againſt Luther's doctrine before the diet of Worms, but could not prevent that celebrated reformer from being heard in that diet. He publiſhed ſeveral works, and died at Rome in 1542.

ALEANDER (Jerome), a learned man of the ſeventeenth century, born in the principality of Friuli, of the ſame family with the preceding. When he went to Rome, he was employed as ſecretary under Cardinal Octavius Bandini, and diſcharged this office with great honour for almoſt twenty years. He afterwards, by the perſuaſion of Urban VIII. who had a great eſteem for him, became ſecretary to Cardinal Barberini, whom he accompanied to Rome when he went there in the character of legate *a latere*, and in whoſe ſervice he died in 1631. He was one of the firſt members of the academy of Humoriſts, wrote a learned treatiſe in Italian on the device of the ſociety, and diſplayed his genius on many different ſubjects. Barberini gave him a magnificent funeral at the academy of Humoriſts; the academiſts carried his corpſe to the grave; and Gaſpar Simeonibus, one of the members, made his funeral oration.

ALECTOROMANTIA (*Encycl.*). This is otherwiſe called *Alectryomancy*; of which there appear to have been different ſpecies. But that moſt ſpoken of by authors was in the following manner: A circle being deſcribed on the ground, and divided into twenty-four equal portions, in each of theſe ſpaces was written one of the letters of the alphabet, and on each of the letters was laid a grain of wheat; after which, a cock being turned looſe in the circle, particular notice was taken of the grains picked up by the cock, becauſe the letters under them, being formed into a word, made the anſwer deſired. It was thus, according to Zonaras, that Libanius and Jamblicus ſought who ſhould ſucceed the Emperor Valens; and the cock eating the grains anſwering to the ſpaces ΘΕΟΔ, ſeveral whoſe names began with thoſe letters, as Theodotus, Theodiſtes, Theodulus, &c. were put to death; which did not hinder, but promote, Theodoſius to the ſucceſſion. But the ſtory, however current, is but ill ſupported: it has been called in queſtion by ſome, and refuted by others, from the ſilence of Marcellinus, Socrates, and other hiſtorians of that time.

ALEGAMBE (Philip), a celebrated Jeſuit, born at Bruſſels in 1592, diſtinguiſhed himſelf by publiſhing a Bibliotheque of the writers of his order, and died at Rome in 1652.

ALEIUS CAMPUS, in ancient geography (Homer, Strabo, Pliny); a plain in Cilicia, on this ſide the river Pyramus, near the mountain Chimera, famous for Bellerophon's wandering and periſhing there, after being thrown off Pegaſus; which is the reaſon of the appellation.

ALEMANIA, or ALLEMANIA (anc. geog.), a name of Germany, but not known before the time of the Antonines, and then uſed only for a part. After the Marcomanni and their allies had removed from the Rhine, a rabble, or collection of people from all parts of Gaul, as the term *Alemanni* denotes, prompted either by levity or poverty, occupied the Agri, called *Decumates* by Tacitus, becauſe they held them on a tithe; now ſuppoſed to he the duchy of *Wirtemburg*. Such appear to be the ſmall beginnings of Alemania, which was in after-times greatly enlarged: but ſtill it was conſidered as a diſtinct part; for Caracalla, who conquered the Alemanni, aſſumed the ſurname both of *Alemannicus* and *Germanicus*.

ALENIO (Julius), a Jeſuit, born at Breſcia in the republic of Venice. He travelled into the eaſtern countries; and arrived at Maca in 1610, where he taught mathematics. From thence he went to the empire of China, where he continued to propagate the Chriſtian religion for thirty-ſix years. He was the firſt who planted the faith in the province of Xanſi, and he built ſeveral churches in the province of Fokien. He died in Auguſt 1649, leaving behind him ſeveral works in the Chineſe language.

ALENZON, or ALENÇON (*Encycl.*), a town of France, is ſituated in the department of Orne, and late province of Normandy, with the title of a duchy. It is ſurrounded with good walls, and flanked with towers. The caſtle was formerly a place of great conſequence, and has held out long ſieges. It has but one pariſh-church, which has a bold and noble front. Among the nunneries, that of St. Clair is moſt remarkable. It is ſeated on the river Sarte, in a vaſt open plain, which produces all ſorts of corn and fruit. Near it there are quarries of ſtone fit for building, wherein are found a ſort like Briſtol ſtones. The linen made at Alenzon is very good, and ſells at Paris. It is 20 miles north of Mans, 63 ſouth-by-weſt of Rouen, and 88 ſouth-weſt of Paris. Long. 0. 10. N. lat. 48. 25.

ALERIA, ALALIA, or ALARIA (anc. geog.), a town of Corſica, ſituated near the middle of the eaſt ſide of the iſland, on an eminence, near the mouth of the river Rotanus mentioned by Ptolemy; built by the Phocæans (Diodorus Siculus). Afterwards Sylla led a colony thither. It is now in ruins, and called *Aleria Diſtrutta*.

ALES (Alexander), a celebrated divine of the confeſſion of Augſburgh, born at Edinburgh the 23d of April, 1500. He ſoon made a conſiderable progreſs in ſchool-divinity, and entered the liſts very early againſt Luther, this being then the great controverſy in faſhion, and the grand field wherein all authors, young and old, uſed to diſplay their abilities. Soon after, he had a ſhare in the diſpute which Patrick Hamilton maintained againſt the eccleſiaſtics, in favour of the new faith he had imbibed at Marpurgh: he endeavoured to bring him back to the Catholic religion; but this he could not effect, and even began himſelf to doubt about his own religion, being much affected by the diſcourſe of this gentleman, and ſtill more by the conſtancy he ſhewed at the ſtake, where David Beton, archbiſhop of St. Andrew's, cauſed him to be burnt. Beginning thus to waver, he was himſelf perſecuted with ſo much violence, that he was obliged to retire into Germany, where he became at length a perfect convert to the Proteſtant religion. The change of religion which happened in England after the marriage of Henry VIII. with Anna Bullen, induced Ales to go to London, in 1535. He was highly eſteemed by Cranmer archbiſhop of Canterbury, Latimer, and Thomas Cromwel, who were at that time in high favour with the king. Upon the fall of theſe favourites, he was obliged to return to Germany; where the elector of Brandenburgh appointed him profeſſor of divinity at Francfort upon the Oder, in 1540. But leaving this place upon ſome diſguſt, he returned to Leipſic, where he was choſen profeſſor of divinity, and died in March 1565. He wrote a Commentary on St. John, on the Epiſtles to Timothy, and on the Pſalms, &c.

ALESA, Alæsa, or Halesa (anc. geog.), a town of Sicily, on the Tuſcan ſea, built, according to Diodorus Siculus, by Archonides of Herbita, in the ſecond year of the ninety-fourth Olympiad, or four hundred and three years before Chriſt; ſituated on an eminence about a mile from the ſea: now in ruins. It enjoyed immunity from taxes under the Romans (Diodorus, Cicero). The inhabitants were called *Haleſini* (Cicero, Pliny); alſo *Aleſini*, and *Alæſini*.

ALESIA (anc. geog.), called *Alexia* by Livy and others; a town of the Mandubii, a people of Celtic Gaul; ſituated, according to Cæſar, on a very high hill, whoſe foot was waſhed on two ſides by two rivers. The town was of ſuch antiquity, that Diodorus Siculus relates it was built by Hercules. It is ſuppoſed to be the city of *Aliſe*, in the duchy of Burgundy, not far from Dijon.

ALESSANO, a town of Otranto, in the kingdom of Naples, with a biſhop's ſee, 15 miles S. W. of the town of Otranto. Long. 18. 25. E. Lat. 40. 10. N.

ALESSIA, a town of Turkey in Europe, in Albania; it is a biſhop's ſee, near the mouth of the Drino. Long. 20. 6. E. Lat. 42. 8. N.

ALESSIO, a town of Turkey, in Dalmatia. It is a biſhop's ſee, and ſeated on a mountain, 25 miles from Spalatro.

ALETUM, or Aleta (anc. geog.), a town of Celtic Gaul, now extinct. From itsr uins arofe St. Malo, in Britany, at the diſtance of a mile. Its ruins are called *Guich Aleth* in the Britiſh.

ALEXANDER ab Alexandro, a Neapolitan lawyer, of great learning, who flouriſhed toward the end of the 15th and beginning of the 16th century. He followed the profeſſion of the law firſt at Naples, afterwards at Rome: but he devoted all the time he could ſpare to the ſtudy of polite literature; and at length he entirely left the bar, that he might lead a more eaſy and agreeable life with the muſes. The particulars of his life are to be gathered from his work entitled *Genialium Dierum:* We are there informed, that he lodged at Rome, in a houſe that was haunted; and he relates many ſurpriſing particulars about the ghoſt: he ſays alſo, that, when he was very young, he went to the lectures of Philelphus, who explained at Rome the Tuſculan queſtions of Cicero; he was there alſo when Nicholas Perot and Domitius Calderinus read their lectures upon Martial. The particular time when he died is not known; but he was buried in the monaſtery of the Olivets. Tiraquea wrote a learned commentary upon his work, which was printed at Lyons in 1587, and reprinted at Leyden in 1673, with the notes of Dennis Godfrey, Chriſtopher Colerus, and Nicholas Marcerus.

Alexander Severus, emperor of Rome, ſucceeded Heliogabalus about A.D. 222, when but 16 years of age. His mother's name was Mammæa, and by her advice he in a great meaſure regulated his conduct. He applied himſelf to the reformation of abuſes, the ſtate having been greatly diſordered by the vicious conduct of his predeceſſor; he was a moſt ſtrict lover of juſtice, an encourager of learning and learned men, and favourable to the Chriſtians. He made a ſucceſsful expedition againſt the Perſians; but endeavouring to reform his troops, who had grown very licentious under the late bad government, they murdered him, at the inſtigation of Maximinus, in the 29th year of his age, together with his mother, A.D. 235.

Alexander VI. (Pope), had four baſtards when he was cardinal, for one of whom he had ſo great affection that he ſtuck at nothing to raiſe him. Deſigning to poiſon ſome cardinals, he was poiſoned himſelf, A.D. 1503. See Borgia.

Alexander VII. (Pope), whoſe real name was Fabio Chigi, was born at Sienna in 1599. His family finding him a hopeful youth, ſent him early to Rome, where he ſoon engaged in a friendſhip with the Marquis Pallavicini, who recommended him ſo effectually to Pope Urban VIII. that he procured him the poſt of Inquiſitor at Malta. He was ſent vice-legate to Ferrara, and afterward nuncio into Germany: there he had an opportunity of diſplaying his intriguing genius; for he was mediator at Munſter, in the long conference held to conclude a peace with Spain. Cardinal Mazarin had ſome reſentment againſt Chigi, who was ſoon after made a cardinal and ſecretary of ſtate by Innocent X. but his reſentment was ſacrificed to political views. In 1655, when a pope was to be choſen, Cardinal Sacchetti, Mazarin's great friend, finding it was impoſſible for him to be raiſed into St. Peter's chair becauſe of the powerful oppoſition made by the Spaniſh faction, deſired Cardinal Mazarin to conſent to Chigi's exaltation. His requeſt was granted, and he was elected pope by the votes of all the 64 cardinals who were in the conclave: an unanimity of which there are but few inſtances in the election of popes. He ſhewed uncommon humility at his election, and at firſt forbad all his relations to come to Rome without his leave; but he ſoon became more favourable to his nephews, and loaded them with favours. It is aſſerted that he had once a mind to turn Proteſtant. The news-papers in Holland beſtowed great encomiums upon him; and acquainted the world, that he did not approve of the cruel perſecutions of the Waldenſes in Piedmont. There is a volume of his poems extant. He loved the *Belles-Lettres*, and the converſation of learned men. He was extremely fond of ſtately buildings; the grand plan of the college *Della Sapienza*, which he finiſhed, and adorned with a fine library, remains a proof of his taſte in architecture. He died in 1667.

Alexander (William), earl of Stirling, an eminent Scots ſtateſman and poet in the reigns of James I. and Charles I. who, after travelling with the duke of Argyle as his tutor or companion, wrote a poetical complaint of his unſucceſsful love

of ſome beauty, under the title of *Aurora*. He then removed to the court of James VI. where he applied to the more ſolid parts of poetry, forming himſelf upon the plan of the Greek and Roman tragedians. In 1607 he publiſhed ſome dramatic performances, entitled *The Monarchic Tragedies*, dedicated to King James; who was ſo well pleaſed with them, as to call him his philoſophical poet. After this, he is ſaid to have written *A Supplement* to complete the third part of Sir Philip Sidney's Arcadia; and in 1613 he produced a poem called *Doomſday, or the great Day of Judgment*. He was made gentleman-uſher to Prince Charles, and maſter of the requeſts; was knighted; and obtained a grant of Nova Scotia, where he projected the ſettlement of a colony, but afterward ſold it to the French. In 1626 he was made ſecretary of ſtate for Scotland; was created firſt viſcount, and then earl, of Stirling; and died in 1640.

ALEXANDER (St.), whom St. Ireneus reckons the fifth biſhop of Rome, ſucceeded St. Evariſtus in the year 109, and died in the year 119. There is no account of his life; and the epiſtles which are attributed to him are ſuppoſititious.

ALEXANDER II. king of Scotland, ſucceeded his father William in 1213, at 16 years of age. He made an expedition into England, to oppoſe the tyranny of King John; who returned the viſit, and was offered battle by Alexander, but refuſed it. He took the city of Carliſle from Henry III. which was afterwards exchanged for Berwick. Alexander died in 1249, in the 51ſt year of his age, and 35th of his reign; and left for his ſucceſſor, his ſon

ALEXANDER III. who was crowned king of Scotland in 1249. The Cummings, lords of Scotland, took arms againſt him; and taking him priſoner, confined him at Striveling: but he was afterwards releaſed by his ſubjects. He married the daughter of Henry III. king of England; and was at length killed by a fall from his horſe, on the 10th of April, 1290, after having reigned forty-two, or according to others thirty-ſeven, years.

ALEXANDREA (anc. geog.), a mountain of Myſia, on the ſea-coaſt, forming a part of mount Ida, where Paris gave judgment on the three goddeſſes.

ALEXANDRETTA (*Encycl.*), is the port of Aleppo, from which it is diſtant twenty-eight or thirty leagues. It is now little elſe but a heap of ruined houſes, chiefly inhabited by Greeks, who keep tippling-houſes for ſailors. The air is very unwholeſome; and therefore the better ſort of inhabitants, during the hot weather, live at a village called *Bayland*, on a mountain about ten miles off, where there is wholeſome water and excellent fruit. What ſurpriſes ſtrangers moſt, when they arrive at this place, are the pigeons which carry letters to Aleppo, which they reach in about three hours: theſe pigeons are of a ſingular kind, and are very much celebrated throughout the Eaſt.

ALEXANDRIA, (anc. geog.), a city of Arachoſia, called alſo *Alexandropolis*, on the river Arachotus (Stephanus, Iſidorus Characenus).—Another *Alexandria* in Gedroſia, built by Leonatus, by order of Alexander (Pliny).—A third *Alexandria* in Aria, ſituated at the lake Arias (Ptolemy); but, according to Pliny, built by Alexander on the river Arius.—A fourth in the Bactriana (Pliny).—A fifth *Alexandria*, an inland town of Carmania (Pliny, Ptolemy, Ammian).—A ſixth *Alexandria*, or *Alexandropolis*, in the Sogdiana (Iſidorus Characenus).—A ſeventh in India, at the confluence of the Aceſines and Indus (Arrian).—An eighth, called alſo *Alexandretta*, near the Sinus Iſſicus, on the confines of Syria and Cilicia, now *Scanderoon*, the port-town to Aleppo.—A ninth *Alexandria* of Margiana, which being demoliſhed by the barbarians, was rebuilt by Antiochus the ſon of Seleucus, and called *Antiochia* of Syria (Pliny); watered by the river Margus, which is divided into ſeveral channels, for the purpoſes of watering the country, which was called *Zotale*. The city was ſeventy ſtadia in circuit, according to Pliny; who adds, that, after the defeat of Craſſus, the captives were conveyed to this place by Orodes, the king of the Parthians.—A tenth, of the Oxiana, built on the Oxus by Alexander, on the confines of Bactria (Pliny).—An eleventh, built by Alexander at the foot of mount Paropamiſus, which was called *Caucaſus* (Pliny, Arrian).—A twelfth *Alexandria* in Troas, called alſo *Troas* and *Antigonia* (Pliny).—A thirteenth, on the Iaxartes, the boundary of Alexander's victories towards Scythia, and the laſt that he built on that ſide.

ALEYN (Charles), an Engliſh poet in the reign of Charles I. In 1631 he publiſhed two poems on the famous victories of Creſci and Poictiers. He ſucceeded his father as clerk of the ordinance, and was commiſſary-general of the artillery to the king at the battle of Edgehill. The next piece he wrote was a poem in honour of Henry VII. and the victory that gained him the crown of England. In 1639, the year before he died, he tranſlated the hiſtory of Eurialius and Lucretia, from the Latin epiſtles of Æneas Sylvius.

ALFACKS, the name of certain iſlands near the mouth of the Ebro, in the principality of Catalonia, in Spain

ALFATERNA (anc. geog.), the laſt town of Campania, beyond Veſuvius (Diodorus); the ſame with *Nuceria*, which ſee. The inhabitants *Alfaterni* (Pliny).

ALFEIZERAO, a ſmall town of Eſtramadura, in Portugal, on the ſea-ſide. Long. 9. 10. W. Lat. 39. 30. N.

ALFELD, a town of Germany, in the biſhopric of Hildeſheim, fifteen miles S. S. W. of Hildeſheim. Long. 10 4. E. Lat. 51. 58. N.

ALFIDENA, an ancient town of the kingdom of Naples, and in Abruzzo Ceteriore. Long. 14. 20. E. Lat. 41. 48. N.

ALFRED (*Encycl.*). This prince, we are told, was twelve years of age before a maſter could be procured in the weſtern kingdom to teach him the alphabet; ſuch was the ſtate of learning when Alfred began to reign. He had felt the miſery of ignorance; and determined even to rival his contemporary Charlemagne in the encouragement of literature. He is ſuppoſed to have appointed perſons to read lectures at Oxford, and is thence conſidered as the founder of that univerſity. By other proper eſtabliſhments, and by a general encouragement to men of abilities, he did every thing in his power to diffuſe knowledge throughout his dominions. Nor was this end promoted more by his countenance and encouragement, than by his own example and his writings. For notwithſtanding the lateneſs of his initiation, he had acquired extraordinary erudition; and, had he not been illuſtrious as a king, he would have been famous as an author. His works are, 1. *Breviarum quoddam collectum ex Legibus Trojanorum*, lib. I. A Breviary collected out of the Laws of the Trojans, Greeks, Britons, Saxons, and Danes; in one book. Leland ſaw this book in the Saxon tongue, at Chriſt-church in Hampſhire. 2. *Viſi-Saxonum Leges*, lib. I. The Laws of the Weſt-Saxons, in one book. Pitts tells us, that it is in Bennet College library, at Cambridge. 3. *Inſtituta quædam*. lib. I. Certain Inſtitutes, in one book. This is mentioned by Pitts, and ſeems to be the ſecond capitulation with Guthrum. 4. *Contra Judices iniquos*, lib. I. An Invective againſt Unjuſt Judges, in one book. 5. *Acta Magiſtratuum ſuorum*, lib. I. Acts of his Magiſtrates, in one book. This is ſuppoſed to be the book of judgments mentioned by Horne; and was, in all probability, a kind of reports, intended for the uſe of ſucceeding ages. 6. *Begum Fortunæ variæ*, lib. I. The various Fortunes of Kings, in one book. 7 *Dicta Sapientum*, lib. I. The Sayings of Wiſe Men, in one book. 8. *Parabolæ et Sales*, lib. I. Parables and pleaſant Sayings, in one book. 9. *Col-*

lectiones Chronicorum. Collections of Chronicles. 10. *Epistolæ ad Wulfsigium Episcopum*, lib. I. Epistles to Bishop Wulfsig, in one book. 11. *Manuale Meditationum.* A Manual of Meditations.—Besides these original works, he translated many authors from the Latin, &c. into the Saxon language, viz. 1. Bede's History of England, 2. Paulinus Orosius's History of the Pagans. 3. St. Gregory's Pastoral, &c. The first of these, with his prefaces to the others, together with his laws, were printed at Cambridge, 1644. His laws are likewise inserted in Spelman's Councils. 4. *Boetius de Consolatione*, lib. V. Boetius's Consolations of Philosophy, in five books. Dr. Plott tells us, King Alfred translated it at Woodstock, as he found in a MS. in the Cotton Library. 5. *Æsopi Fabulæ.* Æsop's Fables: which he is said to have translated from the Greek into Latin and Saxon. 6. *Psalterium Davidicum*, lib. I. David's Psalter, in one book. This was the last work the king attempted, death surprising him before he had finished it; it was however completed by another hand, and published at London in 1640, in quarto, by Sir John Spelman. Several others are mentioned by Malmsbury; and the old History of Ely asserts, that he translated the Old and New Testaments.

The life of this great king was first written by Asserius Menevensis; and first published by Archbishop Parker, in the old Saxon character, at the end of his edition of Hastingham's history, printed in 1674, fol.

ALLAHABAD, a city of Oude, in Hindoostan Proper, seated at the point of the confluence of the two great rivers, the Ganges and Jumna. It was founded by the emperor Acbar, who intended it as a place of arms. It belongs to the Nabob of Oude; but its fortifications will hardly resist the battering of a field piece. It is 470 miles north-west of Calcutta. Long. 82. 0. E. Lat. 25. 45 N.

ALLATIUS (Leo), keeper of the Vatican library, a native of Scio, and a celebrated writer of the 17th century. He was of great service to the gentlemen of Port Royal in the controversy they had with M. Claude touching the belief of the Greeks with regard to the eucharist. No Latin was ever more devoted to the see of Rome, nor more inveterate against the Greek schismatics, than Allatius. He never engaged in matrimony, nor was he ever in orders; and Pope Alexander VII. having asked him one day, why he did not enter into orders, he answered, "Because I would be free to marry." The Pope rejoined, "If so, why do you not marry?" "Because," replied Allatius, "I would be at liberty to take orders." Thus, as Mr. Bayle observes, he passed his whole life, wavering betwixt a parish and a wife; sorry, perhaps, at his death, for having chosen neither of them; when, if he had fixed upon one, he might have repented his choice for thirty or forty years.—If we believe John Patricius, Allatius had a very extraordinary pen, with which, and no other, he wrote Greek for forty years; and we need not be surprised, that when he lost it, he was so grieved, that he could scarce forbear crying. He published several manuscripts, several translations of Greek authors, and several pieces of his own composing. In his compositions he is thought to shew more erudition than judgment: he used also to make frequent digressions from one subject to another. He died at Rome in 1669, aged eighty-three.

ALLEGANY, or APPALACHIAN MOUNTAINS, the general name of a long range of mountains in North America, between the Atlantic, the Mississippi, and the Lakes. They extend north-easterly and south-westerly, nearly parallel with the sea-coast, about 900 miles in length, and from 60 to 200 in breadth. The different ridges which compose this immense range have different names in the different states. Advancing from the Atlantic, the first ridge in Pennsylvania, Virginia, and North Carolina, is the Blue Ridge, or South Mountain, from 130 to 200 miles from the sea, and about 4000 feet high from its base. Between this and the North Mountain, spreads a large fertile vale. Next lies the Allegany, which is the principal ridge, and has been descriptively called the *back-bone* of the United States. Beyond this is the long ridge called the Laurel Mountains; in a spur of which, in lat 39°, is a spring of water, fifty feet deep, very cold, and as blue as indigo. From these several ridges proceed innumerable nameless branches or spurs. The Kittatiny, or Blue Mountains, run through the northern parts of New Jersey and Pennsylvania. The general name for these mountains seems not yet to have been determined. Mr. Evans, an American geographer, calls them the Endless Mountains: others have called them the Appallachian, from a tribe of Indians, who live on a river proceeding from the ridge, called the Appalachikola. But the most common, and, no doubt, the most proper name, is the Allegany Mountains, so called from the principal ridge. These mountains are not confusedly scattered and broken, rising here and there into high peaks over-topping each other, but stretch along in uniform ridges, scarcely half a mile high. They spread as we proceed south, and some of them terminate in high perpendicular bluffs. Others gradually subside into a level country, giving rise to the rivers which run southerly into the gulf of Mexico. In the back parts of Pennsylvania, scarcely one acre in ten in this range is capable of culture: but this is not the case in all parts; for numerous tracts of fine arable and pasture land intervene between the ridges, having generally a rich black soil. Indeed, some of the mountains will admit of cultivation almost to their tops.

ALLCHURCH, a village of Warwickshire, once seven miles in circumference The Roman Ickneld-street passes through it. This village was formerly a borough, and had a market, and several streets, the names of which are now lost. The bishop of Worcester had formerly a palace here; and the church, several parts of which are of Saxon architecture, contains many antique monuments. It is five miles from Bromsgrove, in the road to Leicester.

ALLEGRANZA, a small island of Africa, and one of the Canaries, lying to the north of Graciosa, to the north-west of Rocca, and to the east of St. Clase There are several castles that defend the harbour.

ALLEIN (Joseph), the son of Tobias Allein, was born in the Devizes in Wiltshire, in 1633, and educated at Oxford. In 1655 he became assistant to Mr. Newton, in Taunton-Magdalen in Somersetshire; but was deprived for non-conformity He died in 1668, aged thirty-five. He was a man of great learning, and greater charity; preserving, though a nonconformist and a severe sufferer on that account, great respect for the church, and loyalty to his sovereign. He wrote several books of piety, which are highly esteemed; but his *Alarm to unconverted Sinners* is more famous than the rest. There have been many editions of this little pious work, the sale of which has been very great; of the edition 1672, there were 20,000 sold; of that 1675, with this title, *A sure Guide to Heaven*, 50,000. There was also a large impression of it with its first title, in 1720.

ALLEN (Thomas), a famous mathematician of the 16th century, born at Utoxeter in Staffordshire, the 21st of December, 1542. He was admitted scholar of Trinity College, Oxford, the 4th of June, 1561; and in 1567 took his degree of master of arts. In 1570 he quitted his college and fellowship, and retired to Gloucester-hall; where he studied very closely, and became famous for his knowledge in antiquity, philosophy, and mathematics. Having received an invitation from Henry earl of Northumberland, a great friend and patron of the mathematicians, he spent some time at the earl's house, where he became acquainted with those celebrated ma-

thematicians Thomas Harriot, John Dee, Walter Warner, and Nathaniel Torporley. Robert earl of Leiceſter had a particular eſteem for Mr. Allen, and would have conferred a biſhopric upon him, but his love of ſolitude and retirement made him decline the offer. His great ſkill in the mathematics, made the ignorant and vulgar look upon him as a magician or conjurer: the author of a book entitled *Leiceſter's Commonwealth*, has accordingly accuſed him with uſing the art of figuring, to procure the Earl of Leiceſter's unlawful deſigns, and endeavouring by the black art to bring about a match betwixt him and Queen Elizabeth. But without pretending to point out the abſurdity of the charge, it is certain that the earl placed ſuch confidence in Allen, that nothing material in the ſtate was tranſacted without his knowledge; and the earl had conſtant information, by letter, from Mr. Allen, of what paſſed in the univerſity. Mr. Allen was very curious and indefatigable in collecting ſcattered manuſcripts relating to hiſtory, antiquity, aſtronomy, philoſophy, and mathematics: theſe collections have been quoted by ſeveral learned authors, &c. and mentioned to have been in the Bibliotheca Alleniana. He publiſhed in Latin the ſecond and third books of Claudius Ptolemy of Peluſium, *Concerning the Judgment of the Stars*, or, as it is commonly called, of the *Quadripartite Conſtruction*, with an expoſition. He wrote alſo notes on many of Lilly's books, and ſome on John Bale's work *De Scriptoribus Maj. Britanniæ*. Having lived to a great age, he died at Gloueeſter-hall, on the 30th of September, 1632.

ALLEN, a ſmall river of Flintſhire in North Wales, which ſinks under ground, near Mold, and is loſt for a ſhort ſpace.

ALLERIA, a decayed town in Corſica, a biſhop's ſee, and the place where King Theodore firſt landed in 1736. Long. 8. 50. E. Lat. 42. 5. N.

ALLESTRY (Richard), D.D. an eminent divine, born at Uppington in Shropſhire, in March 1619, was educated in the grammar ſchool at Coventry, and afterwards at Chriſt-church in Oxford. His parts, which were extraordinary, were improved by a no leſs extraordinary induſtry. He took up arms for King Charles I. and was ſometimes ſeen with his muſket in one hand and his book in the other. He was very active in the ſervice of King Charles II. before his reſtoration, and was employed by the royaliſts in tranſacting buſineſs with that prince during his exile; but was at laſt ſeized at Dover by a party of ſoldiers, and committed priſoner to Lambeth-houſe, where he was confined ſix or eight weeks: but ſoon after the reſtoration he was made canon of Chriſt-church, created doctor of divinity, and appointed chaplain in ordinary to the king, and regius profeſſor of divinity. In 1665 he was appointed provoſt of Eton College, where he raiſed the ſchool, which he found in a low condition, to an uncommon pitch of reputation. The weſt ſide of the outward quadrangle of that college was built from the ground at his expence. The excellent Dr. Hammond, who was his intimate friend, left him his valuable library, which he himſelf afterwards bequeathed to his ſucceſſors in the divinity-chair. He was eminent for his piety, benevolence, and integrity; for the ſincerity of his friendſhip, and his diſintereſted temper. He wrote ſeveral books: and a collection of his ſermons were printed after his deceaſe, by Dr. Fell, biſhop of Oxford. He died Auguſt 28, 1680.

ALLEY (William), biſhop of Exeter in the reign of Queen Elizabeth, was born at Great Wycomb in Buckinghamſhire. From Eton ſchool, in the year 1528, he removed to King's College, Cambridge, where he took the degree of bachelor of arts. He alſo ſtudied ſome time at Oxford; afterwards he married, was preſented to a living, and became a zealous reformer. Upon Queen Mary's acceſſion, he left his cure, and retired into the north of England; where he maintained his wife and himſelf by teaching a ſchool, and practiſing phyſic. Queen Elizabeth aſcending the throne, he went to London, where he acquired great reputation by reading the divinity-lecture at St. Paul's, and in July, 1560 was conſecrated biſhop of Exeter. He was created doctor of divinity at Oxford in November 1561. He died on the 15th of April, 1570; and was buried at Exeter, in the cathedral. He wrote, 1. *The poor Man's Library*, 2 vols. fol. London, 1571. Theſe volumes contain twelve lectures on the firſt epiſtle of St. Peter, read at St. Paul's. 2. *A Hebrew Grammar*. Whether it was ever publiſhed, is uncertain. He tranſlated the Pentateuch in the verſion of the Bible which was undertaken by Queen Elizabeth's command.

ALLIA (*Encycl.*), was famous for the great ſlaughter of the Romans by the Gauls, under Brennus: hence *Allienſis dies*, an unlucky day (Virgil, Ovid, Lucan). Our anceſtors, ſays Cicero, deemed the day of the fight of *Allia*, more fatal than that of taking the city.

ALLIER, a department of France (lately the province of Bourbonnois), ſo called from a river which flows by Moulins, and falls into the Loire above Orleans.

ALLOBROGES, (Inſcriptions, Livy, Velleius, Florus); from *Allobrox* (Horace): a people of Gallia Narbonenſis, ſituated between the rivers Iſara and Rhodanus, and the Lacus Lemanus; commended by Cicero for their fidelity, diſcommended by Horace on account of their fondneſs for novelty.

ALMARIC, HERESY of, a tenet broached in France by one Almaric, in the year 1209. It conſiſted in affirming, that every Chriſtian was actually a member of Chriſt; and that without this faith no one could be ſaved. His followers went farther, and affirmed, that the power of the father laſted only during the continuance of the Moſaic law; that the coming of Chriſt introduced a new law; that at the end of this began the reign of the Holy Ghoſt; and that now confeſſion and the ſacraments were at an end, and that every one is to be ſaved by the internal operations of the Holy Spirit alone, without any external act of religion.

ALMENDVALAIO, a town of Eſtramadura in Spain, near the borders of Portugal. Long. 5. 6. W. Lat. 38. 36. N.

ALMIGGIM-WOOD (Scripture), is thought to be that of the Indian pine-tree; which being light and white, was greatly eſteemed for making muſical inſtruments.

ALMONRY (*Encycl.*). In this article, vol. I. p. 124, correct an error, affecting the ſenſe; by ſubſtituting the words "were diſtributed," in place of "are given."

ALOE (*Encycl.*), in botany. Of this genus of plants, ſome botanical writers enumerate ten, but others extend the number to twenty-three, ſpecies. One of them, named in our firſt volume, the *margaritifera*, or pearl aloe, deſerves more particular mention. This very beautiful plant is ſmaller than moſt of the aloe kind. The leaves are ſhort, very thick, ſharp pointed, and turning down, with a large thick end, appear there triangular. The colour of the leaves is a fine green, ſtriped in an elegant manner with white, and frequently tipped with red at the point. The flower-ſtalk, which riſes in the midſt of the leaves, is round, ſmooth, of a purple colour, and generally about eight inches high. When the plant has been properly cultivated, the flowers are ſtriped with green and white; and ſometimes they are entirely white. This aloe is ſingular in not having the bitter reſinous juice with which the leaves of moſt others abound; when a leaf of this ſpecies is cut, what runs from it is watery, colourleſs, and perfectly inſipid. See a figure of it in Pl. 13.

ALPHEUS (*Encycl.*). This river has a common ſpring with the Eurotas, at the foot of mount Parthenius, near the

village Aſea (Strabo). The Alpheus and Eurotes mix and run together for twenty ſtadia; after which, they enter a ſubterraneous paſſage at Mantinea; then again emerge, the Eurotas in Laconica, and the Alpheus in the territory of Megalopolis (Pauſanias). The poets fable ſtrange things of this river; particularly, that, out of love to the nymph *Arethuſa*, it runs under the ſea to Sicily, and burſts out at the fountain of that name in Syracuſe (Virgil). Its waters were reckoned good in the leproſy, which is called Αλφος by the Greeks; and hence the name *Alpheus*.—Pauſanias adds, that the Eleans had a law, which condemned any woman to death that ſhould either appear at the Olympic games, or even croſs this river during that ſolemnity: and the Eleans add, that the only woman who tranſgreſſed it, had diſguiſed herſelf in the habit of a maſter or keeper of theſe games, and conducted her ſon thither; but when ſhe ſaw him come off victorious, her joy made her forget her diſguiſe, ſo that her ſex was diſcovered. She was pardoned, but from that time a law was made that the keepers ſhould appear there naked.

ALPHONSUS X. king of Leon and Caſtile, ſurnamed the Wiſe, was author of the aſtronomical tables called *Alphonſine*. Reading of Quintus Curtius gave him ſuch delight, that it recovered him out of a dangerous illneſs. He read the Bible fourteen times, with ſeveral comments on it. He is ſaid to have found fault with the ſtructure of the mundane ſyſtem, and has been charged with impiety on that ſcore; but unjuſtly, for he only found fault with the involved ſyſtem of ſome aſtronomers. He was dethroned by his ſon Sancho; and died of grief, A.D. 1284.

ALPINI (Proſpero), (*Encycl.*), wrote the following works in Latin: 1. Of the phyſic of the Egyptians, in four books. Printed at Venice, 1592, in 4to. 2. A treatiſe concerning the plants of Egypt. Printed at Venice, 1592, in 4to. 3. A dialogue concerning balſams. Printed at Venice, 1592, in 4to. 4. Seven books concerning the method of forming a judgment of the life or death of patients. Printed at Venice, 1691, in 4to. 5. Thirteen Books concerning methodical Phyſic. Padua, 1611, folio; Leyden, 1719, in 4to. 6. A Diſputation held in the ſchool at Padua, concerning the Raphonticum. Padua, 1612, and 1629, 4to. 7. Of exotic plants, in two books. Venice, 1699, in 4to. He left ſeveral other works, which have never been printed; particularly, 8. The fifth book concerning the phyſic of the Egyptians. 9. Five books concerning the natural hiſtory of things obſerved in Egypt, adorned with a variety of draughts of plants, ſtones, and animals.

ALREDUS, Alured, or Alfredus (*Encycl.*). It is generally believed that this hiſtorian was educated at Cambridge, and that he afterwards became one of the canons and treaſurer of St. John's at Beverley. And we learn in a note of Biſhop Tanner's, that, for the ſake of improvement, he travelled through France and Italy; and that at Rome he became domeſtic chaplain to Cardinal Othoboni. He died in the year 1128, or 1129; leaving behind him the following works: 1. *The Annals of Alured of Beverley*. Oxford, 1726. Publiſhed by Mr. Hearne, from a manuſcript belonging to Thomas Rawlinſon, eſq. It contains an abridgment of our hiſtory from Brutus to Henry I. written in good Latin, and with great accuracy. 2. *Libertates eccleſiæ S. Johannis de Beverlac*, &c. a manuſcript in the Cotton library. It is a collection of records relative to the church at Beverley, tranſlated by our author from the Saxon language. The Biographia Britannica evidently proves theſe to be all that were written by Alredus.

ALSIUM (*Encycl.*), a city of ancient Etruria. We are told by Dionyſius Halicarnaſſenſis, that Alſium was built by the aborigines, long before the Tyrſenians invaded Italy. In this caſe it muſt have been founded not long after the diſperſion in the days of Peleg. Its founder is ſaid to have been one *Alæſus*, *Aleſus*, or *Aliſa*; whom ſome conjecture to have been Aliſah, or Eliſha, the ſon of Javan, mentioned in Scripture.

ALSTEDIUS (John Henry), a German Proteſtant divine, and one of the moſt indefatigable writers of the 17th century. He was ſome time profeſſor of philoſophy and divinity at Herborn in the county of Naſſau: from thence he went into Tranſylvania, to be profeſſor at Alba Julia; where he continued till his death, which happened in 1638, being then fifty years of age. His Encyclopædia has been much eſteemed even by the Roman-catholics; it was printed at Lyons, and ſold very well throughout all France. His *Theſaurus Chronologicus* is by ſome eſteemed one of his beſt works, and has gone through ſeveral editions. He alſo wrote *Triumphus Biblicus*, to ſhew that the principles of all arts and ſciences are to be found in the Scriptures; but he gained very few to his opinion. He was a Millenarian; and publiſhed, in 1627, a treatiſe *De mille annis*, in which he aſſerted that the reign of the ſaints on earth was to begin in 1694.

ALTAR (*Encycl.*). Before temples were in uſe, altars were erected ſometimes in groves, ſometimes in the highways, and ſometimes on the tops of mountains; and it was a cuſtom to engrave upon them the name, enſign, or character, of the deity to whom they were conſecrated.

In the great temples of ancient Rome, there were ordinarily three altars: the firſt was placed in the ſanctuary, at the foot of the ſtatue of the divinity, upon which incenſe was burnt and libations offered; the ſecond was before the gate of the temple, and upon it they ſacrificed the victims; and the third was a portable altar, upon which were placed the offering and the ſacred veſſels.

Beſides theſe uſes of altars, the ancients ſwore upon them, and ſwore by them, in making alliances, confirming treaties of peace, and other ſolemn occaſions. Altars alſo ſerved as places of refuge to all thoſe who fled to them, whatever crime they had committed.

Among the Jews, altars in the patriarchal times were very rude. The altar which Jacob ſet up at Beth-el was nothing but a ſtone, which ſerved him inſtead of a bolſter; that of Gideon, a ſtone before his houſe: and the firſt which God commanded Moſes to erect was probably of earth, or unpoliſhed ſtones, without any iron; for if any uſe was made of that metal, the altar was declared impure.

The principal altars of the Jews were, The altar of *incenſe*; that of *burnt-offering*; and the *altar*, or *table*, *for the ſhew-bread*.

The *altar of incenſe* was a ſmall table of ſhittim-wood, covered with plates of gold, of one cubit in length, another in width, and two in height. At the four corners, were four kinds of horns, and all round a little border or crown over it. This was the altar hidden by Jeremiah before the captivity; and upon it the officiating prieſt offered, every morning and evening, incenſe of a particular compoſition. See Pl. 13.

The *altar of burnt-offerings* was made of Shittim-wood, and carried upon the ſhoulders of the prieſts by ſtaves of the ſame wood overlaid with braſs. In the time of Moſes, this altar was five cubits ſquare, and three high; but in Solomon's temple it was much larger, being twenty cubits ſquare, and ten in height. It was covered with braſs; and at each corner was a horn or ſpire, wrought out of the ſame wood with the altar to which the ſacrifices were tied. Within the hollow was a grate of braſs, on which the fire was made; through it fell the aſhes, and were received in a pan below. At the four corners of the grate were four rings and four chains, which

kept it up at the horns. This altar was placed in the open air, that the ſmoke of the burnt-offerings might not fully the inſide of the tabernacle. See the Plate.

The *altar*, or *table* for the *ſhew-bread*, was likewiſe of ſhittim-wood, covered with plates of gold, having a little border round it, adorned with ſculpture. It was two cubits long, one wide, and one and an half in height. Upon this table, which ſtood in the holy of holies, were put, every ſabbath-day, twelve loaves, with ſalt and incenſe.

The Jewiſh altars, after their return from the captivity, and the building of the ſecond temple, were in ſome reſpects different from thoſe deſcribed above. That of burnt-offerings was a large pile, built of unhewn ſtone, thirty-two cubits ſquare at the bottom, and twenty-four ſquare at the top. The aſcent was by a gentle riſing, thirty-two cubits in length, and ſixteen in breadth.

ALTESSON, a town of Piedmont, between the rivers Dore and Stura, two miles E. of Louvenire. Long. 7. 20. E. Lat. 44. 36. N.

ALTEZEY, a town and caſtle of Germany, in the Lower Palatinate, capital of a territory of the ſame name, fifteen miles S.W. of Mentz. Long. 8. 12. E. Lat. 49. 40. N.

ALTIN (*Encycl.*). This lake is called by the Ruſſians *Teloſkoi Oſero*, from the Teleſſi, a Tartarian nation, who inhabit the borders of it, and who give it the name of *Altin-Kul*. By the Calmucks it is called *Altinnor*. It is near ninety miles long and fifty broad, with a rocky bottom. The north part of it is ſometimes frozen ſo hard as to be paſſable on foot, but the ſouthern part it never covered with ice. The water in the Altin lake, as well as in the rivers which run through the adjacent places, only riſes in the middle of ſummer, when the ſnows on the mountains are melted by the heat of the ſun.

ALTING (Henry), profeſſor of divinity at Heidelberg and Groningen, born at Embden, Feb. 17, 1583, of a family which had been long conſpicuous in Friſeland. His father, Menſo Alting, was the firſt, who, with two others, preached the reformation in the territory of Groningen, about the year 1566, under the tyrannical government of the Duke of Alva; and the firſt that preached in the great church of Groningen, after the reduction of that town by the States General in 1594. Henry was choſen, in 1605, preceptor to the three young counts of Naſſau, Solms, and Izenberg. After various difficulties, he ſettled at Groningen, where he continued till his death, Auguſt 25, 1644. He was a ſound proteſtant divine, a pious Chriſtian, an uſeful member of ſociety in many reſpects, and one who ſuffered much for the truth. Moſt of his works were never publiſhed; thoſe which have been, are the following: *Notæ in decadem problematum J. Behm*, 1618. *Loci communes explicatio catecheſeos Palatinæ*, 1646, in 3 vols. *Exegeſis Auguſtanæ confeſ.* 1647. *Methodus theologiæ*, 1650. It appears from the catalogue of his works annexed to his life, that the *Medulla hiſt. prophanæ*, publiſhed by D. Parcus, was compoſed by Alting. The moſt remarkable piece among Alting's MSS. is The eccleſiaſtical Hiſtory of the Palatinate, from the Reformation to the Adminiſtration of John Caſimir.

ALTING (James), ſon of the former, was born at Heidelberg, September 27, 1618. He travelled into England in 1640, where he was ordained by the learned Dr. Pridcaux, biſhop of Worceſter. He afterwards accepted of the profeſſorſhip of Groningen, vacant by the death of Gomarus: but his ſituation was rendered very diſagreeable by the continual diſputes which he had with his colleague Sam. des Marets, who favoured the ſchool-divinity. He made a pious exit, Auguſt 20, 1679, recommending the edition of his works to Menſo Alting (author of *Notitia German. Infer. Antiquæ*, fol. Amſt. 1697); but they were publiſhed in 5 vols. folio, with his life, by Mr. Bekker of Amſterdam. They contain various analytical, exegetical, practical, problematical, and philoſophical tracts, which ſhew his great induſtry and knowledge. Alting was a divine greatly addicted to the text of the ſcripture, to Cocceianiſm, and Rabbiniſm. He preached well in German, Dutch, and Engliſh.

ALTKIRCH, a town of France, in the department of the Upper Rhine and late province of Alſace, on the river Ille, forty-five miles S.S.W. of Straſburg. Long. 7. 20. E. Lat. 47. 40. N.

ALTORF, a town of Germany, in the circle of Suabia, twenty miles N.E. of Conſtance, and ſubject to the houſe of Auſtria. Long. 9. 30 E. Lat. 47. 50. N.

ALTORF, a town of Switzerland, capital of the canton of Uri, on the lake of Lucern, near the ſpot where it receives the river Reuſs, twenty miles S.E. of Lucern. Long. 8. 25. E. Lat. 46. 55. N.

ALVARISTS, in eccleſiaſtical hiſtory, a branch of the Thomiſts, ſo called from Alvares their leader, who aſſerted the doctrine of ſufficient grace, inſtead of the efficacious grace of the ancient Thomiſts. The Alvariſts come near to the Jeſuits, the ancient Thomiſts to the Janſeniſts.

ALVESTON, a village of Glouceſterſhire. On the top of a hill near the Severn, is a large round camp, called Oldbury, where ſeveral antiquities have been dug up. It is eight miles from Briſtol.

ALUNTIUM, ALONTIUM (anc. geog.), a town in the north of Sicily, ſituated on a ſteep eminence, at the mouth of the Chydas (Ptolemy, Pliny, Cicero); ſaid to be as old as the war of Troy (Dionyſ. Halicar.). Now in ruins; from which aroſe the hamlet *St. Filadelfo*, in the Val di Demona. The inhabitants were called *Halontini* (Cicero).

AMADMAGDA, an Abyſſinian plant, ſaid to be uſed by the inhabitants of that country for facilitating the conſolidation of fractures, and the diſcharge of bony ſplinters from wounds.

AMALEKITES, by ſome thought to be the deſcendents of Amalek the grandſon of Eſau; by others, with more probability, to have been a Canaanitiſh tribe. They were a wicked people, and therefore devoted to deſtruction. They lived to the eaſt of the Lacus Aſphaltites; next the Moabites to the ſouth, and the Ammonites to the north. A branch of them dwelt to the ſouth of Canaan.

AMALTHÆA, the name of the Cumæan Sibyl, who offered to Tarquinius Superbus nine books, containing the Roman deſtinies, and demanded 300 pieces of gold for them. He derided her, whereupon ſhe threw three of them into the fire; and returning, aſked the ſame price for the other ſix: which being denied, ſhe burnt three more; and returned, ſtill demanding the ſame price. Upon which, Tarquin conſulting the pontiffs, was adviſed to buy them. Theſe books were in ſuch eſteem, that two magiſtrates were created to conſult them upon extraordinary occaſions.

AMALTHÆA, in pagan mythology, the daughter of Meliſſus king of Crete, and the nurſe of Jupiter, whom ſhe fed with goats' milk and honey. According to others, Amalthea was a goat, which Jupiter tranſlated into the ſky, with her two kids, and gave one of her horns to the daughters of Meliſſus, as a reward for the pains they had taken in attending him. This horn had the peculiar property of furniſhing them with whatever they wiſhed for, and was thence called the *cornucopia*, or horn of plenty.

AMALTHÆUS (Jerome, John Baptiſta, and Corneille), three celebrated Latin poets of Italy, who flouriſhed in the 16th century. Their compoſitions were printed at Amſterdam in 1685. One of the prettieſt pieces in that collection is an epigram on two children, whoſe beauty was

very extraordinary, though each of them was deprived of an eye:

'Lumine Acon dextro, capta eſt Leonilla ſiniſtro:
'Et poterat forma vincere uterque deos.
'Parve puer, lumen quod habes concede ſorori;
'Sic tu cæcus Amor, ſic erit illa Venus.'

AMAMA (Sixtinus), profeſſor of the Hebrew tongue in the univerſity of Franeker, a man of great learning, was born in Frieſland, and had ſtudied under Druſius. He publiſhed a criticiſm upon the tranſlation of the Pentateuch; collated the Dutch tranſlation of the bible with the original and the moſt accurate tranſlations; and wrote a cenſure of the Vulgate tranſlation of the hiſtorical books of the Old Teſtament, Job, the Pſalms, and Canticles. It is impoſſible to anſwer the reaſons whereby he ſhews the neceſſity of conſulting the originals. This he recommended ſo earneſtly, that ſome ſynods, being influenced by his reaſons, decreed, that none ſhould be admitted into the miniſtry but ſuch as had a competent knowledge of the Hebrew and Greek text of the Scripture. He died in 1629.

AMAND (St.) (*Encycl.*), a city of France in the department of Cher, and late province of Bourbonnois. It was built in 1410 on the ruins of Orval.

Amand (St.) (*Encycl.*), a town of France, in the department of the North, and in the late French Flanders. It had lately a celebrated abbey. When the combined forces of Pruſſia and Auſtria invaded France in 1792, it was taken by them, but evacuated afterward on their memorable retreat. It is ſeated on the river Scarpe, ſeven miles N. of Valenciennes.

AMANICÆ PYLÆ (Ptolemy.); Amanides Pylæ, (Strabo); Amani Portæ (Pliny); ſtraits or defiles in mount Amanus, through which Darius entered Cilicia; at a greater diſtance from the ſea than the Pylæ Ciliciæ or Syriæ, through which Alexander paſſed.

AMARYNTHUS (anc. geog.), a hamlet of Eretrias, in the iſland of Eubœa, about ſeven ſtadia diſtant from its walls (Strabo). Here Diana was worſhipped by an annual ſolemnity, at which thoſe of Caryſtus aſſiſted; hence the title of the goddeſs was *Amaryanthis*, and *Amaryſia* (Livy, Pauſanias).

AMATHUS (*Encycl.*), a town ſo called, from Amanthus the founder: or, according to others, from *Amath*, a Phœnician town ſacred to Venus, with a very ancient temple of Adonis and Venus: and hence Venus is denominated *Amathuſia* (Tacitus). According to Ovid, it was a place rich in copper-ore, and where the inhabitants became *Ceraſtæ* or horned.

Amathus (Joſephus), a town in the tribe of Gad, beyond Jordan; but whether at a greater or leſs diſtance from it, is not ſo eaſy to determine. Euſebius places it in the Lower Peræa; Reland in Ramoth-Gilead. Gabinius, proconſul of Syria, eſtabliſhed five juridical conventions in Judea; two of which were on the other ſide Jordan; one on Gadara, the other at Amathus (Joſephus).

AMAZONS (*Encycl.*) Thoſe *of Africa* were female warriors, who were obliged to continue virgins to a certain period of their military ſervice. When that period was elapſed, they married, merely with the view of propagating the ſpecies. All the offices of ſtate were filled by them. The men were employed in domeſtic affairs, and paſſed their whole life in the houſe, as women did in other countries: for theſe imperious females uſurped from them every function that might awake their valour. As ſoon as the Amazons were delivered, they committed their children to the care of the men, who nouriſhed them with milk, and other food proper for infancy. If the child was a female, they burned its breaſts to prevent their growth, which would have been inconvenient in battle. Hiſtorians inform us, that they inhabited an iſland which was called Heſperia, becauſe it lay to the weſt of the lake Tritonis.

Amazons (the river of), called by the Spaniards *Maranon*, is the greateſt river in the world. It received the name of *Amazons*, becauſe the Spaniards who firſt paſſed through the country on its banks, having ſome ſmart ſkirmiſhes with the natives, and afterwards examining the ſlain, found the bodies of ſome women among them. Orellana was the firſt who diſcovered this river, about the year 1539. The Maranon, after iſſuing from the lake from whence it takes its riſe, in about eleven degrees of ſouth latitude, runs towards the north to Jaen de Bracamoros, for the length of ſix degrees, from whence it directs its courſe towards the eaſt, almoſt parallel to the equinoctial line, as far as the north cape, where it diſcharges itſelf into the ocean directly under the equator, by a mouth 50 or 60 leagues broad. It runs from Jaen, where it begins to be navigable, thirty degrees of longitude, according to Condamine, who was ſent into theſe parts by the French king to diſcover the true meaſure of the earth. This is equal to 1800 miles of 60 to a degree. But if the turnings and windings are reckoned, it will then be at leaſt 2700 miles. It receives from the north and ſouth a prodigious number of rivers, ſome of which run 1500 miles, and are not inferior to the Danube or Nile. The country through which this river runs, is very little known to the Europeans.

AMBARVALIA (*Encycl.*). In this ceremony the prayer preferred, the formula of which we have in Cato *de Re Ruſtica*, cap. cxlii. was called *carmen ambarvale*. At theſe feaſts they ſacrificed to Ceres a ſow, a ſheep, and a bull or heifer, whence they took the name of *ſuovetaurilia*. The method of celebrating them, was to lead a victim round the fields, while the peaſants accompanied it, and one of their number, crowned with oak, hymned forth the praiſes of Ceres, in verſes compoſed on purpoſe. This feſtival was celebrated twice a-year; at the end of January according to ſome, or in April, according to others; and for the ſecond time, in the month of July.

AMBER (*Encycl.*). To our original article concerning this ſubſtance, we wiſh to add a curious account of the preparation and uſe of a varniſh of Amber, and its application to ſtained wood, publiſhed by Mr. Nils Nystrom, of Norkoping, in Sweden, in the *Annales des Arts et Manufactures*. It is well known that ſtained woods require to be covered with a coat of varniſh of amber, or of linſeed oil, in order to deepen the colour, and render it ſuſceptible of a bright poliſh: the compoſition of theſe varniſhes is therefore an object worthy our attention. The amber-varniſh, as prepared in different places, is by no means uniform in its quality, whether owing to the negligence with which the melting of the amber is conducted, or to the manner in which the linſeed oil is prepared, which becomes more or leſs inclined to dry in proportion to the degree of boiling which it has undergone. In order to aſcertain the quality of ſuch a varniſh, it will be ſufficient to apply it to any ſubſtance, and leave it for twelve or twenty-four hours to dry, in an apartment where the temperature is moderate: if in this ſpace of time it becomes dry, we may conſider it fit for uſe.

The beſt *method of preparing it* is the following: Put a quantity of amber, pounded and ſifted, into a melting pan, ſo as to cover the bottom, which ought to be flat, to the height of an inch at moſt. Place this pan upon ſome ſupport, whereby it may be kept in an exactly horizontal poſition, over a briſk fire of charcoal, which muſt be kept burning with as uniform a heat as poſſible, till the amber is melted, and become perfectly liquid; the amber is then to be poured upon a plate of copper or braſs, in order that it may ſuddenly cool. When the amber has cooled, it is to be broken into ſmall pieces: and if

its fracture exhibits a very deep ſhining brown colour, not more than one half as bright as it was before its fuſion, the amber will be fit for uſe.

A long courſe of experience has ſhewn that this circumſtance cannot be too much attended to. In fact, if the amber has not been ſufficiently melted, or if the fuſion has been imperfect, it will not diſſolve in the varniſh; if, on the contrary, the operation has been performed with a heat too violent, and too long continued, it will be burnt, and quite unfit for uſe.

When amber is placed over too weak a fire, it does not melt, but forms a ſort of deep brown incruſtation, which may likewiſe be employed as a varniſh, provided that it has not been too much evaporated. When it has loſt about one half of its weight, it will be in the ſtate moſt fit for uſe; if it has not been reduced to this weight, it muſt be put again into the melting pan, to bring it to the ſtate required.

During the progreſs of the melting, it ought to be carefully ſcummed of all its impurities, from which, however, we may obtain a varniſh of inferior quality.

For making varniſh, it is not neceſſary to take the pure and tranſparent part of the amber; as our purpoſe may be anſwered by the ſmall yellow fragments of inferior quality, which may be purchaſed at half the price of the amber in lumps. The earthy particles contained in it ſeparate themſelves from the hot varniſh, if we ſuffer them to ſubſide before pouring off the liquid.

A flat-bottomed melting pan is preferable to one with a round bottom. The ſurface being more extenſive, the fuſion and evaporation proceed with greater rapidity. In round-bottomed melting pans, the amber lying very deep at the middle, is burnt in thoſe places where it lies the ſhalloweſt, before the fuſion and evaporation are completed.

Mr. Nils Nyſtrom gives the following method of preparing the *Varniſh of Linſeed Oil.*

"Take a pound of litharge, well pulverized and ſifted, four ounces of white vitriol, and a pint of linſeed oil. Put the whole into a melting pan, of ſuch dimenſions that they do not fill more than half; mix theſe ſubſtances well together, and make them boil till the whole of the moiſture has evaporated. This point of evaporation may be known by a pellicle, which forms itſelf upon the ſurface of the liquid. It is then to be taken from the fire, and poured clear off, taking care to keep back the litharge and the thick part which depoſits itſelf at the bottom. During the boiling we ought to ſtir the liquid from time to time, in order to aid the precipitation of the litharge; but it ought not to be ſtirred conſtantly, for fear that the finer particles of the litharge might mix with the oil, and render the varniſh too thick."

The following directions are given for the preparation of the *Amber Varniſh.*

"Take one part of amber, torrefied or melted, according to the proceſs above deſcribed, three parts of varniſh of linſeed oil, and four parts of oil of turpentine. The amber and the linſeed-oil varniſh ought to be mixed together in a pan, ſo as to fill only about one-third of its capacity. Place the mixture over a ſlow fire till the amber be diſſolved, which may be known by its frothing up. One ought to have a veſſel at hand, for receiving what may run over in caſe of accident, in order to avoid any waſte of the amber. We might alſo uſe for this purpoſe a pan, made after the plan of the boiler invented, in the year 1799, by Mr. Smith, of Philadelphia, for the purpoſe of preventing the running over of boiling liquids, and which is provided with a double rim, to which are fixed ſponges, moiſtened with water, the contact of which refrigerates the liquid that riſes up to them. When the amber is diſſolved, the pan is taken off the fire; and when the mixture has cooled, we add to it the eſſence of turpentine, ſtirring it conſtantly whilſt we are pouring it out. We then leave the whole to ſtand quiet for ſome time, in order that the groſs and undiſſolved particles may ſubſide to the bottom; after which the varniſh is poured clear off, ſtrained through linen or fine cloth, and put into bottles."

In boiling the varniſh, we ought to take care neither to let it overflow nor take fire; if we neglect the precautions that have juſt been pointed out, and the accident ſhould unfortunately take place, we ſhould not attempt to extinguiſh the flames with water; for were we to do that, the varniſh would be forcibly thrown out of the veſſel, and would burn the imprudent operator; nay, might even ſet fire to the building itſelf in which the operation was performed. The ſafeſt method is, to extinguiſh the fire by means of a lid of wood or iron, which ought always to be kept in readineſs for fear of accidents.

The propoſed object was to obtain a dye, which might perfectly imitate mahogany, and which would keep for as great a length of time as poſſible. Theſe varniſhes, as well as the dyes which the writer deſcribes, have been tried upon various ſpecies of wood; of theſe the maple, the birch, and the white beech, when tinged with a ſolution of iron, had the greateſt reſemblance to mahogany. The appearance of the other woods was greatly varied according to the differences of their natural colours and veins, their different degrees of poroſity, and the facility with which they imbibed the colouring ſubſtance.

AMBERT (*Encycl.*), a ſmall town of France, in the department of Puy de Dome, and late province of Auvergne. It was once remarkable for its paper manufactory and camblets.

AMBITION (*ambitio*), is generally uſed in a bad ſenſe, for an immoderate or illegal purſuit of power. In the ſtrict meaning, however, of the word, it ſignifies the ſame with the *ambitus* of the Romans. See AMBITUS, in vol. I.

AMBLETEUSE (*Encycl.*), a French ſea-port town in the department of the Straits of Calais, and late province of Picardy.

AMBROSE (St.), biſhop of Milan, one of the moſt eminent fathers of the fourth century, born in Gaul in the year 333, according to Dr. Cave, or in 340, as Mr. Du Pin affirms. His father was at this time *præfectus prætorio* in Gaul; and reſided at Arles, the capital of Gallia Narbonenſis. The birth of Ambroſe is ſaid to have been followed with a remarkable preſage of his future eloquence; for we are told, that a ſwarm of bees came and ſettled upon his mouth as he lay in his cradle. He ſoon made himſelf maſter of the ſeveral parts of ſecular learning; and pleaded cauſes before Probus with ſo much eloquence, that he was appointed his aſſeſſor, and ſoon after governor of the provinces of Liguria and Æmilia. He ſettled at Milan; where, in the year 374, upon the death of Auxentius biſhop of that city, there being a great conteſt between the Catholics and Arians concerning the choice of a new biſhop, Ambroſe thought it his duty, as governor, to go to the church, in order to compoſe the tumult. He accordingly addreſſed himſelf to the people in a gentle pathetic ſpeech, exhorting them to proceed to their choice, in a calm and friendly manner: while he was ſpeaking to them, the whole aſſembly cried out with one voice, "Let Ambroſe be biſhop!" Such a ſudden and unexpected incident ſurpriſed him extremely; ſo that he retired immediately, and uſed every method to divert them from their reſolution of chooſing him: but at laſt he was obliged to comply; and was baptiſed (being but a catechumen before), and ordained biſhop, towards the latter end of the year 374, or beginning of 375. About the year 377, the barbarous nations making an incurſion into the Roman empire, he fled to Illyricum, and after-

wards to Rome. In the year 384 he was ſent to the tyrant Maximus, who had uſurped the empire, and prevailed upon him not to paſs over into Italy. The heathens being encouraged by theſe inteſtine commotions in the empire, attempted to reſtore their religion, and employed Q. Aurelius Symmachus, prefect of Rome, a man of great eloquence, to plead their cauſe. This gave riſe to the famous conteſt between St. Ambroſe and him, about repairing the altar of Victory. But Symmachus having loſt his cauſe, was expelled the city, and commanded not to approach within one hundred miles of it. The petition which he preſented to the emperor Valentinian the younger, is ſtill extant; we find in it the ſtrongeſt figures of rhetoric and the greateſt force of eloquence. St. Ambroſe wrote a confutation of this petition; but he has been thought guilty of many paralogiſms: and yet he proteſts, "that he endeavoured only after the ſolidity of reaſoning, leaving Symmachus all the glory of eloquence and politeneſs; it being (ſays he) the peculiar privilege of the pagan philoſophers to amuſe the mind with colours as falſe as their idols; and to ſay great things, not being capable of ſaying true ones." Ambroſe met with a good deal of oppoſition from the Arians, againſt whom he acted with great ſpirit and intrepidity. Juſtina, the empreſs and mother of Valentinian, who was an Arian, reſolving to reſtore Arianiſm at Milan, began with demanding of St. Ambroſe one of the churches, which was called the Portian church: but he refuſed it; and the people ſurrounding the palace in a body, ſhe was obliged to leave him in poſſeſſion of his church, and even deſire him to pacify the people.

Ambroſe was a ſecond time ſent to the tyrant Maximus, for Valentinian found no perſon ſo proper to negociate with him. He ſpoke to him with great courage and boldneſs, but could obtain nothing; for Maximus ſoon after marched into Italy, and made himſelf maſter of the weſtern empire: ſo that Valentinian was obliged to retire, with his mother Juſtina and his ſiſter Galla, to Theſſalonica in Illyricum, in order to deſire Theodoſius's aſſiſtance; who defeated Maximus, and reſtored Valentinian to the empire.

While Theodoſius continued in Italy, after the defeat of Maximus, an inſurrection happened at Theſſalonica, in which ſeveral of the magiſtrates were ſtoned, and their bodies dragged along the ſtreets. Theodoſius being informed of this, raſhly commanded a certain number of the inhabitants to be put to death promiſcuouſly; by which means the city was filled with the blood of many innocent perſons, and amongſt the reſt ſeveral ſtrangers who were but juſt come there: no regard was had to any diſtinction of perſons, no form of trial was obſerved; but they were cut down like corn in the harveſt, as Theodoret expreſſes it, to the number of 7000. At this time an aſſembly of biſhops was held at Milan, who all expreſſed an abhorrence of ſuch cruelty in the emperor. Ambroſe wrote a letter to him, in which he repreſented the enormity of his crime, and exhorted him to make ſatisfaction by a ſincere ſubmiſſion and repentance. Some time after, Theodoſius coming to Milan, went to receive the ſacrament at the great church; where Ambroſe meeting him at the door, denied him entrance, and repreſented his guilt in the moſt forcible and pathetic terms. The emperor was ſtruck with his words, and with great uneaſineſs of mind returned to his palace; but about a year after, Ambroſe being convinced of the ſincerity of his repentance, admitted him into the church.

In 392, Valentinian the emperor being aſſaſſinated by the contrivance of Argobaſtes, and Eugenius uſurping the empire, Ambroſe was obliged to leave Milan; but he returned the year following, when Eugenius was defeated. He died at Milan the 4th of April, 397; being 57 years of age, according to Mr. Du Pin, and ſome other writers; but Dr. Cave and Olearius ſay that he was 64 years old at his death. He was buried at the great church at Milan. He wrote ſeveral works, the moſt conſiderable of which is that *De Officiis*. He is conciſe and ſententious in his manner of writing, and full of turns of wit; his terms are well choſen, and his expreſſions noble; he diverſifies his ſubject by an admirable copiouſneſs of thought and language; he is very ingenious in giving an eaſy and natural turn to every thing which he treats of, and is not without ſtrength and pathos when there is occaſion for it. This is part of the character which Du Pin gives him as a writer; but Eraſmus obſerves that he has many quaint and affected ſentences, and frequently very obſcure ones; and it is certain that his writings are intermixed with many ſtrange and peculiar opinions. Paulinus wrote his life, and dedicated it to St. Auguſtin: this life is prefixed to St. Ambroſe's works; the beſt edition of which is reckoned to be that publiſhed by the Benedictine monks, in two volumes folio, at Paris, in 1686, and 1690.

Amerose (Iſaac), an eminent preſbyterian miniſter, was educated at Brazen-noſe College, Oxford, where he took the degree of bachelor of arts, and became miniſter of Preſton, and afterwards of Garſtang in Lancaſhire, where he was in 1662 ejected for non-conformity. It was uſual with him to retire every year for a month into a little hut in a wood; where he ſhunned all ſociety, and devoted himſelf to religious contemplation. Dr. Calamy obſerves, that he had a very ſtrong impulſe on his mind of the approach of death, and took a formal leave of his friends at his houſe, a little before his departure; and the laſt night of his life he ſent his diſcourſe concerning *angels* to the preſs. The next day he ſhut himſelf up in his parlour; to the great ſurpriſe and regret of all who ſaw him, he was found juſt expiring. He died in 1663-4, in the 72d year of his age. He wrote ſeveral other books; as the *Prima, Media, & Ultima*, or the Firſt, Middle, and Laſt Things; War with devils; Looking upon Jeſus; &c.

AMBRY. This article in Vol. I. requires to be corrected in the following inſtances. For "*are* depoſited," read *were* depoſited:" after "were laid up," add "for diſtribution."

AMEDABAD, a conſiderable city, the capital of Guzerat, in Hindooſtan Proper. It is one of the beſt fortified places in India, and made a good defence when taken by General Goddard, in 1780, from the Poonah Mahrattas, to whom it was reſtored in 1783. Travellers have dwelt much on the beauty and convenient ſituation of the city, which is in a level country, on the banks of a ſmall navigable river that falls into the gulf of Cambay. It is 321 miles N. of Bombay. Long. 72. 37. E. Lat. 22. 58. N.

AMEDNAGUR, a city of Hindooſtan, in the Deccan; once the capital of the ſoubah of the ſame name, which is now better known by that of Dowlatabad. This city was the reſidence of the emperor Aurungzebe, during his conqueſt of the Deccan and the Carnatic. It is 181 miles, by Poonah, from Bombay. Long. 75. 0. E. Lat. 33. N.

AMES (William), D. D. a learned independent divine, famous for his controverſial writings, was born in 1576, and educated at Chriſt's college, in Cambridge. In the reign of King James I. he left the univerſity, and ſoon after the kingdom, on account of his being unwilling to conform to the rules of the church; and retired to the Hague, where he had not been long before he was invited to accept of the divinity-chair in the univerſity of Francker, in Frieſland, which he filled, with admirable abilities, for above twelve years, during which his fame was ſo great, that many came from remote nations to be educated under him. He from thence removed to Rotterdam for a change of air which his health demanded; and here he continued during the remainder of his life. His controverſial writings, which compoſe the greateſt part of his works, are

chiefly againſt Bellarmine and the Arminians. He alſo wrote, 1. A freſh Suit againſt the Ceremonies. 2. *Lectiones in Pſalmos Davidis.* 3. *Medulla Theologiæ;* and ſeveral pieces relative to the ſciences. He died of an aſthma, at Rotterdam, in Nov. 1633.

AMESTRATA (*Encycl.*), a town of Sicily (Cicero); *Ameſtratos* (Stephanus); *Amaſtra* (Silius Italicus); *Multiſtratos* (Polybius); now *Miſtretta,* in the Val di Demona, on the river Haleſus; a very ſtrong fort of the Carthaginians, beſieged in vain by the Romans for ſeven months with conſiderable loſs; at length, after another ſiege, taken and raſed (Diodor. Siculus). The appellation is Phœnician, according to Bochart, *Math-Aſtrata,* and *Am-Aſtrata,* the city and people of the goddeſs Aſtarte. The inhabitants are called by Cicero *Ameſtratini,* and *Mutiſtratini* by Pliny.

AMHURST (Nicholas), an Engliſh poet and political writer, was born at Marden in Kent, and entered of St. John's College, Oxford; from whence he was expelled for irregularity of conduct and libertine principles. Retaining great reſentment againſt the univerſity on this account, he abuſed its learning and diſcipline, and ſome of the moſt reſpectable characters in it, in a poem publiſhed in 1724, *Oculus Britanniæ,* and in a book entitled *Terræ Filius.* He publiſhed, A Miſcellany of poems, ſacred and profane; and, The Convocation, a poem in five cantos, which was a ſatire on the Biſhop of Bangor's antagoniſts. But he is beſt known for the ſhare he had in the political paper called *The Craftſman*; though, after having been the drudge of his party for near twenty years, he was as much forgot in the famous compromiſe of 1742, as if he had never been born; and, when he died in that year of a broken heart, was indebted to the charity of his bookſeller for a grave.

AMIANTHUS (*Encycl.*). This ſubſtance is alſo ealled Asbestos, or Linum vivum; but M. Daubenton diſtinguiſhes them thus. In filaments ſoft and flexible, he ealls them *Amianthus;* and in filaments hard and not flexible, he calls them *Aſbeſtos.* The ſtones called mountain cork and mountain leather ſeem to be of the ſame nature. The ancient Romans made cloths of this ſtone, which were uſed for the purpoſe of wrapping up dead bodies, and were not acted upon by the fire. It is certain that the *Amianthus,* of which there are diſferent kinds, though very refractory, will vitrify by the heat of a violent chemical furnace, or in the focus of a good burning glaſs, without any additional matter. But it reſiſts the heat of a funeral pile; nor do the aſhes of the wood ſerve for a diſſolvent to it. At preſent we know that Amianthus is a ſtone or mineral, conſiſting of threads or filaments, which may be ſeparated from each other, and by art ſpun and wove into cloth. The Amianthus, rare and only found in the Eaſt when Pliny wrote, is now got in many parts of Europe. It is commonly found on the ſides or at the foot of hills, compoſed of vitrifiable parts. In the Pyrenées they make garters, purſes, belts, and other ſmall works, of it; though coarſe, they are ſoft and ſilky. It is of different colours, white, grey, greeniſh, and reddiſh. Its filaments have almoſt the luſtre of ſilk; ſome of the mare 14 inches long, and ſo ſmall that M. Daubenton found ſome whoſe diameters were the 2000th part of a line. Naturaliſts differ about the nature of this ſtone. It has been aſcribed in whole or part to calcareous earth, to gypſum, or to clay. Some make it a ſort of iron decompoſed by fire; or a mixture of iron and quartz. They have advanced that it is of a vegetable nature. It has been alſo conſidered as a decompoſition of ſteatite, or of thoſe ſtones called magneſian. But M. le Conte de Buffon has poſitively declared it to be a ſtalactite, or decompoſition of mica and talc. Talc is a decompoſition of mica, and as the former is ſofter and more attenuated than the latter, we may conclude that more talc enters into the compoſition of the *Amianthus,* than into that of the *Aſbeſtos.* They are both compoſed of filaments, either longitudinal, as the *Amianthus,* or oblique and converging, as in the *Aſbeſtos.*

AMID, a town of Turkey in Aſia, 40 miles from Amaſi, and 60 from Tocat. Long. 36. 40. E. Lat. 40. 30. N.

AMIDA (ane. geog.), a principal city of Meſopotamia (Liber Notitiæ); *Ammæa* (Ptolemy); ſituated on a high mountain, on the borders of Aſſyria, on the Tigris, where it receives the Nymphius.—It was taken from the Romans, in the time of the Emperor Conſtans, by Sapores king of Perſia. The ſiege is ſaid to have coſt him 30,000 men; however, he reduced it to ſuch ruin, that the emperor afterwards wept over it. According to Ammianus Marcellinus, the city was raſed; the chief officers were crucified; and the reſt, with the ſoldiers and inhabitants, either put to the ſword, or carried into captivity, except our hiſtorian himſelf, and two or three more, who, in the dead of the night, eſcaped through a poſtern unperceived by the enemy. The inhabitants of Niſibis, however, being obliged to leave their own city by Jovian's treaty with the Perſians, ſoon reſtored Amida to its former ſtrength; but it was again taken by Cavades in 501, but was reſtored to the Romans in 503. On the declenſion of the Roman power, it fell again into the hands of the Perſians; but was taken from them by the Saracens in 899. It is now in the poſſeſſion of the Turks. Here are above 20,000 Chriſtians, who are better treated by the Turks than in other places. A great trade is carried on in this city, of red Turkey leather, and cotton cloth of the ſame colour. The Arabian name of Amida, is *Diarbeker,* and the Turkiſh one *Kara-Amed.* E. Long. 39. 0. N. Lat. 36. 58.

AMISUS (*Encycl.*), the chief city of Pontus. It was at firſt a free city, like the other Greek cities in Aſia; but afterwards ſubdued by Pharnaces king of Pontus, who made it his metropolis. It was taken by Lucullus in the Mithridatic wars, who reſtored it to its ancient liberty. Cloſe by Amiſus ſtood another city, called *Eupatoria,* from Mithridates Eupator its founder. This city was likewiſe taken by Lucullus, who levelled it with the ground; but it was afterwards rebuilt by Pompey, who united it with Amiſus, giving them the name of *Pompeiopolis.* It was taken during the war between Cæſar and Pompey, by Pharnaces king of Pontus, who put moſt of its inhabitants to the ſword; but Cæſar, having conquered Pharnaces, made it again a free city.

AMMERCOT, a fort in Hindooſtan Proper, a very extenſive ſandy deſert between the Indus, the territories of Agimere and Moultan, and the Puddar. This place is celebrated as the retreat of the emperor Humaſoon, during the troubles; and here was born his ſon, the illuſtrious Acbar. It is 190 miles N. by E. of Tatta.

AMMIANUS (Marcellinus), an hiſtorian, born at Antioch. He wrote in Latin an intereſting hiſtory, of which there are now only 18 books extant. Though a Pagan, he ſpeaks with candour and moderation of the Chriſtian religion, and even praiſes it: his hero is the emperor Julian. He died about the year 390. The beſt edition of his hiſtory is that of *Gronovius,* in 1693.

AMMIRATO (Scipio), an eminent Italian hiſtorian, born at Lecca in Naples in 1531. After travelling over great part of Italy, without ſettling to his ſatisfaction, he was engaged by the great duke of Tuſcany to write *The Hiſtory of Florence;* for which he was preſented to a canonry in the cathedral there. He wrote other works while in this ſtation; and died in 1600.

AMMON, the father of the Ammonites, was the ſon of Lot by his youngeſt daughter. Gen. xix. 38.

Ammon (Andreas), an excellent Latin poet, born at Lucca in Italy, was ſent by Pope Leo X. to England, in the characters of prothonotary of the Apoſtolic See, and collector-ge-

neral of this kingdom. Being a man of ſingular genius and learning, he ſoon became acquainted with the principal literati of thoſe times; particularly with Eraſmus, Colet, Grocin, and others, for the ſake of whoſe company he reſided ſome time at Oxford. Ammon was Latin ſecretary to Henry VIII. but at what time he was appointed does not appear. In 1512 he was made canon and prebendary of the collegiate chapel of St. Stephen, in the palace of Weſtminſter. He was likewiſe prebendary of Wells; and, in 1514, was preſented to the rectory of Dychial in that dioceſe. About the ſame time, by the king's ſpecial recommendation, he was alſo made prebendary of Saliſbury. He died in the year 1517, and was buried in St. Stephen's chapel in the palace of Weſtminſter. He was eſteemed an elegant Latin writer, and an admirable poet. The epiſtles of Eraſmus to Ammon abound with encomiums on his genius and learning.—His works are, 1. *Epiſtolæ ad Eraſmum*, lib. i. 2. *Scotici conflictus hiſtoria*, lib. i. 3. *Eucolica vel eclogæ*, lib. i. Baſil, 1546, 8vo. 4. *De rebus nihil*, lib. i. 5. *Panegyricus quidam*, lib. i. 6. *Varii generis epigrammata*, lib. i. 7. *Poemata diverſa*, lib. i.

AMMONITIS (anc. geog.), a country of Arabia Petræa, occupied by the children of Ammon, whence the appellation. Its limits, partly to the weſt, and partly to the north, were the river Jabbok, whoſe courſe is no-where determined; though Joſephus ſays, that it runs between Rabbath-Ammon, or Philadelphia, and Geraſa, and falls into the Jordan.

AMMONIUS, ſurnamed Saccas, was born in Alexandria, and flouriſhed about the beginning of the third century. He was one of the moſt celebrated philoſophers of his age. He took great pains in reconciling the differences between the Platoniſts and Peripatetics, in which he gained great reputation. Plotinus and Origen were both his diſciples. He died about the year 230.

AMONTONS (William), an ingenious experimental philoſopher, was born at Paris in 1663. While he was at the grammar-ſchool, he, by ſickneſs, contracted a deafneſs that almoſt excluded him converſation: in this ſituation he applied himſelf to mechanics and geometry; and, it is ſaid, refuſed to try any remedy for his diſorder, either becauſe he deemed it incurable, or becauſe it increaſed his attention. He ſtudied the nature of barometers and thermometers with great care; and wrote *Obſervations and Experiments concerning a new Hourglaſs, and concerning Barometers, Thermometers, and Hygroſcopes*; which, with ſome pieces in the Journal des Savans, are all his literary works. When the Royal Academy was new regulated in 1699, he was admitted a member; and read his *New Theory of Friction*, in which he happily cleared up an important object in mechanics. He died in 1705.

AMORGOS, or Amurgus (anc. geog.), now *Morgo*, not far from Naxus to the eaſt, one of the European Sporades; the country of Simonides, the Iambic poet (Strabo). To this iſland criminals were baniſhed (Tacitus). It was famous for a fine flax called *Emorgis*.

AMORGUS, an iſland of the Archipelago, fertile in wine, oil, and corn. It is well cultivated, and the inhabitants are affable, and generally of the Greek church. The beſt parts belong to a monaſtery. The greateſt inconvenience which the inhabitants of this iſland experience is the want of fuel. It is 30 miles in circumference, and 67 N. of Candia. Long. 26. 15. E. Lat. 36. 20. N.

AMORIUM (*Encycl.*), a town of Phrygia Major, was taken from the Romans by the Saracens in 668; but ſoon after retaken by the Romans.—A war breaking out again between theſe two nations in 837, the Roman Emperor Theophylus deſtroyed Sozopetra the birth-place of the Khalif Al' Motaſem, notwithſtanding his earneſt intreaties to him to ſpare it. This ſo enraged the khalif, that he ordered every one to engrave upon his ſhield the word *Amorium*, the birth-place of Theophylus, which he reſolved at all events to deſtroy. Accordingly he laid ſiege to the place, but met with a vigorous reſiſtance. At length, after a ſiege of 55 days, it was betrayed by one of the inhabitants who had abjured the Chriſtian religion. The khalif, exaſperated at the loſs he had ſuſtained during the ſiege, put moſt of the men to the ſword, carried the women and children into captivity, and levelled the city with the ground. His forces being diſtreſſed for want of water on their return home, the Chriſtian priſoners roſe upon ſome of them, and murdered them; upon which the khalif put 6000 of the priſoners to death.—According to the eaſtern hiſtorians, 30,000 of the inhabitants of Amorium were ſlain, and as many carried into captivity.

AMORRHITIS (anc. geog.), the country of the Amorites, ſituated, according to Joſephus, between three rivers, like an iſland; the Arnon on the ſouth, the Jabbok on the north, and the Jordan on the weſt. The *Amoritæ*, or *Amorrhæi*, took their name from *Amor*, or *Emor*, the ſon of Canaan. They dwelt in the mountains of Judah to the ſouth, and in ſome parts mixed with the Hethæi; alſo about Sichem: but a great part of them croſſed the Jordan, and in a hoſtile manner occupied a conſiderable part of the country of the Moabites and Ammonites; which afterwards fell to the Iſraelites, on the defeat of Sihon their king.

AMOS, the third of the twelve leſſer prophets, was a herdſman of the city of Tekoa. He propheſied under Uzzias and Jeroboam II. and foretold the captivity and re-eſtabliſhment of the ten tribes. He was put to death by Amaſius, prieſt of Bethel, about 785 years before Chriſt.—He ought not to be confounded with Amos, the father of Iſaiah.

AMOUR, a river of Aſia, which riſes in Siberia, runs eaſt through Chineſe Tartary, and falls into the bay of Corea.

AMPELUSIA, a promontory of Mauritania Tingitana, called *Cottes* by the natives, which is of the ſame ſignification (Mela); with a town of the ſame name (Pliny); not far from the river Lixus, near the ſtraits of Gibraltar: now *Cape Spartel*. W. long. 6. 30. Lat. 36. 0.

AMPHILOCHIA, the territory of the city of Argos in Acarnania; *Amphilochium* (Thucydides); called *Amphilochi*, from the people, in the lower age (Stephanus). A town alſo of Spain, in Gallicia, built by Teucer, and denominated from Amphilochus, one of his companions (Strabo); now *Orenſe*. W. long. 8. 20. Lat. 42. 36.

AMPHILOCHIUS, biſhop of Iconium, in the fourth century, was the friend of St. Gregory Nazianzen and St. Baſil. He aſſiſted at the firſt general council of Conſtantinople in 381; preſided at the council of Sidæ, and was a ſtrenuous oppoſer of the Arians. He died in 394; and his works were publiſhed in Greek and Latin, at Paris, 1644, by Francis Combefis.

Amphilochius, ſon of Amphiaraus and Eriphyle, was a celebrated diviner. He had an altar erected to him at Athens, and an oracle at Mallus in Cilicia, which city was founded by him and Mopſus. The anſwers of this oracle were given by dreams; the party enquiring uſed to paſs a night in the temple, and that night's dream was the anſwer. Dion Caſſius mentions a picture done by order of Sextus Condianus, repreſenting the anſwer he received of the oracle, in the reign of the Emperor Commodus.

AMPHISSA, the capital of the Locri Oxolæ, one hundred and twenty ſtadia, or 15 miles, to the weſt of Delphi (Pauſanias). So called, becauſe ſurrounded on all hands by mountains (Stephanus). Hence *Amphiſſæi*, the inhabitants; who plundered the temple at Delphi (Demoſthenes).—Alſo a town of Magna Græcia, at the mouth of the Sagra, on the coaſt of the Farther Calabria, ſituated between Locri and Caulona, now called *Rocella*. *Amphiſſius* the epithet (Ovid).

AMPLEPUIS, a town of France, in the department of Rhone and Loire. It is celebrated for its wines, and is 16 miles eaſt of Roanne.

AMURAT, or AMURATH, I. the fourth emperor of the Turks, and one of the greateſt princes of the Ottoman empire, ſucceeded Solyman in 1360. He took from the Greeks Gallipoli, Thrace, and Adrianople, which laſt he choſe for the place of his reſidence. He defeated the Prince of Bulgaria, conquered Miſnia, chaſtiſed his rebellious baſhaws, and is ſaid to have gained 36 battles. This prince, in order to form a body of devoted troops that might ſerve as the immediate guards of his perſon and dignity, appointed his officers to ſeize annually, as the imperial property, the fifth part of the Chriſtian youth taken in war. Theſe, after being inſtructed in the Mahometan religion, inured to obedience by ſevere diſcipline, and trained to warlike exerciſes, were formed into a body diſtinguiſhed by the name of *Janiſſaries*, or *New Soldiers*. Every ſentiment which enthuſiaſm can inſpire, every mark of diſtinction that the favour of the prince could confer, were employed in order to animate this body with martial ardour, and with a conſciouſneſs of its own pre-eminence. The Janiſſaries ſoon became the chief ſtrength and pride of the Ottoman armies, and were diſtinguiſhed above all the troops whoſe duty it was to attend on the perſon of the ſultan.—At length the death of Lazarus, deſpot of Servia, who had endeavoured in vain to ſtop the progreſs of Amurath's arms, touched Milo, one of his ſervants, in ſo ſenſible a manner, that, in revenge, he ſtabbed the ſultaun in the midſt of his troops, and killed him upon the ſpot, A. D. 1389, after he had reigned 23 years.

AMURAT II. the 10th emperor of the Turks, was the eldeſt ſon of Mahomet I. and ſucceeded his father in 1421. He beſieged Conſtantinople and Belgrade without ſucceſs; but he took Theſſalonica from the Venetians, and compelled the Prince of Boſnia and John Caſtriot prince of Albany to pay him tribute. He obliged the latter to ſend his three ſons as hoſtages; among whom was George, celebrated in hiſtory by the name of *Scanderbeg*. John Hunniades defeated Amurat's troops, and obliged him to make peace with the Chriſtian princes, in 1442. Theſe princes afterwards breaking the peace, Amurat defeated them in the famous battle of Varna, November 10, 1444, which proved ſo fatal to the Chriſtians, and in which Ladiſlaus king of Hungary was killed. He afterwards defeated Hunniades, and killed above 20,000 of his men; but George Caſtriot, more known by the name of *Scanderbeg*, being re-eſtabliſhed in the eſtates of his father, defeated the Turks ſeveral times, and obliged Amurat to raiſe the ſiege of Croia, the capital of Albany. Amurat died, chagrined with his ill ſucceſs, and infirm with age, February 11, 1451, at Adrianople. It is obſerved to this prince's honour, that he always kept his treaties with the greateſt fidelity.

AMWELL, a village near Ware in Hertfordſhire, famous for giving riſe to the New River, which ſupplies London with water. One part is called Amwell-Magna, and the other Amwell-Parva, at which is the head of the river.

AMYCLÆ (*Encycl.*). This city of Laconia was afterwards famed for ſending a conſiderable colony of its own inhabitants into Upper Calabria, who built there a city which they called by the ſame name. This laſt city was ſituated between Caieta and Terracina, and gave its name to the neighbouring ſea. According to Pliny and Solinus, the territory of Amyclæ was ſo infeſted with vipers and other ſerpents, that the inhabitants were obliged to abandon their dwellings, and ſettle elſewhere.—Among the ancient poets, the Amycli, or inhabitants of this city, obtained the epithet of *taciti* or *ſilent*. The reaſon of this was, either becauſe it was built by the Lacedæmonians, who, as they followed the doctrine of Pythagoras, were always inculcating the precept of ſilence, and thence called *taciti*; or becauſe of a law which obtained in this place, forbidding any one, under ſevere penalties, to mention the approach of an enemy. Before this law was made, the city was daily alarmed by falſe reports, as the enemy had been already at the gates. From terrors of this kind, the above-mentioned law indeed delivered them; but in the end it proved the ruin of the city: for the Dorians appearing unexpectedly under the walls, no one ventured to tranſgreſs the law; ſo that the city was eaſily taken. They reduced it to an inconſiderable hamlet; in which, however, were ſeen ſome of the remains of its ancient grandeur. One of the fineſt buildings that eſcaped the common ruin, was the temple and ſtatue of Alexandra, whom the inhabitants pretended to be the ſame with Caſſandra the daughter of Priam.

AMYRAULT (Moſes), an eminent French Proteſtant divine, born at Bourgueil in Touraine in 1596. He ſtudied at Saumur, where he was choſen profeſſor of theology; and his learned works gained him the eſteem of Catholics as well as Proteſtants, particularly of Cardinal Richelieu, who conſulted him on a plan of re-uniting their churches, which, however, as may well be ſuppoſed, came to nothing. He publiſhed a piece in which he attempted to explain the myſtery of predeſtination and grace, which occaſioned a controverſy between him and ſome other divines. He alſo wrote An Apology for the Proteſtants; A Paraphraſe on the New Teſtament; and ſeveral other books. This eminent divine died in 1664.

ANABAPTISTON, the ſame with ABAPTISTON.

ANABAPTISTS (*Encycl.*). This Proteſtant ſect ſprung up in Germany immediately after the Reformation. It was founded in the year 1521, by Nicholas Storck, Mark Stubner, and Thomas Muncer; who had been followers of Luther, but abandoned him on pretence that his doctrine was imperfect. Storck being a man of no learning, boaſted of inſpirations; Stubner, who had wit and ſome learning, applied himſelf to find out ſuitable explications of the word of God; and Muncer, who was bold and zealous, played the enthuſiaſt in the moſt extravagant manner.

The moſt remarkable of their religious tenets related to the ſacrament of baptiſm; which, as they contended, ought to be adminiſtered only to perſons grown up to years of underſtanding, and ſhould be performed not by ſprinkling them with water, but by dipping them in it: for this reaſon they condemned the baptiſm of infants; and re-baptizing all whom they admitted into their ſociety, the ſect came to be diſtinguiſhed by the name of *Anabaptiſts*. To this peculiar notion concerning baptiſm, which has the appearance of being founded on the practice of the church in the apoſtolic age, and contains nothing inconſiſtent with the peace and order of human ſociety, they added other principles of a moſt enthuſiaſtic as well as dangerous nature. They maintained, that among Chriſtians, who had the precepts of the goſpel to direct, and the ſpirit of God to guide them, the office of magiſtracy was not only unneceſſary, but an unlawful encroachment on their ſpiritual liberty; that the diſtinctions occaſioned by birth, or rank, or wealth, being contrary to the ſpirit of the goſpel, which conſiders all men as equal, ſhould be entirely aboliſhed; that all Chriſtians, throwing their poſſeſſions into one common ſtock, ſhould live together in that ſtate of equality which becomes members of the ſame family; that as neither the laws of nature, nor the precepts of the New Teſtament, had placed any reſtraints upon men with regard to the number of wives which they might marry, they ſhould uſe that liberty which God himſelf had granted to the patriarchs.

By theſe doctrines they ſoon drew over vaſt numbers to their ſide; inſomuch that Muncer ventured openly to exhort the people to reſiſt the magiſtrates, and conſtrain princes to diveſt themſelves of their authority. Accordingly the peaſants of

Germany, to whom the idea of unlimited independence was peculiarly flattering, roſe in many places, and committed a thouſand acts of violence. But they were defeated by the troops of the empire, with great ſlaughter; and Muncer, who had deluded them, was taken, and beheaded in the year 1525.

But though the inſurrection excited by that fanatic was ſo ſoon ſuppreſſed, ſeveral of his followers lurked in different places, and endeavoured privately to propagate his opinions.

In thoſe provinces of Upper Germany which had already been ſo cruelly waſted by their enthuſiaſtic rage, the magiſtrates watched their motions with ſuch ſevere attention, that many of them found it neceſſary to retire into other countries; ſome were puniſhed, others driven into exile, and their errors were entirely rooted out. But in the Netherlands and Weſtphalia, where the pernicious tendency of their opinions was more unknown, and guarded againſt with leſs care, they got admittance into ſeveral towns, and ſpread the infection of their principles.

In particular, two Anabaptiſt prophets, John Matthias, a baker of Haerlem, and John Boccold, or Beukels, a journeyman taylor of Leyden, poſſeſſed with the rage of making proſelytes, fixed their reſidence at Munſter, an imperial city in Weſtphalia, of the firſt rank, under the ſovereignty of its biſhop, but governed by its own ſenate and conſuls. As neither of theſe fanatics wanted the talents neceſſary for ſuch an undertaking, great reſolution, the appearance of ſanctity, bold pretenſions to inſpiration, and a confident and plauſible manner of diſcourſing, they ſoon gained many converts. Among theſe were Rothman, who had firſt preached the Proteſtant doctrine in Munſter, and Cnipperdoling, a citizen of good birth and conſiderable eminence. Emboldened by the countenance of ſuch diſciples, they openly taught their opinions; and not ſatisfied with that liberty, they made ſeveral attempts, though without ſucceſs, to ſeize the town, in order to get their tenets eſtabliſhed by public authority. At laſt, having ſecretly called in their aſſociates from the neighbouring country, they ſuddenly took poſſeſſion of the arſenal and ſenate-houſe in the night-time; and running through the ſtreets with drawn ſwords, and horrible howlings, cried out alternately, "Repent, and be baptized." and "Depart, ye ungodly." The ſenators, the canons, the nobility, together with the more ſober citizens, whether Papiſts or Proteſtants, terrified at their threats and outcries, fled in confuſion; and left the city under the dominion of a frantic multitude, conſiſting chiefly of ſtrangers. Nothing now remaining to overawe or control them, they ſet about modelling the government according to their own wild ideas: and though at firſt they ſhewed ſo much reverence for the ancient conſtitution, as to elect ſenators of their own ſect, and to appoint Cnipperdoling and another proſelyte conſuls, this was nothing more than form; for all their proceedings were directed by Matthias, who in the ſtyle and with the authority of a prophet uttered his commands, which it was inſtant death to diſobey. Having begun with encouraging the multitude to pillage the churches, and deface their ornaments; he enjoined them to deſtroy all books, except the bible, as uſeleſs or impious; he appointed the eſtates of ſuch as fled to be confiſcated, and ſold to the inhabitants of the adjacent country; he ordered every man to bring forth his gold, ſilver, and precious effects, and to lay them at his feet: the wealth amaſſed by theſe means he depoſited in a public treaſury, and named deacons to diſpenſe it for the common uſe of all. The members of his commonwealth being thus brought to a perfect equality, he commanded all of them to eat at tables prepared in public, and even preſcribed the diſhes which were to be ſerved up each day. Having finiſhed his plan of reformation, his next care was to provide for the defence of the city; and he took meaſures for that purpoſe with a prudence which favoured nothing of fanaticiſm. He collected vaſt magazines of every kind; he repaired and extended the fortifications, obliging every perſon to work in his turn; he formed ſuch as were capable of bearing arms into regular bodies, and endeavoured to add the vigour of diſcipline to the impetuoſity of enthuſiaſm. He ſent emiſſaries to the Anabaptiſts in the Low-countries, inviting them to aſſemble at Munſter, which he dignified with the name of *Mount Sion*, that from thence they might ſet out to reduce all the nations of the earth under their dominion. He himſelf was unwearied in attending to every thing neceſſary for the ſecurity or increaſe of the ſect; animating his diſciples by his own example to refuſe no labour, as well as to repine at no hardſhip: and their enthuſiaſtic paſſions being kept from ſubſiding by a perpetual ſucceſſion of exhortations, revelations, and prophecies, they ſeemed ready to undertake or to ſuffer any thing in maintenance of their opinions.

Meanwhile, the Biſhop of Munſter having aſſembled a conſiderable army, advanced to beſiege the town. On his approach, Matthias ſallied out at the head of ſome choſen troops; attacked one quarter of his camp; forced it; and, after great ſlaughter, returned to the city, loaded with glory and ſpoil. Intoxicated with this ſucceſs, he appeared next day brandiſhing a ſpear; and declared that, in imitation of Gideon, he would go forth with a handful of men and ſmite the hoſt of the ungodly. Thirty perſons, whom he named, followed him without heſitation in this wild enterprize, and ruſhing on the enemy with a frantic courage were cut off to a man. The death of their prophet occaſioned at firſt great conſternation among his diſciples; but Boccold, by the ſame gifts and pretenſions which had gained Matthias credit, ſoon revived their ſpirits and hopes to ſuch a degree, that he ſucceeded him in the ſame abſolute direction of all their affairs. As he did not poſſeſs that enterpriſing courage which diſtinguiſhed his predeceſſor, he ſatisfied himſelf with carrying on a defenſive war, and, without attempting to annoy the enemy by ſallies, he waited for the ſuccours he expected from the Low-countries, the arrival of which was often foretold and promiſed by their prophets. But though leſs daring in action than Matthias, he was a wilder enthuſiaſt, and of more unbounded ambition. Soon after the death of his predeceſſor, having by obſcure viſions and prophecies prepared the multitude for ſome extraordinary event, he ſtripped himſelf naked, and, marching through the ſtreets, proclaimed with a loud voice, "That the kingdom of Zion was at hand; that whatever was higheſt on earth ſhould be brought low, and whatever was lowest ſhould be exalted." In order to fulfil this, he commanded the churches, as the moſt lofty buildings in the city, to be levelled with the ground; he degraded the ſenators choſen by Matthias; and depriving Cnipperdoling of the conſulſhip, the higheſt office in the commonwealth, he appointed him to execute the loweſt and moſt infamous, that of common hangman; to which ſtrange tranſition the other agreed, not only without murmuring, but with the utmoſt joy; and ſuch was the deſpotiſm and rigour of Boccold's adminiſtration, that he was called almoſt every day to perform ſome duty or other of his wretched function. In place of the depoſed ſenators, he named twelve judges, according to the number of tribes in Iſrael, to preſide in all affairs; retaining to himſelf the ſame authority which Moſes anciently poſſeſſed as legiſlator of that people.

Not ſatisfied, however, with power or titles which were not ſupreme, a prophet, whom he had gained and tutored, having called the multitude together, declared it to be the will of God, that John Boccold ſhould be King of Sion, and ſit on the throne of David. John kneeling down, accepted of the heavenly call, which he ſolemnly proteſted had been revealed likewiſe

to himſelf; and was immediately acknowledged as a monarch by the deluded multitude. From that moment he aſſumed all the ſtate and pomp of royalty. He wore a crown of gold, and the richeſt and moſt ſumptuous garments. A bible was carried on his one hand, a naked ſword on the other. A great body of guards accompanied him when he appeared in public. He coined money ſtamped with his own image, and appointed the great officers of his houſehold and kingdom, among whom Cnipperdoling was nominated governor of the city, as a reward for his former ſubmiſſion.

Having now attained the height of power, Boccold began to diſcover paſſions, which he had hitherto reſtrained, or indulged only in ſecret. As the exceſſes of enthuſiaſm have been obſerved in every age to lead to ſenſual gratifications, the ſame conſtitution that is ſuſceptible of the former being remarkably prone to the latter, he inſtructed the prophets and teachers to harangue the people for ſeveral days concerning the lawfulneſs and even neceſſity of taking more wives than one, which they aſſerted to be one of the privileges granted by God to the ſaints. When their ears were once accuſtomed to this licentious doctrine, and their paſſions inflamed with the proſpect of ſuch unbounded indulgence, he himſelf ſet them an example of uſing what he called their Chriſtian liberty, by marrying at once three wives, among which the widow of Matthias, a woman of ſingular beauty, was one. As he was allured by beauty, or the love of variety, he gradually added to the number of his wives, until they amounted to fourteen, though the widow of Matthias was the only one dignified with the title of *queen*, or who ſhared with him the ſplendor and ornaments of royalty. After the example of their prophet, the multitude gave themſelves up to the moſt licentious and uncontrolled gratification of their deſires. No man remained ſatisfied with a ſingle wife. Not to uſe their Chriſtian liberty was deemed a crime. Perſons were appointed to ſearch the houſes for young women grown up to maturity, whom they inſtantly compelled to marry. Together with polygamy, freedom of divorce, its inſeparable attendant, was introduced, and became a new ſource of corruption. Every exceſs was committed of which the paſſions of men are capable, when reſtrained neither by the authority of laws nor the ſenſe of decency; and by a monſtrous and almoſt incredible conjunction, voluptuouſneſs was engrafted on religion, and diſſolute riot accompanied the auſterities of fanatical devotion.

Meanwhile, the German princes were highly offended at the inſult offered to their dignity by Boccold's preſumptuous uſurpation of royal honours; and the profligate manners of his followers, which were a reproach to the Chriſtian name, filled men of all profeſſions with horror. Luther, who had teſtified againſt this fanatical ſpirit on its firſt appearance, now deeply lamented its progreſs; and, expoſing the deluſion with great ſtrength of argument, as well as acrimony of ſtyle, called loudly on all the ſtates of Germany to put a ſtop to a phrenzy no leſs pernicious to ſociety than fatal to religion. The emperor, occupied with other cares and projects, had no leiſure to attend to ſuch a diſtant object. But the princes of the empire, aſſembled by the King of the Romans, voted a ſupply of men and money to the Biſhop of Munſter, who, being unable to keep a ſufficient army on foot, had converted the ſiege of the town into a blockade. The forces raiſed in conſequence of this reſolution were put under the command of an officer of experience; who, approaching the town towards the end of ſpring, in the year 1535, preſſed it more cloſely than formerly; but found the fortifications ſo ſtrong, and ſo diligently guarded, that he durſt not attempt an aſſault. It was now above fifteen months ſince the Anabaptiſts had eſtabliſhed their dominion in Munſter; they had during that time undergone prodigious fatigue in working on the fortifications, and performing military duty. Notwithſtanding the prudent attention of their king to provide for their ſubſiſtence, and his frugal and regular economy in their public meals, they began to feel the approach of famine. Several ſmall bodies of their brethren, who were advancing to their aſſiſtance from the Low-countries, had been intercepted, and cut to pieces; and while all Germany was ready to combine againſt them, they had no proſpect of ſuccour. But ſuch was the aſcendant which Boccold had acquired over the multitude, and ſo powerful the faſcination of enthuſiaſm, that their hopes were as ſanguine as ever; and they hearkened with implicit credulity to the viſions and predictions of their prophets, which aſſured them, that the Almighty would ſpeedily interpoſe, in order to deliver the city. The faith, however, of ſome few, ſhaken by the violence and length of their ſufferings, began to fail; but being ſuſpected of an inclination to ſurrender to the enemy, they were puniſhed with immediate death, as guilty of impiety in diſtruſting the power of God. One of the king's wives having uttered certain words that implied ſome doubt concerning his divine miſſion, he inſtantly called the whole number together; and commanding the blaſphemer, as he called her, to kneel down, cut off her head with his own hands; and ſo far were the reſt from expreſſing any horror at this cruel deed, that they joined him in dancing with a frantic joy around the bleeding body of their companion.

By this time, the beſieged endured the utmoſt rigour of famine; but they choſe rather to ſuffer hardſhips, the recital of which is ſhocking to humanity, than to liſten to the terms of capitulation offered them by the biſhop. At laſt, a deſerter, whom they had taken into their ſervice, being either leſs intoxicated with the fumes of enthuſiaſm, or unable any longer to bear ſuch diſtreſs, made his eſcape to the enemy. He informed their general of a weak part in the fortifications which he had obſerved; and aſſuring him that the beſieged, exhauſted with hunger and fatigue, kept watch there with little care, he offered to lead a party thither in the night. The propoſal was accepted, and a choſen body of troops appointed for the ſervice; who, ſcaling the walls unperceived, ſeized one of the gates, and admitted the reſt of the army. The Anabaptiſts, though ſurpriſed, defended themſelves in the market-place with valour, heightened by deſpair; but, being overpowered by numbers, and ſurrounded on every hand, moſt of them were ſlain, and the remainder taken priſoners. Among the laſt were the king and Cnipperdoling. The king, loaded with chains, was carried from city to city as a ſpectacle to gratify the curioſity of the people, and was expoſed to all their inſults. His ſpirit, however, was not broken or humbled by this ſad reverſe of his condition; and he adhered with unſhaken firmneſs to the diſtinguiſhing tenets of his ſect. After this, he was brought back to Munſter, the ſcene of his royalty and crimes, and put to death with the moſt exquiſite and lingering tortures, all which he bore with aſtoniſhing fortitude. This extraordinary man, who had been able to acquire ſuch amazing dominion over the minds of his followers, and to excite commotions ſo dangerous to ſociety, was only 26 years of age.

Together with its monarch, the kingdom of the Anabaptiſts came to an end. Their principles having taken deep root in the Low-countries, the party ſtill ſubſiſts there, under the name of *Mennonites*; but by a very ſingular revolution, this ſect, ſo mutinous and ſanguinary at its firſt origin, hath become altogether innocent and pacific. Holding it unlawful to wage war, or to accept of civil offices, they devote themſelves entirely to the duties of private citizens, and by their induſtry and charity endeavour to make reparation to human ſociety for the violence committed by their founders. A ſmall number of this ſect, which originally ſettled in England, have of late years greatly increaſed. But, apparently, peculiar te-

nets concerning baptiſm, are without any dangerous mixture of enthuſiaſm, and they have ſhewn themſelves the ſupporters of good government in many inſtances.

Within theſe 20 years, the Anabaptiſts have formed a congregation in Edinburgh, which is the firſt appearance they ever made in Scotland. They pray for the king and all inferior magiſtrates; and ſubject themſelves, in civil matters, to every ordinance of man, for the Lord's ſake. They conſider the kingdom of Chriſt to be ſpiritual, and not of this world; and are ſtrictly upon the congregational or independent plan, admitting of no juriſdiction or authority, in matters of religion, but that of the Great Lawgiver. Their church officers are biſhops, or elders, and deacons, and theſe they generally chooſe from among themſelves. They make the reading of the ſcriptures a part of their public ſervice, and eat the Lord's ſupper every Sabbath-day. Their diſciples, before they are admitted into communion, are firſt baptized in the Water of Leith, which they do at all ſeaſons of the year, and, on theſe occaſions, they are generally attended by a great number of ſpectators.

ANACATHARSIS, in medicine, ſignifies a ſalivation, or diſcharge of humours by ſpitting.

ANACATHARTICS, properly ſignify ſuch medicines as promote the diſcharge of ſaliva.

ANACOPIR, the capital of the nation of the Abkhas, in Aſia, on the river Makai, which falls below it into the Black Sea.

ANADIR, a conſiderable river of Siberia, that falls into the Eaſtern Ocean.

ANAGNIA, a town of Latium, capital of the Hernici (Livy, Pliny, Virgil); which, after a faint reſiſtance, ſubmitting to the Romans, was admitted to the freedom of the city, yet without the right of ſuffrage (Livy). It was afterwards a colony of Druſus Cæſar, and walled round, and its territory aſſigned to the veterans (Frontinus). Here Antony married Cleopatra, and divorced Octavia. Now *Anagni*, 36 miles to the eaſt of Rome. Long. 13. 45. Lat. 42. 48.

ANANIAS, a Sadducee, high-prieſt of the Jews, who put to death St. James the brother of our Lord, and was depoſed by Agrippa.

ANAPHE (anc. geog.), an iſland ſpontaneouſly emerging out of the Cretan ſea, near Thera (Pliny, Strabo). Now called *Nanſio*. Its name is from the ſudden appearance of the new moon to the Argonauts in a ſtorm (Apollonius). *Anaphæus*, an epithet of Apollo, who was worſhipped there. *Anaphæi*, the people.

ANASTASIS, a term among ancient phyſicians, for a riſing up to go to ſtool. It alſo ſignified the paſſage of any humour, when expelled from one part, and obliged to remove to another.

ANASTASIUS, ſurnamed BIBLIOTHECARIUS, a Roman abbot, library-keeper of the Vatican, and one of the moſt learned men of the ninth century, aſſiſted in 869 at the fourth general council, the acts and canons of which he tranſlated from the Greek into Latin. He alſo compoſed the lives of ſeveral popes, and other works; the beſt edition of which is that of the Vatican.

ANATHEMA, beſides the other ſenſes in which the term is uſed, likewiſe denotes Chriſtian offerings, otherwiſe called donations. See DONATIONS.

ANATTOM, one of the iſlands called the New Hebrides, in the South Pacific Ocean. Long. 170. 9. E. Lat. 20. 10. S.

ANAXARCHUS, a philoſopher of Abdera, highly eſteemed by Alexander the Great. His end was peculiarly tragical: having the misfortune to fall into the hands of the enemy, they pounded him alive in a mortar.

ANAXIMANDER, a famous Greek philoſopher, born at Miletus in the 42d Olympiad, in the time of Polycrates tyrant of Samos. He was the firſt who publicly taught philoſophy, and wrote upon philoſophical ſubjects. He carried his reſearches into nature very far for the time in which he lived. It is ſaid, that he diſcovered the obliquity of the Zodiac, was the firſt who publiſhed a geographical table, invented the gnomon, and ſet up the firſt ſun-dial in an open place at Lacedæmon. He taught, that infinity of things was the principal and univerſal element; that this infinite always preſerved its unity, but that its parts underwent changes; that all things came from it; and that all were about to return into it. According to all appearance, he meant by this obſcure and indeterminate principle the chaos of the other philoſophers. He aſſerted, that there are an infinity of worlds; that the ſtars are compoſed of air and fire, which are carried in their ſpheres, and that theſe ſpheres are gods; and that the earth is placed in the midſt of the univerſe, as in a common centre. He added, that infinite worlds were the product of infinity, and that corruption proceeded from ſeparation.

ANAXIMENES, born at Miletus, an eminent Greek philoſopher, friend, ſcholar, and ſucceſſor of Anaximander. He diffuſed ſome degree of light upon the obſcurity of his maſter's ſyſtem. He made the firſt principle of things to conſiſt in the air, which he conſidered as immenſe or infinite, and to which he aſcribed a perpetual motion. He aſſerted, that all things which proceeded from it, were definite and circumſcribed; and that this air, therefore, was God; ſince the divine power reſided in it and agitated it. Coldneſs and moiſture, heat and motion, rendered it viſible, and dreſſed it in different forms, according to the different degrees of its condenſation. All the elements thus proceed from heat and cold. The earth was, in his opinion, one continued flat ſurface.

ANAXIMENES, the ſon of Ariſtocles of Lampſacus, an orator, the diſciple of Diogenes the Cynic, and of Zoilus the railer againſt Homer. He was preceptor to Alexander of Macedon, and followed him to the wars. Alexander being incenſed againſt the people of Landſacus, they ſent this philoſopher to intercede for them. Alexander knowing the cauſe of his coming, ſwore that he would do the very reverſe of what he deſired of him. Anaximenes begged of him to deſtroy Lampſacus. Alexander, unwilling to break his oath, and not able to elude this ſtratagem, pardoned Lampſacus much againſt his will.

ANAZARBUS (Pliny); ANAZARBA (Stephanus); a town of Cilicia, on the river Pyramus, the birth place of Dioſcorides, and of the poet Oppian. It was ſometimes called *Cæſarea*, in honour either of Auguſtus or of Tiberius. The inhabitants are called *Anazarbeni* (Pliny): and on coins *Anazarbeis*, after the Greek idiom. It was deſtroyed by a dreadful earthquake in the year 525, along with ſeveral other important cities: but they were all repaired at a vaſt expence by the emperor Juſtin; who was ſo much affected with their misfortune, that, putting off the diadem and purple, he appeared for ſeveral days in ſackcloth.

ANCILLON (David), a miniſter of the reformed church at Metz, where he was born the 17th of March, 1617. He ſtudied from the ninth or tenth year of his age in the Jeſuits' College, where he gave ſuch proofs of his genius, that the heads of the ſociety tried every means to draw him over to their religion and party; but he continued firm againſt their attacks. He went to Geneva in 1623; and ſtudied divinity under Spanheim, Diodati, and Tronchin, who conceived a very great eſteem for him. He left Geneva in April 1641, and offered himſelf to the ſynod of Charenton in order to take upon him the office of a miniſter: his abilities were greatly admired by the examiners, and the whole aſſembly were ſo,

highly pleaſed with him, that they gave him the church of Meaux, the moſt conſiderable then unprovided for. Here he acquired a vaſt reputation for his learning, eloquence, and virtue, and was even highly reſpected by thoſe of the Roman-catholic communion. He returned to his own country in the year 1653, where he remained till the revocation of the edict of Nantes in 1685. He retired to Francfort after this fatal blow; and having preached in the French church at Hanau, the whole congregation were ſo edified by it, that they immediately called together the heads of the families, in order to propoſe that he might be invited to accept of being miniſter there. The propoſition was agreed to; and he began the exerciſe of his miniſtry in that church about the end of the year 1685. His preaching made ſo great a noiſe at Hanau, that the profeſſors of divinity, and the German and Dutch miniſters, attended his ſermons frequently: the count of Hanau himſelf, who had never before been ſeen in the French church, came thither to hear Mr. Ancillon: they came from the neighbouring parts, and even from Francfort; people who underſtood nothing of French flocked together with great eagerneſs, and ſaid they loved to ſee him ſpeak. This occaſioned a great jealouſy in the two other miniſters; which tended to make his ſituation uneaſy. He therefore went to Berlin; where he met with a kind reception from his highneſs the elector, and was made miniſter of the city. Here he had the pleaſure of ſeeing his eldeſt ſon made judge and director of the French in the ſame city, and his other ſon rewarded with a penſion, and entertained at the univerſity of Francfort upon the Oder. He had likewiſe the ſatisfaction of ſeeing his brother made judge of all the French in the ſtates of Brandenburg; and Mr. Cayart his ſon-in-law, engineer to his electoral highneſs. He enjoyed theſe agreeable circumſtances, and ſeveral others, till his death, which happened at Berlin the 3d of September, 1692, when he was ſeventy-five years of age.—Mr. Ancillon having got a conſiderable fortune by marriage, was enabled thereby to gratify his paſſion for books; his library was accordingly very curious and large, and he increaſed it every day with all that appeared new and important in the republic of letters, ſo that at laſt it was one of the nobleſt collections in the hands of any private perſon in the kingdom. He publiſhed a book, in quarto, in which the whole diſpute concerning Traditions is fully examined: he alſo wrote an apology for Luther, Zuinglius, Calvin, and Beza, and ſeveral other pieces.

ANCOBER, a territory on the gold coaſt of Guinea, having a river of the ſame name flowing through it, the banks of which are adorned with fine lofty trees, affording a very agreeable ſhade. On the weſtern bank is a populous village.

ANCOURT (Florent-Carton d'), an eminent French actor and dramatic writer, born at Fontainbleau, October 1661. He ſtudied in the Jeſuits' College at Paris, under Father De la Rue; who, diſcovering in him a remarkable vivacity and capacity for learning, was extremely deſirous of engaging him in their order; but Ancourt's averſion to a religious life rendered all his efforts ineffectual. After he had gone through a courſe of philoſophy, he applied himſelf to the civil law, and was admitted advocate at ſeventeen years of age. But falling in love with an actreſs, he was induced to go upon the ſtage, and he married her. As he had all the qualifications neceſſary for the theatre, he ſoon greatly diſtinguiſhed himſelf: and not being ſatisfied with the applauſe only of an actor, he began to write pieces for the ſtage; many of which had ſuch prodigious ſucceſs, that moſt of the players grew rich from the profits of them. His merit in this way procured him a very favourable reception at court; and Lewis XIV. ſhewed him many marks of his favour. His ſprightly converſation and polite behaviour made his company agreeable to all the men of figure both at court and in the city, and the moſt conſiderable perſons were extremely pleaſed to have him at their houſes. Having taken a journey to Dunkirk, to ſee his eldeſt daughter who lived there, he took the opportunity of paying his compliments to the Elector of Bavaria, who was then at Bruſſels: this prince received him with the utmoſt civility; and having detained him a conſiderable time, diſmiſſed him with a preſent of a diamond valued at 1000 piſtoles: he likewiſe rewarded him in a very generous manner, when, upon his coming to Paris, Ancourt compoſed an entertainment for his diverſion. Ancourt began at length to grow weary of the theatre, which he quitted in Lent 1718, and retired to his eſtate of Courcelles le Roy, in Berry, where he applied himſelf wholly to devotion, and compoſed a tranſlation of David's Pſalms in verſe, and a ſacred tragedy, which were never printed. He died the 6th of December, 1726, being ſixty-five years of age.—The plays which he wrote are fifty-two in all; moſt of which were printed ſeparately at the time when they were firſt repreſented: they were afterwards collected into five volumes, then into ſeven, and at laſt into nine. This laſt edition is the moſt complete.

ANCUS MARTIUS, the fourth king of the Romans, ſucceeded Tullius Hoſtilius, 639 years before Chriſt. He defeated the Latins, ſubdued the Fidenates, conquered the Sabines, Volſcii, and Veientines, enlarged Rome by joining to it mount Janicula, and made the harbour of Oſtia. He died about 615 years before the Chriſtian æra.

ANDAYE, a fortified town of France, in the department of the Lower Pyrenées. It is very famous for its brandy, and is ſituated at the mouth of the river Bidaſſoa, oppoſite Fontarabia in Spain, eighteen miles from Bayonne. Long. 1. 45. W. Lat. 43. 25. N.

ANDECAVI (Tacitus); ANDEGAVI (Pliny); ANDES (Cæſar); ANDI (Lucan); a people of Gallia Celtica, having the Turones to the eaſt, the Namnetes to the weſt, the Pictones to the ſouth, and the Aulerci Cœnomani to the north: now *Anjou*.

ANDEGAVI, or ANDEGAVUS, a town of Gallia Celtica (Pliny, Ptolemy); now *Angiers*. Called *Andecavi* (Tacitus). W. Long. 30. Lat. 47. 30.

ANDEOL (St.), a town of France, in the Vivarez, five miles S. of St. Viviers, whoſe biſhop formerly reſided there. E. Long. 2. 50. N. Lat. 44. 24.

ANDERAB (*Encycl.*), a city of the province of Balkh. It is very rich and populous, but a place of no great ſtrength. The neighbouring mountains yield excellent quarries of lapis lazuli, in which the Bukhârs drive a great trade with Perſia and India.—This city is ſituated at the foot of the mountains dividing the dominion of the Great Mogul and Perſia from Great Bukharia. As there is no other way of croſſing theſe mountains but by the road through this city, all travellers with goods muſt pay 4 *per cent*. On this account the Khan of Balkh maintains a good number of ſoldiers in the place.

ANDERSON (Sir Edmund), a younger ſon of an ancient Scotch family ſettled in Lincolnſhire. He was ſome time a ſtudent of Lincoln College, Oxford; and removed from thence to the Inner Temple, where he applied himſelf diligently to the ſtudy of the law, and became a barriſter. In the ninth of Queen Elizabeth, he was both lent and ſummer reader, and in the ſixteenth double reader. He was appointed her majeſty's ſerjeant at law in the nineteenth of her reign; and ſome time after, one of the juſtices of aſſize. In 1582 he was made lord chief-juſtice of the Common Pleas, and in the year following was knighted. He held this office to the end of his life, died in the year 1605, and was buried at Eyworth in Bedfordſhire.

He was an able, but punctilious lawyer; a ſcourge to the Puritans; and a ſtrenuous ſupporter of the eſtabliſhed church. His works are, 1. Reports of many principal caſes argued and adjudged in the time of Queen Elizabeth, in the common bench. Lond. 1644, folio. 2. Reſolutions and judgments on the caſes and matters agitated in all the courts of Weſtminſter, in the latter end of the reign of Queen Elizabeth. Publiſhed by John Goldſborough, eſq. Lond. 1653, 4to. Beſides theſe, there is a manuſcript copy of his Readings ſtill in being.

ANDES (*Encycl*), a great chain of mountains in South America. To what has already been ſaid of theſe we wiſh to add the following account.

The Spaniards call them the *Cordillera de los Andes*; they form two ridges, the lowermoſt of which is overſpread with woods and groves, and the uppermoſt covered with everlaſting ſnow. Thoſe who have been at the top, affirm, that the ſky is always ſerene and bright; the air cold and piercing; and yet ſo thin, that they were ſcarce able to breathe, and the reſpiration was much quicker than ordinary; and this is attended with reaching and vomiting; which, however, has been conſidered by ſome as merely accidental. When they looked downwards, the country was hid by the clouds that hovered on the mountains' ſides. The mountains juſt mentioned, which have been frequently aſcended, are much inferior in height to many others in this enormous chain. The following is the account given of the mountain called *Pichincha*, by the mathematicians ſent by the kings of France and Spain to make obſervations in relation to the figure of the earth.

Soon after our artiſts arrived at Quito, they determined to continue the ſeries of the triangles for meaſuring an arch of the meridian to the S. of that city: the company accordingly divided themſelves into two bodies, conſiſting of French and Spaniards, and each retired to the part aſſigned them. Don George Juan and M. Godin, who were at the head of one party, went to the mountain of Pambamarca; while M. Bouguer, De la Condamine, and Don Ulloa, together with their aſſiſtants, climbed up to the higheſt ſummit of Pichincha. Both parties ſuffered extremely, as well from the ſeverity of the cold, as from the impetuoſity of the winds, which on theſe heights blow with inceſſant violence; difficulties the more painful, as they had been little uſed to ſuch ſenſations. Thus in the torrid zone, nearly under the equinoctial, where it is natural to ſuppoſe they had moſt to fear from the heat, their greateſt pain was cauſed by the exceſſiveneſs of the cold.

Their firſt ſcheme for ſhelter and lodging in theſe uncomfortable regions, was to pitch a field-tent for each company; but on Pichincha this could not be done from the narrowneſs of the ſummit: they were therefore obliged to be contented with a hut ſo ſmall that they could hardly all creep into it. Nor will this appear ſtrange, if the reader conſiders the bad diſpoſition and ſmallneſs of the place, it being one of the loftieſt crags of a rocky mountain, 100 fathoms above the higheſt part of the deſert of Pichincha. Such was the ſituation of their manſion, which, like all the other adjacent parts, ſoon became covered with ice and ſnow. The aſcent up this ſtupendous rock, from the baſe, or the place where the mules could come, to their habitation, was ſo craggy as only to be climbed on foot; and to perform it coſt them four hours continual labour and pain, from the violent efforts of the body, and the ſubtility of the air; the latter being ſuch as to render reſpiration difficult.

The ſtrange manner of living to which our artiſts were reduced during the time they were employed in a geometrical menſuration of ſome degrees of the meridian, may not perhaps prove unentertaining to the reader; and therefore the following account is given as a ſpecimen of it. The deſert of Pichincha, both with regard to the operations performed there, and its inconveniences, differing very little from others, an idea may be very eaſily formed of the fatigues, hardſhips, and dangers, to which they were continually expoſed during the time they were proſecuting the enterprize, with the conduct of which they had been honoured. The principal difference between the ſeveral deſerts conſiſted in their greater or leſſer diſtance from places where they could procure proviſions; and in the inclemency of the weather, which was proportionate to the height of the mountains, and the ſeaſon of the year.

They generally kept within their hut. Indeed they were obliged to do this, both on account of the intenſeneſs of the cold, the violence of the wind, and their being continually involved in ſo thick a fog, that an object at ſix or eight paces was hardly diſcernible. When the fog cleared up, the clouds by their gravity moved nearer to the ſurface of the earth, and on all ſides ſurrounded the mountains to a vaſt diſtance, repreſenting the ſea, with their rock like an iſland in the centre of it. When this happened, they heard the horrid noiſes of the tempeſts, which then diſcharged themſelves on Quito and the neighbouring country. They ſaw the lightnings iſſue from the clouds, and heard the thunders roll far beneath them: and whilſt the lower parts were involved in tempeſts of thunder and rain, they enjoyed a delightful ſerenity; the wind was abated, the ſky clear, and the enlivening rays of the ſun moderated the ſeverity of the cold. But their circumſtances were very different when the clouds roſe: their thickneſs rendered reſpiration difficult; the ſnow and hail fell continually; and the wind returned with all its violence; ſo that it was impoſſible entirely to overcome the fears of being, together with their hut, blown down the precipice, on whoſe edge it was built, or of being buried under it by the daily accumulations of ice and ſnow.

The wind was often ſo violent in theſe regions, that its velocity dazzled the ſight, whilſt their fears were increaſed from the dreadful concuſſions of the precipice, cauſed by the fall of enormous fragments of rocks. Theſe cruſhes were the more alarming, as no other noiſes are heard in theſe deſerts: and during the night, their reſt, which they ſo greatly wanted, was frequently diſturbed by ſuch ſudden ſounds. When the weather was any thing fair with them, and the clouds gathered about ſome of the other mountains which had a connection with their obſervations, ſo that they could not make all the uſe they deſired of this interval of good weather, they left their hut to exerciſe themſelves. Sometimes they deſcended to ſome ſmall diſtance; and at others, amuſed themſelves with rolling large fragments of rocks down the precipice; and theſe frequently required the joint ſtrength of them all, though they often ſaw the ſame effected by the mere force of the wind. But they always took care in their excurſions not to go ſo far out, but that on the leaſt appearance of the clouds gathering about their cottage, which often happened very ſuddenly, they could regain their ſhelter. The door of their hut was faſtened with thongs of leather, and on the inſide not the ſmalleſt crevice was left unſtopped; beſide which, it was very compactly covered with ſtraw: but, notwithſtanding all their care, the wind penetrated through. The days were often little better than the nights; and all the light they enjoyed was that of a lamp or two, which they kept continually burning.

Though their hut was ſmall, and crowded with inhabitants, beſide the heat of the lamps; yet the intenſeneſs of the cold was ſuch, that every one of them was obliged to have a chafing-diſh of coals. Theſe precautions would have rendered the rigour of the climate ſupportable, had not the imminent danger of periſhing by being blown down the precipice rouſed

them, every time it ſnowed, to encounter the ſeverity of the outward air, and ſally out with ſhovels to free the roof of their hut from the maſſes of ſnow which were gathering on it. Nor would it, without this precaution, have been able to ſupport the weight. They were not indeed without ſervants and Indians; but theſe were ſo benumbed with the cold, that it was with great difficulty they could get them out of a ſmall tent, where they kept a continual fire. So that all our artiſts could obtain from them was to take their turns in this labour; and even then they went very unwillingly about it, and conſequently performed it ſlowly.

It may eaſily be conceived what this company ſuffered from the aſperities of ſuch a climate. Their feet were ſwelled; and ſo tender, that they could not even bear the heat; and walking was attended with extreme pain. Their hands were covered with chilblains; their lips ſwelled and chopped; ſo that every motion in ſpeaking, or the like, drew blood; conſequently they were obliged to ſtrict taciturnity, and little diſpoſed to laugh, as, by cauſing an extenſion of the lips, it produced ſuch fiſſures as were very painful for two or three days after.

Their common food in this inhoſpitable region was a little rice boiled with ſome fleſh or fowl, procured from Quito; and, inſtead of fluid water, their pot was filled with ice; they had the ſame reſource with regard to what they drank; and while they were eating, every one was obliged to keep his plate over a chafing-diſh of coals, to prevent his proviſions from freezing. The ſame was done with regard to the water. At firſt they imagined the drinking ſtrong liquors would diffuſe a heat through the whole body, and conſequently render it leſs ſenſible of the painful ſharpneſs of the cold; but, to their ſurpriſe, they felt no manner of ſtrength in ſuch liquors, nor were they any greater preſervative againſt the cold than the common water.

At the ſame time they found it impoſſible to keep the Indians together. On their firſt feeling of the climate, their thoughts were immediately turned on deſerting their maſters. The firſt inſtance they had of this kind was ſo unexpected, that, had not one, of a better diſpoſition than the reſt, ſtaid and acquainted them of their deſign, it might have proved of very bad conſequence. The affair was this: There being on the top of the rock no room for pitching a tent for the Indians, they uſed every evening to retire to a cave at the foot of the mountain; where, beſide a natural diminution of the cold, they could keep a continual fire; and, conſequently, enjoyed more comfortable quarters than their maſters. Before they withdrew at night, they faſtened, on the outſide, the door of the hut, which was ſo low that it was impoſſible to go in or out without ſtooping; and as every night the hail and ſnow which had fallen formed a wall againſt the door, it was the buſineſs of one or two of the Indians to come early and remove this obſtruction. For though the negro ſervants were lodged in a little tent, their hands and feet were ſo covered with chilblains, that they would rather have ſuffered themſelves to have been killed than move. The Indians therefore came conſtantly up to diſpatch this work betwixt nine or ten in the morning: but they had not been there above four or five days, when they were not a little alarmed to ſee ten, eleven, and twelve o'clock come, without any news of their labourers; when they were relieved by the honeſt ſervant mentioned above, who had withſtood the ſeduction of his countrymen, and informed his maſters of the deſertion of the four others. As ſoon as the ſnow was cleared away from the door, they diſpatched the Indian to the corregidor of Quito, who with equal diſpatch ſent other Indians, threatening to chaſtiſe them ſeverely if they were wanting in their duty.

But the fear of puniſhment was not ſufficient to induce them to ſupport the rigour of this ſituation; for within two days they deſerted. The corregidor therefore, to prevent any other inconvenience, ſent four Indians under the care of an alcaide, and gave orders for their being relieved every fourth day.

Twenty-three tedious days our artiſts ſpent on this rock, *viz.* to the 6th of September, and even without any poſſibility of finiſhing their obſervations of the angles: for, when it was fair and clear weather with them, the others, on whoſe ſummits the ſignals which formed the triangles for meaſuring the degrees of the meridian, were hid in the clouds; and when thoſe were clear, Pichincha was involved in clouds. It was therefore neceſſary to erect their ſignals in a lower ſituation, and in a more favourable region. This however did not produce any change in their habitation till the beginning of December; when, having finiſhed the obſervations which particularly concerned Pichincha, they proceeded to others; but with no abatement either of inconveniences, cold, or fatigue; for the places where they made their obſervations being neceſſarily on the higheſt parts of the deſerts, the only reſpite in which they enjoyed ſome little eaſe, was during the ſhort interval of paſſing from one to the other.

In all their ſtations ſubſequent to that on Pichincha, during their fatiguing menſuration of the degrees of the meridian, each company lodged in a field-tent, which, though ſmall, they found leſs inconvenient than the hut on Pichincha; though at the ſame time they had more trouble, being oftener obliged to clear it from the ſnow, as the weight of it would otherwiſe have demoliſhed the tent. At firſt, indeed, they pitched it in the moſt ſheltered places; but on taking a reſolution that the tents themſelves ſhould ſerve for ſignals, to prevent the inconvenience of having others of wood, they removed them to a more expoſed ſituation, where the impetuoſity of the winds ſometimes tore up the piquets, and blew them down.

Though this mountain is famous for its great height, it is conſiderably lower than the mountain of Cotopaxi: but it is impoſſible to conceive the coldneſs of the ſummit of the laſt-mentioned mountain, from that felt on this; ſince it muſt exceed every idea that can be formed by the human mind, though they are both ſeated in the midſt of the torrid zone. In all this range of mountains, there is ſaid to be a conſtant inferior boundary, beyond which the ſnow never melts: this boundary, in the midſt of the torrid zone, is ſaid by ſome to be 2434 fathoms above the level of the ſea; by others, only 2400 feet. The ſnow indeed falls much lower, but then it is ſubject to be melted the very ſame day. It is affirmed, that there are in the Andes ſixteen volcanoes or burning mountains, which throw out fire and ſmoke with a terrible noiſe. The height of Chimborazo, ſaid to be the higheſt peak of the Andes, has been determined by geometrical calculations to be 20,282 feet. But the great differences between the calculaters of the height of mountains in other parts of the world, muſt very much diminiſh the credit of ſuch calculations. Inſtances of this we have already given under the article ÆTNA. No leſs remarkable are the differences concerning the height of the peak of Teneriffe; which, according to the calculations of Varenius, is three miles and three quarters, or 19,800 feet; according to thoſe of Dr. Heberden, it is only 15,396 feet; and according to thoſe of M. Feuille, is no more than 13,128 feet. From theſe ſpecimens, we can ſcarce avoid concluding, that all the methods hitherto invented for calculating the exact height of mountains are inſufficient.

As all or moſt rivers have their ſource in mountains, it is no wonder a great number run down the ſides of the Andes;

Some hurry along with a prodigious rapidity; whilſt others form beautiful caſcades, or run through holes in rocks, which look like bridges of a ſtupendous height. There is a public road through the mountains, 1000 miles in length, part of which runs from Quito to Cuſco.

ANDETRIUM; ANDRETIUM (Strabo); ANDECRIUM, or ADDRECIUM (Ptolemy); an inland town of Dalmatia. The genuine name is *Andetrium* (Inſcription). It is deſcribed as ſituated near Salonæ, on a naturally ſtrong and inacceſſible rock, ſurrounded with deep valleys, with rapid torrents; from which it appears to be the citadel now called *Cliſſa*. E. Long. 17. 46. Lat. 43. 20.

ANDOMADUNUM; ANDOMATUNUM (Ptolemy); and ANTEMATUNUM (Antonine); CIVITAS LINGONUM (Tacitus); a city of Gallia Belgica; now *Langres* in Champagne, ſituated on an eminence (which ſeems to juſtify the termination *dunum*), on the borders of Burgundy, at the ſprings of the Marne. Tacitus calls an inhabitant *Lingon*. E. Long. 5. 22. N. lat. 48. 0.

ANDRARUM, a town of Sweden, in Gothland, three miles S. of Chriſtianſtadt: here is the greateſt alum-work in the kingdom.

ANDREAS (John), a celebrated canoniſt in the 14th century, was born at Mugello, near Florence; and was profeſſor of canon law at Padua, Piſa, and afterwards at Bologna. It is ſaid that he macerated his body with faſting; and lay upon the bare ground every night for twenty years together, covered only with the ſkin of a bear. Andreas had a beautiful daughter, named *Novella*, whom he loved extremely: and he is ſaid to have inſtructed her ſo well in all parts of learning, that when he was engaged in any affair which hindered him from reading lectures to his ſcholars, he ſent his daughter in his room; and leſt her beauty ſhould prevent the attention of the hearers, ſhe had a little curtain drawn before her. To perpetuate the memory of this daughter, he entitled his Commentary upon the Decretals of Gregory IX. the *Novellæ*. He married her to John Calderinus, a learned canoniſt. The firſt work of Andreas was his Gloſs upon the ſixth Book of the Decretals, which he wrote when he was very young. He wrote alſo Gloſſes upon the Clementines; and a Commentary *in regulas Sexti*, which he entitled *Mercuriales*, becauſe he either engaged in it on Wedneſdays *(diebus Mercurii,)* or becauſe he inſerted his Wedneſdays' diſputes in it. He enlarged the Speculum of Durant, in the year 1347. This is all which Mr. Bayle mentions of his writings, though he produced many more. Andreas died of the plague at Bologna, in 1348, after he had been a profeſſor forty-five years; and was buried in the church of the Dominicans. Many eulogiums have been beſtowed upon him. He has been called *archidoctor decretorum*: In his epitaph, *Rabbi doctorum; lux, cenſor, normaque morum*; "Rabbi of the doctors, the light, cenſor, and rule of manners." And it is ſaid, that Pope Boniface called him *lumen mundi*, "the light of the world."

ANDREAS (John), was born a Mahometan, at Xativa in the kingdom of Valencia, and ſucceeded his father in the dignity of alfaqui of that city. He was enlightened with the knowledge of the Chriſtian religion by being preſent at a ſermon in the great church of Valencia on the day of Aſſumption of the bleſſed Virgin, in the year 1487. Upon this he deſired to be baptized; and, in memory of the calling of St. John and St. Andrew, he received the name John Andreas. "Having received holy orders (ſays he), and, from an alfaqui and a ſlave of Lucifer, become a prieſt and miniſter of Chriſt; I began, like St. Paul, to preach and publiſh the contrary of what I had erroneouſly believed and aſſerted; and, with the aſſiſtance of Almighty God, I converted at firſt a great many ſouls of the Moors, who were in danger of hell, and under the dominion of Lucifer, and conducted them into the way of ſalvation. After this, I was ſent for by the moſt catholic prince, King Ferdinand, and Queen Iſabella, in order to preach in Granada to the Moors of that kingdom, which their majeſties had conquered: by God's bleſſing on my preaching, an infinite number of Moors were brought to abjure Mahomet, and to turn to Chriſt. A little after this, I was made a canon by their grace; and ſent for again by the moſt Chriſtian Queen Iſabella to Arragon, that I might be employed in the converſion of the Moors of thoſe kingdoms, who ſtill perſiſted in their errors, to the great contempt and diſhonour of our crucified Saviour, and the prodigious loſs and danger of all Chriſtian princes. But this excellent and pious deſign of her majeſty was rendered ineffectual by her death." At the deſire of Martin Garcia, biſhop of Barcelona, he undertook to tranſlate from the Arabic, into the language of Arragon, the whole law of the Moors; and after having finiſhed this undertaking, he compoſed his famous work of *The Confuſion of the Sect of Mahumed*: it contains twelve chapters, wherein he has collected the fabulous ſtories, impoſtures, forgeries, brutalities, follies, obſcenities, abſurdities, impoſſibilities, lies, and contradictions, which Mahomet, in order to deceive the ſimple people, has diſperſed in the writings of that ſect, and eſpecially in the Alkoran, which, as he ſays, was revealed to him in one night by an angel, in the city of Meke; though in another place he contradicts himſelf, and affirms that he was twenty years in compoſing it. Andreas tells us, he wrote this work, that not only the learned amongſt Chriſtians, but even the common people might know the different belief and doctrine of the Moors; and on the one hand might laugh and ridicule ſuch inſolent and brutal notions, and on the other might lament their blindneſs and dangerous condition. This book, which was publiſhed at firſt in Spaniſh, has been tranſlated into ſeveral languages; and all thoſe who write againſt the Mahometans quote it very much.

ANDREINI (Iſabella), a native of Padua, was an excellent poeteſs, and one of the beſt comedians in Italy, towards the beginning of the 17th century. The Intenti of Pavia thought they did their ſociety an honour by admitting her a member of it; and ſhe, in acknowledgment of this honour, never forgot to mention amongſt her titles that of *Academica Infanta*: her titles were theſe, "Iſabella Andreini, comica geloſa, academica infanta, detta l'accella." She was alſo a woman of extraordinary beauty; which, added to a fine voice, made her charm both the eyes and ears of the audience. She died of a miſcarriage at Lyons, the 10th of June, 1604, in the 42d year of her age. Her death being a matter of general concern and lamentation, there were many Latin and Italian elegies printed to her memory: ſeveral of theſe pieces were placed before her poems in the edition of Milan, in 1605. Beſides her ſonnets, madrigals, ſongs, and eclogues, there is a paſtoral of hers entitled Myrtilla, and letters, printed at Venice in 1610. She ſung extremely well, played admirably on ſeveral inſtruments, underſtood the French and Spaniſh languages, and was not unacquainted with philoſophy.

ANDRELINUS (Publius Fauſtus), born at Forli in Italy. He was a long time profeſſor of poetry and philoſophy in the univerſity of Paris. Lewis XII. of France made him his poet laureat; and Erafmus tells us he was likewiſe poet to the queen. His pen was not wholly employed in making verſes; for he wrote alſo moral and proverbial letters in proſe, which were printed ſeveral times. His poems, which are chiefly in Latin, are inſerted in vol. I. of the *Delicæ Poetarum Italorum*. Mr. De la Monnoi tells us, "that Andrelinus, when he was but twenty-two years old, received the crown of lau-

rel: that his love verſes, divided into four books, entitled *Livia*, from the name of his miſtreſs, were eſteemed ſo fine by the Roman Academy, that they adjudged the prize of the Latin elegy to the author." He died in 1518. This author's manner of life was not very exemplary; yet he was ſo fortunate, ſays Eraſmus, that though he took the liberty of rallying the divines, he was never brought into trouble about it.

ANDREW (St.), the apoſtle, born at Bethſaida in Galilee, brother to Simon Peter: he was a zealous preacher of the goſpel in ſeveral countries; and ſealed it with his blood at Patræ, a city of Achaia, ſuffering martyrdom with great heroiſm, A.D. 69.

ANDREW (St.), a town of Germany, in the duchy of Carinthia, with a biſhop's ſee; ſeated on the river Levant, ninety-five miles S. by W. of Vienna. Long. 15. 10. E. Lat. 46. 52. N.

ANDREWS (Lancelot), biſhop of Wincheſter, was born at London, in 1555, and educated at Cambridge. After ſeveral preferments, he was made biſhop, firſt of Chicheſter, then of Ely, and, in 1618, was raiſed to the ſee of Wincheſter. This very learned prelate, who was diſtinguiſhed by his piety, charity, and integrity, may be juſtly ranked with the beſt preachers and completeſt ſcholars of his age; he appeared to much greater advantage in the pulpit than he does now in his works, which abound with Latin quotations and trivial witticiſms. His ſermons, though full of puns, were ſuited to the taſte of the times in which he lived, and were conſequently greatly admired. He was a man of polite manners and lively converſation; and could quote Greek and Latin authors, or even pun, with King James. This great prelate was in no leſs reputation and eſteem with King Charles I, than he had been with his predeceſſors. He died at Wincheſter-houſe in Southwark, September 27, 1626, in the ſeventy-firſt year of his age; and was buried in the pariſh-church of St. Saviour's, where his executors erected to him a very fair monument of marble and alabaſter, on which is an elegant inſcription, in Latin, written by one of his chaplains. Mr. Milton alſo, at ſeventeen years of age, wrote a beautiful elegy on his death, in the ſame language. Biſhop Andrews had, 1. A ſhare in the tranſlation of the Pentateuch, and the hiſtorical books from Joſhua to the firſt book of Chronicles excluſively. He alſo wrote, 2. *Tortura Torti*, in anſwer to a work of Cardinal Bellarmine, in which that cardinal aſſumes the name of Matthew Tortus. 3. A Manual of Private Devotions: and, 4. A Manual of Directions for the Viſitation of the Sick; beſides the Sermons and Tracts, in Engliſh and Latin, publiſhed after his death.

ANDROGEUS, in fabulous hiſtory, the ſon of Minos king of Crete, was murdered by the Athenian youth and thoſe of Megara, who envied his being always victor at the Attic games. Minos, having taken Athens and Megara, obliged the inhabitants to ſend him an annual tribute of ſeven young men and as many virgins, to be devoured by the Minotaur; but Theſeus delivered them from that tribute.

ANDROMACHUS's TREACLE, in PHARMACY, an article but lately expunged from the College Pharmacopœia, as containing above fifty ingredients, ſome of them oppoſite in their qualities. The leading articles, however, being *opium* and *ſpices*, it proved, in many complaints, particularly of the aged, a very uſeful medicine, and was therefore retained in the Diſpenſatory long after its compoſition was a ſubject of ridicule among the profeſſion.

ANDRONICUS I. emperor of the Eaſt, cauſed Alexius II. who had been put under his care, to be ſtrangled; and then took poſſeſſion of the throne of Conſtantinople, in 1183; but the people, becoming exaſperated at his cruelties, proclaimed Iſaac Angelus emperor, and put Andronicus in irons: they then thruſt out his eyes; and, having led him through the city in an ignominious manner, hanged him.

ANDRONICUS *of Cyrrhus*, built, at Athens, an octagon tower, with figures carved on each ſide, repreſenting the eight principal winds. A braſs triton at the ſummit, with a rod in its hand, turned round by the wind, pointed to the quarter from whence it blew. From this model is derived the cuſtom of placing weather-cocks on ſteeples.

ANEAU (Bartholomew), a native of Bourges in France, a man of eminent learning in the 16th century, educated under Melchior Volmar. He was profeſſor at Lyons, where he propagated the doctrines of the reformation ſecretly for a long time: but on the feſtival of the Holy Sacrament, 1565, as the proceſſion was paſſing on towards the college, there was a large ſtone thrown from one of the windows upon the hoſt and prieſt who carried it. The people, enraged at this, broke into the college, and aſſaſſinated Mr. Aneau, whom they imagined to have been the occaſion, and the college itſelf was ſhut up next day by order of the city.

ANEGADA, one of the Caribbee Iſlands in America. W long. 63. 5. N. lat. 18. 6. It is only remarkable for its humming birds, and beautifully coloured crabs of a delicate taſte.

ANGERBURG, a handſome town in the kingdom of Pruſſia, defended by a ſtrong caſtle, and ſeated on a lake of the ſame name.

ANGINA PECTORIS, in medicine, a diſeaſe extremely dangerous in its nature, and, by Dr. Heberden's account, not very rare. It ſeizes thoſe who are ſubject to it, when they are walking, and particularly when they walk ſoon after eating, with a moſt diſagreeable and painful ſenſation in the breaſt, which ſeems to threaten immediate deſtruction: but the moment they ſtand ſtill, all the uneaſineſs vaniſhes. In all other reſpects, the patients, at the beginning of this diſorder, are well, and have no ſhortneſs of breath; from which the common angina is totally different. After it has continued ſome months, the fits will not ceaſe inſtantaneouſly on ſtanding ſtill; and it will come on not only when the patients are walking, but when they are lying down, and oblige them to riſe up out of their beds every night, for many months together. In one or two very inveterate caſes, it has been brought on by the motion of a horſe, or carriage, and even by ſwallowing, coughing, going to ſtool, ſpeaking, or by any diſturbance of mind. The perſons affected were all men, almoſt all of whom were above fifty years of age, and moſt of them with ſhort necks, and inclining to be fat. Something like it, however, was obſerved in one woman, who was paralytic; and one or two young men complained of it in a very ſlight degree. Other practitioners have obſerved it in very young perſons.

When a fit of this ſort comes on by walking, its duration is very ſhort, as it goes off almoſt immediately upon ſtopping. If it comes on in the night, it will laſt an hour or two. Dr. Heberden met with one in whom it once continued for ſeveral days: during all which time the patient ſeemed to be in imminent danger of death. Moſt of thoſe attacked with the diſeaſe died ſuddenly: though this rule was not without exception; and Dr. Heberden obſerved one who ſunk under a lingering illneſs of a different nature.

The *os ſterni* is uſually pointed to as the ſeat of this malady; but it ſeems as if it was under the lower part of that bone, and at other times under the middle or upper part, but always inclining more to the left ſide; and in many caſes there is joined with it a pain about the middle of the left arm, which appears to be ſeated in the biceps muſcle.

The appearance of Dr. Heberden's paper in the Medical

Tranſactions very ſoon raiſed the attention of the faculty, and produced other obſervations from phyſicians of eminence; namely, Dr. Fothergill; Dr. Wall, of Worceſter; Dr. Haygarth, of Cheſter; and Dr. Percival, of Mancheſter. It alſo induced an unknown ſufferer under the diſeaſe to write to Dr. Heberden a very ſenſible letter, deſcribing his feelings in the moſt natural manner: which, unfortunately, in three weeks after the date of this anonymous epiſtle, terminated in a ſudden death, as the writer himſelf had apprehended.

The youngeſt ſubject that Dr. Fothergill ever ſaw afflicted with this diſorder was about thirty years of age; and this perſon was cured. The method that ſucceeded with him was a courſe of pills, compoſed of the maſs of gum pill, ſoap, and native cinnabar; with a light chalybeate bitter: this was continued for ſome months; after which he went to Bath ſeveral ſucceſſive ſeaſons, and acquired his uſual health: he was ordered to be very ſparing in his diet; to keep the bowels open; and to uſe moderate exerciſe on horſeback, but not to take long or fatiguing walks.

The only ſymptom in this patient that is mentioned, was a ſtricture about the cheſt, which came on if he was walking up hill, or a little faſter than ordinary, or if he was riding a very briſk trot; for moderate exerciſe of any kind did not affect him; and this uneaſy ſenſation always obliged him to ſtop, as he felt himſelf threatened with immediate death if he had been obliged to go forward.

It is the ſharp conſtrictive pain acroſs the cheſt, that (according to Dr. Fothergill's obſervation) particularly marks this ſingular diſeaſe; and which is apt to ſupervene upon a certain degree of muſcular motion, or whatever agitates the nervous ſyſtem.

In ſuch caſes as fell under the inſpection of Dr. Fothergill, he very ſeldom met with one that was not attended with an irregular and intermitting pulſe; not only during the exacerbations, but often when the patient was free from pain and at reſt: but Dr. Heberden obſerves, that the pulſe is, at leaſt ſometimes, not diſturbed; and mentions his having once had an opportunity of being convinced of this circumſtance, by feeling the pulſe during the paroxyſm.

But no doubt theſe varieties, as well as many other little circumſtances, will occur in this diſeaſe as they do in every other, on account of the diverſity of the human frame; and if thoſe which in general are found to predominate and give the diſtinguiſhing character be preſent, they will always authorize us in giving the name to the diſeaſe: thus when we find the conſtrictory pain acroſs the cheſt, accompanied with a ſenſe of ſtrangling or ſuffocation; and ſtill more if this pain ſhould ſtrike acroſs the breaſt into one or both arms; we ſhould not heſitate to pronounce the caſe an *angina pectoris*.

As to the nature of this diſeaſe, it appears to be purely *ſpaſmodic*: and this opinion will readily preſent itſelf to any one who conſiders the ſudden manner of its coming on and going off; the long intervals of perfect eaſe; the relief afforded by wine, and ſpirituous cordials; the influence which paſſionate affections of the mind have over it; the eaſe which comes from varying the poſture of the head and ſhoulders, or from remaining quite motionleſs; the number of years for which it will continue, without otherwiſe diſordering health; its bearing ſo well the motion of a horſe or carriage, which circumſtance often diſtinguiſhes ſpaſmodic pains from thoſe which ariſe from ulcers; and laſtly its coming on for the moſt part after a full meal, and in certain patients at night, juſt after the firſt ſleep, at which time the incubus, convulſive aſthma, and other ills, juſtly attributed to the diſordered functions of the nerves, are peculiarly apt to return, or to be aggravated.

From all theſe circumſtances taken together, there can be little doubt that this affection is of a ſpaſmodic nature: but though it ſhould be admitted, that the whole diſtreſs in theſe caſes ariſes from ſpaſm, it may not be ſo eaſy to aſcertain the particular muſcles which are thus affected.

The violent ſenſe of ſtrangling or choaking, which ſhews the circulation through the lungs to be interrupted during the height of the paroxyſm; and the peculiar conſtrictive pain under the ſternum, always inclining (according to Dr. Heberden's obſervation) to the left ſide; together with that moſt diſtreſſing and alarming ſenſation, which, if it were to increaſe or continue, threatens an immediate extinction of life, might authoriſe us to conclude that the heart itſelf is the muſcle affected: the only objection to this idea, and, if it had been conſtantly obſerved, it would be inſurmountable, is, that the pulſe is not always interrupted during the paroxyſms. The appearances in two of the diſſections, favour the opinion that the ſpaſm affects the heart; as in one ſubject the left ventricle (and, though it be not mentioned, we may preſume the right one alſo) was found as empty of blood as if it had been waſhed; and in another, the ſubſtance of the heart appeared whitiſh, not unlike a ligament; as it ſhould ſeem, in both caſes, from the force of the ſpaſm ſqueezing the blood out from the veſſels and cavities.

If this hypotheſis be allowed, we muſt conclude that the ſpaſm can only take place in an inferior degree, as long as the patient continues to ſurvive the paroxyſm; ſince an affection of this ſort, and in this part, of any conſiderable duration or violence, muſt inevitably prove fatal: and accordingly, as far as could be traced, the perſons who have been known to labour under this diſeaſe have in general died ſuddenly.

The diſſections alſo ſhew, that whatever may be the true ſtate of the ſpaſm, it is not neceſſary for the bringing of it on, that the heart, or its immediate appendages, ſhould be in a morbid ſtate; for in three out of the ſix that have as yet been made public, theſe parts were found in a ſound ſtate.

On opening the body of the poor gentleman who wrote the letter to Dr. Heberden, "upon the moſt careful examination, no manifeſt cauſe of his death could be diſcovered: the heart, in particular, with its veſſels and valves, were all found in a natural condition."

In the caſe communicated by Dr. Percival to the publiſhers of the Edinburgh Medical Commentaries, "the heart and aorta deſcendens were found in a ſound ſtate." And in Dr. Haygarth's patient, "on opening the thorax, the lungs, pericardium, and heart, appeared perfectly ſound." Not to mention Dr. Fothergill's patient (R. M.), in whoſe body the only morbid appearance about the heart was a ſmall white ſpot near the apex. So that the cauſe, whatever its nature might have been, was at too great a diſtance, or of too ſubtile a nature, to come under the inſpection of the anatomiſt. But there was a circumſtance in two of the ſubjects that is worthy of remembrance; and which ſhews that the craſis of the blood, while they were living, muſt have been greatly injured, namely, its not coagulating, but remaining of a cream-like conſiſtence, without any ſeparation into ſerum and crafſamentum.

From all that we have ſeen hitherto publiſhed, it does not appear that any conſiderable advances have been made towards the actual cure of this anomalous ſpaſm.

The very judicious and attentive Dr. Heberden (to whom the public are highly indebted for firſt making the diſorder known) confeſſes, that bleeding, vomits, and other evacuations, have not appeared to do any good: wine and cordials, taken at bed-time, will ſometimes prevent or weaken the fits; but nothing does this ſo effectually as opiates: in

ſhort, the medicines uſually called *nervous* or *cordial*, ſuch as relieve and quiet convulſive motions, and invigorate the languiſhing principle of life, are what he recommends.

Dr. Wall mentions one patient, out of the twelve or thirteen that he had ſeen, who applied to him early in the diſeaſe, and was relieved conſiderably by the uſe of antimonial medicines joined with the fœtid gums: he was ſtill living at the time the doctor wrote his paper (November, 1772), and going about with tolerable eaſe. Two were carried off by other diſorders; all the reſt died ſuddenly.

Dr. Fothergill's directions are chiefly calculated with the view to prevent the diſorder from gaining ground, and to alleviate preſent diſtreſs. Accordingly he enjoins ſuch a kind of diet as may be moſt likely to prevent irritability: in particular, not to eat voraciouſly: to be particularly abſtemious in reſpect to every thing heating; ſpices, ſpirits, wines, and all fermented liquors: to guard moſt ſcrupulouſly againſt paſſion, or any vehement emotions; and to make uſe of all the uſual means of eſtabliſhing and preſerving general health: to mitigate exceſſes of irritability by anodynes; or pains, if they quicken the circulation: to diſperſe flatulencies when they diſtend the ſtomach, by moderate doſes of carminatives; amongſt which, perhaps, ſimple peppermint-water may be reckoned one of the ſafeſt. But ſince obeſity is juſtly conſidered as a principal prediſpoſing cauſe, he inſiſts ſtrongly on the neceſſity of preventing an increaſe of fat, by a vegetable diet, and uſing every other practicable method of augmenting the thinner ſecretions.

Theſe were the only means that occurred to the Engliſh phyſicians of oppoſing this formidable diſeaſe: but Dr. Smyth, of Ireland, has, we are told, diſcovered that it may certainly be cured by iſſues, of which Dr. Macbride gives ſome ſtriking inſtances. When theſe are tried in any caſe, they ſhould be placed inter ſcapulas, and kept open by horſe-beans, ſo as to produce a copious diſcharge.

ANGLUS (Thomas), an Engliſh prieſt, well known for the ſingularity of his opinions, and ſeveral little tracts which he wrote, in the 17th century. He went by ſeveral names. Mr. Baillet ſays his true name was *White*; but that he uſed to diſguiſe it under that of *Candidus*, *Albius*, *Bianchi*, and *Rickworth*; but he was moſt known in France by the name of *Thomas Anglus*. Des Cartes generally called him Mr. *Vitus*. He paſſed ſome time in moſt countries of Europe; but his longeſt ſtay was at Rome and Paris. When he was in England, he lived a conſiderable time in the family of Sir Kenelm Digby; and ſeems to have had a great eſteem for the opinions of this gentleman, as may be ſeen in his writings, particularly in the Preface to his Latin work concerning the Inſtitutions of the Peripatetic Philoſophy, according to the hypotheſis of Sir Kenelm. He was a great advocate for the peripatetic Philoſophy. He attempted even to make the principles of Ariſtotle ſubſervient to the explaining the moſt impenetrable myſteries of religion; and with this view, he engaged in the diſcuſſion of predeſtination, free-will, and grace. Mr. Baillet ſays, "What he wrote upon this ſubject reſembles the ancient oracles for obſcurity." In ſuch abſtruſe points as we have mentioned, he was much embarraſſed; and, by giving too great ſcope to his own thoughts, he pleaſed neither the Moliniſts nor Janſeniſts. He is allowed, however, to have been a man of an extenſive and penetrating genius. On the 10th of June, 1658, the congregation of the Index Expurgatorius at Rome condemned ſome treatiſes of Thomas Anglus. The doctors of Douay cenſured alſo twenty-two propoſitions extracted from his Sacred Inſtitutions. He publiſhed his *Supplicatio poſtulativa juſtitiæ*, in oppoſition to their cenſure; wherein he complains that they had given him a vague undetermined cenſure, without taxing any particular propoſition. He died ſome time after the reſtoration of Charles II. but in what year is uncertain.

ANGRIVARII (Tacitus), a people of Germany, ſituated between the Weſer and the Ems, and eaſtward reaching beyond the Weſer, as far as the Cheruſci, on which ſide they raiſed a rampart (Tacitus); to the ſouth, having the Tubantes on the Ems, and on the Weſer where it bends to the foreſt Bacemis; to the weſt, the Ems and the confines of the Bructeri; and to the north, the territory of the Angrivarii lay between the Chamavi and Anſibarii. Ptolemy places them between the Cauchi and Suevi or Catti. Suppoſed now to contain a part of the county of Schaumburg, the half of the biſhopric or principality of Minden; to the ſouth, the greateſt part of the biſhopric of Oſnabrug, the north part of the county of Teclenburg, and a part of the county of Ravenſberg. A trace of the name of the people ſtill remains in the appellation *Engern*, a ſmall town in the county of Ravenſberg.

ANGROGNA, a town of Piedmont, belonging to the king of Sardinia. E. long. 7. 2. N. lat. 48. 42.

ANGUILLA (*Encycl.*), one of the Carribbee iſlands, has its name from its ſnake-like form; and is about ten leagues in length, and three in breadth. It was firſt diſcovered by the Engliſh in 1650, when it was filled with alligators and other noxious animals; but they, finding the ſoil fruitful, and proper for raiſing tobacco and corn, ſettled a colony on it, and imported live cattle, which have ſince multiplied exceedingly. But the colony not being ſettled under any public encouragement, each planter laboured for himſelf, and the iſland became a prey to every rapacious invader, which diſheartened the inhabitants ſo much, that all induſtry was loſt among them. Their chief ſuffering was from a party of wild Iriſh, who landed here after the revolution, and treated them worſe than any of the French pirates who had attacked them before. The people of Barbadoes, and other Engliſh Carribbees, knowing the value of the ſoil, ſeveral of them removed to Anguilla, where they remained for many years, and even carried on a profitable trade, though without any government either civil or eccleſiaſtical. In 1745, their militia, though not exceeding 100 men, defended a breaſt-work againſt 1000 French who came to attack them; and at laſt obliged them to retire with the loſs of 150 men, beſides carrying off ſome of their arms and colours as trophies of their victory. Since that time the inhabitants have ſubſiſted moſtly by farming; though they ſtill plant ſugar, and the iſland is ſaid to be capable of great improvements.

ANGUILLABA, a town of Italy, in the patrimony of St. Peter, fifteen miles N.W. of Rome.

ANGUIS, or SNAKE (*Encycl.*), in zoology. Of this genus, belonging to the order of amphibia ſerpentes, ſeveral ſpecies are deſcribed in our original article. As, however, delineations of theſe animals are more ſatisfactory than mere verbal deſcription, we have given in Pl. 12. a repreſentation of the ſeventh and fifteenth ſpecies, viz. the anguis *meleagris*, and anguis *ſcytale*.

ANGUSSHIRE, a county of Scotland (ſometimes called FORFAR, from the name of the county-town), bounded on the N. by Aberdeenſhire, on the N. E. by Kincardineſhire, on the E. by the German Ocean, on the S. by the frith of Tay, and on the W. by Perthſhire. Its length and breadth are nearly equal, about thirty-five miles. It has many lakes and hills, but is fruitful in corn and paſtures. The principal rivers are the North and South Eſk.

ANHINGA, in ornithology, a ſpecies of the pelicanus; conſiſts of four known varieties, two peculiar to America, one to Senegal, and the fourth to the region about the Cape of Good Hope. This laſt is thus deſcribed by Le Vaillant in his New Travels into the Interior Parts of Africa.

" The denomination of *Slange-Hals-Voogel*, given to it by the Hottentots, characteriſes the anhinga in a very ſimple and accurate manner. Buffon, who was ſtruck with the conformation peculiar to birds of this kind, has delineated them by a ſimilar expreſſion. ' The anhinga (ſays he) exhibits a reptile grafted on the body of a bird.' See Pl. 11. Indeed there is no perſon who, upon ſeeing the head and neck only of an anhinga, while the reſt of the body is hid among the foliage of the tree on which it is perched, would not take it for one of thoſe ſerpents accuſtomed to climb and reſide in trees; and the miſtake is ſo much the eaſier, as all its tortuous motions ſingularly favour the illuſion. In whatever ſituation the anhinga may be ſeen, whether perched on a tree, ſwimming in the water, or flying in the air, the moſt apparent and remarkable part of its body is ſure to be its long and ſlender neck, which is continually agitated by an oſcillatory motion, unleſs in its flight, when it becomes immoveable and extended, and forms with its tail a perfectly ſtraight and horizontal line.

" The true place which nature ſeems to have aſſigned to the anhingas, in the numerous claſs of the palmipedes, is exactly between the cormorant and the grebe. They partake indeed equally of both theſe genera of birds, having the ſtraight ſlender bill and the long neck of the latter; while they approach the former by the conformity of their feet, the four toes of which are joined by a ſingle membrane. They partake alſo of the cormorant by their flight; having like it the wings larger and fitter for the purpoſe than thoſe of the grebe, which are ſhort and weak. The tail of the anhinga is extremely long; a characteriſtic very ſingular and remarkable in a water fowl, and which ought, it would ſeem, to render them totally diſtinct from diving birds, which in general have little or no tail. By this trait they approach ſtill nearer to the cormorants; for though the tails of the latter are ſhorter, the tails of both have a great reſemblance to each other, ſince their quills are equally ſtrong, elaſtic, and proper to form a rudder when theſe fowls ſwim through the water in purſuit of fiſh, which conſtitute their principal nouriſhment. When the anhinga ſeizes a fiſh, he ſwallows it entire if it be ſmall enough, and if too large he carries it off to a rock or the ſtump of a tree, and fixing it under one of his feet, tears it to pieces with his bill.

" Though water is the favourite element of this bird, it builds its neſt and rears its young on rocks and trees; but it takes great care to place them in ſuch a manner, that it can precipitate them into a river as ſoon as they are able to ſwim, or the ſafety of the little family may require it."

The male anhinga differs from the female, which is ſmaller, in having the whole under part of the body, from the breaſt to the root of the tail, of a beautiful black, while the latter has the ſame parts of a yellow iſabella colour. It has alſo, on each ſide of its neck, a white ſtripe, which extends from the eye to the middle of its length, and interſects a reddiſh ground. A very ſingular characteriſtic, common to all the anhingas, is that of having the feathers of the tail deeply ſtriated, and as it were ribbed. It is a very ſagacious bird, eſpecially when ſurpriſed ſwimming; for its head is the only part which it expoſes above the water; and if the ſportſman once miſs that part, the anhinga plunges out of ſight entirely, and never more ſhews itſelf but at very great diſtances, and then no longer at a time than is abſolutely neceſſary for breathing.

ANIAN, the name of a ſtrait formerly ſuppoſed to lie between the north-eaſt of Aſia, and the north-weſt of America; but now found to exiſt only in imagination.

ANIMADVERSION, in matters of literature, is uſed to ſignify ſometimes correction, ſometimes remarks upon a book, &c. and ſometimes a ſerious conſideration upon any point.

ANIMALCULÆ (*Encycl.*). The references to Pl. 15. ſhould have been to Pl. 16.

ANIO (Cicero, Horace, Priſcian); ANIEN (Statius); now *il Teverone*: a river of Italy, which falls into the Tiber, three miles to the north of Rome, not far from Antemnæ. It riſes in a mountain near Treba (Pliny); and, running through the country of the Æquiculi, or Æqui, it afterwards ſeparated the Latins from the Sabines; but nearer its mouth, or confluence, it had the Sabines on each ſide. It forms three beautiful lakes in its courſe (Pliny). In the territories of Tibur it falls from a great height, and there forms a very rapid cataract; hence the epithet *præceps*, and hence the ſtream cauſed by its fall (Horace). *Anienus* is the epithet formed from it (Virgil, Propertius): *Anienus* is alſo the god of the river (Propertius, Statius).

ANNAMOOCA, an iſland in the South Sea, diſcovered by Taſman in 1643, and viſited by Captain Cook in 1774 and 1777. It is well cultivated in many places, conſiſting of plantations of yams and plantains. Many of them are extenſive, and incloſed with neat fences of reed. The bread-fruit and cocoa-nut trees are interſperſed with little order, but chiefly near the habitations of the natives; and the other parts of the iſland, eſpecially toward the ſea, are covered with trees and buſhes of a luxuriant growth. The inhabitants are a friendly people, but much addicted to ſtealing the property of European viſitors. This is one of the Friendly Iſlands, ſituated about 187 E. long. and 20 S. lat.

ANNAN, a river in Scotland, which riſing in the Moffat Hills, and flowing in a ſouthern direction, through Annandale, empties itſelf into Solway Frith.

ANNANDALE, a diſtrict of Dumfrieſſhire in Scotland, ſo called from the river Annan. The mountains in the northern part of this diſtrict, ſometimes named Moffat Hills, are the higheſt in the ſouth of Scotland. From theſe deſcend the Tweed, the Clyde, and the Annan.

ANNAND (William), dean of Edinburgh in Scotland, the ſon of William Annand, miniſter of Air, the head burgh royal of the ſhire of Air, in the dioceſe of Glaſgow, was born at Air in 1633. In 1651 he was admitted a ſcholar in Univerſity College in Oxford; and though he was put under the care of a preſbyterian tutor, yet he took all occaſions to be preſent at the ſermons preached by the loyal divines in and near Oxford. In 1656, being then bachelor of arts, he received holy orders from the hands of Dr. Thomas Fulwar, biſhop of Ardfert, or Kerry, in Ireland, and was appointed preacher at Weſton on the Green, near Biceſter, in Oxfordſhire, where he met with great encouragement from Sir Francis Norris, lord of that manor. After he had taken his degree of maſter of arts, he was preſented to the vicarage of Leighton-Buzzard in Bedfordſhire; where he diſtinguiſhed himſelf by his edifying manner of preaching, till 1662, when he went into Scotland, in quality of chaplain to John earl of Middleton, the king's high-commiſſioner to the church of that kingdom. In the latter end of the year 1663, he was inſtituted to the Tolbooth church, at Edinburgh, and from thence was removed ſome years after to the Trone church of that city, which is likewiſe a prebend. In April 1676, he was nominated by the king to the deanery of Edinburgh; and in 1685, he commenced doctor of divinity in the univerſity of St. Andrews. He died the 13th of June, 1689. Dr. Annan wrote ſeveral pieces, particularly the following, viz. 1. The Doctrine of the Catholic Church. 2. Solutions of many proper and profitable Queſtions. 3. A ſhort Diſcourſe tending to prove the Legality, Decency, and Expediency, of ſet Forms of Prayer. 4. The

Lord's Prayer explained. 5. The Myſtery of Godlineſs. 6. Glory to the Father, &c. 7. A twofold Subject explained and opened.

ANNESLEY (Arthur), earl of Angleſey, and lord privy ſeal in the reign of King Charles II. was the ſon of Sir Francis Anneſley, bart. lord Mount Norris, and viſcount Valentia, in Ireland; and was born at Dublin on the 10th of July, 1614. He was for ſome time at the univerſity of Oxford, and afterwards ſtudied the law at Lincoln's Inn. He had a conſiderable ſhare in the public tranſactions of the laſt century; for in the beginning of the civil war he ſat in the parliament held at Oxford, but afterwards became reconciled to the oppoſite party, and was ſent commiſſioner to Ulſter, to oppoſe the deſigns of the rebel Owen Roe O'Neal. He engaged in ſeveral other affairs with great ſucceſs. He was preſident of the council of ſtate after the death of Oliver, and was principally concerned in bringing about the Reſtoration, ſoon after which, King Charles II. raiſed him to the dignity of a baron, by the title of lord Anneſley, of Newport Pagnall, Bucks; and a ſhort time after, he was made earl of Angleſey. During that reign he was employed in ſome very important affairs, was made treaſurer of the navy, and afterwards lord privy-ſeal. In October 1680, his lordſhip was charged by one Dangerfield, in an information delivered upon oath, at the bar of the Houſe of Commons, with endeavouring to ſtifle evidence in relation to the Popiſh plot, and to promote the belief of a Preſbyterian one. The uneaſineſs he received from this attack did not prevent his ſpeaking his opinion freely of thoſe matters in the Houſe of Lords, particularly in regard to the Popiſh plot. About the ſame time he anſwered the Lord Caſtlehaven's Memoirs, in which that nobleman endeavoured to paint the Iriſh rebellion in the lighteſt colours; and a ſharp diſpute was raiſed, which ended in the ſeals being taken from him. He was a perſon of great abilities, had uncommon learning, and was well acquainted with the conſtitution and laws of England. He wrote, beſides his Animadverſions on Caſtlehaven's Memoirs, 1. The Privileges of the Houſe of Lords and Commons ſtated. 2. A Diſcourſe on the Houſe of Lords. 3. Memoirs. 4. The Hiſtory of the Troubles in Ireland, from the Rebellion in 1641, till the Reſtoration. 5. Truth unveiled, in behalf of the Church of England;—and ſome other works. He died in April 1686, in the 73d year of his age; and was ſucceeded by his ſon James.

ANNIHILATION (*Encycl.*). The Perſian bramins hold, that, after a certain period of time, conſiſting of 71 joogs, God not only annihilates the whole univerſe, but every thing elſe, angels, ſouls, ſpirits, and all, by which he returns to the ſame ſtate he was in before the creation; but that, having breathed a while, he goes to work again, and a new creation ariſes, to ſubſiſt 71 joogs more, and then to be annihilated in its turn. Thus they hold there have been almoſt an infinite number of worlds: but how many joogs are elapſed ſince the laſt creation, they cannot certainly tell; only in an almanac written in the Sanſcrit language in 1670, the whole is ſaid to be then 3,892,771 years old from the laſt creation.

The Siameſe heaven is exactly the hell of ſome Socinians, and other Chriſtian writers; who, ſhocked with the horrible proſpect of eternal torments, have taken refuge in the ſyſtem of annihilation. This ſyſtem ſeems countenanced by ſcripture; for that the words *death*, *deſtruction*, and *periſhing*, whereby the puniſhment of the wicked is moſt frequently expreſſed in ſcripture, do moſt properly import annihilation and an utter end of being. To this Tillotſon anſwers, that theſe words, as well as thoſe correſponding to them in other languages, are often uſed, both in ſcripture and in other writings, to ſignify a ſtate of great miſery and ſuffering, without the utter extinction of the miſerable. Thus God is often ſaid in ſcripture to bring *deſtruction* on a nation, when he ſends judgments upon them, but without exterminating or making an end of them. So in other languages, it is frequent, by *periſhing*, to expreſs a perſon's being made miſerable; as in that known paſſage in Tiberius's letter to the Roman ſenate: *Ita me dii, deæque omnes, pejus perdant, quam hodie perire me ſentio.* As to the word *death*, a ſtate of miſery which is as bad or worſe than death may properly enough be called by that name; and thus the puniſhment of wicked men after the day of judgment is in the book of Revelations frequently called the *ſecond death.*

Some Chriſtian writers allow a long time of the moſt terrible torments of ſinners; and after that, ſuppoſe that there ſhall be an utter end of their being. Of this opinion Irenæus appears to have been; who, according to M. du Pin, taught that the ſouls, at leaſt of the wicked, would not ſubſiſt eternally; but that, after having undergone their torments for a certain period, they would at laſt ceaſe to be at all. But Tillemont, Petit, Didier, and others, endeavour to defend Irenæus from this imputation, as being too favourable to the wicked.

It has been much diſputed among divines, whether, at the conſummation of all things, this *earth* is to be annihilated, or only purified, and fitted for the habitation of ſome new order of beings. Gerard in his Common Places, and Hakewil in his Apology, contend earneſtly for a total abolition or annihilation. Ray, Calmet, and others, think the ſyſtem of renovation or reſtitution, more probable, and more conſonant to ſcripture, reaſon, and antiquity. The fathers who have treated on the queſtion are divided; ſome holding that the univerſe ſhall not be annihilated, but only its external face changed; others aſſerting, that the ſubſtance of it ſhall be deſtroyed.

How widely have the ſentiments of mankind differed as to the poſſibility and impoſſibility of annihilation! According to ſome, nothing ſo difficult; it requires the infinite power of the Creator to effect it: ſome go further, and ſeem to put it out of the power of God himſelf. According to others, nothing ſo eaſy: Exiſtence is a ſtate of violence; all things are continually endeavouring to return to their primitive nothing; it requires no power at all; it will do itſelf; nay, what is more, it requires an infinite power to prevent it.

Many authors conſider preſervation as a continual reproduction of a thing, which, ſubſiſting no longer of itſelf, would every moment return into nothing. Gaſſendi on the contrary aſſerts, that the world may indeed be annihilated by the ſame power which firſt created it, but that to continue it there is no occaſion for any power of preſervation.

Some divines, of which number the learned Biſhop King ſeems to be, hold annihilation for the greateſt of all evils, worſe than even the utmoſt torments of hell-flames: while others, with ſome of the eaſtern philoſophers, acknowledge annihilation for the ultimate pitch of happineſs human nature is capable of; that ſovereign good, that abſolute beatitude, ſo long vainly ſought for by the philoſophers, is found here. No wonder it has been ſo long concealed; for who would have thought of looking for the *ſummum bonum*, where others have placed the ſum of miſery?

The ſaid prelate propoſes it as a queſtion, Whether ſuffering eternal torments be a greater evil than not exiſting? He thinks it highly probable, that the damned will be ſuch fools, that, feeling their own miſery in the moſt exquiſite degree, they will rather applaud their own conduct, and chooſe to be, and to be what they are, rather than not to be at all; fond of their condition, however wretched, like people enraged, they will perſiſt in their former ſentiments without opening their eyes

to their folly, and perſevere by way of indignation and revenge. Mr. Bayle refutes him on this head; but might, one would think, have ſaved himſelf the trouble.

The Talapoins hold it the ſupreme degree of happineſs to have the ſoul totally annihilated, and freed from the burden and ſlavery of tranſmigrations. They ſpeak of three Talapoins, who, after a great number of tranſmigrations, became gods; and when arrived at this ſtate, procured this further reward of higheſt perfection man can arrive at, *neurepan*, or annihilation; which at length is granted to thoſe who are perfectly pure and good, after their ſouls have wandered many thouſand years through various bodies.

ANO-CAPRI, the largeſt town in the iſland of Capri, belonging to the kingdom of Naples.

ANOLYMPIADES (*Encycl.*). The Eleans claimed the ſole right of managing the Olympic games, in which they ſometimes met with competitors. The hundred and fourth Olympiad was celebrated by order of the Arcadians, by whom the Eleans were at that time reduced very low: this, as well as thoſe managed by the inhabitants of Piſa, they called ανολυμπιαδας, that is, "unlawful Olympiads;" and left them out of their annals, wherein the names of their victors and other occurrences were regiſtered.

ANOSSI (*Encycl.*). This province is watered by many rivers, moſt of which run into the *Franchere*, *Ramevatte*, or *Immour*, the ſpring of which is in a mountain called *Manghage*, and diſcharges itſelf into the ſea in Lat. 25. 18. S. The mouth of this river is often ſtopped, and the courſe to the ſea interrupted, unleſs kept open by the overflowings of great rains and high tides. The water runs ſalt one league above the mouth, particularly in a free communication with the ſea. A lake, called *Ambou*, is formed at the mouth, half a league wide, with depth ſufficient for any ſhip if the mouth of the river was kept open. Next in bigneſs to the Franchere is the Manghaſia, which ſprings from a mountain called *Siliva*, and empties itſelf into the ſea, where large ſhips may ride at anchor. Crocodiles breed in theſe and all the other rivers of the iſland.

Between the two rivers above mentioned lies Cape St. Romain, half a mile diſtant from the mouth of the Franchere, and which runs from the north-weſt ſix or ſeven leagues into the ſea. When the Cape is paſſed, the coaſt forms a great bay, in the ſhape of a croſs, which extends to the mouth of a river called *Dian Panouge*, or *Pitorah*. In the middle of this bay the land runs out, and almoſt forms a peninſula called *Tholangare*. Fort Dauphin lies to the north of this peninſula, and Port Dauphin over againſt it. This province has ſeveral other peninſulas and ſmall iſlands belonging to it. The country is beautiful; abounds in fruit-trees; is fertile in paſtures for cattle; and, if carefully cultivated, would produce all the neceſſaries of life. It is ſurrounded by high mountains, which are covered with woods and ſhrubs; but, about four miles diſtant from Fort Dauphin, the adjacent hills are quite deſtitute of verdure. The French often dug in this neighbourhood, expecting to meet with mines of gold and ſilver, particularly in one mountain where ſeveral ſprings flow near each other, and empty themſelves into a neighbouring river. In this river they found ſeveral ſtones and heaps intermixed with yellow clay, with a great quantity of black and white ſpangles ſhining like ſilver, which they carefully pounded and waſhed, but without effect. About ſixty yards above theſe ſprings the graſs and every ſort of vegetable appears half dried and yellow, from a metalline ſulphur which gives that aſpect; but the top of the mountain is covered with a freſh and beautiful verdure. It is ſaid that the Portugueſe found gold at the foot of the mountain on the north-ſide, but that the place they had dug was filled up by the chiefs of the country after the Portugueſe had been driven out.

The province of Anoſſi is inhabited by three different ſorts of whites, and four ſorts of negroes. The whites are diſtinguiſhed by the names of *Rohandrians*, *Anacandrians*, and *Ondzatſi*. The whites are diſtinguiſhed from the negroes by the general name of *Zaferamini*, or *Rahimini*; and the Rohandrians are diſtinguiſhed above the other whites. When they proceed to an election of a ſovereign, whom they call *Ompiandrian*, or *Dian Bahouache*, he is choſen from the Rohandrian race. Next to him the others hold the rank of princes, and are honoured as ſuch by all the reſt of the ſubjects. The Anacandrians are deſcendants of the chiefs, but who have degenerated, and are accounted the baſtards of princes, or thoſe who are deſcended from a Rohandrian and any inferior white or black woman. Theſe are likewiſe called by the name of *Ontempaſſemaca*, or people from the ſandy parts of Mecca, from whence, they ſay, came the Rohandrians. Both the Rohandrians and Anacandrians wear long hair, which hangs down in curls; and enjoy the privilege of killing beaſts. The Ondzatſi, or loweſt claſs of whites, are deſcended from the baſtards of the Anacandrians. Theſe are all fiſhermen, and are allowed to kill no land animals except chickens.

The four claſſes of negroes are named *Voadziri*, *Lohavohits*, *Ontſoa*, and *Ondeves*. The Voadziri, the moſt powerful and the richeſt, are maſters of ſeveral villages, and deſcended from the original lords of the country. They enjoy the privilege of killing beaſts, when at a diſtance from the whites, and no Rohandrian or Anacandrian in the village. The Lohavohits are deſcendants from the Voadziri, and alſo lords; but with this difference, that the one commands a whole diſtrict, and the juriſdiction of the others extends only to their own village and family. They are alſo permitted to kill thoſe beaſts they intend to eat, when at a diſtance from the whites. The Ontſoa are next to the Lohavohits, and are their near relations. The Ondeves are the loweſt of all, being originally ſlaves by father and mother. The Voadziri, Lohavohits, and Ontſoa, enjoy the privilege of ſubmitting themſelves, on the death of their lord or king, to any chief they pleaſe. In return for ſuch homage the new lord makes them a preſent, in conſequence of which he becomes heir to all their poſſeſſions. Hence the lower claſſes both of whites and blacks, when death approaches, are under the greateſt concern and anguiſh of mind, well knowing that their lords will not fail to deprive their children of every thing they poſſeſs. Ondeves have not the ſame liberty with the others: but, in times of famine, the chiefs are obliged to ſupply them with neceſſaries; which if they fail to do, they have the liberty of ſubmitting themſelves to new maſters. The inhabitants of this province have no temples, and very little appearance of religion; only they keep up a cuſtom of immolating beaſts upon particular occaſions, as in ſickneſs, planting yams or rice, on aſſemblies, &c. They offer the firſt-born beaſt to the devil and to God, naming the devil firſt, in this manner, *Dianbilis Aminhanhabare*, or "Lord Devil and God."—There are ſeveral towns on the river Franchere; and near this river the Portugueſe had a fort built upon a ſteep rock, and ſeveral buildings below, with incloſures, which furniſhed all ſorts of neceſſaries for their ſubſiſtence; but they were all maſſacred by the natives.

This province ſeems originally to have been inhabited by negroes. The whites or Zaferamini ſettled in it about 200 years ago, and conquered the negroes. But they themſelves were conquered by the French, though under the government of a king whom they honoured as a god. In 1642, Captain Rivault obtained a permiſſion to eſtabliſh a colony in this part of the iſland; and accordingly took poſſeſſion of it

in the name of the king of France, in the month of September, that ſame year. The French landed 200 men well armed and provided with ſtore of ammunition and other neceſſaries for building a fort, which they immediately ſet about; but no ſooner did the natives obſerve their intention, than they uſed their utmoſt art to prevent their deſign from taking effect. This created a war, in which the French were victors; and, the natives becoming in time much better reconciled to them, they intermarried, and lived up and down in ſeveral towns at ſome diſtance from one another, not above five or ſix in a place. This tranquillity laſted for ſome years; but at laſt the natives, growing jealous, reſolved to free themſelves from a foreign yoke, and accordingly formed a conſpiracy to cut off all the French in one day; which they ſoon after effected, not leaving a ſingle perſon alive. In 1644 the above-mentioned Fort Dauphin was erected, in lat. 25. 6. S. Many buildings were erected, behind the fort, adjoining to the governor's houſe, with great incloſures that produced every ſort of fruit and kitchen herb. In 1656 this fort was accidentally deſtroyed by fire; but was ſoon after repaired, and ſtill continues, notwithſtanding the cataſtrophe above mentioned, and its garriſon carries on frequent wars with the natives.

ANSELM, archbiſhop of Canterbury, in the reigns of William Rufus and Henry I. He was born in the year 1033, at Aoſt, a town in Savoy at the foot of the Alps. He became a monk in the abbey of Bec in Normandy; of which he was afterwards choſen prior, and then abbot. In the year 1092, he was invited over to England by Hugh earl of Cheſter; and in the year following was prevailed on, as we are told, with great difficulty, to accept the archbiſhopric of Canterbury. He enjoined celebacy on the clergy; for which he was baniſhed by King Rufus, but recalled by Henry at his coming to the crown. He refuſed to conſecrate ſuch biſhops as were inveſted by the king, according to Pope Urban's decree; flatly denying it to be the king's prerogative: for this he was outed again; till, the pope and king agreeing, he was recalled in 1107. In ſhort, from the day of his conſecration to that of his death, he was continually employed in fighting the prerogative of the church againſt that of the crown; and for that purpoſe ſpent much of his time in travelling backwards and forwards between England and Rome, for the advice and direction of his holineſs. At the council of Bari, in the kingdom of Naples, the pope being puzzled by the arguments of the Greeks againſt the Holy Ghoſt's proceeding from the Father, he called upon Anſelm, who was preſent, and he diſcuſſed their objections with great applauſe. Prieſts call him a reſolute ſaint; to other people he appears to have been an obſtinate and inſolent prieſt. He wrought many miracles, if we believe the author of his life, both before and after his death, which happened at Canterbury, in the 76th year of his age, *anno* 1109. He was canoniſed in the reign of Henry VII. Anſelm, though we may diſregard him as a ſaint, deſerves to be remembered as one of the principal revivers of literature, after three centuries of profound ignorance.

His works have been printed in different years, and at different places, *viz.* Nuremb. 1491. Paris, 1544 and 1549. Venice, 1549. Cologn, 1573 and 1612. Lyons, 1630. But the beſt is that of Father Gerberon, printed at Paris, 1675. It is divided into three parts; the firſt contains dogmatical tracts; and is entitled *Monologia*; the ſecond contains practical and devotional tracts; the third part conſiſts of letters in four books.

ANSIBARII, or ANSIVARII (*Encycl.*). All we know of the hiſtory of this ancient people is, that in the reign of the Emperor Nero they were driven from their poſſeſſions by the Chauci. Being then in a forlorn condition, they took poſſeſſion of ſome uninhabited lands, which had been uſed as paſture for the horſes of the Roman ſoldiers. They were led by one Boioculus, a man of great valour, and of known fidelity to the Romans. He remonſtrated to the Romans, who objected to their taking poſſeſſion of theſe lands, That the territory in diſpute was large; and requeſted, that it might be allowed to an unhappy people, driven from their own habitations: that, at the ſame time, wide tracts might be retained for the horſes and cattle of the ſoldiers to graze in: that it was inconſiſtent with humanity to famiſh men in order to feed beaſts &c.: and at laſt, lifting up his eyes to heaven, he aſked the celeſtial luminaries how they could behold a deſolate ſoil, and if they would not more juſtly let looſe the ſea to ſwallow up uſurpers, who had engroſſed the whole earth? To this the Roman commander, Avitus, replied, the weakeſt muſt ſubmit to the ſtrongeſt; and that ſince the gods, to whom they had appealed, had left the ſovereign judgment to the Romans, they were reſolved to ſuffer no other judges than themſelves. To Boioculus himſelf, however, he privately offered lands as a reward for his long attachment to the Romans: but this offer the brave German rejected, as a price for betraying his people; adding, "A place to live in we may want, but a place to die in we cannot." The Anſibarii now invited the neighbouring nations to join them againſt the Romans; but they, dreading the power of that nation, refuſed to give them any aſſiſtance: upon which they applied to the neighbouring nations, begging leave to ſettle in their territories; but being every-where driven out as enemies and intruders, theſe unhappy people were reduced to wander up and down till every one of them periſhed.

ANSIKO (*Encycl.*), a kingdom of Africa. The king of Anſiko, or the great Macoco, commands thirteen kingdoms, and is eſteemed the moſt powerful monarch in Africa. The inhabitants of Angola have a tradition, that this is the proper country of the Giagas, who came originally from Sierra Leona, and over-ran like a torrent the whole coaſt as far as Benguela; that, being weakened by numerous battles, and unable to force the defiles in order to return to Sierra Leona, they arrived on the borders of Monomotapa, where being defeated, they were forced to remain in the provinces of Anſiko. Be this as it will; the Anſikans yielded not in the leaſt to the Giagas in fierceneſs and barbarity. They are ſo accuſtomed to the eating of human fleſh, that it is aſſerted they have markets where it is publicly ſold, and that there are no other graves for the dead than the bellies of the living. They try the courage of their priſoners of war by ſhooting at them as at marks, directing their arrows above or around their heads; and whoever diſcovers the leaſt ſign of fear, is immediately devoured without remedy. Thoſe who appear intrepid and reſolute, have their noſes and ears bored, and two fore-teeth of the upper jaw drawn. They are then improved in barbarity, by accuſtoming them to the moſt horrid cruelties.

The Anſikans are neat, well-proportioned, and ſtrong, wandering about from place to place, without either ſowing or reaping. They are dreaded for their extreme brutality, and never traded with by the Europeans. Their language is barbarous, and difficult to be learned, even by the inhabitants of Congo. The moſt diſtinguiſhed among them wear red and black caps of Portugueſe velvet; the lower ranks go naked from the waiſt upwards; and, to preſerve their health, anoint their bodies with a compoſition of pounded white ſandal-wood, and palm-oil. Their arms are battle-axes, and ſmall but very ſtrong bows adorned with ſerpents ſkins. Their ſtrings are made of ſupple and tender ſhoots of trees, that will not break, and their arrows of hard and light wood. Theſe people, who kill birds flying, ſhoot with ſuch ſurpriſing ſwiftneſs, that they can diſcharge 28 arrows from the bow before the firſt falls to the

ground. With equal dexterity they manage their battle-axes; one end of which is ſharpened and cuts like a wedge, and the other flattened like a mallet, with an handle ſet between, about half the length of the iron, rounded at the end like an apple, and covered with the ſkin of a ſerpent.—The current money in this country is the zimbis or ſhell, which is fiſhed for, and paſſes among ſeveral African nations.—They worſhip the ſun as their chief deity; whom they repreſent by the figure of a man, and the moon by that of a woman. They have alſo an infinite number of inferior deities, each individual having a particular idol whom he addreſſes on certain occaſions.

ANSPACH (the marquiſate of), is a ſmall territory of Franconia in Germany, bounded on the north by the biſhoprics of Wartſburg and Bamberg, which laſt likewiſe lies to the weſt; the earldoms of Holach and Oeting, with the biſhopric of Aichſtet, lie on the ſouth; and the palatinate of Bavaria and the territory of Nuremberg on the eaſt. The country is fruitful, and interſperſed with woods, which renders it agreeable for hunting. Beſides the city of Anſpach, which is the capital, the chief towns are Kregſin, Swaſbach, Kreilſheim, Rot, and Waſſer-Truding.

ANSTIS (John), an able herald, was born at St. Neot's in Cornwall, Sept. 28, 1669, being ſon of John Anſtis, of that place, by Mary, daughter and coheir of George Smith. He was admitted at Exeter College, Oxford, 1685, and three years after at the Middle Temple; repreſented the borough of St. Germans, 1702, 1703, 1704, in parliament, where he diſtinguiſhed himſelf againſt the bill for occaſional conformity, for which he got ranked in the liſt of the tackers, printed about that time. He was appointed deputy-general of the auditors of the impreſt, 1703, which office he never executed; one of the principal commiſſioners of prizes, 2 Anne; Garter king of arms, 13 Anne; in which place he died, March 4, 1743-4, and was buried the 23d following, in a vault in the pariſh church of Dulo in Cornwall. He publiſhed, in 1706, "A Letter concerning the Honour of Earl Marſhal," 8vo. in 1720, "The Form of the Inſtallation of the Garter," 8vo. in 1724. "The Regiſter of the moſt noble Order of the Garter, uſually called the Black Book, with a Specimen of the Lives of the Knights," 2 vols. folio; and, in 1715, "Obſervations introductory to an hiſtorical Eſſay on the Knighthood of the Bath," 4to. intended as an introduction to the hiſtory of that order, for which the ſociety of antiquaries had begun to collect materials. His "Aſpilogia, a Diſcourſe on Seals in England," with beautiful draughts, almoſt fit for publication, of which Mr. Drake read an abſtract to the ſociety in 1735-6; and two folio volumes of drawings of ſepulchral monuments, ſtone circles, croſſes, and caſtles, in the three kingdoms; were purchaſed, with a MS. "Hiſtory of Launceſton," and many other curious papers (particularly a good collection of epitaphs and other inſcriptions in England, and many in Wales, all fac-ſimiles), at the ſale of Mr. Anſtis's library of MSS. 1768, by Thomas Aſtle, eſq. F.R. and A.SS. Beſides theſe, he left in MS. two large folio volumes on the office, &c. of Garter King at Arms, and on Heralds in general; memoirs of the Talbot, Carew, Granville, and Courtney families; the Antiquities of Cornwall; "Collections relating to the Pariſh of Colliton in Devonſhire," containing matters relative to the tithes of that church (of which his ſon, George Anſtis, was vicar), in a diſpute before the court of Exchequer in 1740, depoſited in Dr. Ducarel's library; and alſo large collections relative to All Soul's College, Oxford, by whom they were bought. Sixty-four pages of his Latin anſwer to "The Caſe of Founders' Kinſmen," were printed in 4to. with many coats of arms. His "Curia Militaris, or a Treatiſe on the Court of Chivalry, in three books," was printed in 1702, 8vo. His eldeſt ſon, John Anſtis, eſq. who had been educated as a gentleman-commoner at Corpus Chriſti College, Oxford, was, at the revival of the order of the Bath in 1725, joined to his father in the office of Garter; and had the additional office of genealogiſt and regiſter of the Bath. At the opening of Dr. Radcliffe's library, 1749, he was, with ſeveral other members of that univerſity created LL.D. He died a bachelor, Dec. 5, 1754.

ANTEDILUVIANS (*Encycl.*). The only thing we know as to the religious rites of the Antediluvians is, that they offered ſacrifices, and that very early, both of the fruits of the earth, and of animals; but whether the blood and fleſh of the animals, or only their milk and wool, were offered, is a diſputed point.—Some have endeavoured to prove, that all the patriarchs from Adam had ſtated places, and annual and weekly times, ſet apart for divine worſhip, and alſo a ſeparate maintenance for the prieſt: all which particulars may be true, though they cannot be made out from ſcripture. But what is more extraordinary, they pretend to tell us the very day of the week on which the antediluvian ſabbath was kept; and that it was the ſame with the Chriſtian ſabbath, or Sunday.

Of the arts and ſciences of theſe people we have not much more to ſay. They ſeem rather to have ſpent their time in luxury and wantonneſs, to which the abundant fertility of the firſt earth invited them, than in diſcoveries or improvements, which probably they ſtood much leſs in need of than their ſucceſſors. The art of working metals was found out by the laſt generation of Cain's line; and muſic, which they might be ſuppoſed to practiſe for their pleaſure, was not brought to any perfection, if invented, before the ſame generation. Some authors have ſuppoſed aſtronomy to have been cultivated by the antediluvians, though this is probably owing to a miſtake of Joſephus: but it is to be preſumed, the progreſs they made therein, or in any other ſcience, was not extraordinary; it being even very doubtful whether letters were ſo much as known before the flood; whatever is pretended by ſome men, who have conceived ſo high an opinion of Adam's knowledge, that they ſuppoſe it to have been almoſt univerſal: nor can any thing be inferred from the books attributed to that patriarch, or to Seth, and Enoch, which are forgeries too groſs to deſerve any conſideration.

As to their politics and civil conſtitutions, we have not ſo much as any circumſtances whereon to build conjectures. It is probable, the patriarchal form of government, which certainly was the firſt, was ſet aſide when tyranny and oppreſſion began to take place, and much ſooner among the race of Cain than of Seth. It ſeems alſo, that their communities were but few, and conſiſted of vaſtly larger numbers of people than any formed ſince the flood: or rather, it is a queſtion, whether, after the union of the two great families of Seth and Cain, there were any diſtinction of civil ſocieties, or diverſity of regular governments, at all. It is more likely, that all mankind then made but one great nation, though living in a kind of anarchy, divided into ſeveral diſorderly aſſociations; which, as it was almoſt the natural conſequence of their having, in all probability, but one common language, ſo it was a circumſtance which greatly attributed to that general corruption, which otherwiſe perhaps could not have ſo univerſally overſpread the antediluvian world. And for this reaſon chiefly, as it ſeems, ſo ſoon as the poſterity of Noah were ſufficiently increaſed, a plurality of tongues was miraculouſly introduced, in order to divide them into diſtinct ſocieties, and thereby prevent any ſuch total depravation for the future.

As an illuſtration of the remarks contained in our original article, we here introduce a table, made upon the principles there ſtated by Mr. Whiſton. It ſhews at leaſt what number of people might have been in the antediluvian world.

Number of mankind.	Year of the world.	Year of doubling.	Series.
4	2	2	1
8	6	4	2
16	12	6	3
32	20	8	4
64	30	10	5
128	42	12	6
256	56	14	7
512	72	16	8
1024	90	18	9
2048	110	20	10
4096	132	22	11
8192	156	24	12
16,384	182	26	13
32,768	210	28	14
65,536	240	30	15
131,072	272	32	16
262,144	306	34	17
524,288	342	36	18
1,048,576	380	38	19
2,097,152	420	40	20
4,194,304	462	42	21
8,388,608	506	44	22
16,777,216	552	46	23
33,554,432	606	48	24
67,108,864	650	50	25
134,217,728	702	52	26
268,435,456	756	54	27
536,870,912	812	56	28
1,073,741,824	870	58	29
2,147,483,648	930	60	30
4,294,967,296	992	62	31
8,589,934,592	1056	64	32
17,179,869,184	1122	66	33
34,359,738,368	1190	68	34
68,719,476,736	1260	70	35
137,438,953,472	1332	72	36
274,877,906,944	1406	74	37
549,755,813,888	1482	76	38

As to any hiſtory of the tranſactions before the flood, beſides the general account already given, we are left entirely in the dark by the ſacred hiſtorian. The Jews and eaſtern nations, however, have made ample amends for the ſilence of Moſes, by the abundance of fables they have invented. The only part of their traditions which can be connected in any thing like hiſtory is what follows.

After the death of Adam, Seth with his family ſeparated themſelves from the profligate race of Cain, and choſe for their habitation the mountain where Adam was buried, the Cainites remaining below in the plain where Abel was killed; and, according to our hiſtorians, this mountain was ſo high, that the inhabitants could hear the angels ſinging the praiſes of God, and even join them in that ſervice. Here they lived in great purity and ſanctity of manners. Their conſtant employment was praiſing God, from which they had few or no avocations; for their only food was the fruits of the trees which grew on the mountain, ſo that they had no occaſion to undergo any ſervile labours, nor the trouble of ſowing and gathering in their harveſt. They were utter ſtrangers to envy, injuſtice, or deceit. Their only oath was, "By the blood of Abel;" and they every day went up to the top of the mountain to worſhip God, and to viſit the body of Adam, as a mean of procuring the Divine bleſſing. Here, by contemplation of the heavenly bodies, they laid the foundations of the ſcience of aſtronomy; and, leſt their invention ſhould be forgotten, or loſt before they were publicly known, underſtanding, from a prediction of Adam's, that there would be a general deſtruction of all things, once by fire, and once by water, they built two pillars, one of brick, and the other of ſtone, that if the brick one happened to be overthrown by the flood, or otherwiſe deſtroyed, that of ſtone might remain. This laſt, Joſephus ſays, was to be ſeen in his time in the land of Siriad (thought to be in Upper Egypt)

The deſcendants of Seth continued in the practice of virtue till the fortieth year of Jared, when an hundred of them, hearing the noiſe of the muſic, and the riotous mirth of the Cainites, agreed to go down to them from the holy mountain. On their arrival in the plain, they were immediately captivated by the beauty of the women, who were naked, and defiled themſelves with them; and this is what is meant by the intermarriage of the ſons of God with the daughters of men, mentioned by Moſes. The example of theſe apoſtate ſons of Seth was ſoon followed by others; and from time to time, great numbers continued to deſcend from the mountain, who, in like manner, took wives from the abandoned race of Cain. From theſe marriages ſprung the giants (who, however, according to Moſes, exiſted before); and, theſe were as remarkable for their impiety as for their ſtrength of body, tyrannizing in a cruel manner, and polluting the earth with wickedneſs of every kind. This defection became at laſt ſo univerſal, that none were left in the holy mountain, except Noah, his wife, three ſons, and their wives.

Beroſus, a Chaldæan hiſtorian, who flouriſhed in the time of Alexander the Great, enumerates ten kings who reigned in Chaldea before the flood: of whom the firſt, called *Alorus*, is ſuppoſed to be Adam, and Xiſuthrus, the laſt, to be Noah. —This Alorus declared that he held his kingdom by divine right, and that God himſelf had appointed him to be the paſtor of the people. According to our hiſtorian, in the firſt year of the world, there appeared out of the Red Sea, at a place near the confines of Babylonia, a certain *irrational* animal called *Oannes*. He had his whole body like that of a fiſh; but beneath his fiſh's head grew another of a different ſort (probably a human one). He had alſo feet like a man, which proceeded from his fiſh's tail, and a human voice; the picture of him being preſerved ever after. This animal converſed with mankind in the day-time, without eating any thing: he delivered to them the knowledge of letters, ſciences, and various arts: he taught them to dwell together in cities, to erect temples, to introduce laws, and inſtructed them in geometry: he likewiſe ſhewed them how to gather ſeeds and fruits, and imparted to them whatever was neceſſary and convenient for a civilized life: but after this time there was nothing excellent invented. When the ſun ſet, Oannes retired into the ſea, and continued there all night. He not only delivered his inſtructions by word of mouth, but, as our author aſſures us, wrote of the origin of things, and of political economy. This, or a ſimilar animal, is alſo mentioned by other authors.

Of Alaſporus, the ſecond king, nothing remarkable is related. His ſucceſſor, Amelon, or Amillarus, was of a city called *Pantabibla*. In his time another animal reſembling the former appeared, 260 years after the beginning of this monarchy. Amelon was ſucceeded by Metalarus, and he by Daonus, all of whom were of the ſame city. In his time, four animals, of a double form, half man and half fiſh, made their appearance. Their names were *Euedocus*, *Eneugamus*, *Encubulus*, and *Anementus*. Under the next prince, who was

likewiſe of Pantabibla, appeared another animal of the ſame kind, whoſe name was *Odacon*. All theſe explained more particularly what had been conciſely delivered by Oannes.

In the reign of the tenth king, Xiſuthrus, happened the great deluge, of which our author gives the following account: Cronus, or Saturn, appeared to Xiſuthrus in a dream, and warned him, that on the fifteenth of the month Dæſius mankind would be deſtroyed by a flood; and therefore commanded him to write down the original, intermediate ſtate, and end of all things, and bury the writings under ground in Sippara, the city of the ſun; that he ſhould alſo build a ſhip, and go into it with his relations and deareſt friends, having firſt furniſhed it with proviſions, and taken into it fowls and four-footed beaſts; and that, when he had provided every thing, and was aſked whither he was ſailing, he ſhould anſwer, *To the gods, to pray for the happineſs of mankind.* Xiſuthrus did not diſobey, built a veſſel, whoſe length was five furlongs, and breadth two furlongs. He put on board all he was directed, and went into it with his wife, children, and friends. The flood being come, and ſoon ceaſing, Xiſuthrus let out certain birds, which finding no food, nor place to reſt upon, returned again to the ſhip. Xiſuthrus, after ſome days, let out the birds again; but they came back again to the ſhip, having their feet daubed with mud: but when they were let out a third time, they came no more to the ſhip, whereby Xiſuthrus underſtood that the earth appeared again; and thereupon he made an opening between the planks of the ſhip, and ſeeing that it reſted on a certain mountain, he came out with his wife, and his daughter, and his pilot; and having worſhipped the earth, and raiſed an altar, and ſacrificed to the gods, he and thoſe who went out with him diſappeared. They who were left behind in the ſhip, finding Xiſuthrus, and the perſons that accompanied him, did not return, went out themſelves to ſeek him, calling him aloud by his name: but Xiſuthrus was no more ſeen by them; only a voice came out of the air, which enjoined them, as their duty was, to be religious; and informed them, that, on account of his own piety, he was gone to dwell with the gods; and that his wife, and daughter, and pilot, were partakers of the ſame honour. It alſo directed them to return to Babylon, and that, as the fates had ordained, they ſhould take the writings from Sippara, and communicate them to mankind; and told them, that the place where they were was the country of Armenia. When they heard this, they offered ſacrifice to the gods, and unanimouſly went to Babylon; and when they came thither, they dug up the writings at Sippara, built many cities, raiſed temples, and rebuilt Babylon again.

The Egyptians, who would give place to no nation in point of antiquity, have alſo a ſeries of kings, who, as is pretended, reigned in Egypt before the flood; and, to be even with the Chaldeans, began their account the ſame year that theirs does according to Beroſus.

There was an ancient chronicle extant among the Egyptians, not many centuries ago, which contained 30 dynaſties of princes who ruled in that country, by a ſeries of 113 generations, through an immenſe ſpace of 36,525 years, during which Egypt was ſucceſſively governed by three different races; of whom the firſt were the Auritæ, the ſecond the Miſtræi, and the third the Egyptians.

But this extravagant number of years, Manetho (to whoſe remains we muſt chiefly have recourſe for the ancient Egyptian hiſtory) has not adopted; however, in other reſpects he is ſuppoſed to have been led into errors in chronology by this old chronicle, which yet ſeems to have been a compoſition ſince Manetho's time.

The account given by Beroſus is manifeſtly taken from the writings of Moſes; but we have another account of the firſt ages of mankind, in which no mention is made of the flood at all. This is contained in ſome fragments of a Phœnician author called *Sanchoniatho*, who is by ſome ſaid to have been contemporary with Gideon, by others to have lived in the days of King David; while ſome boldly aſſert there never was ſuch a perſon, and that the whole is a fiction of Peilo-Biblius, in oppoſition to the books Joſephus wrote againſt Apion. To gratify the reader's curioſity, however, we have ſubjoined an account of the firſt ten generations mentioned by him, which are ſuppoſed by the compilers of the univerſal hiſtory to correſpond to the generations mentioned by Moſes before the flood.

Sanchoniatho having delivered his coſmogony, or generation of the other parts of the world, begins his hiſtory of mankind with the production of the firſt pair of mortals, whom Philo, his tranſlator, calls *Protogonus* and *Æon*, the latter of whom found out the food which was gathered from trees.

Their iſſue were called *Genus* and *Genea*, and dwelt in Phœnicia; but when the great drought came, they ſtretched forth their hands to heaven towards the ſun; for him they thought the only God and Lord of heaven, calling him *Beelſamen*, which in Phœnician is, *Lord of heaven*; and in Greek, *Zeus*.

Afterwards from Genus, the ſon of Protogonus and Æon, other mortal iſſue was begotten, whoſe names were *Phos*, *Pur*, and *Phlox*; that is, *Light*, *Fire*, and *Flame*. Theſe found out the way of generating fire, by the rubbing of pieces of wood againſt each other, and taught men the uſe thereof. Theſe begat ſons of vaſt bulk and height, whoſe names were given to the mountains on which they ſeized: ſo from them were named mount *Caſſius*, and *Libanus*, *Antilibanus*, and *Brathys*.

Of theſe laſt were begotten Memrumus, and Hypſuranius, but they were ſo named by their mothers, the women of thoſe times, who without ſhame lay with any man they could light upon. Hypſuranius inhabited Tyre, and he invented the making of huts of reeds and ruſhes, and the papyrus. He alſo fell into enmity with his brother Uſous, who firſt invented a covering for his body out of the ſkins of the wild beaſts which he could catch. And when violent tempeſts of winds and rains came, the boughs in Tyre, being rubbed againſt each other, took fire, and burnt the wood there. And Uſous, having taken a tree, and broken off its boughs, firſt was ſo bold as to venture upon it into the ſea. He alſo conſecrated two rude ſtones, or pillars, to fire and wind, and he worſhipped them, and poured out to them the blood of ſuch wild beaſts as had been caught in hunting. But when theſe were dead, thoſe that remained conſecrated to them ſtumps of wood and pillars, worſhipping them, and kept anniverſary feaſts upon them.

Many years after this generation, came Agrens and Halicus, the inventors of the arts of hunting and fiſhing, from whom huntſmen and fiſhermen are named.

Of theſe were begotten two brothers, the inventors of iron and of the forging thereof: one of theſe, called *Chryſor*, the ſame with Hepheſtus, or Vulcan, exerciſed himſelf in words and charms and divinations; found out the hook, bait, and fiſhing line, and boats ſlightly built, and was the firſt of all men that ſailed. Wherefore he alſo was worſhipped after his death for a god; and they called him *Zeus Michius*, or Jupiter the engineer; and ſome ſay, his brothers invented the way of making walls of brick.

Afterwards from this generation came two brothers; one of

whom was called *Technites*, or the artiſt; the other *Genus Autochthon* [the home-born man of the earth]. Theſe found out to mingle ſtubble, or ſmall twigs, with the brick earth, and to dry them in the ſun, and ſo made tyling.

By theſe were begotten others: of which one was called *Agrus* [field]; and the other *Agrouerus*, or *Agrotes* [huſbandman], who had a ſtatue much worſhipped, and a temple carried about by one or more yoke of oxen, in Phœnicia, and among thoſe of Byblus he is eminently called the *greateſt of the gods*. Theſe found out how to make courts about men's houſes, and fences, and caves or cellars. Huſbandmen, and ſuch as uſe dogs in hunting, derive from theſe; and they are alſo called *Aletæ* and *Titans*.

Of theſe were begotten Amynus and Magus, who ſhewed men to conſtitute villages and flocks.

In theſe men's age there was one Eliun, which imports in Greek *Hypſiſtus* [the moſt high], and his wife was named *Beruth*, who dwelt about Byblus: and by him was begotten one Epigeus, or Autochthon, whom they afterwards called *Uranus* [heaven]; ſo that from him that element which is over us, by reaſon of its excellent beauty, is called *heaven:* and he had a ſiſter of the ſame parents, called *Ge* [the earth]; and, by reaſon of her beauty, the earth had her name given to it.

Hypſiſtus, the father of theſe, dying in fight with wild beaſts, was conſecrated, and his children offered ſacrifices and libations to him.—But Uranus taking the kingdom of his father, married his ſiſter Ge, and had by her four ſons; Ilus, who is called *Cronus* [or Saturn]; Betylus; Dagon, who is Siton or the god of corn; and Atlas: but by other wives Uranus had much iſſue.

ANTES, in architecture, are ſmall pilaſtres placed at the corners of buildings.

ANTHESTERIA (*Encycl.*). This feaſt, celebrated by the Athenians in honour of Bacchus, laſted three days, the 11th, 12th, and 13th of the month; each of which had a name ſuited to the proper office of the day. The firſt day of the feaſt was called πιθοιγια, *i. e.* opening of the veſſels; becauſe on this day they tapped the veſſels, and taſted the wine. The ſecond day they called χοες, *congii*, the name of a meaſure containing the weight of ten pounds; on this they drank the wine prepared the day before. The third day they called χυτροι, *kettles:* on this day they boiled all ſorts of pulſe in kettles; which however they were not allowed to taſte, as being offered to Mercury.

ANTHONY, or ANTONY (Dr. Francis), a very learned phyſician and chemiſt in the latter end of the ſixteenth and beginning of the ſeventeenth centuries. His father was an eminent goldſmith in the city of London, and had an employment of conſiderable value in the jewel office under the reign of Queen Elizabeth. This ſon of his was born April 16, 1550; and having been carefully inſtructed in the firſt rudiments of learning while at home, was, about the year 1569, ſent to the univerſity of Cambridge, where he ſtudied with great diligence and ſucceſs, and ſome time in the year 1574 took the degree of maſter of arts. It appears from his own writings, that he applied himſelf, for many years that he ſtudied in that univerſity, to the theory and practice of chemiſtry, with ſedulous induſtry, and made no ſmall progreſs. When he left Cambridge and came up to London, he began to publiſh to the world the effects of his chemical ſtudies, and in the year 1598 ſent abroad his firſt treatiſe, concerning the excellency of a noſtrum drawn from gold, which he called *aurum potabile*, and which led to much literary controverſy; but not having taken the neceſſary precautions of addreſſing himſelf to the College of Phyſicians, for their licence, he fell under their diſpleaſure, and in the year 1600 had various ſtruggles with them, and was impriſoned for non-payment of the fines impoſed on him. Dr. Goodal tells us, that this learned ſociety thought him weak and ignorant in phyſic, yet it ſeems there were other learned bodies of another opinion; ſince after all theſe cenſures, and being toſſed about from priſon to priſon, he became doctor of phyſic in our own univerſities. What chiefly contributed to maintain his reputation, and thereby reflected credit on his medicine, was his unblemiſhed character in private life. He died on the 26th of May, 1623, in the 74th year of his age. Dr. Anthony was twice married, and by his laſt wife, whoſe name was Elizabeth, he had two ſons, John and Charles, both phyſicians. The former ſold his father's *aurum potabile*, and lived by it very handſomely; the latter ſettled in the town of Bedford, where he attained the character of a learned, honeſt, and induſtrious man in his profeſſion.

ANTHONY (St.), was born in Egypt in 251, and inherited a large fortune, which he diſtributed among his neighbours and the poor, retired into ſolitude, founded a religious order, built many monaſteries, and died anno 356. Many ridiculous ſtories are told of his conflicts with the devil, and of his miracles: there are ſeven epiſtles extant, attributed to him.

ANTICS, in architecture (probably a corruption of *Antiques*), figures of men and animals placed as ornaments to buildings.

ANTI-CHRIST (*Encycl.*). Father Malvenda, a Jeſuit, publiſhed a large work entitled *Antichriſto*, in which this ſubject is amply diſcuſſed. It conſiſts of thirteen books. In the firſt, he relates all the opinions of the fathers with regard to Antichriſt. In the ſecond he ſpeaks of the times when he ſhall appear; and ſhews, that all the fathers who ſuppoſed Antichriſt to be near at hand, judged the world was near its period. In the third, he diſcourſes of his origin and nation; and ſhews that he is to be a Jew, of the tribe of Dan: this he founds on the authority of the fathers; on the paſſage in Geneſis xlix. 17. *Dan ſhall be a ſerpent by the way*, &c.; on that of Jeremy viii. 16. where it is ſaid, *The armies of Dan ſhall devour the earth*; and on Rev. vii. where St. John, enumerating all the tribes of Iſrael, makes no mention of that of Dan. In the fourth and fifth books, he treats of the ſigns of Antichriſt. In the ſixth, of his reign and wars. In the ſeventh, of his vices. In the eighth, of his doctrine and miracles. In the ninth, of his perſecutions: and in the reſt, of the coming of Enoch and Elias, the converſion of the Jews, the reign of Jeſus Chriſt, and the death of Antichriſt, after he has reigned three years and an half. See alſo *Lowman on the Revelation*.

ANTICIRRHA (Strabo); ANTICYRA (Pauſanias, Stephanus, Livy); a town in Phocis, on the Corinthian bay, oppoſite to Cirrha, lying to the weſt, on the ſame bay. Another *Anticirrha*, or *Anticyra*, on the Sinus Maliacus, and near mount Oeta, where grew the beſt hellebore (Strabo, Stephanus); but which Pauſanias aſcribes to the *Anticyra* of Phocis: Hence the adage, *Naviget Anticyram* (Horace), uſed of a perſon of an unſound mind. The gentilitius name is *Anticyreus* (Pauſanias).

ANTICUS, a term uſed by the old anatomiſts, importing, that the part with which it is joined ſtands before ſome others: Thus, we meet with *ſerratus anticus, peronæus anticus*.

ANTIGONUS (*Encycl.*), one of Alexander's commanders, conquered Eumenes, and expelled Seleucus out of Syria; who flying to Ptolemy Lagus in Egypt, a bloody war commenced betwixt him, Caſſander, and Antigonus, wherein, by the help of his ſon Demetrius, Antigonus prevailed, and built the city Antigonia, anno Romæ 448. Afterward Caſſander, Seleucus, and Lyſimachus, uniting againſt him, routed him,

n league with King Pyrrhus, and ſlew him near Epirus, 301 ears before Chriſt.

ANTICONUS, king of the Jews, was the ſon of Ariſtobu-us. He entered into an alliance with the king of the Par-hians, and beſieged Jeruſalem. He cut off his uncle Hirca-us's ears, to incapacitate him for the high-prieſthood; and ut Joſephus, Herod's brother, to death. At length, Herod ook him and ſent him to M. Anthony; who, to gratify He-od, cut off his head, and thereby extinguiſhed the Aſmo-neans, who had reigned 126 years. This happened 36 years efore Chriſt.

ANTIHECTICUM POTERII, the name of a medicine for-merly much celebrated, but now laid aſide.

ANTIMETER, or REFLECTING SECTOR, an inſtrument nvented by Mr. Garnard, calculated for meaſuring ſmall angles with greater accuracy than by the ſextant or other inſtruments commonly uſed.

The frame of it is ſimilar to that of Hadley's quadrant, having two radii, a limb, and braces; but with this difference, that the further radius is produced upwards of four inches beyond the centre of motion of the index; and the great ſpe-culum, or what is called the index glaſs in Hadley's quadrant, being placed there is called the *upper centre*. In this inſtrument there is no proviſion for the back obſervation. The horizon glaſs is like that in Hadley's quadrant; there are two ſight-vanes, to ſuit two different ſituations of the large ſpeculum or object-glaſs: theſe vanes are adapted to receive a ſmall teleſcope. On the centre of the index, where the index-glaſs of Hadley's quadrant is fixed, is a braſs or bell-metal ſemicircle, two inches in diameter, and one-eighth of an inch thick: this ſemicircle is ſcrewed faſt to the index, in ſuch a manner that the axis of the index is a tangent to it. On the upper centre are two circular braſs plates, which re-volve concentrically, either together or ſeparately. The under plate has a lever, or part perpendicular to the plane of the inſtrument, projecting downwards, a little beyond the lower centre: this lever is acted upon by the ſemicircular plate at the lower centre, to which it is always kept cloſe by a ſpring on the other ſide. In the upper of the above-mentioned cir-cular plates are two circular perforations or ſlits, through one of which a ſcrew takes into the head of the inſtrument, and through the other a ſcrew takes into the lower moveable plate. The large ſpeculum is faſtened to the upper plate; and by the above-mentioned ſcrews the poſition of this glaſs may be al-tered. A circular plate is fixed to the lower centre by three pillars: in its centre is a nut to admit a ſcrew, by which the plate carrying the large ſpeculum may be faſtened here occa-ſionally.

The ſcale on the limb is divided into 45 equal parts or degrees, and not into half-degrees as is the caſe in Hadley's quadrant, by reaſon of the double reflection. Theſe diviſions are numbered in a retrograde order; zero being at the extremity of the further radius. Although the limb contains 45 degrees, yet the greateſt angle which can be meaſured, the large ſpeculum remaining fixed to the circular plate, is 10° 18′ 21″·8; the diſtance between the two centres being four inches, and the radius of the ſemicircle one inch. Agreeably to theſe dimenſions, the inventor has given a table exhibiting the value of each primary diviſion on the limb; he hath alſo given a more ample table, adapted to a diſtance between the centres of three times the radius of the ſemicircle, which he ſays, hath been found the moſt convenient in practice. If an angle greater than 10° 18′ is wanted, it may be meaſured by the method of *anticipation*, as the inventor calls it, which is as follows: Let the ſcrew which faſtens the two circular plates on the upper centre be made faſt, and looſen the ſcrew which faſtens the upper circular plate to the inſtrument: now adjuſt the glaſſes by the uſual method: bring forward the in-dex to any given diviſion on the limb, and make it faſt; alſo faſten the ſcrew which was before looſe, and looſen the other ſcrew; then bring the index to zero, and proceed as before.

From the inventor we have the following directions for ad-juſting and uſing the antimeter.

"The firſt thing to be attended to is, to ſet the horizon-glaſs perpendicular to the plane of the inſtrument, which is performed as follows: Hold the inſtrument with its plane per-pendicular to the horizon, and look over backwards into the glaſs and beyond it. If the limb of the inſtrument appears in a right line with its reflection, the glaſs is upright; but if it does not appear ſo, looſen or tighten the little ſcrew on the foot of the glaſs until it be adjuſted: then with the inſtrument, as in taking an altitude, look through the ſight-vane or tele-ſcope at ſome diſtant object, with the index fixed in any in-tended ſituation; the two ſcrews at the upper centre being looſe, turn the glaſs about till the ſame object appears nearly in the ſame part of the horizon-glaſs: next hold it in a ho-rizontal poſition, and adjuſt the object-glaſs or large ſpeculum with the ſcrews which are behind and before, on the foot of it, till the object and its reflection are ſeen in the ſame ho-rizontal line. Laſtly, with the inſtrument upright, turn the tangent-ſcrew belonging to the horizon-glaſs at the back of the inſtrument, until there be a perfect coincidence of the object and its reflection that way, and the adjuſtments are complete."

ANTINOUS, the favourite of Adrian, was born at Bithy-nus in Bithynia. His beauty engaged the heart of Adrian in ſuch a manner, that there never was a more boundleſs and ex-travagant paſſion than that of this emperor toward this youth. After his death, the emperor ordered divine honours to be paid him.

ANTIO, a promontory of Italy, in St. Peter's Patrimony, near which is a harbour, lately made. It takes its name from the ancient city of Antium, the ruins of which extend over a large track of land.

ANTIOCA, or ANTIOCH, an iſland in the Mediterranean, near Sardinia, taken from his Sardinian majeſty, by the French, in February 1793, but evacuated ſoon after.

ANTIOCH (*Encycl.*). This city ſtood on the river Orontes, about twenty miles from the place where it empties itſelf into the Mediterranean; being equally diſtant from Con-ſtantinople and Alexandria in Egypt, that is, about 700 miles from each. Seleucus Nicator called it *Antioch*, from his fa-ther's name, according to ſome; or from that of his ſon, ac-cording to others. He built ſixteen other cities bearing the ſame name; of which one, ſituated in Piſidia, is probably that where the name of *Chriſtians* was firſt given to the fol-lowers of Jeſus Chriſt. But that ſituated on the Orontes, by far eclipſed, not only all the others of this name, but all the cities built by Seleucus. Antigonus, not long before, had founded a city in that neighbourhood, which from his own name he had called *Antigonia*, and deſigned it for the capital of his empire; but it was razed to the ground by Seleucus, who employed the materials in building his metropolis, and alſo tranſplanted the inhabitants thither.

The city of Antioch was afterwards known by the name of *Tetrapolis*, being divided as it were into four cities, each of them being ſurrounded with its proper wall, beſides a com-mon one which incloſed them all. The firſt of theſe cities was built by Seleucus Nicator, as already mentioned; the ſecond by thoſe who flocked thither on its being made the capital of the Syro-Macedonian empire; the third by Seleucus Callini-cus; and the fourth by Antiochus Epiphanes.—About four

er five miles diſtant, ſtood a place called *Daphne*, which was nevertheleſs reckoned a ſuburb of Antioch. Here Seleucus planted a grove, and in the middle of it built a temple which he conſecrated to Apollo and Diana, making the whole an aſylum. To this place the inhabitants of Antioch reſorted for their pleaſures and diverſions: whereby it became at laſt ſo infamous, that, "to live after the manner of Daphne," was uſed as a proverb to expreſs the moſt voluptuous and diſſolute way of living. Here Lucius Verus, the colleague of M. Aurelius, choſe to take up his reſidence, inſtead of marching againſt the Parthians; while his general Caſſius forbad by proclamation any of his ſoldiers to enter or even go near the place. In ſhort, ſo remarkable was Daphne of old, that the metropolis itſelf was diſtinguiſhed by it, and called *Antioch near Daphne*.

Though Antioch continued to be, as Pliny calls it, the queen of the Eaſt, for near 1600 years; yet ſcarce any city mentioned in hiſtory hath undergone ſuch calamities, both from the attacks of its enemies, and its being naturally ſubjected to earthquakes—The firſt diſaſter, mentioned in hiſtory, which befel the Antiochians, happened about 145 years before Chriſt. Being at that time very much diſaffected to the perſon and government of Demetrius their king, they were continually raiſing tumults and ſeditions; inſomuch that he found himſelf at laſt obliged to ſolicit aſſiſtance from the Jews; and was furniſhed by Jonathan, one of the Maccabees, with 3000 men: by which reinforcement believing himſelf ſufficiently ſtrong to reduce the mutineers by force, he ordered them immediately to deliver up their arms. This unexpected order cauſed a great uproar in the city. The inhabitants ran to arms, and inveſted the king's palace, to the number of 120,000, with a deſign to put him to death. All the Jews haſtened to his relief, fell upon the rebels, killed 100,000 of them, and ſet fire to the city. On the deſtruction of the Syrian empire by the Romans, Antioch ſubmitted to them as well as the other cities of that kingdom, and continued for a long time under their dominion. About the year 115, in the reign of the emperor Trajan, it was almoſt entirely ruined by one of the moſt dreadful earthquakes mentioned in hiſtory. Trajan himſelf happened to be there at that time, being returned from an expedition againſt the Parthians; ſo that the city was then full of troops, and ſtrangers come from all quarters either out of curioſity or upon buſineſs and embaſſies: the calamity was by this means felt almoſt in every province of the Roman empire. The earthquake was preceded by violent claps of thunder, unuſual winds, and a dreadful noiſe under ground. The ſhock was ſo terrible, that great numbers of houſes were overturned, and others toſſed to and fro like a ſhip at ſea. Thoſe who happened to be in their houſes were for the moſt part buried under their ruins: thoſe who were walking in the ſtreets, or in the ſquares, were, by the violence of the ſhock, daſhed againſt each other, and moſt of them either killed or dangerouſly wounded.—This earthquake continued, with ſmall intermiſſion, for many days and nights; ſo that vaſt numbers periſhed. The moſt violent ſhock, according to the Acts of St. Ignatius, was on a Sunday, December 23. By this Trajan was much hurt, but eſcaped through a window. Dio Caſſius pretends, that he was taken out of the window by one who exceeded the human ſize in tallneſs. The ſame hiſtorian adds, that mount Liſon, which ſtood at a ſmall diſtance from the city, bowed with its head and threatened to fall down upon it; that other mountains fell; that new rivers appeared; and others, that had flowed before, forſook their courſe and vaniſhed. When the earthquake ceaſed, a woman was heard crying under the ruins; which being immediately removed, ſhe was found, with a living child in her arms. Search was made for others; but none was found alive, except one child, which continued ſucking its dead mother.

No doubt, Trajan, who was an eye-witneſs of this terrible calamity, would contribute largely towards the re-eſtabliſhment of Antioch in its ancient ſplendor. Its good fortune, however, did not continue long; for in 155, it was almoſt entirely burnt by accidental fire; when it was again reſtored by Antoninus Pius. In 176 or 177, the inhabitants having ſided with Caſſius, the above-mentioned Roman general, who had revolted from M. Aurelius, that emperor publiſhed a ſevere edict againſt them, deprived them of all their privileges, ſuppreſſed their public aſſemblies, and took from them the ſhows and ſpectacles to which they were greatly addicted: but his anger being ſoon appeaſed, he reſtored them to their former condition, and even condeſcended to viſit their city. In 194, having ſided with Niger againſt Severus, the latter deprived them of all their privileges, and ſubjected Antioch as a mere village to Laodicea; but, however, pardoned them the next year, at the entreaties of his eldeſt ſon, then a child.

When the power of the Roman empire began to decline, Antioch became the bone of contention between them and the eaſtern nations; and, accordingly, on the breaking-out of a Perſian war, it was almoſt always ſure to ſuffer. In 242 it was taken and plundered by Sapor; and, though he was defeated by Gordian, it underwent the ſame misfortune in the time of Valerian, about eighteen years after; and after the defeat and captivity of Valerian, being taken by the Perſian monarch a third time, he not only plundered it, but levelled all the public buildings with the ground. The Perſians, however, being ſoon driven out, this unfortunate city continued free from any remarkable calamity till about the time of the diviſion of the Roman empire by Conſtantine in 331. It was then afflicted with ſo grievous a famine, that a buſhel of wheat was ſold for 400 pieces of ſilver. During this grievous diſtreſs, Conſtantine ſent to the biſhop 30,000 buſhels of corn; beſides an incredible quantity of all kinds of proviſions, to be diſtributed among the eccleſiaſtics, widows, orphans, &c. In the year 347, Conſtantine II. cauſed a harbour to be made at Seleucia, for the conveniency of Antioch. This was effected at an immenſe expence, the mouth of the Orontes, where the port was made, being full of ſands and rocks. When the emperor Julian ſet out on his expedition againſt the Perſians, he made a long ſtay at Antioch; during which time, many of the Roman provinces were afflicted with a famine, but which raged more violently at Antioch than in other places. The eccleſiaſtic writers of thoſe times ſay, that this famine followed Julian from place to place; and as he continued longer at Antioch than any other city, it raged more violently there than any-where elſe. To remedy this evil, Julian fixed the prices of corn, by which means the famine was greatly increaſed, the merchants conveying their corn privately to other places, ſo that the metropolis was reduced to a moſt deplorable ſituation. In 381, in the reign of Theodoſius the Great, Antioch was again viſited by a famine, accompanied by a grievous plague. The latter ſoon ceaſed: but the famine ſtill continuing, the biſhop, Libanius, applied to Icarius, count of the Eaſt, requeſting him by ſome means or other to relieve the poor, who had flocked from all parts to the metropolis, and were daily periſhing in great numbers; but to this Icarius gave no other anſwer, than that they were abhorred and juſtly puniſhed by the gods. This inhuman anſwer raiſed great diſturbances; which, however, were terminated without bloodſhed. In 387, Theodoſius finding his exchequer quite drained, and being obliged to be at an extraordinary expence in celebrating the fifth year of the reign of his ſon Arcadius, and the tenth of his own, an extraordinary tax was laid upon

all the people in the empire. Moſt of the cities ſubmitted willingly to this: but the people of Antioch, complaining of it as an unreaſonable oppreſſion, crowded to the houſe of Flavianus their biſhop, as ſoon as the edict was publiſhed, to implore his protection. Being unable to find him, they returned to the forum; and would have torn the governor in pieces, had not the officers who attended him kept back with great difficulty the enraged multitude, till he made his eſcape. Upon this, they broke ſome of the emperor's ſtatues, and dragged others through the city, uttering the moſt injurious and abuſive expreſſions againſt him and his whole family. They were, however, diſperſed by a body of archers, who, by wounding only two of the rabble, ſtruck terror into all the reſt. The governor proceeded againſt the offenders with the utmoſt cruelty; expoſing ſome to wild beaſts in the theatre, and burning others alive. He did not ſpare even the children, who had inſulted the emperor's ſtatues; and cauſed ſeveral perſons to be executed, who had been only ſpectators of the diſorder. In the mean time a report was ſpread, that a body of troops was at hand, with orders to plunder the city, and put all to the ſword, without diſtinction of ſex or age; upon which the citizens abandoned their dwellings in the utmoſt terror and confuſion, retiring to the neighbouring mountains with their wives and families. As the report proved groundleſs, ſome of them returned; but the greater part, dreading the cruelty of the governor, and the diſpleaſure of the emperor, continued in their retreats. To thoſe who returned, St. Chryſoſtom preached ſome Homilies, which have reached our times, and are greatly admired; and which are ſaid by St. Chryſoſtom himſelf, as well as ſome contemporary writers, to have had a conſiderable effect in reforming the lives of this licentious and diſſolute people. On hearing the news of this tumult, Theodoſius was ſo much enraged, that he commanded the city to be deſtroyed, and its inhabitants to be put to the ſword without diſtinction; but this order was revoked before it could be put into execution, and he contented himſelf with a puniſhment ſimilar to that inflicted by Severus above mentioned. He appointed judges to puniſh the offenders; who proceeded with ſuch ſeverity, and condemned ſuch numbers, that the city was thrown into the utmoſt conſternation. On this occaſion, St. Chryſoſtom and the hermits, who were very numerous in the neighbourhood, exerted all their eloquence in behalf of the unhappy people, and obtained a reſpite for thoſe who had been condemned. They next proceeded to draw up a memorial to the emperor in favour of the citizens in general; and being joined by Flavianus, at laſt obtained a general pardon, and had the city reſtored to all its former privileges.

In the year 458 Antioch was almoſt entirely ruined by an earthquake, which happened on the 14th of September; ſcarce a ſingle houſe being left ſtanding in the moſt beautiful quarter of the city. The like misfortune it experienced in 525, during the reign of the Emperor Juſtin; and fifteen years after, being taken by Coſrhoes king of Perſia, that inſulting and haughty monarch gave it up to his ſoldiers, who put all they met to the ſword. The king himſelf ſeized on all the gold and ſilver veſſels belonging to the great church; and cauſed all the valuable ſtatues, pictures, &c. to be taken down and conveyed to Perſia, while his ſoldiers carried off every thing elſe. The city being thus completely plundered, Coſrhoes ordered his men to ſet fire to it; which was accordingly done ſo effectually, that none of the buildings even without the walls eſcaped. Such of the inhabitants as eſcaped ſlaughter were carried into Perſia, and ſold as ſlaves.

Notwithſtanding ſo many and ſo great calamities, the city of Antioch ſoon recovered its wonted ſplendor; but in a ſhort time underwent its uſual fate, being almoſt entirely deſtroyed by an earthquake in 587, by which 30,000 perſons loſt their lives. In 634 it fell into the hands of the Saracens, who kept poſſeſſion of it till the year 858, when it was ſurpriſed by one Burtzas, and again annexed to the Roman empire. The Romans continued maſters of it for ſome time, till the civil diſſenſions in the empire gave the Turks an opportunity of ſeizing upon it as well as the whole kingdom of Syria. From them it was again taken by the Cruſaders in 1098. In 1262 it was taken by Bibaris ſultan of Egypt, who put a final period to its glory. It is now only a ſmall and contemptible village, known by the name of *Antbakia*; and the name of the river Orontes is changed for that of *Aſi*. The walls of each quarter, as well as thoſe which ſurrounded the whole, are ſtill remaining; but as the houſes are entirely deſtroyed, theſe quarters look like ſo many incloſed fields. Its former grandeur, however, appears in the many magnificent ruins that ſtill remain.

ANTIOCHUS THE GREAT, king of Syria, ſucceeded his brother Seleucus Ceraunus, 223 years before Chriſt. He was defeated in a bloody battle, by Ptolemy Philopater, near Raphia, 217 years before Chriſt. Some time after, he took Sardes; attacked the Medes and Parthians; conquered Judea, Phœnicia, and Cœloſyria; and formed the deſign of reducing Smyrna, Lampſacus, and other cities of Aſiatic Greece. Theſe cities implored the aſſiſtance of the Romans; who ſent ambaſſadors to oblige him to reſtore to Ptolemy Philadelphus the countries he had taken from him, and to ſuffer the free cities of Greece to enjoy the bleſſings of peace. Antiochus being enraged, at the ſolicitation of Hannibal declared war againſt the Romans; but was defeated by Acilius Glabrio, and loſt a great battle againſt Scipio Aſiaticus, near Magneſia: in ſhort, the Romans granted him a peace on very diſgraceful conditions. At laſt, finding his exchequer low, and going to recruit it with the plunder of the temple of Belus, he was killed by the rabble, who came to ſave the ſacred treaſure, about 187 years before Chriſt; and was ſucceeded by Seleucus Philopater.

ANTIOCHUS EPIPHANES, or *the Illuſtrious*, uſurped the throne of Syria from his nephew Demetrius, 175 years before Chriſt, and attempted to take Egypt from his nephew Ptolemy Philometer; but was repulſed. He depoſed Onias, the high-prieſt of the Jews; and beſieged and took Jeruſalem, 170 years before Chriſt, when he prophaned the temple of God, offered ſacrifices in it to Jupiter Olympius, carried away the ſacred veſſels, and committed the moſt horrid acts of cruelty. At his return to Antioch, 167 years before Chriſt, he put to death the ſeven brothers, the Maccabees, with old Eleazar. However, Matthias and Judas Maccabeus defeated his armies; and he himſelf was routed by the Elymeans, and obliged to return to Babylon, where he was ſeized with a dreadful diſeaſe, and died in the greateſt inward agonies, 164 years before the Chriſtian æra. He was ſucceeded by his ſon—

ANTIOCHUS EUPATOR, king of Syria, 164 years before Chriſt. By the advice of Lyſias his ſon-in-law, he entered Judea, with an army of 80,000 foot, and eighty elephants; but was defeated by Judas Maccabeus. He was killed by Demetrius his couſin-german, 162 years before the Chriſtian æra.

ANTIOPE (*Encycl.*), in fabulous hiſtory. Another Antiope was queen of the Amazons; and, with the aſſiſtance of the Scythians, invaded the Athenians; but was vanquiſhed by Theſeus.

ANTIPAROS (*Encycl.*). This iſland, according to Heraclides Ponticus as quoted by Stephanus, was firſt peopled by a Phœnician colony from Sidon.—According to Mr. Tournefort's account, it is about ſixteen miles in circumference, produces a little wine and cotton, with as much corn as is ne-

ceſſary for the maintenanee of ſixty or ſeventy families, who live together in a village at the end of the iſland, and are moſtly Malteſe and French corſairs.

This iſland is remarkable for a ſubterraneous cavern or grotto, accounted one of the greateſt natural curioſities in the world. It was diſcovered in the laſt century by one Magni an Italian traveller. The following account of it appears in the old Britiſh magazine, in a letter ſigned *Charles Saunders*, dated Feb. 24th, 1746-7. He ſays, "Its entrance lies in the ſide of a rock, about two miles from the ſea-ſhore; and is a ſpacious and very large arch, formed of rough and craggy rocks, overhung with brambles and a great many climbing plants, that give it a gloomineſs which is very awful and agreeable. Our ſurgeon, myſelf, and four paſſengers, attended by ſix guides with lighted torches, entered this cavern about eight o'clock in the morning, in the middle of Auguſt laſt. We had not gone twenty yards in this cavity, when we loſt all ſight of day-light: but our guides going before us with lights, we entered into a low narrow kind of alley, ſurrounded every way with ſtone all glittering like diamonds by the light of our torches; the whole being covered and lined throughout with ſmall cryſtals, which gave a thouſand various colours by their different reflections. This alley grows lower and narrower as one goes on, till at length one can ſcarce get along it. At the end of this paſſage, we were each of us preſented with a rope to tie about our middles; which when we had done, our guides led us to the brink of a moſt horrible precipice. The deſcent into this was quite ſteep, and the place all dark and gloomy. We could ſee nothing, in ſhort, but ſome of our guides with torches in a miſerable dark place, at a vaſt diſtance below us. The dreadful depth of this place, and the horror of the deſcent through a miſerable darkneſs into it, made me look back to the lane of diamonds, if I may ſo eall it, through which we had juſt paſſed; and I could not but think I was leaving heaven to deſcend into the infernal regions. The hope of ſomething fine at my journey's end, tempted me, however, to let myſelf down. After about two minutes dangling in this poſture, not without much pain as well as terror, I found myſelf ſafe, however, at the bottom; and our friends all ſoon followed the example. When we had congratulated here with one another on our ſafe deſcent; I was inquiring where the grotto, as they called it, was. Our guides, ſhaking their heads, told us, we had a great way to that yet; and led us forward about thirty yards under a roof of ragged rocks, in a ſcene of terrible darkneſs, and at a vaſt depth from the ſurface of the earth, to the brink of another precipice much deeper and more terrible than the former. Two of the guides went down here with their torches firſt; and by their light we could ſee, that this paſſage was not ſo perpendicular indeed as the other, but lay in a very ſteep ſlant, with a very ſlippery rock for the bottom; vaſt pieces of rough rugged rocks jutting out in many places on the right hand, in the deſcent, and forcing the guides ſometimes to climb over, ſometimes to creep under them, and ſometimes go round them; and on the left, a thouſand dark caverns, like ſo many monſtrous wells, ready, if a foot ſhould ſlip, to ſwallow them up for ever. We ſtood on the edge to ſee theſe people with their lights deſcend before us; and were amazed and terrified to ſee them continue deſcending till they ſeemed at a monſtrous and moſt frightful depth. When they were at the bottom, however, they halloed to us: and we, trembling and quaking, began to deſcend after them. We had not gone thirty feet down, when we came to a place where the rock was perfectly perpendicular; and a vaſt cavern ſeemed to open its mouth to ſwallow us up on one ſide, while a wall of rugged rock threatened to tear us to pieces on the other. I was quite diſheartened at this terrible proſpect, and declared I would go back: but ſtill our guides aſſured us there was no danger; and the reſt of the company reſolving to ſee the bottom now they were come ſo far, I would not leave them: ſo on we went to a corner where there was placed an old ſlippery and rotten ladder, which hung down cloſe to the rock; and down this, one after another, we at length all deſcended. When we had got to the bottom of this we found ourſelves at the entrance of another paſſage, which was terrible enough indeed; but in this there was not wanting ſomething of beauty. This was a wide and gradual deſcent; at the entrance of which one of our guides ſeated himſelf on his breech, and began to ſlide down, telling us we muſt do the ſame. We could diſcover, by the light of his torch, that this paſſage was one of the nobleſt vaults in the world. It is about nine feet high, ſeven wide, and has for its bottom a fine green gloſſy marble. The walls and arch of the roof of this, being as ſmooth and even in moſt places as if wrought by art, and made of a fine gliſtering red and white granite, ſupported here and there with columns of a deep blood-red ſhining porphyry, made, with the reflection of the lights, an appearance not to be conceived. This paſſage is at leaſt forty yards long; and of ſo ſteep a deſcent, that one has enough to do, when ſeated on one's breech, not to deſcend too quickly. Our guides that remained with us, could here keep on each ſide of us: and what with the prodigious grandeur and beauty of the place, our eaſy travelling through it, and the diverſion of our now and then running over one another whether we would or not; this was much the pleaſanteſt part of our journey. When we had entered this paſſage, I imagined we ſhould at the bottom join the two guides we had firſt ſent down; but alas! when we were got there, we found ourſelves only at the mouth of another precipice, down which we deſcended by a ſecond ladder not much better than the former. I could have admired this place alſo, would my terror have ſuffered me; but the dread of falling, kept all my thoughts employed during my deſcent. I could not but obſerve, however, as my companions were coming down after me, that the wall, if I may ſo call it, which the ladder hung by, was one maſs of blood-red marble, covered with white ſprigs of rock cryſtal as long as my finger, and making, with the glow of the purple from behind, one continued immenſe ſheet of amythyſts. From the foot of this ladder we ſlided on our bellies through another ſhallow vault of poliſhed green and white marble, about twenty feet; and at the bottom of this joined our guides. Here we all got together once again; and drank ſome rum, to give us courage before we proceeded any farther. After this ſhort refreſhment, we proceeded by a ſtrait, but ſomewhat ſlanting paſſage, of a rough, hard, and ſomewhat coarſe ſtone, full of a thouſand ſtrange figures of ſnakes rolled round, and looking as if alive; but in reality as cold and hard as the reſt of the ſtone, and nothing but ſome of the ſtone itſelf in that ſhape. We walked pretty eaſily along this deſcent for near 200 yards; where we ſaw two pillars ſeemingly made to ſupport the roof from falling in: but in reality it was no ſuch thing; for they were very brittle, and made of a fine glittering yellow marble. When we had paſſed theſe about twenty yards, we found ourſelves at the brink of another very terrible precipice: but this our guides aſſured was the laſt; and there being a very good ladder to get down by, we readily ventured. At the bottom of this ſteep wall, as I may call it, we found ourſelves for ſome way upon plain even ground; but, after about forty yards walking, were preſented by our guides with ropes again; which we faſtened about our middles, though not to be ſwung down by, but only for fear of accidents, as there are lakes and deep waters all the way from hence on the left hand. With this caution, however, we entered the laſt alley; and horrible work it was indeed to get through it. All was perfectly

horrid and diſmal here. The ſides and roof of the paſſage were all of black ſtone; and the rocks in our way were in ſome places ſo ſteep, that we were forced to lie along on our backs, and ſlide down; and ſo rough, that they cut our clothes, and bruiſed us miſerably in paſſing. Over our heads, there were nothing but ragged black rocks, ſome of them looking as if they were every moment ready to fall in upon us: and, on our left hands, the light of our guides' torches ſhewed us continually the ſurface of dirty and miſerable looking lakes of water. If I had heartily repented of my expedition often before, here I aſſure you I was all in a cold ſweat, and fairly gave myſelf over for loſt; heartily curſing all the travellers that had written of this place, that they had deſcribed it ſo as to tempt people to ſee it, and never told us of the horrors that lay in the way. In the midſt of all theſe reflections, and in the moſt diſmal part of all the cavern, on a ſudden we had loſt four of our ſix guides. What was my terror on this event! The place was a thouſand times darker and more terrible for want of their torches; and I expected no other, but every moment to follow them into ſome of theſe lakes, into which I doubted not but they were fallen. The remaining two guides ſaid all they could, indeed, to cheer us up; and told us we ſhould ſee the other four again ſoon, and that we were near the end of our journey. I don't know what effect this might have upon the reſt of my companions; but I aſſure you I believed no part of the ſpeech but the laſt, which I expected every moment to find fulfilled in ſome pond or precipice. Our paſſage was by this time become very narrow, and we were obliged to crawl on all-fours over rugged rocks; when in an inſtant, and in the midſt of theſe melancholy apprehenſions, I heard a little hiſſing noiſe, and ſaw myſelf in utter, and not to be deſcribed, darkneſs. Our guides called indeed cheerfully to us, and told us that they had accidentally dropped their torches into a puddle of water, but we ſhould ſoon come to the reſt of them, and they would light them again; and told us there was no danger, and we had nothing to do but to crawl forward. I cannot ſay but I was amazed at the courage of theſe people; who were in a place where, I thought, four of them had already periſhed, and from whence we could none of us ever eſcape; and determined to lie down and die where I was. Words cannot deſcribe the horror, or the extreme darkneſs, of the place. One of our guides, however, perceiving that I did not advance, came up to me, and clapping his hand firmly over my eyes, dragged me a few paces forward. While I was in this ſtrange condition, expecting every moment death in a thouſand ſhapes, and trembling to think what the guide meant by this rough proceeding, he lifted me at once over a great ſtone, ſet me down on my feet, and took his hand from before my eyes. What words can deſcribe at that inſtant my aſtoniſhment and tranſport! Inſtead of darkneſs and deſpair, all was ſplendor and magnificence before me; our guides all appeared about us; the place was illuminated by fifty torches, and the guides all welcomed me into the grotto of Antiparos. The four that were firſt miſſing, I now found, had only given us the ſlip, to get the torches lighted up before we came; and the other two had put out their lights on purpoſe, to make us enter out of utter darkneſs into this pavilion of ſplendor and glory. I am now come to the proper buſineſs of this letter; which was, to deſcribe this grotto. But I muſt confeſs to you that words cannot do it. The amazing beauties of the place, the eye that ſees them only can conceive. The beſt accounts I can give you, however, pray accept of.

The people told us, the depth of this place was 485 yards. The grotto, in which we then were, is a cavern of 120 yards wide, and 113 long, and ſeems about ſixty yards high in moſt places. Theſe meaſures differ ſomething from the accounts travellers in general give us; but you may depend upon them as exact, for I took them with my own hand. Imagine then with yourſelf, an immenſe arch like this, almoſt all over lined with fine and bright cryſtallized white marble, and illuminated with fifty-ſix torches; and you will then have ſome faint idea of the place I had the pleaſure to ſpend three hours in. This, however, is but a faint deſcription of its beauties. The roof, which is a fine vaulted arch, is hung all over with icicles of white ſhining marble, ſome of them ten feet long, and as thick as one's middle at the root: and among theſe there hang 1000 feſtoons of leaves and flowers of the ſame ſubſtance; but ſo very glittering, that there is no bearing to look up at them. The ſides of the arch are planted with ſeeming trees of the ſame white marble, riſing in rows one above another, and often incloſing the points of the icicles. From theſe trees there alſo hung feſtoons, tied as it were from one to another in vaſt quantities; and in ſome places among them there ſeem rivers of marble winding through them in a thouſand meanders. All theſe things are only made, in a long courſe of years, from the dropping of water, but really look like trees and brooks turned to marble. The floor we trod upon was rough and uneven, with cryſtals of all colours growing irregularly out of it, red, blue, green, and ſome of a pale yellow. Theſe were all ſhaped like pieces of ſalt-petre; but ſo hard, that they cut our ſhoes: among theſe, here and there, are placed icicles of the ſame ſhining white marble with thoſe above, and ſeeming to have fallen down from the roof and fixed there; only the thick end of theſe is to the floor. To all theſe our guides had tied torches, two or three to a pillar, and kept continually beating them to make them burn bright. You may gueſs what a glare of ſplendor and beauty muſt be the effect of this illumination, among ſuch rocks and columns of marble. All round the lower part of the ſides of the arch are a thouſand white maſſes of marble, in the ſhape of oak-trees. Mr. Tournefort compares them to cauliflowers, but I ſhould as ſoon compare them to toad-ſtools. In ſhort, they are large enough to incloſe, in many places, a piece of ground big enough for a bed-chamber. One of theſe chambers has a fair white curtain, whiter than ſatin, of the ſame marble, ſtretched all over the front of it. In this we all cut our names, and the date of the year, as a great many people have done before us. In a courſe of years afterwards, the ſtone bliſters out like this white marble over the letters. Mr. Tournefort thinks the rock grows like oaks or apple-trees for this reaſon; but I remember I ſaw ſome of the fineſt cockle and muſcle ſhells in the rock thereabout that ever I ſaw in my life. I wonder whether he thinks they grow there too. Beſides, if this rock grows ſo faſt, the cavern ought to be all grown up this time; and yet, according to his meaſures and mine, it ſeems on the other hand to be grown larger ſince. Indeed, all that I can gather from his account of this glorious place is, that he had drank a bottle or two too much before he went down into it."

ANTIPATER, the diſciple of Ariſtotle, and one of Alexander the Great's generals, was a man of great abilities, and a lover of the ſciences; but was accuſed of poiſoning Alexander. He ſubdued the revolted Thracians, relieved Megalopolis, and overthrew the Spartans there. He died 321 years before the Chriſtian æra.

ANTIPATER, an Idumean of illuſtrious birth, and poſſeſſed of great riches and abilities, taking advantage of the confuſion into which the two brothers Hyrcanus and Ariſtobulus plunged Judea by their conteſt for the office of high-prieſt, took ſuch meaſures as to gain Hyrcanus that office, and under his government to obtain the abſolute direction of all affairs;

while his great abilities and application to buſineſs made him ſo conſiderable, that he was honoured as much as if he had been inveſted with the royal authority in form: but he was at laſt poiſoned by a Jew, named Malachus, forty-three years before the Chriſtian æra. He left among his other children, the famous Herod king of the Jews.

Antipater (Cælius), a Roman hiſtorian, who wrote a hiſtory of the Punic war, much valued by Cicero. The emperor Adrian preferred him to Salluſt.

Antipater of Sydon, a Stoic philoſopher, and likewiſe a poet, commended by Cicero and Seneca: he flouriſhed about the 171ſt Olympiad. We have ſeveral of his epigrams in the *Anthologia*.

ANTIPATHY (*Encycl.*), in phyſiology, is, properly ſpeaking, a natural horror and deteſtation, an inſuperable hatred, an involuntary averſion, which a ſenſitive being feels for ſome other object, whatever it is, though the perſon who feels this abhorrence is entirely ignorant of its cauſe, and can by no means account for it. Such is the invincible averſion of particular perſons againſt eats, mice, ſpiders, &c.; a prepoſſeſſion which is ſometimes ſo violent, as to make them faint at the ſight of theſe animals. Of the moſt common and natural antipathies the ancient naturaliſts, the ſchoolmen, and the vulgar, form ſo many legends; and relate them as certain facts.

To explore the matter without prejudice, we ſhall find it neceſſary to abſtract from the ſubjects of this diſquiſition, 1. All ſuch antipathies as are not aſcertained; as that which is ſuppoſed to be felt by hens at the ſound of an harp whoſe ſtrings are made of a fox's bowels, between the ſalamander and tortoiſe, and between the weaſel and the toad. Nothing is leſs confirmed, or rather nothing is more falſe, than theſe facts, with which vulgar credulity and aſtoniſhment are amuſed and actuated: and though ſome of theſe antipathies ſhould be aſcertained, this would be no proof that the animals which feel them are not acquainted with their cauſes, according to their mode and proportion of knowledge; in which caſe, it will be no longer the antipathy which we have defined.

2. We muſt abſtract thoſe antipathies which can be extinguiſhed or reſumed at pleaſure; thoſe fictitious averſions, which certain perſons feel, or pretend to feel, with affected airs, that they may appear more preciſe and finical, or ſingularly and prodigiouſly elegant; that they may ſeem to have qualities ſo exquiſitely fine, as require to be treated with peculiar delicacy. One who beſtows any attention on the ſubject, would be aſtoniſhed to find how many of theſe chimerical averſions there are, which are pretended, and paſſed upon the world by thoſe who affect them as natural and unconquerable.

3. When we abſtract thoſe averſions the cauſes of which are known and evident; we ſhall be ſurpriſed, after our deduction of theſe pretended antipathies from the general ſum, how ſmall, how inconſiderable, is the quantity of thoſe which are conformable to our definition. Will any one pretend to call by the name of *antipathy*, thoſe real, innate, and inconteſtable averſions which prevail between ſheep and wolves? Their cauſe is obvious: the wolf devours the ſheep, and ſubſiſts upon his victims; and every animal naturally flies with terror from pain or deſtruction: ſheep ought therefore to regard wolves with horror, which for their nutrition tear and mangle the unreſiſting prey. From principles ſimilar to this, ariſes that averſion which numbers of people feel againſt ſerpents; againſt ſmall animals, ſuch as reptiles in general, and the greateſt number of inſects. During the credulous and ſuſceptible period of infancy, pains have been taken to impreſs on our minds the frightful idea that they are venomous; that their bite is mortal; that their ſting is dangerous, productive of tormenting inflammations or tumours, and ſometimes fatal: they have been repreſented to us as ugly and ſordid; as being, for that reaſon, pernicious to thoſe who touch them; as poiſoning thoſe who have the misfortune to ſwallow them. Theſe horrible prepoſſeſſions are induſtriouſly inculcated from our infancy; they are ſometimes attended and ſupported by diſmal tales, which are greedily imbibed, and indelibly engraven on our memories. It has been taught us both by precept and example, when others at their approach have aſſumed in our view the appearance of deteſtation and even of terror, that we ſhould fly from them, that we ſhould not touch them. Is it then wonderful (if our falſe impreſſions as to this ſubject have been corrected neither by future reflections nor experiments) that we ſhould entertain, during our whole lives, an averſion from theſe objects, even when we have forgot the admonitions, the converſations, and examples, which have taught us to believe and apprehend them as noxious beings? and in proportion to the ſenſibility of our frame, in proportion as our nerves are irritable, our emotions at the ſight of what we fear will be more violent, eſpecially if they anticipate our expectation, and ſeize us unprepared, though our ideas of what we have to fear from them are the moſt confuſed and indiſtinct imaginable. To explain theſe facts, is it neceſſary to fly to the exploded ſubterfuge of occult qualities inherent in bodies, to latent relations productive of antipathies, of which no perſon could ever form an idea?

It is often ſufficient to influence a perſon who had formerly no averſion for an object, if he lives with ſome other aſſociate who gives himſelf up to ſuch capricious panics; the habit is inſenſibly contracted to be agitated with diſagreeable emotions at the preſence of an object which had been formerly beheld with indifference and cold blood. I was acquainted (ſays the author of the article *Antipathy* in the French Encyclopédie) with a perſon of a very ſound underſtanding, whom thunder and lightning by no means terrified; nay, to whom the ſpectacle appeared magnificent and the ſound majeſtic; yet to a mind thus ſeemingly fortified againſt the infectious terror, no more was neceſſary than ſpending the ſummer with a friend in whom the appearance of lightning excited the ſtrongeſt emotions, and whom the remoteſt clap of thunder affected with extravagant paroxyſms, to become timid in exceſs at the approach of thunder, nor could he ever afterwards ſurmount the fear which it inſpired.—The frightful ſtories of dogs and cats, which have killed their maſters, or which have given them mortal wounds, are more than ſufficient to inſpire a timorous perſon with averſion againſt theſe animals; and if the olfactory nerves of ſuch a perſon be delicate, he will immediately diſcover the ſmell of them in a chamber: diſturbed by the apprehenſion which theſe effluvia excite in his mind, he gives himſelf up to the moſt violent uneaſineſs, which is tranquillized when he is aſſured that the animal is no longer in the room. If by chance, in the ſearch which is made to calm the uneaſineſs of this timorous perſon, one of theſe creatures ſhould at laſt be diſcovered, every one preſently exclaims, *A miracle!* and admits the reality of *antipathies* into his creed; whilſt all this is nothing but the effect of a childiſh fear, founded on certain confuſed and exaggerated ideas of the hazard which one may run with theſe animals. The antipathy which ſome people entertain againſt eels, though they are eaten by others with pleaſure, ariſes from nothing but the fear of ſerpents, to which theſe fiſhes are in ſome degree ſimilar. There are likewiſe other antipathies which do not originate in the imagination, but ariſe from ſome natural incongruity; ſuch as we often remark in children, for particular kinds of victuals,

with which their taſte is not offended, but which their ſtomachs cannot digeſt, and which are therefore diſgorged as ſoon as ſwallowed.

To what then are thoſe antipathies, of which we have heard ſo much, reducible? Either to legendary tales; or to averſions againſt objects which we believe dangerous; or to a childiſh terror of imaginary perils; or to a diſreliſh, of which the cauſe is diſguiſed; or to a ridiculous affectation of delicacy; or to an infirmity of the ſtomach; in a word, to a real or pretended reluctance for things which are either inveſted, or ſuppoſed to be inveſted, with qualities hurtful to us. Too much care cannot be taken in preventing, or regulating, the antipathies of children; in familiarizing them with objects of every kind; in diſcovering to them, without emotion, ſuch as are dangerous; in teaching them the means of defence and ſecurity, or the methods of eſcaping their noxious influence; and, when the rational powers are matured by age, in reflecting on the nature of thoſe objects which we fear, in aſcertaining what has been told concerning their qualities, or in vigorouſly operating upon our own diſpoſitions to overcome thoſe vain repugnances which we may feel. See SYMPATHY, which is the oppoſite of *Antipathy*.

ANTIPATHY, in ethics, hatred, averſion, repugnance. *Hatred* is entertained againſt perſons; *averſion*, and *antipathy*, indiſcriminately againſt perſons or things; and *repugnance*, againſt actions alone. *Hatred* is more voluntary than *averſion*, *antipathy*, or *repugnance*. Theſe laſt have greater affinity with the animal conſtitution. The cauſes of ANTIPATHY are leſs known than thoſe of *averſion*. *Repugnance* is leſs permanent than either the one or the other.—We hate a vicious character, we feel *averſion* to its exertions: we are affected with ANTIPATHY for certain perſons at firſt ſight; there are ſame affairs which we tranſact with *repugnance*.—*Hatred* calumniates; *averſion* keeps us at a diſtance from certain perſons; ANTIPATHY makes us deteſt them; *repugnance* hinders us from imitating them.

ANTIPHLOGISTIC, in chemiſtry, a term heretofore employed to denote ſuch a ſtate of any body or ſubſtance as ſtood oppoſed to or contraindicated the exiſtence of phlogiſton in it. See PHLOGISTON. This term is rejected by the new chemiſts, and bids fair to be exploded with the doctrine which gave it birth. It is often uſed in medicine merely to denote ſuch a courſe of remedies as tend to counteract inflammation and heat in the ſyſtem, or even in a part of the body. Thus we read of *antiphlogiſtic ointments* which were uſed in trials by fire, &c. See *Du Cange, gloſſ.* tom. iii. col. 397. *Henry*'s Britain, vol. iii. p. 437.

ANTIRRHIUM, a promontory at the mouth of the Corinthian bay, where it is ſcarce a mile broad, and where it ſeparates the Ætolians from the Peloponneſus; ſo called from its oppoſite ſituation to Rhium in Peloponneſus (Pliny): both are now called the *Dardanelles of Lepanto*.

ANTISTHENES, a Greek philoſopher, and founder of the Cynics. He was born at Athens, and paſſed the former part of his life as a ſoldier. Having afterwards been an attendant at the lectures of Socrates, he was principally charmed with thoſe exhortations of that great philoſopher, which perſuaded to frugality, to temperance, and to moderation: theſe Antiſthenes was reſolved to practiſe by carrying every precept to its utmoſt extent. Permitting therefore his beard to grow, he went about the ſtreets in a thread-bare coat, ſcarcely to be diſtinguiſhed from a common beggar. He prided himſelf upon the moſt rigid virtue, and thought himſelf obliged to attack the vicious wherever he found them. This gave him ſome reputation in the city; but it may be ſuppoſed, that, in a place ſo very luxurious as Athens, he had more enemies than diſciples. His philoſophy conſiſted rather in action than ſpeculation: it was therefore his conſtant maxim, That to be virtuous was to be happy, and that all virtue conſiſted in action; that the wiſe man ſhould live for himſelf, contented in all ſituations, and happy alone in the conſciouſneſs of his own virtue. He acknowledged nothing to be good but what was honourable; and aſſerted, that virtue might be acquired by practice. Laertius tells us there were 10 tomes of his works; and he has given us many of his apophthegms.

ANTIUM (Livy), *Antia*, Dionyſius Halicarnaſſæus; a city of the Volſci (Livy); ſituated on the Tuſcan ſea, yet without a harbour, becauſe they had a neighbouring hamlet, called *Ceno*, with a harbour (Strabo). The Romans gained their firſt reputation in naval affairs againſt the Antiates; part of whoſe ſhips they conveyed into the arſenal of Rome, and part they burnt, and with their beaks, or roſtra, adorned the pulpit erected in the Forum, thence called *Roſtra* (Livy, Florus). Several colonies were ſucceſſively ſent thither (Livy, Tacitus). The epithet is *Antianus*, *Antienſis*, *Antiatinus*, and *Antias-atis*; the people *Antiates*. Here ſtood a famous temple of Fortune (Horace). Addiſon ſays, there were two Fortunæ worſhipped at Antium.—The birth-place of Caligula and Nero (Sueton): but, according to Pliny, the Ambiatinus Vicus was the birth-place of Caligula. It is now extinct, but the name ſtill remains in the *Capo d'Anzo*.

ANTONIA (St.), a town of France, in Rouergue, in the dioceſe of Rhodez, whoſe fortifications are demoliſhed. It is ſeated on the river Aveirou. E. long. 0. 55. N. lat. 44. 10.

ANTONIANO (Silvio), a man of great learning, who raiſed himſelf from a low condition by his merit, was born at Rome in the year 1540. When he was but ten years old, he could make verſes upon any ſubject propoſed to him; and theſe ſo excellent, though pronounced extempore, that even a man of genius could not compoſe the like without a good deal of time and pains. The duke de Ferrara coming to Rome, to congratulate Marcellus II. upon his being raiſed to the pontificate, was ſo charmed with the genius of Antoniano, that he carried him to Ferrara, where he provided able maſters to inſtruct him in all the ſciences. From thence he was ſent for by Pius IV. who made him profeſſor of the belles-lettres in the college at Rome. Antoniano filled this place with ſo much reputation, that, on the day when he began to explain the oration *pro Marco Marcello*, he had a vaſt crowd of auditors, and among theſe no leſs than twenty-five cardinals. He was afterwards choſen rector of the college; and after the death of Pius IV. being ſeized with a ſpirit of devotion, he joined himſelf to Philip Neri, and accepted the office of ſecretary to the ſacred college, offered him by Pius V. which he executed for twenty-five years with the reputation of an honeſt and able man. He refuſed a biſhopric which Gregory XIV. would have given him; but he accepted the office of ſecretary to the briefs, offered him by Clement VIII. who made him his chamberlain, and afterwards a cardinal. Antoniano killed himſelf by too great fatigue: for he ſpent whole nights in writing letters; which brought on a ſickneſs, whereof he died, in the ſixty-third year of his age. He wrote with ſuch eaſe and fluency, that he never almoſt made any blot or eraſures, and it is ſaid of him, that he preſerved himſelf from ſexual indulgences during his whole life.

ANTONIDES, VANDER GOES (John), an eminent Dutch poet, born at Goes, in Zealand, the 3d of April, 1647. His parents were Anabaptiſts, people of good character, but of low circumſtances. They went to live at Amſterdam when Antonides was about four years old; and, in the ninth year

of his age, he began his ſtudies, under the direction of Hadrian Junius and James Cocceius. Antonides took great pleaſure in reading the Latin poets, and carefully compared them with Grotius, Heinſius, &c. By this means he acquired a taſte for poetry, and enriched his mind with noble ideas. He firſt attempted to tranſlate ſome pieces of Ovid, Horace, and other ancients; and, having formed his taſte on theſe excellent models, he at length undertook one of the moſt difficult taſks in poetry, to write a tragedy: this was entitled *Trazil*, or *The Invaſion of China*. Antonides, however, was ſo modeſt, as not to permit it to be publiſhed. Vondel, who was then engaged in a dramatic piece, which was taken alſo from ſome event that happened in China, read Antonides's tragedy; and was ſo well pleaſed with it, that he declared, if the author would not print it, he would take ſome paſſages out of it, and make uſe of them in his own tragedy. He accordingly did ſo; and it was reckoned much to the honour of Antonides, to have written what might be adopted by ſo great a poet, as Vondel was acknowledged to be by all good judges. Upon the concluſion of the peace between Great Britain and Holland, in the year 1697, Antonides wrote a piece, entitled *Bellona aan band*, i. e. "Bellona chained:" a very elegant poem, conſiſting of ſeveral hundred verſes. He next wrote an ingenious heroic poem, which he entitled *The river Y* (the river on which Amſterdam is built).

Antonides's parents had bred him up an apothecary; but his remarkable genius for poetry ſoon gained him the eſteem and friendſhip of ſeveral perſons of diſtinction: and particularly of Mr. Buiſero, one of the lords of the admiralty at Amſterdam, and a great lover of poetry, who ſent him at his expence to purſue his ſtudies at Leyden, where he remained till he took his degree of doctor of phyſic, and then his patron gave him a place in the admiralty. In 1678, Antonides married Suſanna Bermans, a miniſter's daughter, who had alſo a talent for poetry. His marriage was celebrated by ſeveral eminent poets, particularly by the famous Peter Francius, profeſſor of eloquence, who compoſed ſome Latin verſes on the occaſion. After marriage, he did not much indulge his poetic genius: and within a few years he fell into a conſumption, of which he died on the 18th September, 1684, being then but thirty-ſeven years and a few months old. He is eſteemed the moſt eminent Dutch poet, after Vondel. His works have been printed ſeveral times, having been collected by his father Anthony Tanſz. The laſt edition was printed by Nicholas Ten Hoom, at Amſterdam, in the year 1714, in quarto, under the direction of David Van Hoogſtraaten, one of the maſters of the Latin ſchool of that city, who added to it alſo the life of the poet.

ANTONINUS's *Wall* (*Encycl.*). The firſt barrier erected by the Romans was the chain of forts made by Agricola from the frith of Forth to that of Clyde, in the year 81, to protect his conqueſts from the inroads of the Caledonians. The ſecond was the vallum, or dyke, flung up by Adrian in the year 121. It terminated on the weſtern ſide of the kingdom, at *Axelodunum*, or *Brugh*, on the Solway ſands; and was ſuppoſed to have reached no further than *Pons Ælii*, or *Newcaſtle*, on the eaſtern. But from an inſcription lately diſcovered, it appears to have extended as far as the wall of Severus. This rampart of Adrian's was ſituated much further ſouth than Agricola's chain; the country to the north having been either, according to ſome authors, recovered by the native Britons after the departure of Agricola; or, according to others, voluntarily ſlighted by Adrian. However, this work of Adrian's did not long continue to be the extreme boundary of the Roman territories to the north in Britain. For Antoninus Pius, the adopted ſon and immediate ſucceſſor of Adrian, having, by his lieutenant Lollius Urbicus, recovered the country once conquered by Agricola, commanded another rampart to be erected between the friths of Forth and Clyde, in the tract where Agricola had formerly built his chain of forts. The great number of inſcriptions which have been found in or near the ruins of this wall, or rampart, to the honour of Antoninus Pius, leave us no room to doubt its having been built by his direction and command. If the fragment of a Roman pillar with an inſcription, now in the college library of Edinburgh, belonged to this work, as it is generally ſuppoſed to have done, it fixes the date of its execution to the third conſulſhip of Antoninus, which was A. D. 140, only twenty years after that of Adrian, of which this ſeems to have been an imitation. This wall or rampart, as ſome imagine, reached from Caer-ridden on the frith of Forth, to Old Kirkpatrick on the Clyde; or, as others think, from Kinniel on the eaſt, to Dunglaſs on the weſt. Theſe different ſuppoſitions hardly make a mile of difference in the length of this work, which, from ſeveral actual menſurations, appears to have been thirty-ſeven Engliſh or forty Roman miles. Capitolinus, in his life of Antoninus Pius, directly affirms, that the wall which that emperor built in Britain was of turf. This in the main is unqueſtionably true; though it is evident (from the veſtiges of it ſtill remaining, which not very many years ago were dug up and examined for near a mile together) that the foundation was of ſtone. Mr. Camden alſo tells us, from the papers of one Mr. Anthony Pont, that the principal rampart was faced with ſquare ſtone, to prevent the earth from falling into the ditch. The chief parts of this work were as follows: 1. A broad and deep ditch, whoſe dimenſions cannot now be diſcovered with certainty and exactneſs, though Mr. Pont ſays it was twelve feet wide. 2. The principal wall or rampart was about twelve feet thick at the foundation, but its original height cannot now be determined. This wall was ſituated on the ſouth brink of the ditch. 3. A military way on the ſouth ſide of the principal wall, well paved, and raiſed a little above the level of the ground. This work, as well as that of Adrian, was defended by garriſons placed in forts and ſtations along the line of it. The number of theſe forts or ſtations, whoſe veſtiges were viſible in Mr. Pont's time, were eighteen, ſituated at about the diſtance of two miles from each other. In the intervals between the forts, there were turrets or watch-towers. But the number of theſe, and their diſtance from each other, cannot now be diſcovered.

It is not a little ſurpriſing, that though it is now more than 1600 years ſince this work was finiſhed, and more than 1300 ſince it was ſlighted, we can yet diſcover, from authentic monuments, which are ſtill remaining, by what particular bodies of Roman troops almoſt every part of it was executed. This diſcovery is made from inſcriptions upon ſtones, which were originally built into the face of the wall, and have been found in or near its ruins, and are carefully preſerved. The number of ſtones with inſcriptions of this kind now extant, is eleven: of which ſix may be ſeen at one view in the college of Glaſgow, one in the college of Aberdeen, one in the college of Edinburgh, one in the collection of Baron Clerk, one at Cochnoch-houſe, and one at Calder-houſe. From theſe inſcriptions it appears in general, that this great work was executed by the ſecond legion, the vexillations of the ſixth legion and of the twentieth legion, and one cohort of auxiliaries. If theſe corps were all complete, they would make in all a body of 7800 men. Some of theſe inſcriptions have ſuffered greatly by the injuries of time and other accidents; ſo that we cannot diſcover from them with abſolute certainty, how many paces of this work were executed by each of theſe bodies of troops. The ſum of the certain and probable information contained in

theſe inſcriptions, as it is collected by the learned and illuſtrious Mr. Horſley, ſtands thus:

	Paces.
The ſecond legion built - -	11,603
The vexillation of the ſixth legion - -	7,411
The vexillation of the twentieth legion -	7,801
All certain - - -	26,815
The vexillation of the twentieth legion, the monument certain, and the number probable -	3,411
The ſame vexillation, on a plain monument, no number viſible, ſuppoſed - -	3,500
The ſixth legion, a monument, but no number, ſuppoſed - - -	3,000
Cohort prima Cugernorum - -	3,000
Total	39,726

or 39 miles 726 paces, nearly the whole length of the wall. It would have been both uſeful and agreeable to have known how long time theſe troops were employed in the execution of this great work. But of this we have no information. Neither do we know what particular bodies of troops were in garriſon in the ſeveral forts and ſtations along the line of this wall, becauſe theſe garriſons were withdrawn before the *Notitia Imperii* was written.

ANTONIO (Nicholas), knight of the order of St. James, and canon of Seville, did great honour to the Spaniſh nation by his Bibliothêque of their writers. He was born at Seville, in 1617, being the ſon of a gentleman whom King Philip IV. made preſident of the admiralty eſtabliſhed in that city in 1626. After having gone through a courſe of philoſophy and divinity in his own country, he went to ſtudy law at Salamanca, where he cloſely attended the lectures of Franciſco Ramos del Manzano, afterwards counſellor to the king, and preceptor to Charles II. Upon his return to Seville, after he had finiſhed his law-ſtudies at Salamanca, he ſhut himſelf up in the royal monaſtery of Benedictines, where he employed himſelf ſeveral years in writing his *Bibliotheca Hiſpanica*, having the uſe of the books of Bennet de la Sana, abbot of that monaſtery, and dean of the faculty of divinity at Salamanca. In the year 1659 he was ſent to Rome by King Philip IV. in the character of agent-general from this prince: he had alſo particular commiſſions from the inquiſition of Spain, the viceroys of Naples and Sicily, and the governor of Milan, to negociate their affairs at Rome. The Cardinal of Arragon procured him, from Pope Alexander VII. a canonry in the church of Seville, the income whereof he employed in charity and purchaſing of books: he had above 30,000 volumes in his library. By this help, joined to continual labour and indefatigable application, he was at laſt enabled to finiſh his Bibliotheca Hiſpanica, in four volumes in folio, two of which he publiſhed at Rome in the year 1672. The work conſiſts of two parts; the one containing the Spaniſh writers who flouriſhed before the 15th century, and the other thoſe ſince the end of that century. After the publication of theſe two volumes, he was recalled to Madrid by King Charles II. to take upon him the office of counſellor to the cruſade; which he diſcharged with great integrity till his death, which happened in 1684. He left nothing at his death but his vaſt library, which he had brought from Rome to Madrid; and his two brothers, and nephews, being unable to publiſh the remaining volumes of his Bibliotheca, ſent them to Cardinal D'Aguiſne, who paid the charge of the impreſſion, and committed the care thereof to Monſieur Marti, his librarian, who added notes to them, in the name of the cardinal.

ANTONIUS (Marcus) the triumvir, grandſon to the orator of that name (vide *Encyclop.*), was very handſome in his youth; for which reaſon he was greatly beloved by Curio a ſenator, who, by carrying him about in all his debaucheries, made him contract ſuch heavy debts, that his own father forbad him his houſe. Curio, however, was ſo generous as to bail him for 250 talents. When the civil war broke out, Curio took Cæſar's party, and prevailed with Antonius to do the ſame; for which he was made a tribune of the people, and in that office did Cæſar great ſervice. Cæſar, having made himſelf maſter of Rome, gave Antonius the government of Italy: at the battle of Pharſalia, Cæſar confided ſo much in him, that he gave him the command of the left wing of his army, whilſt he himſelf led the right. After Cæſar was made dictator, he made Antonius general of the horſe, though he had never been prætor; in which command he exerted his power with the utmoſt violence. He was made conſul, when Cæſar enjoyed that honour for the fifth time, the laſt year of that uſurper's life. On Cæſar's death, he harangued the populace with great art, and raiſed their fury againſt his murderers; flattering himſelf that he ſhould eaſily get into the place which Cæſar had filled: but his haughty behaviour made him loſe all the advantages his affected concern for Cæſar had gained him. His ill treatment of Octavius, and quarrel with him, produced another civil war; which ended in an accommodation between him, Octavius, and Lepidus, fatal to the peace of Rome. They agreed to ſhare the ſupreme power among them; and many of the moſt illuſtrious Romans were ſacrificed by proſcription to cement this bloody league, which is known by the name of the *Second Triumvirate*. But the triumvirs were too ambitious, and hated one another too much, to be long united. Antonius went into Aſia to raiſe money for his ſoldiers; during his abſence, Fulvia his wife quarrelled with Octavius. When Antonius was in Aſia, indulging himſelf in all manner of luxury, the famous Cleopatra inſpired him with the moſt violent paſſion. Hearing of the quarrel between Fulvia and Octavius, and finding Octavius was become publicly his enemy, Antonius entered into a confederacy with Sextus Pompeius, who was ſtill maſter of Sicily. He then went into Italy in order to fight Octavius; but Fulvia, who had been the author and promoter of this war, dying, Octavius and Antonius came to an agreement. One of the conditions of this new peace was, that they ſhould together attack Pompey, though the former had lately made an alliance with him. Antonius then married Octavia, ſiſter to Octavius, as a pledge of their renewed friendſhip; but returned ſoon after to his beloved Cleopatra, and again lived with her in Alexandria. Octavius took hold of this pretence to inveigh againſt him, and begin the war again. At laſt they engaged in a ſea-fight at Actium, in which Octavius gained a complete victory; which was followed by the deaths both of Antonius and Cleopatra. The infatuated Antonius fell upon his own ſword; and Cleopatra ſtung herſelf to death with an aſp, as was ſuppoſed, to avoid gracing the victor's triumph at Rome.

ANXUR, a city of the Volſci (Pliny, Livy), in Latium; called *Tarracina*, by the Greeks and Latins: now *Terracina*; ſituated on an eminence (Livy, Horace, Sil. Italicus). *Anxuras*, a citizen of Anxur (Livy). And the epithet, *Anxurus*, a name of Jupiter, worſhipped without a beard at Anxur (Virgil). Though others read *Axurus*, or *Axyrus*, without a razor. E. Long. 14. 5. Lat. 41. 18.

ANZERMA, a town and province of Popayan, in South America, where there are mines of gold. The town is ſeated on the river Coca. Long. 75. 25. W. Lat. 4 58. N.

AORNUS (*Encycl.*). This rock was taken by Alexander the Great, in whoſe time there was a report that Hercules had attempted it in vain; however, according to Arrian, this

report was without foundation. It is probable indeed, that it was raſed after the place was taken, in order to magnify Alexander's exploit. While the Macedonian monarch was preparing all things neceſſary for the ſiege, an old man with his two ſons, who had long lived in a cave near the ſummit, came and offered to ſhew him a private way of aſcending. This being readily accepted, Ptolemy, with a conſiderable body of light-armed troops, was diſpatched with them, with orders, in caſe they ſucceeded, to entrench themſelves ſtrongly upon the rock, in the wood to which the old man was to direct them, before they ventured to attack the Indians. Ptolemy exactly exeeuted his orders; and gave notice by a lighted torch ſet upon a pole, that he had got ſafely up. Upon this, Alexander gave immediate orders for a body of troops to attempt the paſſage by which the rock was commonly aſcended; but they were repulſed with great ſlaughter. He then ſent an Indian with letters to Ptolemy, deſiring him, the next time an attack was made by the common way, to fall upon the enemy behind. But in the mean time, thoſe who defended the rock attacked Ptolemy with great vigour; but were at laſt repulſed, though with much difficulty: but the next day, when Alexander renewed the attack, though Ptolemy attacked the Indians in the rear, the Macedonians were repulſed on both ſides. At laſt the king, perceiving that the ſtrength of the Indians lay in the ſtraitneſs and declivity of the way by which they were attacked, cauſed a great quantity of trees to be felled, and with them filled the cavities between the plain on which the Indians were encamped, and the higheſt of his own advanced poſts. The Indians at firſt derided his undertaking; but at length perceiving the ardour with which the work was carried on, and having felt the effects of the miſſile weapons of the Macedonians, they ſent deputies to propoſe terms of capitulation. Alexander, ſuſpecting that their deſign was only to amuſe him till they made their eſcape, withdrew his guards from the avenues. As ſoon as he knew the Indians were deſcended, he, with 700 of Ptolemy's light-armed foot, took poſſeſſion of the deſerted rock, and then made a ſignal for his forces to fall upon the flying Indians. They ſetting up a loud ſhout, ſo terrified the fugitives, that numbers of them fell from the rocks and precipices, and were daſhed to pieces, while the greateſt part of the remainder were cut off in the roads.

APALACHIAN MOUNTAINS (*Encycl.*). A great part of theſe mountains are covered with rocks, ſome of which are of a ſtupendous height and bulk; the ſoil between them is generally black and ſandy, but in ſome places differently coloured, compoſed of pieces of broken rock and ſpar, of a glittering appearance, which ſeem to be indications of minerals and ores if proper ſearch was made for them. Cheſnuts and ſmall oaks are the trees that principally grow on theſe mountains, with ſome *chinkapin* and other ſmall ſhrubs. The graſs is thin, mixed with vetch and ſmall peaſe; and in ſome places there is very little vegetable appearance.

The rocks of the Apalachian mountains ſeem to engroſs one half of the ſurface. They are moſtly of a light grey colour: ſome are of a coarſe-grained marble like alabaſter; others, of a metallic luſtre: ſome pieces are in the form of ſlate, and brittle; others in lumps, and hard: and ſome appear with ſpangles, or covered over with innumerable ſmall ſhining ſpecks, like ſilver. Theſe frequently appear at the roots of trees when blown down. The different ſpars are found moſt on the higheſt and ſteepeſt parts of the hills, where there is little graſs and few trees; but the greateſt part of the ſoil between the rocks is generally a dark ſandy-coloured kind of mould, and ſhallow; yet fertile, and productive of good corn, which encourages the Tallipooſes, a clan of the Cherokee Indians, to ſettle among them in latitude 34°; and they are the only Indian nation that has a conſtant reſidence upon theſe mountains.

APAMEA, or APAMIA, a city of Bithynia, formerly called *Myrlea*, from Myrlus, general of the Colophonians: deſtroyed by Philip, father of Perſeus; and given to his ally Pruſias, who rebuilt it, and called it *Apamea*, from the name of his queen Apama (Strabo). Stephanus ſays, that Nicomedes Epiphanes, ſon of Pruſias, called it after his mother; and that it had its ancient name from Myrlea, an Amazon. The Romans led a colony thither (Strabo); called *Colonea Apamena* (Pliny, Appian). The gentilitious name is *Apamæus*, and *Apamenus* (Trajan in a letter to Pliny).—Another *Apamea*, called *Cibotos*, of Phrygia, at ſome diſtance from the Meander (Agathodæmon); but by a coin of Tiberius, on the Meander. The name is from Apame, mother of Antiochus Soter, the founder, and the daughter of Artabazus (Strabo). The riſe, or at leaſt the increaſe, of Apamea, was owing to the ruins of Celenæ. The inhabitants are called *Apamienſes* (Tacitus).—A third, on the confines of Parthia and Media, ſurnamed *Raphane* (Strabo, Pliny).—A fourth *Apamea*, a town of Meſene, an iſland in the Tigris (Pliny, Ammian); where a branch of the Euphrates, called the *Royal river*, falls into the Tigris (Ptolemy). A fifth in Meſopotamia, on the other ſide the Euphrates, oppoſite to Zeugma on this ſide, both founded by Seleucus, and joined by a bridge, from which the latter takes its name (Pliny, Iſidor, Characenus).—A ſixth *Apamea*, now *Afamia*, alſo in Syria, below the confluence of the Orontes and Marſyas; a ſtrong city, and ſituated in a peninſula, formed by the Orontes and a lake: it was a place of ſuch plenty, that Seleucus, the founder of it, there maintained 500 elephants (Strabo).—*Apamea* was alſo the ancient name of *Pella*, in the Decapolis.

APEE, one of the New Hebrides, in the South Sea, near Mallicoli. Long. 168. 32. E. Lat. 55. 6. N.

APERTURE (*Encycl.*). When water iſſues from a ſmall aperture in the bottom or ſide of a veſſel, which is kept conſtantly full, it has been ſuppoſed, that the force accelerating the loweſt plate of water, of indefinitely little altitude, immediately over the orifice, is the weight of the incumbent water only; and, therefore, that after the motion of the plate has once commenced, the preſſure of the incumbent column will be diminiſhed, and of conſequence the force accelerating the plate, during its deſcent through its own altitude, will not be conſtant.

But, in fact, it is not the preſſure of the incumbent water, which accelerates the loweſt plate; for every plate of water immediately incumbent over the hole, abſtracting from all lateral preſſure, begins to be accelerated equally at the ſame moment; and therefore the incumbent column, excluſive of any lateral preſſure, could produce no increaſe of velocity, in proportion to its increaſed height. The force which really accelerates the iſſuing plate, is the preſſure of the ambient water, which ſurrounds the cylinder immediately over the aperture; and this lateral preſſure being communicated to the upper ſurface of the plate, muſt be as much increaſed by the velocity of the ſuperior deſcending plate, as it is diminiſhed by that of the inferior iſſuing plate, ſo as to remain conſtantly of the ſame magnitude.

On this principle it can be eaſily demonſtrated, that the velocity with which water ſpouts from an aperture in the bottom or ſide of a veſſel, is equal to that which a heavy body would acquire in falling through the height of the fluid above the orifice.

This demonſtration, however, as Mr. Atwood obſerves, is true only on the hypotheſis that the water ſuffers no reſiſtance, but iſſues in a cylindrical or priſmatic form correſponding to the hole. But, in fact, the velocity of the water according to

theory will be diminiſhed by the friction of the particles againſt the edges of the orifice, from their mutual attraction, by which the iſſuing particles are retarded by thoſe which are ſtill in the veſſel, and have not acquired the velocity of thoſe which precede them, but principally from the obliquity of their motions.

For, as Chev. Du Buat obſerves, when water iſſues from an orifice, the particles will flow from all ſides, towards the orifice, with an accelerated motion, and in all directions. If the orifice be horizontal, that filament of particles which anſwers to the centre of the hole will deſcend in a vertical line, and will ſuffer no other reſiſtance than that of the friction cauſed by the exceſs of its velocity above that of the collateral filaments, or by the retardation which ariſes from the attraction ſubſiſting between them. The other filaments, after they have deſcended vertically for ſome time, are compelled to turn from their vertical courſe, and to approach the orifice in different curves; and when they arrive at it, their directions become more or leſs horizontal, according as they paſs nearer to or farther from the edge of the orifice. The motion thereof is decompoſed according to two directions, the one horizontal, which is deſtroyed by the equal and contrary reſiſtance of the filaments which are diametrically oppoſite; the other vertical, in proportion to which the quantity of water diſcharged is to be eſtimated. Hence we ſee, that the vertical velocity of the filaments decreaſes from the centre of the orifice to its circumference; and that the total diſcharge is leſs than if all the filaments had iſſued vertically in the ſame manner with that which anſwers to the centre of the aperture. It alſo follows, that the filaments which are nearer to the centre, moving faſter than thoſe which are nearer to the edges, the vein of the fluid, after it has iſſued from the orifice, will form a cone whoſe baſe is the orifice; that is to ſay, that its diameter will diminiſh, at leaſt, to a certain diſtance, becauſe the exterior filaments are gradually drawn on, in conſequence of their mutual attraction, by the interior filaments whoſe velocity is greater; whence there follows a diminution in the diameter of the vein.

This manner of accounting for the contraction of the vein ſeems more reaſonable than that which is given by Newton; as there appears to be no adequate cauſe for the acceleration of the water, after it has been diſcharged from the orifice.

The diminution of the mean velocity of the water, cauſed ſolely by the obliquity of the motions of the iſſuing particles, excluſive of any other impediment, may be thus determined:

Let *m n* (fig. 1. Pl. 11.) be the diameter of the aperture in the veſſel ABDC filled with water: in whatever direction the water iſſues, its velocity in that direction will, in all caſes, be the ſame, becauſe the preſſure of fluids is the ſame in all directions; thus, whether a fluid ſpouts perpendicularly upwards or downwards, horizontally or obliquely, the ſpace through which it is projected, in a given time, is the ſame. Now to determine this direction, ſince the horizontal and vertical preſſures are equal, the iſſuing particles will aſſume the intermediate direction, which will therefore form an angle of 45° with the plane of the orifice: its vertical velocity therefore will be leſs than its direct or total velocity in the proportion of the diagonal of a ſquare to its ſide, or as 7 to 5 nearly; but the particles of the central filament iſſue with the full velocity due to the entire height of the water; therefore the velocity of the central particles will be to the mean velocity as 7 to the mean between 7 and 5, or as 7 to 6. This is the diminution, as has been ſaid, which takes place in conſequence ſolely of the obliquity of the motions with which the particles iſſue from the orifice: if the other cauſes of retardation be taken into the account, we may conclude, that the velocity ſhould be diminiſhed perhaps in the ratio of 8 or even 9 to 6; which accords very well with experiments. Thus Polenus makes the ratio of the diameters of the contracted vein and aperture, which is the ſame with that of the mean and greateſt velocity, to be as $5\frac{1}{2}$ to $6\frac{1}{2}$; Bernouilli 5 to 7; Chev. Du Buat 6 to 9. When the orifice is infinitely little, the cylinder of iſſuing water becomes a ſingle filament, which is therefore diſcharged without any obliquity, and there will be no diminution of velocity, except ſuch as ariſes from friction and the tenacity of the particles. If the aperture be increaſed ſo as to become equal to the baſe of the veſſel, the column of water will then deſcend like a falling body, and therefore the velocity will be the ſame as before; but it will not acquire this velocity until the uppermoſt plate of water has been diſcharged. At the beginning of the motion, the firſt or loweſt plate will flow out with a velocity indefinitely little; the next plate with a greater velocity; and ſo on, until the upper plate ſhall have deſcended to the orifice, which will then iſſue with the greateſt velocity. But if the veſſel be ſuppoſed to be kept conſtantly full, the velocity of the effluent water will increaſe ſo as at length to become equal to that which a heavy body would acquire in falling from an infinite height.

Since the middle filament of particles is diſcharged with the full velocity due to the entire altitude of the fluid above the orifice, experiments made on the diſtance or height to which fluids ſpout, will be found to agree very well with theory, but it by no means follows, that all the filaments ſhould be diſcharged with the ſame velocity: the quantity of the fluid therefore diſcharged in a given time, may be leſs than that which would be diſcharged, if all the filaments were diſcharged with the velocity due to the entire altitude; becauſe this quantity depends on the mean velocity of all the filaments. Hence, therefore, it cannot be inferred from theſe experiments, compared with thoſe which relate to the height or diſtance to which the fluid ſpouts, that the velocity of the water in the orifice is leſs than that which is due to the entire altitude: and that it is accelerated immediately after it gets out of it; becauſe the diſtance to which the fluid ſpouts depends on the central filament only, but the quantity diſcharged on the mean velocity of the whole.

"To bring this queſtion to the teſt of experiment (ſays the Rev. Dr. Matthew Young, from whoſe paper in the Tranſactions of the Royal Iriſh Academy we quote), if all the particles were equally accelerated at their diſcharge from their orifice, and immediately after they leave it, they ought all to be projected horizontally to the very ſame diſtance upon an horizontal plane; but on experiment I found, that when the fluid ſpouted through an orifice of ,08 of an inch diameter, and was kept conſtantly at the ſame height, the greateſt and leaſt diſtances at which it ſtruck the horizontal plane were nearly 15 and 12 inches; but theſe diſtances are proportional to the velocities with which they are diſcharged. It follows, therefore, that all the particles are not projected with the ſame velocity. It is to be obſerved, that the particles which are diſcharged with the greateſt and leaſt velocities are few in compariſon of thoſe which are diſcharged with intermediate velocities, for while the entire ſhower extended from 15 to 12 inches on the horizontal plane, the denſer part was found to occupy only the ſpace between $14\frac{1}{4}$ and $12\frac{3}{4}$ inches; ſo that the limits of the velocities of the parts of the denſer ſhower were as 7 and 6,26; but the limits of the whole were 15 and 12, or as 7 and 5,6; and the limits by theory are as 7 and 5. But we may perceive, that when the fluid ſpouts horizontally, the particles which iſſue from the upper part of the aperture, and which therefore ought to move with the leaſt velocity, muſt encounter thoſe below them moving with a greater velocity, which will increaſe the diſtance to which they are projected on an horizontal plane. Likewiſe, the particles which iſſue from the loweſt part of the orifice, and which ought to move with

a leſs velocity, than that with which thoſe in the axis move, in the ratio of 5 to 7, will have their velocity increaſed by their being at a greater depth. The limit therefore of the ratio of the diſtances to which the particles are projected on an horizontal plane, muſt be leſs than that which reſults from the theory of water iſſuing through an horizontal aperture. But it is obvious that the greater depth of the lower particles, when the orifice is vertical, cannot account for the entire difference of diſtance to which the particles are projected; for the depth of the orifice being 8,55 inches, and the diameter of the orifice ,08 of an inch, the velocities on account of the difference of depth would be only as $\sqrt{8,55}$ to $\sqrt{8,63}$, or as 14,6 to 15 nearly. Perhaps it might be ſaid, that this difference of diſtance was cauſed, not by the different velocities, but by the different directions in which the particles are diſcharged; ſo that thoſe which are projected in the axis of the vein, will ſtrike the horizontal plane at a greater diſtance than thoſe which are projected from the edges of the orifice with the ſame velocity, but in a different direction. But this cannot be the cauſe; for when the aperture is horizontal, the particles which iſſue from the oppoſite ſides *m*, *n*, of the orifice (fig. 2.), meeting each other, deſtroy their convergence, and afterwards proceed in the direction of the axis of the vein, and therefore the vein will continue nearly of the ſame diameter: whereas, if the particles croſſed each other, with the ſame velocity, in different directions, they would deſcribe interſecting parabolas *n s*, *m t*, and the diameter of the vein would continually increaſe. In order to determine whether this were the caſe, I cauſed the fluid to iſſue through an aperture in the bottom of the veſſel, and at the diſtance of 12 inches I found the diameter of the vein a little increaſed, when the velocity of the efflux was conſiderable; but not ſenſibly augmented, when the velocity was much diminiſhed. Since the dilatation of the vein in this caſe depends on the velocity with which the water iſſues from the aperture, it is to be inferred, that it is cauſed by the reſiſtance of the air, which producing a retardation of the preceding particles, thoſe which follow impinge againſt them, and the thickneſs of the vein is increaſed; for the ſame reaſon as when the jet is made perpendicularly upwards, a broad head is formed in conſequence of the retardation of the uppermoſt particles. Now, ſince it appears that the dilatation of the vein which ariſes either from the different directions of the particles, or the reſiſtance which they undergo from the air, or both together, cannot account for the difference of diſtance to which the particles are projected on an horizontal plane, we muſt conclude that this difference is cauſed by the different velocities with which they eſcape from the orifice.

"When a tube *m n r s* (fig. 3.) is inſerted into the veſſel ABCD, it is found, that the velocity is increaſed nearly in the ſub-duplicate ratio of the length of the pipe, when the tubes are ſhort; and that it approaches nearer to that ſub-duplicate ratio, according as the length of the pipe is increaſed. To account for this increaſe of velocity has appeared a matter of ſome difficulty, ſince the water cannot iſſue at *r s* with a greater velocity than it enters at *m n;* and it does not appear how the velocity at *m n* can be increaſed by inſerting a tube beneath it. In order to explain the cauſe of this effect, we are to conſider, that the whole force with which the plate *m n* is preſſed down is the weight of a column of water equal to *e m n f*, together with the weight of a column of air of the ſame baſe, reaching to the top of the atmoſphere; and the whole force with which it is preſſed up is the weight of an equal column of air, diminiſhed by the weight of a column of water equal to *m n r s;* therefore the actual force with which the plate *m n* is preſſed down is the weight of a column of water equal to *e f r s;* the velocity therefore with which the plate *m n* will iſſue through the orifice *m n* will be the ſame as through the orifice *r s* in the veſſel A *b c* D; that is, equal to the velocity which a heavy body would acquire in falling through the altitude *e r*; and all the plates of water in the tube *m n r s* will deſcend with the ſame velocity; for they cannot deſcend faſter, becauſe otherwiſe there would be a vacuum left in the tube, which is prevented by the upward preſſure of the atmoſphere. And the velocity of the effluent water will be the ſame, whatever be the preſſure of the atmoſphere, provided the weight of a column of air of the ſame baſe with *r s*, and whoſe height is equal to that of the atmoſphere, be either greater than or equal to the weight of the pillar of water *m n r s*. This might be proved experimentally by a veſſel of water with a pipe inſerted in the bottom, placed under an exhauſted receiver. But as the operation of exhauſtion is obſtructed more by the evaporation of water than of mercury, it will be better to uſe mercury in theſe experiments. Now, if D be the defect of the gauge from the ſtandard altitude, it will meaſure the preſſure of the air on the ſurface of the mercury in the veſſel: Let A be the altitude of the mercury in the veſſel above the upper orifice of the pipe, and P the length of the pipe; then the whole force preſſing downwards the plate of mercury which is immediately in the upper orifice of the pipe, will be = D + A; and the whole force preſſing the ſame plate upwards will be D — P; and the difference between theſe forces will be the abſolute force preſſing the ſame plate of mercury downwards; while D is greater than P, this abſolute force will conſequently be equal to A + P; when D = P, D—P vaniſhes, and the force preſſing the plate downwards is = D + A = P + A; hence, therefore, no variation in the time of the efflux will be perceived, while the altitude of the mercury in the gage is equal to or leſs than the difference between the length of the pipe and the ſtandard altitude. When D is leſs than P, the force upwards is alſo nothing; and therefore, as before, the whole force preſſing the plate downwards is = D + A; and A being given, it decreaſes according as D decreaſes; and when D vaniſhes, that is, when the receiver is abſolutely exhauſted, the force becomes equal to A, and the time of the efflux will be the ſame as if the pipe had not been inſerted in the bottom of the veſſel. To try the truth of theſe things by experiment, I inſerted a tube 7,8 inches long in a cylindrical veſſel, and cloſing the orifice of the pipe, I filled the veſſel with mercury to the height of 6 inches; then placing the apparatus under the receiver of an air-pump, when the barometer was at 30 inches, and the gauge at 28,5, the time of the efflux was 26 ſeconds: when the experiment was repeated preciſely in the ſame manner, but in the open air, the time of the efflux was only 19 ſeconds. Now, as the gauge ſtood at 28,5, the defect D was 30 — 28,5 = 1,5, and the preſſure on the plate of mercury was = 6 + $1\frac{1}{2}$ = $7\frac{1}{2}$; in the open air the preſſure was = 6 + 7,8 = 13,8; therefore the ratio of the velocity of the efflux in both caſes, which is the ſame with the reciprocal ratio of the times, was $\sqrt{7\frac{1}{2}}$ to $\sqrt{13,8}$, or as 2,73 to 3,7; but 2,73 is to 3,7 as 19 to 26 very nearly. No difference was obſerved in the times of the efflux, when in the open air and exhauſted receiver, unleſs the gauge ſtood higher than $22\frac{1}{2}$ inches; that is, unleſs the height of the mercury in the gauge was greater than the difference between the length of the pipe and the ſtandard altitude. In another experiment, when the gauge ſtood at 27,9, the height of the barometer was 29,9; the defect therefore was = 2, and the preſſure = 8. But $\sqrt{8}$ = 2,828, and $\sqrt{13,8}$ = 3,7 but 2,828 : 3,7 :: 19 : 24, and by experiment the time of the efflux appeared to be 23 ſeconds. When the efflux is made in vacuo, it is obvious to obſerve, that the pipe is not filled during the efflux, as it is while the diſcharge is made in the open air.

"Since the column of water in the pipe *m n r s* adds to

the preſſure which the plate *m n* ſuſtains, by diminiſhing the upward preſſure of the air through the pipe, it appears that it produces this increaſe of preſſure in the plate *m n* alone, without producing any lateral preſſure in the water which is on a level with *m n*; for it is manifeſt, that if an aperture were made in *m* B or *n* C, the velocity of the water iſſuing through it would not be affected by the inſertion of the pipe; and conſequently that the plate *m n*, which is immediately in the orifice of the pipe, is the only one, on the ſame level, whoſe tendency downwards is increaſed by the inſertion of the pipe. Hence, the particles of water at the edge of the aperture, having their perpendicular preſſure increaſed by the weight of the column *m n r s*, without any increaſe of their lateral preſſure, they will iſſue through the orifice *m n* more perpendicularly; the ſides alſo of the tube will obſtruct the converging motion of the particles, and conſequently, on both theſe accounts, the quantity of water diſcharged through a pipe thus inſerted will exceed that diſcharged through a ſimple orifice, in a greater ratio than the ſub-duplicate of the height of the water. And according as the length of the pipe increaſes, the ratio of the quantity of water actually diſcharged by experiment, to that which ſhould be diſcharged according to theory, will increaſe; becauſe the ratio of the perpendicular to the horizontal preſſure increaſes, in the ratio of the ſum of the depth of the veſſel, and length of the pipe, to the depth of the veſſel. It follows therefore, that experiments made in this manner, will approach nearer to coincidence with theory, than when made with a ſimple orifice; except either when the tube is ſo long as that the friction of the fluid againſt the ſides of the tube ſhall produce a ſenſible effect, or when it is ſo ſhort, as not to be ſufficient to give the particles a vertical direction. All which agrees very well with the experiments made by the ingenious Mr. Vince, of which he has given us an account in the Phil. Tranſ. for the year 1795. Thus he tells us, that having inſerted a tube, a quarter of an inch in length, into a cylindrical veſſel 12 inches deep, he found that the velocity did not ſenſibly differ from that through the orifice; the cauſe of which he diſcovered to be this, that the ſtream did not fill the pipe, but that the fluid was contracted, as when it flowed through the ſimple orifice. When the pipe was half an inch long, inſerted into a veſſel of the ſame depth as before, the velocity of the water from the pipe and from the orifice, which ought by theory to have been as $\sqrt{12,5}$ to $\sqrt{12}$, or as 49 to 48, was by experiment found to be nearly in the proportion of 4 to 3. Now if the ratio of 49 to 48 be increaſed in the ratio of 7 to 6 (becauſe this is the ratio of the diminution of the velocity on account of the contraction of the vein, and this contraction either nearly or entirely vaniſhes in a pipe), we ſhall have the ratio of 3,57 to 3. When the pipe was an inch long, the velocity from the pipe and from the orifice, which, according to theory, ought to have been as $\sqrt{13}$ to $\sqrt{12}$, or as 26 to 25, appeared by experiment, very nearly in the ratio of 4 to 3; now if the ratio of 26 to 25 be increaſed in the ratio of 7 to 6, we ſhall have the ratio of 3,64 to 3. When he made uſe of longer pipes, the velocity of the effluent water by experiment approached nearer to that which ought to have been diſcharged according to theory; ſo that in long pipes the difference between theory and experiment, he ſays, was not greater than what might be expected from the friction of pipes, and other cauſes which may be ſuppoſed to retard the velocity. When he inſerted a pipe of the ſame diameter with the aperture, which terminated in a truncated cone fixed in the orifice (fig. 4. ſee the Philoſophical Tranſactions for the year 1795), he expected, that the quantity of water diſcharged in a given time would have been diminiſhed, becauſe the water, iſſuing through the orifice *m n*, would have room to form the *vena contracta* in the enlarging cone; but he found, that the ſame quantity of water was diſcharged, as if the pipe had continued throughout of the ſame diameter with the orifice. The reaſon of this is manifeſt from what has been ſaid, for the preſſure of the air will not ſuffer the truncated cone to remain partly empty, as it would be if the *vena contracta* were formed; it will therefore continue full, and conſequently the water will paſs through it in the ſame manner as if the water in the cone, ſurrounding the pipe *m a b n*, were congealed."

Mr. Vince likewiſe inſerted into the bottom of the veſſel a perpendicular pipe, in form of a truncated cone, the narrower part being fixed in the orifice; by which he found the efflux to be increaſed more than if he had inſerted a cylindrical pipe of the ſame length, whoſe diameter was equal to that of the narroweſt part of the conical pipe. This effect may be explained on the ſame principle by which we accounted for the augmentation of the diameter of a vertical vein of water, through a ſimple orifice, when the velocity of the efflux is conſiderable. For when a perpendicular pipe is inſerted, the velocity of the diſcharge being conſiderably increaſed, the reſiſtance from the air will be ſo likewiſe; and thus the diameter of the vein has a tendency to enlarge itſelf; now in the widening cone, the pipe admits of this augmentation, at the ſame time that it increaſes the velocity; but the cylindrical pipe, though it equally increaſes the velocity, yet it does not permit the vein to enlarge itſelf, and by thus confining it, the efflux is obſtructed, and the quantity diſcharged in a given time is diminiſhed. Accordingly, under the receiver of an air-pump, even in a moderate degree of exhauſtion, there is no difference perceived between the velocities with which a fluid is diſcharged through a conical or cylindrical pipe.

APHACA, the name of a place in Syria, ſituated between the Heliopolis and Byblus, near Lebanon (Zoſimus); infamous for a temple of Venus, called *Aphacitis*, near which was a lake, round which fire uſually burſt forth, and its waters were ſo heavy, that bodies floated on them. The temple was deſtroyed by Conſtantine, as being a ſchool of incontinence (Euſebius). The name is of Syriac origin, ſignifying *embraces*.

APHRODISIAS, an iſland on the coaſt of Carmania (Pliny); ſacred to Venus (Arrian). Another iſland on the coaſt of Cyrene, with a road for ſhips (Scylax); called *Laea*, or the iſland of Venus (Ptolemy).

APHRODISIUS, an inland city of Caria, called the *Metropolis* (Ptolemy, Stephanus); ſaid by Suidas to have been called *Ninoe*. Another of Cilicia (Ptolemy); ſo called from the worſhip and a temple of Venus (Pliny). A third of Thrace, to the north of the iſthmus of the Cherſoneſus; an open town, till ſtrongly fortified by Juſtinian (Procopius).

APHYTIS, a town of the Cherſoneſus, called *Pallare*, in Macedonia (Pliny); famous for an oracle of Apollo.

APINA, or *Apinæ*, a town of Apulia, built by Diomedes, as was alſo Tricæ (Pliny). *Apinæ* and *Tricæ* is a proverbial ſaying for things trifling and of no value (Martial); and *Apinarii* was the appellation for triflers or buffoons (Trebellius Pollio).

APION, a famous grammarian, born in Egypt, was a profeſſor at Rome in the reign of Tiberius. He had all the arrogance of a mere pedant, and amuſed himſelf with difficult and inſignificant enquiries. One of his principal works was his Antiquities of Egypt.

APOBATANA, the metropolis of Media, and where the kings kept their treaſure (Iſidorus Characenus); ſuppoſed to be the ſame with *Echatana*.

APOBATHRA, a place near Seſtos (Strabo); the landing place where Xerxes's ſhips were frozen, and ſtuck in the ice (Euſtathius).

APOCALYPSE (*Encycl.*). This book consists of twenty-two chapters. The three first are an instruction to the bishops of the seven churches of Asia Minor. The fifteen following chapters contain the persecutions which the church was to suffer from the Jews, heretics, and Roman emperors. Next, St. John prophesies of the vengeance of God, which he will exercise against those persecutors, against the Roman empire, and the city of Rome, which, as the Protestants suppose, he describes under the name of Babylon, the great whore, seated upon seven hills. In the last place, the 19th, 20th, 21st, and 22d chapters, describe the triumph of the church over its enemies, the marriage of the Lamb, and the happiness of the church triumphant.

"It is a part of this prophecy (says Sir Isaac Newton), that it should not be understood before the last age of the world; and therefore it makes for the credit of the prophecy, that it is not yet understood. The folly of interpreters has been to foretel times and things by this prophecy, as if God designed to make them prophets. By this rashness they have not only exposed themselves, but brought the prophecy also into contempt. The design of God was much otherwise: he gave this and the prophecies of the Old Testament, not to gratify men's curiosities, by enabling them to foreknow things; but that, after they were fulfilled, they might be interpreted by the events; and his own providence, not the interpreters, be then manifested thereby to the world. And there is already so much of the prophecy fulfilled, that as many as will take pains in this study, may see sufficient instances of God's providence."

APOLLINARIS (Caius Sulpicius), a very learned grammarian, born at Carthage, lived in the 2d century, under the Antonines; he is supposed to be the author of the verses which are prefixed to the comedies of Terence, and contain the arguments of them. He had for his successor in the profession of grammar Helvius Pertinax, who had been his scholar, and was at last emperor.

Apollinaris Sidonius (Caius Sollius), an eminent Christian writer and bishop in the 5th century, was born of a noble family in France. He was educated under the best masters, and made a prodigious progress in the several arts and sciences, but particularly in poetry and polite literature. After he had left the schools, he applied himself to the profession of war. He married Papianilla, the daughter of Avitus, who was consul, and afterwards emperor, by whom he had three children. But Majorianus in the year 457 having deprived Avitus of the empire, and taken the city of Lyons, in which our author resided, Apollinaris fell into the hands of the enemy. However, the reputation of his learning softened Majorianus's resentment, so that he treated him with the utmost civility, in return for which Apollinaris composed a panegyric to his honour; which was so highly applauded, that he had a statue erected to him at Rome, and was honoured with the title of *Count*. In the year 467 the Emperor Anthemius rewarded him for the panegyric, which he had written in honour of him, by raising him to the post of governor of Rome, and afterwards to the dignity of a patrician and senator, and erecting a statue to him. But he soon quitted these secular employments for the service of the church. The bishopric of Clermont being vacant in 472 by the death of Eparchius, Apollinaris, who was then only a laymen, was chosen to succeed him without any interest or solicitations on his part, in which see he acted with the greatest integrity. Clermont being besieged by the Goths, he animated the people to the defence of that city, and would never consent to the surrender of it; so that, when it was taken about the year 480, he was obliged to retire; but he was soon restored by Evarigcs king of the Goths, and continued to govern the church as he had done before. He died in peace the 21st of August, 487, and his festival is still observed in the church of Clermont, where his memory is had in great veneration. He is esteemed the most elegant-writer of his age, both in prose and verse. He wrote a great many little pieces; but preserved none but those which he thought were worthy of being continued down to posterity. He collected himself the nine books which we have remaining of his letters. His chief pieces in poetry are the three panegyrics upon the emperors Avitus, Majorianus, and Anthemius. The rest of them are a collection of poems addressed to his friends upon particular subjects. His letters contain a variety of particulars relating to polite literature and profane history.

APOLLINARIUS (Claudius), a learned bishop of Hierapolis, who, about the year 170, presented to Marcus Aurelius an excellent Apology for the Christians.

Apollinarius the Younger, thus called to distinguish him from his father, called *Apollinarius the Elder*, was at first lector or reader of Loadicea, and afterwards bishop of that city. He was universally esteemed the greatest man of his age, both for learning and piety, and a most accurate and nervous defender of the faith against all its enemies: but notwithstanding this, on his advancing some opinions that were not approved, he was anathematized as an heretic by the second general council of Constantinople in 381.

APOLLODORUS, born at Damascus, a famous architect under Trajan and Hadrian: he had the direction of the bridge of stone which Trajan ordered to be built over the Danube in the year 104, which was esteemed the most magnificent of all the works of that emperor. Hadrian, one day as Trajan was discoursing with this architect upon the buildings he had raised at Rome, would needs give his judgment, and shewed he understood nothing of the matter. Apollodorus turned upon him bluntly, and said to him, "Go paint citruls, for you are very ignorant of the subject we are talking upon." Hadrian at this time boasted of his painting citruls well. This insult cost Apollodorus his life.

Apollodorus, a celebrated painter of Athens, about 408 years before the birth of Christ, was the first who invented the art of mingling the colours, and of expressing the lights and shadows. He was admired also for his judicious choice of subjects, and for the beauty and strength of colouring surpassed all the masters that went before him. He excelled likewise in statuary.

Apollodorus the Athenian, a famous grammarian, the son of Asclepiades, and disciple of Aristarchus. He wrote many works not now extant; but his most famous production was his *Bibliotheca*, concerning the origin of the gods: this work consisted of twenty-four books, but only three are now in being. Several other pieces of his are to be found in Fabricius's *Bibliotheca Græca*. There were various other persons of this name: Scipio Tetti, a Neapolitan, has written a treatise of the Apollodoruses, which was printed at Rome in 1555; and Dr. Thomas Gale published a work of the same kind in 1675.

Apollonia, feasts sacred to Apollo, instituted upon the following occasion. Apollo, having vanquished Python, went with his sister Diana to Ægialea; but, being driven from thence, he removed to the island of Crete. The Ægialeans were soon after visited with a plague; upon which, consulting the soothsayers, they were ordered to send seven young men, and as many virgins, to appease those deities and bring them back into their country. Apollo and Diana being thus appeased, returned to Ægialea: in memory of which, they dedicated a temple to Pitho, the *goddess of persuasion*; whence a custom arose of choosing every year seven young men, and as many virgins, to go as it were in search of Apollo and Diana.

APOLLONIUS Rhodius, the author of the *Argonautics*, was born at Alexandria in Egypt: he taught rhetoric at

Rhodes, and hence was called *Rhodius*. He flouriſhed about the 137th Olympiad, and was keeper of the Alexandrian library. Longinus, in his treatiſe *Of the Sublime*, commends this poet. The ancient Scholia upon his *Argonautics*, ſtill extant, are extremely uſeful, and full of learning.

Apollonius of Perga, a city of Pamphylia, was a great geometrician, under the reign of Ptolemy Euergetes, which reaches from the 2d year of the 133d Olympiad to the 3d year of the 139th. He ſtudied a long time at Alexandria, under the diſciples of Euclid; and compoſed ſeveral works, of which that only of the Conics remains.

Apollonius, a Pythagorean philoſopher, born at Tyana in Cappadocia, about the beginning of the firſt century. At ſixteen years of age he became a ſtrict obſerver of Pythagoras's rules, renouncing wine, women, and all ſorts of fleſh; not wearing ſhoes, letting his hair grow, and wearing nothing but linen. He ſoon after ſet up for a reformer of mankind, and choſe his habitation in a temple of Æſculapius, where he is ſaid to have performed many wonderful cures. Philoſtratus has wrote the Life of Apollonius, in which there are numberleſs fabulous ſtories recounted of him. We are told that he went five years without ſpeaking; and yet, during this time, that he ſtopped many ſeditions in Cilicia and Pamphylia: that he travelled, and ſet up for a legiſlator; and that he gave out he underſtood all languages, without having ever learned them; that he could tell the thoughts of men, and underſtood the oracles which birds gave by their ſinging. The heathens were fond of oppoſing the pretended miracles of this man to thoſe of our Saviour: and by a treatiſe which Euſebius wrote againſt one Hierocles, we find that the drift of the latter, in the treatiſe which Euſebius refutes, ſeems to have been to draw a parallel betwixt Jeſus Chriſt and Apollonius, in which he gives the preference to this philoſopher. Mr. Du Pin has wrote a confutation of Philoſtratus's Life of Apollonius. Apollonius wrote ſome works, *viz.* four books of judicial aſtrology; a treatiſe upon the ſacrifices, ſhewing what was proper to be offered to each deity; and a great number of letters, all of which are now loſt.

APONO (Peter d'), a famous philoſopher and phyſician of his age, was born in 1250, in a village near Padua. He ſtudied ſome time at Paris, and was there promoted to the degree of doctor in philoſophy and phyſic. When he came to practiſe as a phyſician, he is ſaid to have inſiſted on very large ſums for his viſits: we are not told what his demands were in the place of his reſidence, but it is affirmed that he would not attend the ſick in any other place under an hundred and fifty florins a-day; and when he was ſent for by Pope Honorius IV. he demanded four hundred ducats for each day's attendance. He was ſuſpected of magic, and proſecuted by the inquiſition on that account, but he died before the proceſs againſt him was finiſhed, being then in the eightieth year of his age. The moſt remarkable book which Aponó wrote, was that which procured him the ſurname of Conciliator; he wrote alſo a piece entitled "De medicina omnimoda."

APOSTACY (*Encycl.*). The perverſion of a Chriſtian to Judaiſm, Paganiſm, or other falſe religion, was puniſhed by the emperors Conſtantius and Julian with confiſcation of goods; to which the emperors Theodoſius and Valentinian added capital puniſhment, in caſe the apoſtate endeavoured to pervert others to the ſame iniquity. A puniſhment too ſevere for any temporal laws to inflict: and yet the zeal of our anceſtors imported it into this country; for we find by Bracton, that in his time apoſtates were to be burnt to death. Doubtleſs the preſervation of Chriſtianity, as a national religion, is, abſtracted from its own intrinſic truth, of the utmoſt conſequence to the civil ſtate: which a ſingle inſtance will ſufficiently demonſtrate. The belief of a future ſtate of rewards and puniſhments, the entertaining juſt ideas of the moral attributes of the ſupreme Being, and a firm perſuaſion that he ſuperintends and will finally compenſate every action in human life (all which are clearly revealed in the doctrines, and forcibly inculcated by the precepts, of our ſaviour Chriſt), theſe are the grand foundation of all judicial oaths; which call God to witneſs the truth of thoſe facts, which perhaps may be only known to him and the party atteſting: all moral evidence therefore, all confidence in human veracity, muſt be weakened by apoſtacy, and overthrown by total infidelity. Wherefore all affronts to Chriſtianity, or endeavours to depreciate its efficacy, in thoſe who have once profeſſed it, are highly deſerving of cenſure. But yet the loſs of life is a heavier penalty than the offence, taken in a civil light, deſerves; and, taken in a ſpiritual light, our laws have no juriſdiction over it. This puniſhment, therefore, has long ago become obſolete; and the offence of apoſtacy was for a long time the object only of the eccleſiaſtical courts, which corrected the offender *pro ſalute animæ*. But about the cloſe of the laſt century, the civil liberties to which we were then reſtored being uſed as a cloke of maliciouſneſs, and the moſt horrid doctrines ſubverſive of all religion being publicly avowed both in diſcourſe and writings, it was thought neceſſary again for the civil power to interpoſe, by not admitting thoſe miſcreants to the privileges of ſociety, who maintained ſuch principles as deſtroyed all moral obligation To this end it was enacted by ſtatute 9 and 10 W. III. c. 32. That if any perſon educated in, or having made profeſſion of, the Chriſtian religion, ſhall by writing, printing, teaching, or adviſed ſpeaking, deny the Chriſtian religion to be true, or the holy Scriptures to be of divine authority, he ſhall upon the firſt offence be rendered incapable to hold any office or place of truſt; and, for the ſecond, be rendered incapable of bringing any action, or of being guardian, executor, legatee, or purchaſer of lands, and ſhall ſuffer three years' impriſonment without bail. To give room however for repentance, if, within four months after the firſt conviction, the delinquent will in open court publicly renounce his error, he is diſcharged for that once from all diſabilities.

APOTOME (*Encycl.*). This term is employed by Euclid to denote the difference between two lines or quantities which are only commenſurable in power. Such is the difference between 1 and $\sqrt{2}$, or the difference between the ſide of a ſquare and its diagonal. The doctrine of apotomes in lines, as delivered by this ancient mathematician in the tenth book of his Elements, is a very curious ſubject, and has always been admired by ſuch as underſtood it. The firſt algebraical writers in Europe, ſuch as Lucas de Burgo, Cardan, Tartalea, Stifelius, &c. employed a conſiderable portion of their works on an algebraical expoſition of that which led them to the doctrine of ſurd quantities.

APPALACHIKOLA, a river of North America, formed by the junction of the rivers Chatahouchee and Flint, which have their ſource in the Appalachian Mountains, and running nearly parallel in a ſoutherly direction, flow united into the gulf of Mexico, oppoſite St. George's Iſland.

APPENZEL, a town of Switzerland, capital of the canton of the ſame name, which is divided into twelve communities; ſix called the interior, are Roman-catholics; the ſix exterior, are Proteſtants. It is forty miles E. of Zurich. Long. 9. 31. E. Lat. 47. 21. N.

APPIAN, an eminent writer of the Roman hiſtory in Greek, under the reigns of Trajan and Hadrian. He was of a good family in Alexandria in Egypt; whence he went to Rome, and there diſtinguiſhed himſelf ſo well as an advocate, that he was choſen one of the procurators of the empire, and the government of a province was committed to him. He

did not complete the Roman hiſtory in a continued ſeries; but wrote diſtinct hiſtories of all nations that had been conquered by the Romans, in which he placed every thing relating to thoſe nations in the proper order of time. His ſtyle is plain and ſimple: in the opinion of Photius, he has ſhewn the greateſt knowledge of military affairs, and the happieſt talent at deſcribing them, of any of the hiſtorians; for while we read him, we in a manner ſee the battles which he deſcribes. Of all this voluminous work there remains only what treats of the Punic, Syrian, Parthian, Mithridatic, and Spaniſh wars, with thoſe againſt Hannibal, the civil wars, and the wars in Illyricum, and ſome fragments of the Celtic or Gallic wars.

APPIUS CLAUDIUS, a Sabine by birth, one of the principal inhabitants of Regillum: his ſhining merit having drawn the envy of his fellow-citizens upon him, he retired to Rome with all his family. Appius was admitted into the ſenate, and was made conſul, with Publius Servilius Priſcus, in 258 from the building of Rome: but he was hated by the plebeians, being an auſtere oppoſer of their clamours and ſeditions. The Claudian family continued long one of the moſt illuſtrious of the patrician families in Rome; and ſeveral in ſucceſſion of the name of Appius ſupported the ſame ſtern character that diſtinguiſhed their firſt founder.

APRIES, ſon of Pſammis king of Egypt; the ſame with Pharaoh Hophrah in Jeremiah and Ezekiel. He ruined Sidon, and ſome ſay he put Jeremiah to death. He thought neither God nor man could dethrone him; which yet was eaſily done by Amaſis, and he himſelf was ſtrangled by the Egyptians.

APRIL-FOOL, a ludicrous trick played on the unſuſpecting, on the firſt day of April. The origin of this childiſh and not very innocent frolic, has been variouſly accounted for; but probably it had its riſe merely in the ficklenes of the weather uſual at this period of the year; ſince thoſe whom ſun-ſhine may have enticed abroad are liable to return wet to the ſkin by the rain.

APROSIO (Angelico), born at Ventimiglia, in the republic of Genoa, 1607, was a man of great reputation among the learned, and wrote ſeveral books. At fifteen years of age he entered into the order of the Auguſtins, where he became ſo much eſteemed, that he was appointed vicar-general of the congregation of our Lady of Conſolation at Genoa. As ſoon as he had finiſhed his ſtudies, he taught philoſophy, which he continued to do for five years; after which he travelled into ſeveral parts of Italy, and ſettled at Venice in the year 1639, in the convent of St. Stephen. What rendered him moſt famous, was the library of the Auguſtins at Ventimiglia, which being chiefly collected by him, was a proof of his love for books, and his excellent taſte. He publiſhed a book concerning this library, which is much ſought after by the curious. He uſed to diſguiſe himſelf under fictitious names in the title-pages of his books; which conduct might, perhaps, be owing to the ſubjects he wrote upon; they not being always ſuited to a religious life: ſuch, for inſtance, as the Adonis of the cavalier Marino, &c. And if we conſult the authors who have given us a catalogue of the writers of Liguria, we find that he aſſumed ſometimes the name of Maſoto Galiſtoni, ſometimes that of Carlo Galiſtoni, Scippio Glareano, Sapricio Saprici, Oldauro Scioppio, &c. His life is written in the book entitled La Bibliotheca Aproſiana. Several authors have beſtowed upon him very great encomiums, ſome of whom have been perhaps rather too extravagant in their praiſes.

APT, an ancient town of France, in the department of the Mouths of the Rhone and late province of Provence. Its commerce conſiſts in prunes, coarſe ſerges, and wax chandlery, for which laſt there is a great demand. There are many fine Roman antiquities, and it is ſeated on the river Calaron, twenty miles N. of Aix, and twenty-five S. E. of Orange. Long. 5. 30. E. Lat. 43. 51. N.

APTA, or APTA JULIA (Pliny); now *Apt*, in Provence, on the river Calavon, ſeven leagues to the north of Aix, and nine to the north of Avignon. In the Notitiæ it is called *Civitas Aptenſium*: Pliny reckons it among the Latin towns. That it was a colony, appears from an inſcription on a ſtone found at Arles (Sirmond). E. Long. 5. 56. Lat. 43. 23.

APTERA (Strabo, Stephanus); APTERON (Pliny); APTERIA (Ptolemy): an inland town of Crete, whoſe port was Ciſamus, on the weſt ſide of the iſland (Strabo); twelve miles to the ſouth of Cydonia, towards the Montes Leuci, and as many from the Sinus Amphimales. So called from the Sirens, who, being there vanquiſhed in ſong by the Muſes, ſtript themſelves of their wings, and out of grief leaped into the ſea (Stephanus). There was a town of Lycia of the ſame name. E. Long. 25. Lat. 35. 50.

APULEIUS (Lucius), a Platonic philoſopher, univerſally known by his performance of the Golden Aſs. He lived in the ſecond century, under the Antonines; and was born at Madaura, a Roman colony in Africa. He ſtudied firſt at Carthage, then at Athens, and afterwards at Rome, where he learned the Latin tongue without the help of a maſter. He was a man of a curious and inquiſitive diſpoſition, eſpecially in religious matters: this prompted him to take ſeveral journeys, and to enter into ſeveral ſocieties of religion. He ſpent his whole fortune almoſt in travelling; ſo that, at his return to Rome, when he was about to dedicate himſelf to the ſervice of Oſiris, he had not money enough to defray the expence attending the ceremonies of the reception, and was obliged to pawn his clothes to raiſe the neceſſary ſum. He ſupported himſelf afterwards by pleading cauſes; and as he was a great maſter of eloquence, and of a ſubtle genius, many conſiderable cauſes were truſted to him. But he availed himſelf more by a good marriage than by his pleadings: a widow, named *Pudentilla*, who was neither young nor handſome, but wanted a huſband, and was very rich, took a great fancy to him. This marriage drew upon him a troubleſome law-ſuit. The lady's relations, pretending he made uſe of ſorcery to gain her heart and money, accuſed him of being a magician before Claudius Maximus, proconſul of Africa. Apuleius was under no great difficulty of making his defence. As Pudentilla was determined, from conſiderations of health, to enter upon a ſecond marriage, even before ſhe had ſeen this pretended magician, the youth, deportment, pleaſing converſation, vivacity, and other agreeable qualities, of Apuleius, were charms ſufficient to engage her heart. He had the moſt favourable opportunities too of gaining her friendſhip, for he lodged ſome time at her houſe: Pudentilla's eldeſt ſon having a great friendſhip for him, was likewiſe deſirous of the match, and ſolicited him in favour of Pudentilla. "Do you make a wonder (ſaid Apuleius, in his defence) that a woman ſhould marry again, after having lived a widow 13 years? it is much more wonderful that ſhe did not marry again ſooner. You think that magic muſt have been employed to prevail with a widow of her age, to marry a young man; on the contrary, this very circumſtance ſhews how little occaſion there was for magic." He offered to prove by his marriage-contract, that he got nothing of Pudentilla but a promiſe of a very moderate ſum, in caſe he ſurvived her and had children by her. He was alſo obliged to make ſuch confeſſions in court as Pudentilla would gladly have excuſed. He ſaid ſhe was neither handſome nor young, nor ſuch as could anyways tempt him to have recourſe to inchantments: moreover, he added, that Pontianus her ſon propoſed the marrying his mother to him only as a burden, and the action of a friend and philoſopher. He alſo took notice of many inconveniences which attend the

marrying of widows, and ſpoke highly of the advantages of a maid above a widow: "A handſome virgin (ſaid he), let her be ever ſo poor, is abundantly portioned; ſhe brings to her huſband a heart quite new, together with the flower and firſt-fruits of her beauty. It is with great reaſon that all huſbands ſet ſo great a value upon the flower of virginity: all the other goods which a woman brings her huſband are of ſuch a nature, that he may return them again, if he has a mind to be under no obligation to her; that alone cannot be reſtored, it remains in the poſſeſſion of the firſt huſband. If you marry a widow, and ſhe leaves you, ſhe carries away all that ſhe brought you." Upon which paſſage Mr. Bayle makes a very coarſe remark, *viz.* "That this good which is never taken back out of the hands of a huſband, is very chimerical; and that there is never a baker nor a butcher, who would lend ſixpence upon this unperiſhable poſſeſſion." The apology is ſtill extant, and is reckoned a very fine piece. Apuleius was extremely indefatigable in his ſtudies; and compoſed ſeveral books, ſome in verſe, and others in proſe; but moſt of them have been loſt. He took great pleaſure in declaiming, and was heard generally with great applauſe: when he declaimed at Oea, the audience cried out with one voice, that they ought to confer upon him the honour of citizen. The citizens of Carthage heard him with great ſatisfaction, and erected a ſtatue to him; and ſeveral other cities did him the ſame honour. Several critics have publiſhed notes on Apuleius's Golden Aſs, and there have been tranſlations of it into different languages.

APULIA, now PUGLIA, a territory of Italy, bordering on the Adriatic, and extending from the river Frento to Tarentum in length, and from the Adriatic to the Lucani in breadth. *Apuli* the people (Horace), divided into the *Apulia Daunia*, now called *Puglia Pinna*, or the *Capitanata*; and into the *Apulia Peucetia*, now *Terra di Barri* (Pliny, Ptolemy). Apulia abounded in ſheep, which yielded the fineſt wool (Martial). It is now the eaſt ſide of the kingdom of Naples.

APURIMA, or APORAMIA, a rapid river of South America, in Peru, thirty miles from the river Abanzai.

AQUA-NEGRA, a town of Italy, in the Mantuan, on the river Chieſa, twelve miles W. of Mantua. Long. 10. 25. E. Lat. 45. 12. N.

AQUA REGIA (*Encycl.*). In this article, line tenth, for "except *ſilver*," read "except *gold*."

AQUÆ AUGUSTÆ (Ptolemy); AQUÆ TARBELLICÆ (Antonine); AQUENSIS CIVITAS, in the Notitia. Now *Acqs*, or *Dax*, a town in Gaſcony, on the river Adour, famous for its baths. W. long. 1. 40. Lat. 43. 56.

AQUÆ CUTILIÆ, a lake of the Sabines, in the territory of Reate (Pliny); LACUS CUTILIENSIS (Varro); with a moveable iſland in it (Seneca, Pliny); ſuppoſed to be the centre of Italy (Varro). The waters were medicinal, and extremely cold, good for a weak ſtomach and in weak nerves (Pliny). Veſpaſian uſed them every ſummer; and there he died (Sueton, Xiphilin of Dio). Now *Lago di Contigliano*.

AQUÆ FLAVIÆ, a town on the confines of Galicia and Portugal, ſo called from Veſpaſian and Titus. The inhabitants are called *Aquiflavienſes* (Coins). Now called *Chiaves*, a mean hamlet: but the ruins of its bridge teſtify its former grandeur. W. long. 6. 6. Lat. 41. 40.

AQUÆ TAURI, hot waters or baths in Tuſcany, at the diſtance of three miles from the ſea, ſaid to be diſcovered by a bull; whence the appellation. There are ſtill to be ſeen the ruins of theſe baths. The people are called *Aquenſes Taurini* (Pliny). Now *Acquapendente*, in Orvieto. E. long. 12. 40. Lat. 42. 40.

AQUARIANS (*Encycl.*). Epiphanius calls theſe aquarians mentioned in our original article *Encratites*, from their abſtinence; St. Auſtin, *Aquarians*, from their uſe of water; and Theodoret, who ſays they ſprang from Tatian, *Hydroparaſtatæ*, becauſe they offered water inſtead of wine. But beſides theſe there was another ſort of Aquarians, who did not reject the uſe of wine as unlawful; for they adminiſtered the euchariſt in wine at evening ſervice; but, in their morning aſſemblies, they uſed water, for fear the ſmell of wine ſhould diſcover them to the heathens.

AQUILEIA, a large city of the Carni, or Veneti, and a noble Roman colony, which was led thither between the firſt and ſecond Macedonian wars (Livy). It is waſhed by two rivers, the Natiſo and Turrus (Pliny). The reaſon of leading this colony was, in order to be a bulwark againſt the neighbouring barbarians. The colony was afterwards increaſed with 1500 families by a decree of the ſenate (Livy); from which it became a very famous port-town (Herodian). The emperor Julian aſcribes the appellation to the augury of an eagle at the time of building it; but Iſaac Voſſius on Mela, to the great plenty of water, as if the town were called *Aquilegia*. The harbour, at the mouth of the Natiſo, is diſtant ſixty ſtadia from the city; ſo that ſhips of burden are towed up the river (Strabo). It it ſtill called *Aquileia*, but greatly fallen from its former ſplendor. E. long. 15. 32. Lat. 45. 45.

AQUILINE, ſomething belonging to or reſembling an eagle: thus, an aquiline noſe is one bent ſomewhat like an eagle's beak.

AQUINAS (St. Thomas), ſtyled the *Angelical Doctor*, was of the ancient and noble family of the counts of Aquino, deſcended from the kings of Sicily and Arragon; and was born in the caſtle of Aquino, in the Terra di Lavora in Italy, in the year 1224 or 1225. He entered into the order of the Dominicans; and, after having taught ſchool-divinity in moſt of the univerſities of Italy, at laſt ſettled at Naples, where he ſpent the reſt of his life in ſtudy, in reading of lectures, and in acts of piety; and was ſo far from the views of ambition or profit, that he refuſed the archbiſhopric of that city, when it was offered him by Pope Clement IV. He died in 1274, leaving an amazing number of writings, which were printed at Venice in 17 volumes, folio, in the year 1490. He was canonized by Pope John XXII. in the year 1323; and Pius V. who was of the ſame order with him, gave him, in 1567, the title of the Fifth Doctor of the church, and appointed his feſtival to be kept with the ſame ſolemnity as thoſe of the other four doctors. His authority has always been of great importance in the ſchools of the Roman Catholics. Lord Herbert in his Life of Henry VIII. tells us, that one of the principal reaſons which induced that king to write againſt Luther, was, that the latter had ſpoken contemptuouſly of Aquinas.

AQUINO (Philip d'), in Latin *Aquinas* or *Aquinius*, having turned from Judaiſm, had a penſion from the clergy of France; and acquired much reputation by his knowledge of the Hebrew language, which he taught at Paris, in the reign of Lewis XIII. and by the books he publiſhed, among which is his *Dictionarium Hebræo-Chaldæo-Thalmudico-Rabbinicum*. His grandſon, Anthony D'Anquin, was firſt phyſician to Lewis XIV.

ARACAN (*Encycl.*). It is capital of a ſmall kingdom to the north-eaſt of the bay of Bengal, ſituated in E. long. 93. 0. N. Lat. 20. 30. It has the conveniency of a ſpacious river, and a harbour large enough to hold all the ſhips in Europe. It is ſaid by Schouten to be as large as Amſterdam; but the houſes are ſlight, being made with palm-trees and bamboo-canes, and covered with leaves of trees. They are ſeldom above ſix feet high, but have many windows or air-holes. But the people of the higheſt rank are much better accommodated. They have no kitchens, chimneys, or cellars, which obliges the women to dreſs the victuals out of doors. Some of the ſtreets are on the ridges of rocks, wherein are a great many ſhops.

Their orchards and gardens contain all the fruit common to the Indies, and their trees are green all the year. Their common drink is toddy; which is the ſap of the cocoa-tree, and when new will intoxicate like wine, but ſoon grows ſour. Elephants and buffaloes are very numerous here, and are made uſe of inſtead of horſes. They have plenty of proviſions, and but little trade: for when Mr. Channoch was here in 1686, with ſix large ſhips, there was nothing to be had in the way of commerce; and yet the country produces lead, tin, ſtick-lac, and elephants' teeth. The Mogul's ſubjects come here to purchaſe theſe commodities; and ſometimes meet with diamonds, rubies, and other precious ſtones. They were formerly governed by a king of their own, called the king of the *White Elephant;* but this country has been conquered by the king of Pegu. They pay little or no regard to the chaſtity of their women, and the common ſailors take great liberties among them. Their religion is Paganiſm; and their idols, temples, and prieſts, are very numerous. The dreſs of the better ſort is very ſlight, for it conſiſts chiefly of a piece of white cotton over their arms, breaſt, and belly, with an apron before. The complexion of the women is tolerable; they wear thin flowered gauze over their breaſt and ſhoulders, and a piece of cotton, which they roll three or four times round their waiſt, and let it hang as low as their feet. They curl their hair, and put glaſs rings in their ears, and ſtretch them of a monſtrous length. On their arms and legs they have hoops of copper, ivory, ſilver, &c. The country produces great quantities of rice, and the water is good. Their flocks of ſheep and herds of cattle are alſo numerous near Aracan; but what they ſay of the towns and villages, with which the country is pretended to be overſpread, may be doubted. Captain Hamilton affirms, that there are but few places inhabited, on account of the great number of wild elephants and buffaloes, which would deſtroy the fruits of the ground; and that the tigers would deſtroy the tame animals. There are ſome iſlands near the ſea, inhabited by a few miſerable fiſhermen, who can juſt keep themſelves from ſtarving, though they are out of the reach of oppreſſion. The rich burn the dead bodies; but the poor, who are not able to buy wood, throw them into the river.

ARÆ PHILÆNON, or PHILÆNORUM (Strabo); to the ſouth of the Syrtis Major; but in Peutinger, more weſterly, to the ſouth almoſt of the Syrtis Minor. In Strabo's time, the altars were not extant, but a village of the ſame name ſtood on the ſpot. On a diſpute about limits, between the Cyreneans and Carthaginians, it was agreed that two of each people ſhould ſet out on the ſame day, and that where they ſhould happen to meet, there the limits of both ſhould be fixed. The Philæni, two brothers, Carthaginians, undertook it for Carthage: theſe, after having advanced a great many miles into the territory of the Cyreneans, were met by their antagoniſts; who enraged at their being before-hand with them ſo far, gave them the option of either returning back, or of being buried alive on the ſpot: like zealous patriots, they choſe the latter; and there the Carthaginians raiſed two altars in honour of the Philæni. (Salluſt, Valerius Maximus.)

ARAL (*Encycl.*). Of this great lake, the length from north to ſouth is ſaid to be near 150 miles, and its breadth from eaſt to weſt about ſeventy. The ſhore on the weſt ſide is high and rocky, and deſtitute of good water: yet there are abundance of wild horſes, aſſes, antelopes, and wolves; as alſo a fierce creature called a *jolhart,* which the Tartars ſay is of ſuch a prodigious ſtrength as to carry off a horſe. It is ſurpriſing that this lake ſhould be quite unknown to geographers till within theſe few years. Several great rivers, which were ſuppoſed to run into the Caſpian ſea, are now known to fall into this lake, particularly the Sihun or Sirr, and the Gihun or Amo, ſo often mentioned by the Oriental hiſtorians. This lake, like the Caſpian ſea, has no viſible outlet. Its water is alſo very ſalt; and for that reaſon is conveyed by the neighbouring inhabitants by ſmall narrow canals into ſandy pits, where the heat of the ſun, by exhaling the water, leaves them a ſufficient quantity of ſalt. The ſame kinds of fiſh are found in Aral that are found in the Caſpian ſea. The former is alſo called the *Lake of Eagles.*

ARAM (Eugene), a man of conſiderable erudition, remarkable for his unhappy fate, and the ſingular circumſtances that occaſioned and attended it, was born at Ramſgill, a little village, in Netherdale, Yorkſhire, in the year 1704. He was removed, when very young, together with his mother, to Skelton, near Newby: and when he was five or ſix years old, his father making a little purchaſe in Bondgate near Rippon, his family went thither. He was there ſent to ſchool, where he learned to read the New Teſtament in Engliſh, which was all he was ever taught, except that, ſome conſiderable time after, he was under the tuition of the Reverend Mr. Alcock of Burnſal, for about a month. When he was about thirteen or fourteen years of age, he went to his father at Newby, and attended him in the family there, till the death of Sir Edward Blackett. It was in the houſe of this gentleman, to whom his father was gardener, that his propenſity to literature firſt appeared. He was, indeed, always of a ſolitary diſpoſition, and uncommonly fond of retirement and books; and here he enjoyed all the advantages of leiſure and privacy. He applied himſelf at firſt chiefly to mathematical ſtudies, in which he made a conſiderable proficiency. At about ſixteen years of age, he was ſent to London to the houſe of Mr. Chriſtopher Blackett, whom he ſerved for ſome time in the capacity of book-keeper. After continuing here a year or more, he was taken with the ſmall-pox, and ſuffered ſeverely under that diſtemper. He afterwards returned into Yorkſhire, in conſequence of an invitation from his father, and there continued to proſecute his ſtudies, but found in polite literature much greater charms than in the mathematics; which occaſioned him now chiefly to apply himſelf to poetry, hiſtory, and antiquities. After this he was invited to Netherdale, where he engaged in a ſchool and married. But his marriage proved an unhappy connection; for to the miſconduct of his wife he afterwards attributed the misfortunes that befel him. In the mean while, having perceived his deficiency in the learned languages, he applied himſelf to the grammatical ſtudy of the Latin and Greek tongues; after which he read, with great avidity and diligence, all the Latin claſſics, hiſtorians, and poets. He then went through the Greek Teſtament; and, laſtly, ventured upon Heſiod, Homer, Theocritus, Herodotus, and Thucydides, together with all the Greek tragedians. In 1734, William Norton, eſq. a gentleman who had a friendſhip for him, invited him to Knareſborough. Here he acquired the knowledge of the Hebrew, and read the Pentateuch in that language. In 1744 he returned to London, and ſerved the Reverend Mr. Painblanc, as uſher in Latin and writing, in Piccadilly; and, with this gentleman's aſſiſtance, he acquired the knowledge of the French language. He was afterwards employed, as an uſher and tutor, in ſeveral different parts of England; during which time he became acquainted with heraldry and botany. He alſo ventured upon Chaldee and Arabic, the former of which he found eaſy from its near connection with the Hebrew. He then inveſtigated the Celtic, as far as poſſible, in all its dialects; and having begun to form collections, and made compariſons between the Celtic, the Engliſh, the Latin, the Greek, and the Hebrew, and found a great affinity between them, he reſolved to proceed through all theſe languages, and to form a comparative lexicon. But in the midſt of theſe learned labours and inquiries, it appears,

that Aram committed a crime, which could not naturally have been expected from a man of ſo ſtudious a turn, and which is the more extraordinary, as the inducement that led him to it is ſaid to have been only gain, though he himſelf afterwards aſſigned a different motive. On the 8th of February, 1744-5, he murdered Daniel Clark, a ſhoemaker, in conjunction with whom, and another perſon, he ſeems before to have been concerned in ſome fraudulent practices. The murder, however, was concealed near fourteen years, and then was diſcovered by a ſkeleton being accidentally found, which was ſuppoſed to be that of Clark. This was a miſtake; but it led to a diſcovery of the whole tranſaction; and Aram's wife, from whom he had ſeparated a conſiderable time, was a principal evidence againſt him. When he was apprehended, on ſuſpicion of this murder, he was uſher of a ſchool at Lynn in Norfolk. He was brought from thence to York-caſtle, and on the 3d of Auguſt, 1759, was tried at the county-aſſizes for the murder. He was found guilty on the teſtimony of Richard Houſeman, corroborated by that of his own wife, and other circumſtantial evidence. After his conviction, he confeſſed the juſtice of his ſentence, but made an attempt upon his own life, by cutting his arm in two places with a razor, which he had concealed for that purpoſe. By proper applications, he was brought to himſelf, and, though weak, was conducted to the place of execution; where, being aſked if he had any thing to ſay, he replied in the negative. He was immediately after executed, and his body being conveyed to Knareſborough foreſt, he was there hung in chains, purſuant to his ſentence.

ARANDE-DE-DOUERO, a town of Old Caſtile in Spain, on the Douero, 42 miles E. of Valladolid. Long. 3. 30. W. Lat. 41. 40. N.

ARAR (Cæſar, Strabo); *Araris* (Dio Caſſius); *Saucona* (Ammian); a river of Celtic Gaul, now the *Saone*; which riſes out of mount Vogeſus on the confines of Lorrain, runs through the Franche Comte and Burgundy, and below Lyons falls into the Rhone. It is ſo incredibly ſlow, that the eye cannot diſtinguiſh which way it moves (Cæſar); and therefore Pliny calls it the *Sluggiſh River*. Its courſe is from north to ſouth. It is famous for a bridge of Cæſar, which was built by the ſoldiers in one day. It is navigable equally with the Rhone.

ARATUS, general of the Achæans, conquered Nicocles tyrant of Sicyon Two years after, he ſurpriſed the caſtle called *Acrocorinthus*, and drove out the king of Macedonia: he delivered Argos from its tyrants, and was poiſoned by Philip II. king of Macedonia, whom he had newly reſtored: he was about 62 when he died, the ſecond year of the 141ſt Olympiad. He was interred at Sicyon, and received the greateſt honours from his countrymen. His ſon, who had alſo been prætor, was poiſoned by King Philip. Polybius gives us ſo great a character of Aratus, the father's, Commentaries on Hiſtory, that the loſs of ſo valuable a work is highly to be regretted.

ARATUS, a Greek poet, born at Soli, or Solæ, a town in Cilicia, which afterwards changed its name, and was called *Pompeiopolis*, in honour of Pompey the Great. He flouriſhed about the 124th, or, according to ſome, the 126th Olympiad, in the reign of Ptolemy Philadelphus king of Egypt. He diſcovered in his youth a remarkable poignancy of wit, and capacity for improvement; and having received his education under Dionyſius Heracleotes, a Stoic philoſopher, he eſpouſed the principles of that ſect. Aratus was phyſician to Antigonus Gonatus, the ſon of Demetrius Poliorcetes, king of Macedon: this prince, being a great encourager of learned men, ſent for him to court, admitted him to his intimacy, and encouraged him in his ſtudies. The *Phænomena* of Aratus, which is ſtill extant, gives him a title to the character of an aſtronomer, as well as a poet; in this piece he deſcribes the nature and motion of the ſtars, and ſhews the particular influences of the heavenly bodies, with their various diſpoſitions and relations. He wrote this poem in Greek verſe: it was tranſlated into Latin by Cicero; who tells us, in his firſt book *De oratore*, that the verſes of Aratus are very noble. This piece was tranſlated by others as well as Cicero; there being a tranſlation by Germanicus Cæſar, and another into elegant verſe by Feſtus Avienus. An edition of the *Phænomena* was publiſhed by Grotius, at Leyden, in 4to. 1600, in Greek and Latin, with the fragments of Cicero's verſion, and the tranſlations of Germanicus and Avienus, all which the editor has illuſtrated with curious notes. He was certainly much eſteemed by the ancients, ſince we find ſo great a number of ſcholiaſts and commentators upon him. There are ſeveral other works alſo aſcribed to Aratus. Suidas mentions the following: Hymns to Pan; Aſtrology and Aſtrothefy; a compoſition of Antidotes; an Επιθηκον on Theopropus; an Ηθοποια on Antigonus; an Epigram on Phila, the daughter of Antipater, and wife of Antigonus; an Epicedium of Cleombrotus; a Correction of the Odyſſey; and ſome Epiſtles, in proſe. Virgil, in his Georgics, has imitated or tranſlated many paſſages from this author; and St. Paul has quoted a paſſage of Aratus. It is in his ſpeech to the Athenians (Acts xvii. 28.) wherein he tells them, tha ſome of their own poets have ſaid, Τουτου και γενος εσμεν: "For we are alſo his offspring" Theſe words are the beginning of the fifth line of the *Phænomena* of Aratus.

ARAUSIO, or *Civitas Arauſienſis*, or *Arauſicorum* (Notitiæ); *Colonia Secundanorum* (Mela, Pliny, Coins), ſo called becauſe the veterans of the ſecond legion were there ſettled: the capital of the Cavares, in Gallia Narbonenſis; now *Orange*, in the weſt of Provence, on an arm of the rivulet Egue, which ſoon after falls into the Rhone, from which it is diſtant a league to the eaſt, at the foot of a mountain. Here is an ancient amphitheatre to be ſtill ſeen. E. long. 4. 46. Lat. 44. 10.

ARBACES, governed Media under Sardanapalus. Seeing him ſpinning among a company of his women, he ſtirred up his people to revolt, and dethroned Sardanapalus; who thereupon burnt himſelf in his palace. Arbaces being crowned, began the monarchy of the Medes, which laſted 317 years under nine kings, till Aſtyages was expelled by Cyrus. Arbaces reigned 22 years, and died A. M. 3206.

ARBE, an epiſcopal town of the republic of Venice, in an iſland of the ſame name, on the coaſt of Dalmatia, from which it is but five miles diſtant.

ARBURY, a village of Cambridgeſhire, where are the remains of a camp, and where many coins have been found. It is one mile N. of Cambridge.

ARBUTHNOT (Alexander), principal of the univerſity of Aberdeen in the reign of James VI. of Scotland, was born in the year 1538. He ſtudied firſt at Aberdeen; and was afterwards ſent over to France, where, under the famous Cujacius, he applied himſelf to the ſtudy of the civil law. In the year 1563 he returned to Scotland, and took orders. Whether he was ordained by a biſhop, or by preſbyters, is a matter of uncertainty. In 1568 he was appointed miniſter of Arbuthnot and Logy-Buchan; and in the following year, Mr. Alexander Anderſon being deprived, our author was made principal of the King's College at Aberdeen, in his room. In the general aſſembly which met at Edinburgh in the years 1573 and 1577, he was choſen moderator; and to the end of his life was an active ſupporter of the reformed religion. He died in 1583, in the 45th year of his age; and was buried in the college church of Aberdeen. We are told in the Biographia, that he was eminent as a poet, a philoſopher, a mathematician, a lawyer, a divine, and a phyſician. He wrote, *Orationes de origine*

et dignitate juris, printed Edinb. 1572, 4to. His contemporary, Thomas Maitland, wrote a copy of Latin verſes on the publication of this book: they are printed in the *Delic. Poetar. Scot.* He publiſhed Buchanan's Hiſtory of Scotland in the year 1582.

ARCADIA (*Encycl.*). This diſtrict has to the north Achaia, to the eaſt Argos and Laconia, Meſſenia to the ſouth, and Elis to the weſt. According to Pliny, the wine of this country cured barrenneſs in women, and inſpired the men with rage; and the berries of the yew gathered there were ſo ſtrong a poiſon, that whoever ſlept or took refreſhment under that tree were ſure to die. In Strabo's time there were few cities remaining in it, moſt of them being deſtroyed in the Grecian wars. Euſtathius ſays, that the country was anciently called *Pelaſgia*, from Pelaſgos, who brought the people, from roots, herbs, and leaves of trees, to feed on acorns, eſpecially beechmaſt; as Artemidorus obſerves, that the Arcadians uſually lived on acorns. It was alſo called *Lycaonia*, *Gigantes*, and *Parrhaſia* (Stephanus). The Arcadians are greatly commended for their love of, and ſkill in, muſic (Virgil, Polybius). To imitate the Arcadians, is to labour and toil for the benefit of others, never conquering their own, but the enemies of others (Heſychius). This probably took its riſe from the ancient Arcadians being accuſtomed to hire themſelves out as mercenaries to foreign nations. Homer commends their martial proweſs, their paſtures, their ſheep, and their country well-watered. The gentilitious name is *Arcades*; who boaſted of their great antiquity, and that they were older than the ſun and moon (Apollonius Rhodius, Nonnius, Plutarch, Ovid, Statius). They were the firſt who had a year of three months, and therefore called *Proceleni*, becauſe their year was prior to that adjuſted in Greece to the courſe of the moon (Cenſorinus).

ARCESILAUS, a celebrated Greek philoſopher, about 300 years before the Chriſtian æra, was born at Pitane in Eolis. He founded the ſecond academy, which is called the *ſecond ſchool*. He was a man of great erudition, and well verſed in the writings of the ancients. He was remarkable for the ſeverity of his criticiſms; but nevertheleſs he knew how to accommodate himſelf to the age, and purſue the allurements of pleaſure. He had a great number of diſciples. His doctrines were different in ſeveral reſpects from thoſe of the ancient ſchool: and perhaps he was led into this diverſity of opinions by many capital errors in the ancient ſchool, ſuch as the incredible arrogance of the dogmatiſts, who pretended to aſſign cauſes for all things; the myſterious air they had thrown upon the doctrine of ideas; the entirely diſcarding the teſtimony of the ſenſes; the objections of the Pyrrhoniſts, who now began to broach their opinions; the powerful oppoſition of the Stoics and Peripatetics, who diſcovered the feeble parts of the academic philoſophy. Theſe might have given cauſe to reform the ancient ſchool, and to found a new one. The middle ſchool, therefore, laid it down as a principle, that we could know nothing, nor even aſſure ourſelves of the certainty of this poſition; from whence they inferred, that we ſhould affirm nothing, but always ſuſpend our judgment. They advanced, that a philoſopher was able to diſpute upon every ſubject, and bring conviction with him, even upon contrary ſides of the ſame queſtion; for there are always reaſons of equal force both in the affirmative and negative of every argument. According to this doctrine, neither our ſenſes, nor even our reaſon, are to have any credit; and therefore, in common affairs, we are to conform ourſelves to received opinions. Arceſilaus was ſucceeded by his diſciple Lacydes.

ARCEUIL, a village of France, three miles ſouth of Paris, remarkable for an aqueduct, which is thought to equal the works of the ancient Romans. It was built in 1624, by Mary de Medicis: its water is diſtributed into the different parts of Paris.

ARCHELAUS, a celebrated Greek philoſopher, the diſciple of Anaxagoras, flouriſhed about 440 years before Chriſt. He read lectures at Athens, and did not depart much from the opinions of his maſter. He taught that there was a double principle of all things, namely, the *expanſion* and *condenſation* of the air, which he regarded as infinite. Heat, according to him, was in continual motion. Cold was ever at reſt. The earth, which was placed in the midſt of the univerſe, had no motion. It originally reſembled a wet marſh, but was afterwards dried up; and its figure, he ſaid, reſembled that of an egg. Animals were produced from the heat of the earth, and even men were formed in the ſame manner. All animals have a ſoul, which was born with them; but the capacities of which vary according to the ſtructure of the organs of the body in which it reſides.—Socrates, the moſt illuſtrious of his diſciples, was his ſucceſſor.

ARCHELAUS, the ſon of Herod the Great, was declared king of Judea the ſecond year after the birth of Chriſt. He put to death 3000 perſons before he went to Rome to be confirmed by Auguſtus. However, that emperor gave him half of what had been poſſeſſed by his father; but at length, on freſh complaints exhibited againſt him by the Jews, he baniſhed him to Vienne in Gaul, A. D. 6, where he died.

ARCHELAUS, the ſon of Apollonius, one of the greateſt ſculptors of antiquity, was a native of Ionia, and is thought to have lived in the time of the Emperor Claudius. He executed, in marble, the apotheoſis of Homer. This maſterpiece in ſculpture was found in 1568, in a place named *Fratocchia*, belonging to the princes of Colonna, where, it is ſaid, the Emperor Claudius had a pleaſure-houſe. Father Kircher, Cupert, Spanheim, and ſeveral other learned antiquaries, have given a deſcription and explication of this work.

ARCHILOCUS, a famous Greek poet and muſician, was, according to Herodotus, contemporary with Candaules and Gyges, kings of Lydia, who flouriſhed about the 14th Olympiad, 724 years before Chriſt. But he is placed much later by modern chronologiſts; viz. by Blair 686, and by Prieſtley 660 years, B. C.

He was born at Paros, one of the Cyclades. His father Teleſicles was of ſo high a rank, that he was choſen by his countrymen to conſult the oracle at Delphos concerning the ſending a colony to Thaſos: a proof that he was of one of the moſt diſtinguiſhed families upon the iſland. However, he is ſaid to have ſullied his birth by an ignoble marriage with a ſlave called *Enipo*, of which alliance our poet-muſician was the fruit.

Though Archilochus ſhewed an early genius and attachment to poetry and muſic, theſe arts did not prevent his going into the army, like other young men of his birth; but in the firſt engagement at which he was preſent, the young poet, like Horace, and like our own Suckling, loſt his buckler, though he ſaved his life by the help of his heels. *It is much eaſier*, ſaid he, *to get a new buckler, than a new exiſtence*. This pleaſantry, however, did not ſave his reputation; nor could his poetry or prayers prevail upon Lycambes, the father of his miſtreſs, to let him marry his daughter, though ſhe had been long promiſed to him. After theſe mortifications, his life ſeems to have been one continued tiſſue of diſgrace and reſentment.

Archilochum proprio rabies armavit iambo. HOR. Art. Poet. 79.

Archilochus, with fierce reſentment warm'd,
Was with his own ſevere Iambics arm'd. FRANCIS.

The *rage of Archilochus* was proverbial in antiquity; which

compared the provoking this ſatyriſt to the treading upon a ſerpent; a compariſon not very ſevere, if it be true that Lycambes, and, as ſome ſay, his three daughters, were ſo mortified by his ſatire, as to be driven to the conſolation of a halter.

In this piece many adventurers are mentioned, full of defamation, and out of the knowledge of the public. There were likewiſe many looſe paſſages in it; and it is ſaid to have been on account of this ſatire that the Lacedæmonians laid a prohibition on his verſes.

However, according to Plutarch, there is no bard of antiquity by whom the two arts of poetry and muſic have been ſo much advanced, as by Archilochus. To him is attributed particularly the ſudden tranſition from one rhythm to another of a different kind, and the manner of accompanying thoſe irregular meaſures upon the lyre. Heroic poetry, in hexameter verſe, ſeems to have been ſolely in uſe among the more ancient poets and muſicians; and the tranſition from one rhythm to another, which lyric poetry required, was unknown to them: ſo that, if Archilochus was the firſt author of this mixture, he might with propriety be ſtyled the *Inventor of Lyric Poetry*, which, after his time, became a ſpecies of verſification wholly diſtinct from heroic.—To him is likewiſe aſcribed the invention of *Epodes*. See EPODE.

Our poet-muſician is generally ranked among the firſt victors of the Pythic games: and we learn from Pindar, that his muſe was not always a termagant; for though no mortal eſcaped her rage, yet ſhe was at times ſufficiently tranquil and pious to dictate hymns in praiſe of the gods and heroes. One in particular, written in honour of Hercules, acquired him the acclamations of all Greece; for he ſung it in full aſſembly at the Olympic games, and had the ſatisfaction of receiving from the judges the crown of victory conſecrated to real merit. This hymn, or ode, was afterwards ſung in honour of every victor at Olympia, who had no poet to celebrate his particular exploits.

Archilochus was at laſt ſlain by one Callondax Corax, of the iſland of Naxos; who, though he did it in fight, according to the laws of war, was driven out of the temple of Delphi, by command of the oracle, for having deprived of life a man conſecrated to the Muſes.

The names of Homer and Archilochus were equally revered and celebrated in Greece, as the two moſt excellent poets which the nation had ever produced. This appears from an epigram in the Anthologia; and from Cicero, who ranks him with poets of the firſt claſs, and in his Epiſtles tells us that the grammarian Ariſtophanes, the moſt rigid and ſcrupulous critic of his time, uſed to ſay, that the longeſt poem of Archilochus always appeared to him the moſt excellent.

ARCHIMAGUS, the high-prieſt of the Perſian Magi, or worſhippers of fire. He reſided in the higheſt fire-temple; which was had in the ſame veneration with them, as the temple of Mecca among the Mahometans. Zoroaſtres firſt ſettled it at Balch; but after the Mahometans had over-run Perſia in the 7th century, the Archimagus was forced to remove from thence into Kerman, a province of Perſia, lying on the ſouthern ocean, where it hath continued to this day. Darius Hyſtaſpes took upon himſelf the dignity of Archimagus: for Porphyry tells us, he ordered before his death, that among the other titles, it ſhould be engraven on his monument, that he had been *Maſter of the Magi;* which plainly implies that he had borne this office among them, for none but the Archimagus was maſter of the whole ſect. From hence it ſeems to have proceeded, that the kings of Perſia were ever after looked on to be of the ſacerdotal tribe, and were always initiated into the ſacred order of the Magi, before they took on them the crown, and were inaugurated into the kingdom.

ARCHIMEDES. (*Encycl.*) Of the death of this celebrated geometrician, others have related the circumſtances ſomewhat differently. Cicero, when he was quæſtor in Italy, diſcovered his tomb, on which was carved a cylinder and ſphere. Some of the works of this great mathematician are loſt, but others are preſerved. His pieces which remain are, 1. Two books of the Sphere and Cylinder. 2. The Dimenſions of a Circle. 3. Of Centres of Gravity, or Æquiponderants. 4. Of Spheroids and Conoids. 5 Of Spiral Lines. 6. The Quadrature of a Parabola. 7. Of the Number of the Sand. 8. Of Bodies that float on Fluids. The beſt edition of theſe is that publiſhed at London, in 1675, 4to. Among the works of Archimedes which are loſt, we may reckon the deſcriptions of the following inventions, which we may gather from himſelf and other ancient authors. 1. Περι της στεφανης, or his account of the method which he uſed to diſcover the mixture of gold and ſilver in the crown. 2. His deſcription of the Κοχλια, or Κοχλιον, an engine to draw water out of places where it is ſtagnated. Athenæus, ſpeaking of the prodigious ſhip built by the order of Hiero, tells us, that Archimedes invented the cochlion, by means of which the hold, notwithſtanding its depth, could be drained by one man. (Δειπνοσοφιστων, lib. v.) Diodorus Siculus informs us (lib. v.) that he contrived this machine to drain Egypt, and that by a wonderful mechaniſm it would empty the water from any depth. 3. The Ελιξ, by means of which (according to Athenæus, Δειπνος, lib. v.) he launched Hiero's great ſhip. 4. The Τριστωτον, of the power of which Tzetzes gives a hyperbolical relation, Chil. ii. hiſt. 35. 5. The machines he uſed in the defence of Syracuſe againſt Marcellus. Of theſe we have an account in Polybius, Livy, and Plutarch. 6. His burning-glaſſes, with which he is ſaid to have ſet fire to the Roman galleys. Galen, Περι κρασεων, lib. iii. 7. His pneumatic and hydraulic engines, concerning which he wrote books, according to Tzetzes, Chil. ii. hiſt. 35.

ARCHITECTURE (*Encycl.*). Correct the following errors in page 293: laſt line of the ſecond column, for pl. 25. read pl. 26. In the title to Part III. omit the words "including aquatic works." The reference alſo in Sect. XVII. p. 293, is erroneous: for pl. 25. read pl. 26.

Under this article, vol. i. p. 277, we have ſpoken of that ſpecies of architecture generally termed *Gothic*, which we ſhall extend with the following extracts from a memoir publiſhed in the fourth volume of the Tranſactions of the Royal Society of Edinburgh, by Sir James Hall, bart. whoſe profeſſed object is, to enquire how ſtructures of ſuch beauty, taſte, and magnificence, could be the work of a people "whom we are accuſtomed to call ignorant and barbarous."

"Although the connection between beauty and utility (ſays the author) be ſtill involved in ſuch obſcurity, that we are unable to decide concerning the univerſality of that connection; of one thing we are certain, that, in a work intended to anſwer ſome uſeful purpoſe, whatever viſibly counteracts that purpoſe always occaſions deformity. Hence it is, that, even where ornament is principally intended, the oſtenſibly uſeful object of the work, if it have any ſuch, muſt be provided for, in the firſt place, in preference to every other conſideration.

"But in moſt uſeful works, ſome parts occur, the ſhape of which is quite indifferent with reſpect to the propoſed

utility, and which, therefore, the artiſt is at liberty to execute as he pleaſes: a liberty which has opened a wide field to the taſte and invention of ingenious men of every age and country, who have turned their attention to the compoſition of ornaments; and whoſe exertions have been more or leſs influenced by the ſtate of civilization in which they lived It would ſeem, however, if we may judge by thoſe various efforts, that little has been effected by mere human ingenuity; ſince we ſee that recourſe has been had, almoſt univerſally, to nature, the great and legitimate ſource of beauty; and that ornament has been attained by the imitation of objects, to which ſhe has given a determinate and characteriſtic form.

"Where the materials employed are themſelves poſſeſſed of variety and elegance, the attainment of this object requires little or no alteration of their natural forms. Thus cups are made of ſhells, of cocoa nuts, or of oſtrich eggs; the character and beauty of which depend upon the natural form of the materials: and in the caſe of the bottles uſed by the Roman-catholic pilgrims, an example occurs of an utenſil, in which the natural form has undergone little or no variation, ſince it conſiſts of the hard outward ſkin of a gourd, of the ſame ſhape in which it grew upon the plant. This laſt claſs of forms has been introduced, by imitation, into works compoſed of ſhapeleſs materials. Thus we have ſilver cups in the form of thoſe made of ſhells, and fruit-diſhes of ſtone-ware in the form of baſkets.

"As ſtone is not naturally poſſeſſed of any peculiar ſhape, and as the uſeful object propoſed, by ſtructures formed of it, may be accompliſhed in various ways, very great latitude is left to the invention of the artiſt. We ſee, accordingly, that in every country where much refinement has been introduced, great pains have been beſtowed in ornamenting ſtone buildings with figures repreſenting various natural objects; whilſt the building itſelf has been executed in imitation of a ſtructure, compoſed of materials which naturally poſſeſs a determinate and characteriſtic form. Such was the method followed by the architects of ancient Greece, who conſtructed temples, and other public edifices, in imitation of a ruſtic fabric, compoſed of ſquare beams, ſupported upon round poſts or ſtems of trees, and who derived the numerous ornaments of that beautiful ſtyle from circumſtances which would naturally take place in ſuch a ſtructure.

"A faint and diſtant reſemblance, however, of the original, has generally been found to anſwer all the end propoſed by the imitation; a reſemblance, which may ſometimes be traced in the general diſtribution of the edifice, ſometimes in its minute parts, and not unfrequently in both.

"But the forms of nature thus introduced have been greatly modified by thoſe of maſonry. For though ſtone is by nature ſhapeleſs, yet, in the courſe of practice, many peculiar forms have been long eſtabliſhed, and currently employed, in working it; ſuch as ſtraight lines, plane ſurfaces, ſquare angles, and various mouldings uſed to ſoften the effect of abrupt terminations: all of which, originating in motives of mechanical convenience, and of ſimple ornament, had, in very early times, been appropriated to maſonry, and conſidered as eſſential in every finiſhed work of ſtone; ſo that, when the imitation of nature was introduced, theſe maſonic forms ſtill maintained their ground, and, being blended with the forms of nature, the two claſſes reciprocally modified each other.

"This combination of art with nature, of which we ſee the moſt perfect example in the Corinthian capital, produces what are called architectonic forms, in which the variety of nature, being ſubjected to the regularity of art, the work acquires that peculiar character which, in a natural object, we conſider as offenſive, under the name of *formality*; but which, in architecture, we admire as a beauty, under the name of *ſymmetry*: thus, we reprobate the formality of an avenue, and praiſe the ſymmetry of a colonnade.

"Such is the nature of architectonic imitation; a device which probably originated in accident, but to which architecture is indebted for its higheſt attainments."

The ſtone edifices of ancient Greece having been conſtructed in imitation of wooden fabrics, compoſed of ſquare beams laid at right-angles on round poſts or ſtems of trees, Sir James Hall conceives that the Gothic ſtructures with pointed arches have been executed in imitation of a ruſtic dwelling, conſtructed in the following manner: "Suppoſe a ſet of round poſts driven firmly into the ground in two oppoſite rows, the interval between the neighbouring poſts in the ſame row being equal to that between the rows, and each poſt being raiſed above the ground to a height equal to three of thoſe intervals: then a ſet of long and flexible rods of willow being applied to each poſt, let them be thruſt into the ground at its baſe, and bound to it by two tyings, one near the ground, and another at two-thirds of its height; the rods being let looſe from this laſt point upwards, and free to be moved in any direction. Let three rods be connected with each outſide corner poſt, and five with each of the others, and let their poſition be ſuch as to cover the inſide of the poſt, ſo that when ſeen from between the rows the lower part of each poſt ſhall be concealed from the view, and appear to the eye like a bundle of rods (ſee Pl. 14).

"Thus the ſkeleton of a thatched roof may be formed by means of the looſe ends of the rods. A rod from one of the poſts being ſo bent as to meet a ſimilar one from the poſt immediately oppoſite to it, in the middle of the ſpace between them, let the two rods be made to croſs each other, and let them be bound together at their croſſing (fig. 2.), and we ſhall have the exact form of the Gothic arch. The ſame being done with each pair of oppoſite poſts, and a ſet of pointed arches being formed, let them be connected together by means of a ſtraight pole laid upon the forks of the croſſing rods, and bound to each of them, as in fig. 3: then let a looſe rod be brought from each of any two contiguous poſts in the ſame row, ſo as to form a pointed arch, ſimilar to that juſt deſcribed, and nearly of the ſame height. This being done with every two contiguous poſts (fig. 4.), and a new ſet of pointed arches being thus produced, ſtanding oppoſite to each other in pairs, let each pair be bound by a horizontal pole lying on the oppoſite forks, and croſſing the longitudinal pole already ſpoken of.

"Two of the rods of each corner poſt, and three of thoſe of each of the others, being thus diſpoſed of, we have one of each corner poſt and two of each middle poſt ſtill to employ, which is done as follows: A pair of theſe unoccupied rods being brought from any two poſts which ſtand diagonally to each other, and made to meet in the middle, not as in the firſt caſe croſſing in an angle, but ſide by ſide, forming a ſemicircle, and joined together after the manner of a hoop; and the ſame being done with every pair of diagonal poſts (fig 5.), the whole rods will have been employed.

"In this manner a frame would be conſtructed fit to ſupport thatch or other covering; and ſuch a one has probably been often uſed. It would ſeem, however, that, for the ſake of ſtrength, the number of rods has been increaſed in each cluſter, by the introduction, between every two of them, of an additional rod, which riſing with them to the

roof, ſtill continues its middle poſition, as they ſpread aſunder, and meets the horizontal pole at an intermediate point." This is ſhewn in fig. 6. which is drawn with its covering of thatch; and, from the imitation of a dwelling ſo conſtructed, we may eaſily trace the three leading characteriſtics of Gothic architecture, the pointed arch, the cluſtered column, and the branching roof, as exhibited in fig. 7.

Our author, upon ſimilar principles, accounts for the peculiar forms of the Gothic door and window, the pointed ſpire, &c. but it ſeems he has not contented himſelf with ſpeculative theories, but has actually ſubmitted his hypotheſis to the teſt of experiment. In ſhort, Sir James Hall has conſtructed a building in this ſtyle, which has far ſurpaſſed even his own expectation, and has alſo gained the approbation of every man of taſte and ſcience by whom it has been ſeen. "A ſet of poſts of aſh, about three inches in diameter, were placed in two rows, four feet aſunder, and at the interval of four feet in the rows; then a number of ſlender and tapering willow rods, ten feet in length, were applied to the poſts, and, in the manner which we have deſcribed, formed into a frame, which being covered with thatch, produced a very-ſubſtantial roof, under which a perſon can walk with eaſe.

"This little ſtructure exhibits, in miniature, all the characteriſtic features of the Gothic ſtyle. It is in the form of a croſs, with a nave, a choir, and a north and ſouth tranſept. The thatch, being ſo diſpoſed on the frame as not to hide the rods of which it is compoſed, they repreſent accurately the pointed and ſemicircular arches, and all the other peculiarities of a groined roof."

As the architects of the preſent age are miſerably deficient in this beautiful ſpecies of building, the public are greatly indebted to Sir James Hall for his ſpirited endeavours to preſerve and reſtore it in this country.

ARCHONS (*Encycl.*). The tribunal of the archons was compoſed of nine officers. The firſt was properly the *archon*; by whoſe name the year of his adminiſtration was diſtinguiſhed. The title of the ſecond was *king*; that of the third *polemachus:* to theſe were added ſix *theſmothetæ*. Theſe magiſtrates, elected by the ſcrutiny of beans, were obliged to prove, before their reſpective tribes, that they had ſprung, both in their father's and their mother's ſide, for three deſcents, from citizens of Athens. They were likewiſe to prove that they were attached to the worſhip of Apollo, the tutelary god of their country; that they had in their houſe an altar conſecrated to Apollo; and that they had been reſpectfully obedient to their parents; an important and ſacred part of their character, which promiſed that they would be faithful ſervants to their country. They were likewiſe to prove, that they had ſerved in a military capacity the number of years which the republic required of every citizen: and this qualification gave the ſtate experienced officers; for they were not allowed to quit the army till they were forty years of old. Their fortune too, of which they were to inform thoſe before whom they were examined, was a warrant for their fidelity.

After the commiſſioners, who were appointed to enquire into their character and other requiſites, had made a report of them, they were then to ſwear that they would maintain the laws; which obligation if they neglected, they engaged to ſend to Delphi a ſtatue of the weight of their bodies. According to a law of Solon, if an archon got drunk, he was condemned to pay a heavy fine, and ſometimes even puniſhed with death. Such magiſtrates as the Athenian archons were well entitled to reſpect. Hence it was eternal infamy to inſult them; and hence Demoſthenes obſerved, that to treat the theſmothetæ with diſreſpect, was to ſhew diſreſpect to the republic.

Another qualification indiſpenſably required of the ſecond officer of this tribunal, who was called the *king*, was, that he had married the daughter of an Athenian citizen, and that he had eſpouſed her a virgin. This was exacted of him, ſays Demoſthenes, becauſe part of his duty was to ſacrifice to the gods, jointly with his wife, who, inſtead of appeaſing, would have irritated them, if ſhe had not poſſeſſed both thoſe honours.

The enquiry into the private title of the nine archons was very ſevere; and this attention was the more neceſſary, as they had a right to take a ſeat in the Areopagus, after they had quitted their office, and given an account of their adminiſtration.

When any obſcurity occurred in the laws, relative to religion and the worſhip of the gods, the interpretation was ſubmitted to the tribunal of the archons.

Ariſtotle obſerves, that Solon, whoſe aim was to make his people happy, and who found their government in his time ariſtocratical, by the election of the nine archons, who were annual magiſtrates, tempered their power, by eſtabliſhing the privilege of appealing from them to the people, called by lot to give their ſuffrage, after having taken the oath of the Heliaſtæ, in a place near the Panathenæum, where Hiſſus had formerly calmed a ſedition of the people, and bound them to peace by an oath.

ARCHYTAS of Tarentum, a philoſopher of the Pythagorean ſect, and famous for being the maſter of Plato, Eudoxas, and Philolaus, lived about 408 years before Chriſt. He was an excellent mathematician, particularly in that part of the ſcience which regards mechanics: he is ſaid to have made a wooden pigeon that could fly, and to be the firſt that brought down mathematics to common uſes. He is ſaid to be the inventor of the ten categories. He aſſerted, that God was the beginning, the ſupporter, and the end, of all things. There are two epiſtles preſerved in Diogenes Laertius, one from Archytas to Plato, and another from Plato to Archytas. He acquired great reputation in his legiſlative capacity. He likewiſe commanded the army ſeven times, and was never defeated; but was at laſt caſt away in the Adriatic Sea, and thrown upon the coaſt of Apulia.

ARCOT, a city of Hindooſtan, and capital of the Carnatic, ſituated on the river Paliar. In a diſpute among ſome of the native princes of India, Colonel Clive, with a ſmall party of Engliſh, took poſſeſſion of Arcot, in the year 1751, for Mahommed Ali Khan, ſon of Anawerdi Khan, the nabob of Arcot, who had been killed in battle. The French attempted in vain to wreſt it from him, but were compelled to raiſe the ſiege. In the year 1760, in a quarrel with the nabob, it was taken by Colonel Coote, after defeating the French at Wandewaſh; and the garriſon ſurrendered priſoners of war after the batteries had been opened againſt it from the ſecond to the ſixth of February: fifty-five miles W.S.W. Madras, and ſixty-five N.N.W. Pondicherry. Long. 79. 30. E. Greenwich. Lat. 12. 50. N.

ARDEA, a town of Latium, the royal reſidence of Turnus, king of the Rutuli (Livy); ſo called, either from the augury of the heron (Hyginus); or from the exceſſive heat of the country (Martial). It was a marſhy ſickly ſituation (Strabo, Seneca). It was built by Danaë, the mother of Perſeus (Virgil); about five miles diſtant from the ſea, and 20 from Rome: now a hamlet. It was a Roman colony (Livy). The inhabitants are called *Ardeates*. E. Long. 17. 49. Lat. 41. 30.

ARDECHE, a river of France, which gives name to one

of the departments, and rifes three leagues from Langogne, and runs into the Rhone, about a league above Pont St. Eſprit.

ARDENNE, a foreſt in France, formerly of vaſt extent; but the trees are in many places grubbed up, and where they ſtood are built cities, towns, and abbeys. At preſent it extends from Thionville, near the country of Liege, to Donchery and Sedan, on the confines of Champagne. The roads are ſo narrow in ſome places, that two waggons cannot paſs each other; and therefore the waggoners are obliged to provide themſelves with bells or horns to give one another notice to ſtop in time.

ARDENNES, a foreſt of Germany and France, formerly of a great extent, comprehending, according to ſome, all the country between the Meuſe and the Rhine, and according to others all between the Rhine and the Scheldt; what now remains is ſituated principally on the Meuſe, from Montmedy to the biſhopric of Liege. One of the departments of France takes its name from this foreſt; the principal towns are Mezieres, Sedan, Grandpre, Vouziers, Rethel, Rocroy, Donchery, and Givet.

ARDS, barony of, in the county of Down in Ireland: it is a narrow ſlip of land, in ſome places three, and in none above ſix miles broad; but the ſoil is for the moſt part tolerably good. It lies between the lake of Strangford and the ſea, and in the ſouth part it is oppoſite to Lecale. Sir Thomas Smith obtained a patent for this barony from Queen Elizabeth, and ſent his natural ſon with a colony to poſſeſs it; but he was intercepted and ſlain by an Iriſhman. After Sir Thomas's death, Ards was granted by James I. to ſome of the Scots nobility.

ARDUBA, an ancient city of the Pannonians. It was taken by Germanicus about the 7th year of the Chriſtian æra; but its reduction was more owing to the diſagreement that reigned among the inhabitants, than to the valour of the Romans. The greater part of the citizens were for ſubmitting; but the women, more fond of their ancient laws and liberties than the men, joined ſome Roman deſerters, and, falling upon their huſbands, killed a great number of them: but being at laſt overcome by the men, who then ſubmitted to the Romans, the women either threw themſelves headlong from the tops of the walls, or ſetting fire to their houſes, burnt themſelves and their children to death.

AREKEA, a ſea-port town on the coaſt of Africa, in the Red Sea: fifty-five miles from Suaken.

ARELATE, or ARELATUM, is a town of Gallia Narbonenſis, ſituated on the Rhone, denoting a town on, or beyond, a marſh, according to the particular ſituation of the ſpeaker; called *Arelate Sextanorum* (Pliny, Mela, Coin), becauſe it had a colony of the ſixth legion. Writers of the lower age call it *Arelas, atis* (Prudentius, Auſonius). There was a double Arelas, one on each ſide of the river and joined by a bridge (Auſonius); that on the left ſide is thought to have been built by Conſtantine. Tiberius's father was ſent by Julius Cæſar at the head of the colony (Suetonius); and hence the appellation *Julia Paterna*, as appears from an inſcription. It was the favourite place of the Romans, and greatly ornamented; and hence called *Gallula Roma* (Auſonius). It is now called *Arles*. E. Long. 5. 5. Lat. 43. 40.

ARENSHARD, a tract in Denmark, in the duchy of Sleſwick, containing the greateſt part of the famous rampart, built by the Daniſh king Gotric, in the beginning of the 9th century, as a defence againſt the irruptions of the Saxons and Slavi. It extends acroſs the country, about nine miles in length.

ARENSWALDE, a town of Germany, in the circle of Upper Saxony, and New Mark of Brandenburg: ninety-four miles N.E. Berlin, fifty N.N E. Kuſtrin. Long. 33. 14. E. Ferro. Lat. 53. 10. N.

AREOPAGUS (*Encycl.*). The edifice of the Areopagus was extremely ſimple; and its roof, which was at firſt of the moſt common materials, remained in that ſtate till the time of Auguſtus. This we learn from Vitruvius. Oreſtes was the firſt who thought of embelliſhing it. He raiſed in it an altar to Minerva. He likewiſe adorned it with two ſeats of ſolid ſilver; on one of which the *accuſer* ſat, and the *accuſed* on the other. The one ſeat was conſecrated to *Injury*, and the other to *Impudence*. This religious ſketch was brought to perfection by Epimenides, who erected altars to thoſe allegorical deities and ſoon after a temple, which Cicero mentions in his ſecond book of laws. This temple correſponded with *that* which Oreſtes had built to the *Furies*, who brought him to Athens, and procured him the protection of Minerva. Epimenides dedicated it a ſecond time to the Furies, or *ſevere Goddeſſes*, as they were termed by the Athenians. A man was thought loſt without reſource, and a victim to every human ill, if he enforced a perjury by invoking the ſacred name of thoſe tremendous divinities.

Thoſe who employed their thoughts in ſolving the myſteries of Paganiſm, imagined that the Eumenides had their temple ſo near the court Areopagus, that they might enlighten the judges by their inſpiration, and, by their continual aſſiſtance, prevent them from committing thoſe errors to which human weakneſs is liable. To propitiate thoſe terrible deities, and to procure their favour for the Areopagus, they were worſhipped with great punctuality and devotion; and the ſenate itſelf appointed their prieſts. Demoſthenes had been nominated to preſide over their ſacrifices; and he thought it very extraordinary, that he, to whom the republic had confided ſo important an office, ſhould be publicly impeached.

It was natural to aſſociate with the Eumenides the other deities who ſhared with them the ſovereign empire over the dead. Epimenides placed in their temples the ſtatues of Pluto, of Mercury, and of Tellus. They were all, according to Pauſanias, of an agreeable form. Each of them was placed upon an altar, on which the citizens, or ſtrangers, who had been acquitted by the Areopagus, made their grateful offerings.

But it was not to gratitude alone that theſe ſeveral deities owed all their incenſe that ſmoked upon their altars. They who had been accuſed before the ſenate, haraſſed with ſuperſtition, and uncertain how theſe deities would be affected towards them, were laviſh of ſacrifices to obtain their clemency, by which they hoped their judges would likewiſe be influenced.

The tomb of Oedipus was another of the ornaments of the Areopagus. It was in the outward court of the Areopagus, where a barge was likewiſe placed, which made a part of the pomp at the public games.

Whatever homage and implicit obedience the court of Areopagus might derive from all this religious parade, the public good was always dearer to them than any lower advantages they might have drawn from the altars and temples with which they were ſurrounded.

The ſenate aſſembled in a hall built on the ſummit of a hill, which was aſcended with difficulty by the old men bent with age. However, as for ſome time they only aſſembled on the three laſt days of each month, they bore with patience this inconvenient ſituation. But public affairs multiplied to ſuch a degree, that they were obliged to add to the three former ſittings, a fourth, which was held on the

ſeventh day of the month, and which was ſoon ſucceeded by an aſſembly every day. Their meetings were ſo regular, that they were not interrupted by the moſt ſolemn feſtivals, till Cephiſodorus was archon, who, in the third year of the 105th Olympiad, made a decree, which obliged the Areopagites to celebrate, after the example of the other courts, the Apaturian feaſts, which laſted five days.

This aſſiduous and painful exerciſe of their office made the Areopagites feel all the inconvenience of the ſituation of their tribunal, and determined them to remove it to a part of the city, called the *Royal Portico*. It was a ſquare, expoſed to all the inclemencies of the weather. When the judges, who aſſembled there in profound ſilence, had taken their places, they were incloſed by a thread, or rather a cord, drawn around them.

They held their aſſemblies in the night, that their attention to public affairs might not be diverted by external objects,—and (adds Lucian) that they might only be influenced by the arguments, and not by the preſence and action, of the ſpeakers. This circumſtance explains a paſſage in Athenæus, who tells us, that none knew the numbers nor faces of the Areopagites. The cuſtom of adminiſtering juſtice in the open air was not peculiar to them. It was followed by all the other tribunals, when they tried for murder; for two reaſons:—1ſt, That the judges, the ſworn protectors of innocence, might not be hurt by being under cover with criminals, whoſe hands were polluted with blood. 2dly, That the accuſer and the accuſed might not be under the ſame roof.

When all the members of the ſenate were convened, a herald enjoined ſilence, and ordered the people to retire. As ſoon as they had departed, the aſſembly proceeded to buſineſs; and as they deemed the leaſt preference a flagrant injuſtice, the cauſes which they were to determine were drawn by a kind of lottery; and the ſame chance which brought them up, diſtributed them to different numbers of judges, ſmall or great, according to the importance of the ſeveral cauſes.

In early times, the parties themſelves ſtated their cauſe in a ſimple manner. The eloquence of advocates was thought a dangerous talent, fit only to varniſh crimes. But afterwards the Areopagus, on this point, relaxed from their ſeverity;—at firſt the accuſed, and ſoon after the accuſers, were permitted to engage thoſe to make the attack and the defence, whoſe profeſſion it was to exert the art of ſpeaking, for others, with accuracy and elegance.

Sextus Empericus ſeems not to have ſufficiently diſtinguiſhed times, where he ſays, that the court of Areopagus did not ſuffer thoſe who were to be tried at their bar to avail themſelves of the abilities of others. What undoubtedly led him into that miſtake, was, an inviolable cuſtom of that tribunal, which prohibited, in pleadings, all that warm and picturesque oratory which ſeduces the judgment and inflames the paſſions. When the ſuffrages were collected, each perſon gave his in ſilence. They voted with a ſmall flint, which they held betwixt the thumb and the two next fingers, and which they put into one of the two urns that ſtood in a corner of the hall. One ſtood before the other. The firſt was called the *urn of death*; the ſecond, the *urn of compaſſion*. That of death was of braſs, and was termed *proper*; that of compaſſion was of wood, and was termed *improper*. The judges commonly brought their flint to the aſſembly, and put it into the urn; but, that all the ſuffrages might be collected, the herald took the two urns, and preſented them, one after another, to every ſenator, commanding him, in the name of the republic, no longer to defer his acquittal, or condemnation. For this method of giving ſentence, which was called κρυβδην ψηφος, becauſe it kept the vote of each perſon undiſcovered, the Thirty Tyrants, to make themſelves maſters of the deciſions of the Areopagus, ſubſtituted another, by means of which they knew exactly the opinion of each of the judges: for they obliged them to bring their flints publicly, and lay them upon two tables placed before them, the ſituation of which was quite oppoſite to that of the urns; for the firſt of thoſe tables was that of *life*, and the ſecond that of *death*.

The firſt ſubſtances with which they gave their ſuffrages were not ſmall pieces of the bones of a hog, as ſome authors aſſert, but ſea ſhells, for which pieces of braſs of the ſame form, termed *ſpondyla*, were afterwards ſubſtituted. The ſubſtances with which they voted were diſtinguiſhed by their form and colour. Thoſe which condemned were black, and perforated in the middle; the others were white, and not perforated. The precaution of piercing the black ones tends to prove, what we have already obſerved, that the court of Areopagus ſat in the night: for what end did it ſerve to pierce the black ſhells or flints, if the judges could have ſeen them and the white ones, and conſequently have diſtinguiſhed their colours by the aſſiſtance of the light? But as they paſſed ſentence in the dark, it is evident that a difference beſides that of colour was neceſſary, to know the black ones from the white. The judges were likewiſe permitted to multiply at pleaſure the diſtinction between ſigns, which eſſentially diſtinguiſhed the fates of men.

After the ſuffrages were collected, they were taken out of the two urns, and put into a third vaſe of braſs. They were then counted; and as the number of white or black flints was higher or inferior, one of the judges drew with his nail a ſhorter or a longer line, on a tablet, with a waxen ſurface, on which the reſult of each cauſe was marked. The ſhort line expreſſed acquittal; the long condemnation.

With regard to the emoluments of the judges, they were as moderate as thoſe of the advocates. The length of the proceſs did not enhance its expence; and when the deciſion of a cauſe was poſtponed till the next day, the committee were only paid an obolus on that day. Hence Mercury, in Lucian, is ſurpriſed that ſuch ſenſible old men as the ſenators of Areopagus were, ſhould ſell at ſo low a price the trouble of aſcending ſo high.

As to the number of the judges which compoſed the Areopagus, ſome authors, attentive only to a part of Solon's regulations, by which he enacted, that for the future none but the nine archons ſhould be admitted members of the Areopagus, have imagined that this tribunal was filled anew every year, and that it never conſiſted of more than nine magiſtrates. This opinion, and ſome others, are refuted by the circumſtantial account which Diogenes Laertius gives us of the condemnation of Socrates. This great man had wiſhed to ſubſtitute a rational hypotheſis for the fabulous and extravagant ſyſtem of religion which prevailed in his time. His project, however laudable, appeared impious in the eye of ſuperſtition. Information was laid againſt him before the Areopagus, and he had as many accuſers as fellow-citizens. After the charges and the anſwers were heard, they proceeded to ſuffrages; the opinions were divided, but not equally, for the number of thoſe who condemned him exceeded by 281 the number of thoſe who declared him innocent. He made an ironical reply to this iniquitous ſentence, by telling his judges, that he took it for granted, they would admit him to a maintenance in the Prytanæum. On this ſarcaſm, 80 of thoſe who had voted in his favour forſook him, went over to the oppoſite party, and condemned him to die. Here then we have 361 judges who condemn; to whom if we add thoſe who perſiſt in acquitting him, the number muſt be very conſiderable.

Of all the judgments of the Areopagus, the moſt famous one, excepting that of Mars, was the ſentence which they paſſed on Oreſtes. His trial, which happened under Demophon the 12th king of Athens, in 375 of the Attic æra, owed all it's fame to a remarkable circumſtance, that gave riſe to a cuſtom which was obſerved ever afterwards. Oreſtes had killed his mother; he was accuſed before the Areopagus, and cited to appear in that court. He would have loſt his life in conſequence of the equal diviſion of the votes, had not Minerva, moved with his misfortunes, declared herſelf for thoſe who had abſolved him, and joined her ſuffrage to theirs. Thus Oreſtes was ſaved. In veneration to this miracle, the Areopagites, whenever the ſuffrages were equally divided, decided in favour of the accuſed, by granting him what they termed *the ſhell of Minerva*. Cephalus and Dædalus were condemned by the Areopagus long before the time of Oreſtes.

We find in ancient authors ſome deciſions of this tribunal, which bear the ſtrongeſt marks of juſtice, though their objects are not intereſting. We ſhall here quote an anecdote from Aulus Gellius, and Valerius Maximus, of a woman who was accuſed of having poiſoned her huſband and her ſon. She was taken, and brought before Dolabella, who was then proconſul of Aſia. She was no ſooner in his preſence, than ſhe owned the fact; and added, that ſhe had very good reaſons for putting her huſband and her ſon to death.—"I had (ſaid ſhe), to my firſt huſband, a ſon whom I tenderly loved, and whoſe virtues rendered him worthy of my affection. My ſecond huſband, and the ſon whom I bare to him, murdered my favourite child. I thought it would have been unjuſt to have ſuffered thoſe two monſters of barbarity to live. If you think, ſir, that I have committed a crime, it is your province to puniſh it; I certainly ſhall never repent of it." This affair embarraſſed Dolabella. She was afterwards ſent to the Areopagus; and that court, when they had examined her a long time, ordered her and her accuſer to appear before them again a hundred years after, from the firſt day of her trial.

We muſt not, however, ſuppoſe that the Areopagus always preſerved its own reputation; for ſuch is the conſtitution of human affairs, that perfection, with regard to them, is a violent, conſequently a tranſitory, ſtate. Pericles, who lived about a hundred years after Solon, to flatter the people and win them to his party, uſed his utmoſt efforts to weaken the authority of the Areopagus, which was then diſliked by the multitude. He took from it the cognizance of many affairs which had before come under its juriſdiction; and, to forward his deſign of humbling it, employed the eloquence of Ephialtes, whoſe talents were formidable, and who was an avowed enemy to the great men of Athens.

The Areopagus itſelf ſeemed to ſecond the endeavours of a man who projected its ruin, and by its miſconduct haſtened its fall. The old rules of the court, by which none were admitted its members but thoſe whoſe unexceptionable conduct would ſupport its majeſty, ſeemed too ſevere. They grew leſs delicate in their choice; and preſuming that the faults with which they diſpenſed, would ſoon be reformed in the ſociety of ſo many good examples, vice imperceptibly crept among them: corruption, at firſt ſecret and timid, grew inſenſibly open and daring, and made ſuch progreſs, that the moſt ſhameful crimes were ſoon exhibited on the ſtage; and they were not copied from the low and abandoned multitude, but from thoſe ſenators, once the venerable and auſtere cenſors of idleneſs and of vice. Demetrius, the comic poet, wrote a piece, which he entitled *The Areopagite*, where he ſtrips the maſk off thoſe hypocritical legiſlators, who were now equally apt to be ſeduced by wealth and by beauty. So much had the Athenian ſenate degenerated in the days of Iſocrates, cir. 340 years before the Chriſtian æra.

Before this tribunal St. Paul was called to give an account of his doctrine, and converted Dionyſius one of their number.

The end of this court of judicature is as obſcure as its origin, which was derived from very remote antiquity. It exiſted, with the other magiſtracies, in the time of Pauſanius, i. e. in the 2d century. The term of its ſubſequent duration is not aſcertained; but a writer, who lived under the emperors Theodoſius the elder and younger, in the 5th century, mentions it as extinct.

ARETIN (Guido), famous for his muſical improvements, lived in the 11th century. He was a native of Arezzo, a city in Tuſcany; and having been taught the practice of muſic in his youth, and probably retained as a choriſter in the ſervice of the Benedictine monaſtery founded in that city, he became a monk profeſſed, and a brother of the order of St. Benedict.

In this retirement he ſeems to have devoted himſelf to the ſtudy of muſic, particularly the ſyſtem of the ancients, and, above all, to reform their method of notation. The difficulties that attended the inſtruction of youth in the church-offices were ſo great, that, as he himſelf ſays, ten years were generally conſumed barely in acquiring the knowledge of the plain-ſong; and this conſideration induced him to labour after ſome amendment, ſome method that might facilitate inſtruction, and enable thoſe employed in the choral office to perform the duties of it in a correct and decent manner. If we may credit thoſe legendary accounts that are extant in old monkiſh manuſcripts, we ſhould believe he was aſſiſted in his pious intention by immediate communications from heaven; ſome ſpeak of the invention of the ſyllables as the effect of inſpiration; and Guido himſelf ſeems to have been of the ſame opinion, by his ſaying it was revealed to him by the Lord; or, as ſome interpret his words, in a dream: but graver hiſtorians ſay, that being at veſpers in the chapel of his monaſtery, it happened that one of the offices appointed for that day was the hymn to St. John.

UT queant laxis *REſonare fibris*
MIra geſtorum *FAmuli tuorum*
SOLve pollutis *LAbiis reatum,*
Sancte Joannes.

During the performance of the hymn, he remarked the iteration of the words, and the frequent returns of UT, RE, MI, FA, SOL, LA: he obſerved likewiſe a diſſimilarity between the cloſeneſs of the ſyllable MI, and the broad open ſound of FA, which he thought could not fail to impreſs upon the mind a laſting idea of their congruity; and immediately conceived a thought of applying the ſix ſyllables to perfect an improvement either then actually made by him, or under conſideration, viz. that of converting the ancient tetrachords into hexachords.

Struck with the diſcovery, he retired to his ſtudy; and having perfected his ſyſtem, began to introduce it into practice: the perſons to whom he communicated it were the brethren of his own monaſtery, from whom it met with but a cold reception, which, in the epiſtle to his friend, he aſcribes undoubtedly to its true cauſe, envy: however, his intereſt with the abbot, and his employment in the chapel, gave him an opportunity of trying the efficacy of his method on the boys who were training up

for the choral ſervice, and it exceeded the moſt ſanguine expectation. "To the admiration of all (ſays Cardinal Baronius), a boy thereby learnt, in a few months, what no man, though of great ingenuity, could before that attain in ſeveral years."

The fame of Guido's invention ſoon ſpread abroad, and his method of inſtruction was adopted by the clergy of other countries: we are told by Kircher, that Hermanus biſhop of Hamburg, and Elviricus biſhop of Oſnaburg, made uſe of it; and by the authors of the *Hiſtoire Littéraire de la France*, that it was received in that country, and taught in all the monaſteries in the kingdom. It is certain that the reputation of his great ſkill in muſic had excited in the pope a deſire to ſee and converſe with him; of which, and of his going to Rome for that purpoſe, and the reception he met with from the pontiff, he himſelf has given a circumſtantial account in the epiſtle hereafter mentioned.

The particulars of this relation are very curious; and as we have his own authority, there is no room to doubt the truth of it. It ſeems that John XX. or, as ſome writers compute, the 19th pope of that name, having heard of the fame of Guido's ſchool, and conceiving a deſire to ſee him, ſent three meſſengers to invite him to Rome; upon their arrival, it was reſolved by the brethren of the monaſtery that he ſhould go thither attended by Grimaldo the abbot, and Peter the chief of the canons of the church of Arezzo. Arriving at Rome, he was preſented to the holy father, and by him received with great kindneſs. The pope had ſeveral converſations with him, in all which he interrogated him as to his knowledge in muſic; and upon ſight of an antiphonary which Guido had brought with him, marked with the ſyllables agreeable to his new invention, the pope looked on it as a kind of prodigy; and ruminating on the doctrines delivered by Guido, would not ſtir from his ſeat till he had learned perfectly to ſing off a verſe: upon which he declared, that he could not have believed the efficacy of the method, if he had not been convinced by the experiment he had himſelf made of it. The pope would have detained him at Rome; but labouring under a bodily diſorder, and fearing an injury to his health from the air of the place, and the heats of the ſummer, which was then approaching, Guido left that city upon a promiſe to reviſit it, and explain to his holineſs the principles of his new ſyſtem. On his return homewards, he made a viſit to the Abbot of Pompoſa, a town in the duchy of Ferrara, who was very earneſt to have Guido ſettle in the monaſtery of that place; to which invitation it ſeems he yielded, being, as he ſays, deſirous of rendering ſo great a monaſtery ſtill more famous by his ſtudies there.

Here it was that he compoſed a tract on muſic, entitled *Micrologus*, i. e. "a ſhort diſcourſe;" which he dedicated to Theobald biſhop of Arezzo; and finiſhed, as he himſelf at the end of it tells us, under the pontificate of John XX. and in the 34th year of his age. Voſſius ſpeaks alſo of another muſical treatiſe written by him, and dedicated to the ſame perſon.

Moſt of the authors who have taken occaſion to mention Guido, ſpeak of the Micrologus as containing the ſum of his doctrine: but it is in a ſmall tract, entitled *Argumentum novi Cantus inveniendi*, that his declaration of his uſe of the ſyllables, with their ſeveral mutations, and in ſhort his whole doctrine of ſolmiſation, is to be found. This tract makes part of an epiſtle to a very dear and intimate friend of Guido, whom he addreſſes thus, "Beatiſſimo atque dulciſſimo fratri Michaëli;" at whoſe requeſt the tract itſelf ſeems to have been compoſed.

Whether Guido was the author of any other tracts, is not eaſy to determine. It no where appears that any of his works were ever printed, except that Baronius, in his *Annales Eccleſiaſtici, tom.* XI. p. 73, has given at length the epiſtle from him to his friend Michael of Pompoſa, and that to Theobald biſhop of Arezzo, prefixed to the Micrologus; and yet the writers on muſic ſpeak of the Micrologus as a book in the hands of every one. Martini cites ſeveral manuſcripts of Guido; namely, two in the Ambroſian library at Milan, the one written about the 12th century, the other leſs ancient; another among the archives of the chapter of Piſtoja, a city in Tuſcany; and a third in the Mediceo-Laurenziano library at Florence, of the 15th century: theſe are clearly the Micrologus. Of the epiſtle to Michael of Pompoſa, together with the *Argumentum novi Cantus inveniendi*, he mentions only one, which he ſays is ſomewhere at Ratiſbon. Of the ſeveral tracts above mentioned, the laſt excepted, a manuſcript is extant in the library of Baliol College in Oxford. Several fragments of the two firſt, in one volume, are alſo among the Harleian manuſcripts now in the Britiſh Muſeum, No. 3199; but ſo very much mutilated, that they afford but ſmall ſatisfaction to a curious enquirer.

ARETIN (Leonard), one of the moſt learned men of the 15th century, was ſecretary to the republic of Florence, and tranſlated from the Greek into Latin ſome of the Lives of Plutarch, and Ariſtotle's Ethics: he alſo compoſed three books of the Punic war, that may ſerve as a ſupplement to thoſe wanting in Livy; the hiſtory of the tranſactions in Italy during his time; that of ancient Greece; that of the Goths; that of the republic of Florence; and many other books. He died in 1443, aged 74.

ARETIN (Francis), a man of great reading, and well acquainted with the Greek language. He tranſlated into Latin the Commentaries of St. Chryſoſtom upon St. John, and about twenty Homilies of the ſame father: he alſo tranſlated the Letters of Phalaris into Latin, and wrote a treatiſe *De balneis Puteolanis*. He ſtudied at Sienna, about the year 1443; and afterwards taught law there with ſuch reputation, that they called him the *Prince of Subtleties*, and his wit became a proverb. He diſplayed his talents chiefly in diſputes, in which nobody could withſtand him. He gave his opinions in law with ſo much confidence, as to aſſure thoſe who conſulted him, that they ſhould carry their cauſe: nor did experience contradict him; for it was a common ſaying at the bar, ſuch a cauſe has been condemned by Aretin, it muſt therefore be loſt. He taught alſo in the univerſity of Piſa, and in that of Ferrara. He was at Rome under the pontificate of Sixtus IV. but did not ſtay here long; for he ſoon perceived that the great hopes which he had built upon his reputation would come to nothing. This pope, however, declared he would have given him a cardinal's hat, had he not thought he ſhould have done a public injury by depriving the youth of ſuch an excellent profeſſor. When old age would not permit him to go through the duties of his office, they diſpenſed with his reading of lectures, and his ſalary was continued. He continued, however, ſometimes to mount the chair; and although his lectures had now but little ſpirit in them, yet he had ſtill many hearers on account of his reputation. One day when the ſtudents were gone to ſome public ſhows, there were but forty perſons in his auditory: which ſo mortified him, that he threw away his book; and cried out, "Aretin ſhall never explain law to a few perſons," retired in a paſſion, and would teach no more. He was ſevere in his temper, and never kept a ſervant longer than a month or two; for it was a maxim of his, "That new-hired ſervants always ſerve beſt." He was honoured with the title of *knight*, and ſpent all his life in celibacy; and his way of living was ſo parſimonious, that he was thereby enabled to amaſs a great deal of wealth. He had deſigned this wealth for the maintenance of a college; but he altered his reſolution, and left it to his relations.

ARETIN (Peter), a native of Arezzo, who lived in the 16th

century. He was famous for his ſatirical writings; and was ſo bold as to carry his invectives even againſt ſovereigns, and from thence got the title of the *Scourge of Princes*. Francis I. the Emperor Charles V. moſt of the princes of Italy, ſeveral cardinals, and many noblemen, courted his friendſhip by preſents, either becauſe they liked his compoſitions, or perhaps from an apprehenſion of falling under the laſh of his ſatire. Aretin became thereupon ſo inſolent that he is ſaid to have got a medal ſtruck, on one ſide of which he is repreſented with theſe words IL DIVINO ARETINO; and on the reverſe, ſitting upon a throne, receiving the preſents of princes, with theſe words, I PRINCIPI TRIBUTATI DA POPOLI, TRIBUTANO IL SERVIDOR LORO. Some imagine that he gave himſelf the title of *Divine*, ſignifying thereby that he performed the functions of a god upon earth, by the thunderbolts with which he ſtruck the heads of the higheſt perſonages. He uſed to boaſt, that his lampoons did more ſervice to the world than ſermons; and it was ſaid of him, that he had ſubjected more princes by his pen, than the greateſt had ever done by their arms. Aretin wrote many irreligious and obſcene pieces; ſuch are his dialogues, which are called *Ragionamenti*. There is likewiſe imputed to him another very obſcene performance, *De omnibus Veneris ſchematibus*. "It was about the year 1525 (ſays Mr. Chevilier), that Julio Romano, the moſt famous painter of Italy, inſtigated by the enemy of the ſalvation of mankind, invented drawings to engrave 20 plates: the ſubjects are ſo immodeſt, that I dare only name them. Peter Aretin compoſed ſonnets for each figure. George Vaſari, who relates this in his Lives of the Painters, ſays, he does not know which would be the greateſt impurity, to caſt one's eyes upon the drawings of Julio, or to dip into the verſes of Aretin." Some ſay that Aretin changed his libertine principles; but however this may be, it is certain that he compoſed ſeveral pieces of devotion. He wrote a Paraphraſe on the penitential Pſalms, and another on Geneſis; he wrote alſo the Life of the Virgin Mary, and that of St. Catherine of Siana, and of St. Thomas Aquinas. He was author likewiſe of ſome comedies. He died in the year 1556, being about 65 years old.

ARGALL (John), was the third ſon of Thomas Argall, by Margaret his wife, daughter of John Talkarne of the county of Cornwall. He was born in London, and entered a ſtudent in Chriſt-church, in Oxford, towards the latter end of Queen Mary's reign. He took the degree of maſter of arts in 1565, and was ſenior of the act celebrated the eighteenth of February the ſame year. Afterwards he applied himſelf to the ſtudy of divinity, and having taken holy orders, obtained the living of Haleſworth in Suffolk. Being at a feaſt at Cheſton, a mile diſtant from that town, he died ſuddenly at the table. His body was carried to Haleſworth, and buried there, Oct. 8, 1606. During his ſtay at the univerſity, he was a noted diſputant, and a great actor of plays at Chriſt-church, particularly when the queen was entertained there in 1566. He was eſteemed a very good ſcholar, and was ſo much devoted to his ſtudies that he lived and died like a philoſopher, with a thorough contempt for the things of this world. He was the author of two tracts, the one entitled "De vera Pœnitentia, the other "Introductio ad Artem Dialecticum."

ARGEIA, or *Argolis*, a diſtrict of Peloponneſus, ſituated between Arcadia to the weſt, the Egean Sea to the eaſt, Laconica and the Sinus Argolicus to the ſouth, and to the north the territory of Corinth and the Sinus Saronicus (Livy, Ptolemy); ſo called from Argos the capital: now *Romania di Morea*.

ARGEII, a people of Greece, ſo called by the Greeks, from *Argi*, or *Argos*; *Argivi*, by the Romans: Homer ſeems to call the Greeks in general *Argeii*, as alſo *Achæi*.

ARGENS (Jean Baptiſte de Boyer, marquis de), a French writer, famous for the number of his productions, was born at Aix in Provence, in 1704. His talents ſhewed themſelves early, and his father intended him for the magiſtracy; but a gallant and voluptuous humour diſpoſed him rather to the military, in which he ſerved ſome time. Diſguſted, however, with this profeſſion, he paſſed into Holland, and devoted himſelf to the exerciſe of the pen; when the King of Pruſſia gave him an invitation, and attached him to him in quality of chamberlain. After having ſpent about five-and-twenty years with this monarch, he began to look towards his native country, and returned to Aix, where he lived like a philoſopher, and died at the end of 1770. He had an ardent deſire of knowledge, and knew a great deal. He was maſter of many languages: he painted very well; and was a conſiderable proficient in anatomy and chemiſtry. His works are very well known to the public, the principal of which are "Lettres Juives, Lettres Chinoiſes, Lettres Cabaliſtiques, Philoſophie du bon Sens," &c. &c. He tranſlated alſo from the Greek into French, "Ocellus Lucanus," and "Julian's Diſcourſe upon Paganiſm." There is learning, knowledge, and good ſenſe, ſcattered through all his writings; but they are very little favourable to religion; on the contrary, they are ſtrongly tinctured with libertiniſm.

ARGENTARIA, a town of ancient Gaul, thought to ſtand in the place where the city Colmar now ſtands. It is remarkable for a great victory gained by the emperor Gratian over the Lentienſes, in the month of May, A.D. 378. The Romans, being but few in number, were at firſt overpowered, and obliged to give ground; but ſoon returning to the charge, they gained in the end a complete victory. Thirty thouſand of the barbarians, and among the reſt their king Priarius, were killed on the ſpot; and all the reſt, except 5000, taken priſoners.

ARGENTIERE, a town of France, in the late province of Provence, now a diſtrict of the department of Ardeche. It is five miles S.W. of Aubenas, and 17 W. of Viviers. Long. 4. 22. E. Lat. 44. 30. N.

ARGENTORA, *Argentina* (Notitiæ); *Argentoratum* (Ptolemy); *Argentoratus* (Ammian); a city of the Tribocci; one of the fifty forts built by Druſus on the Rhine (Florus): an appellation formed by the Romans from the German, *Argen Struſſen*, or *Straten*, "unſafe roads for travellers," from the marauding parties of the garriſons that infeſted the roads. Now *Straſburg*, in the lower Alſace, on the rivulet Ill, near the Rhine. E. Long. 7. 35. Lat. 48. 38.

ARGIPPEANS, a part of the ancient Scythian nation. The men and the women were bald, hump-backed, and had great chins. Their language was totally peculiar to themſelves. Their dreſs was the ſame with that of the other Scythians. Their food was the fruit of a tree called *Pontica*, about as high as a fig-tree: it bore a kind of filbert; the kernel of which in form reſembled a bean. They ſucked from it a thick black liquor; and this liquor they ſometimes drank with milk. The groſſer part of this fruit, after it had been preſſed, ſerved them inſtead of animal food; for they had but few cattle, and were therefore unſkilled in the care of flocks and herds. They lay in winter under trees, over which they ſpread a white covering; this covering they uſed not in the ſummer. None dared to offer them any injury; for they were deemed ſacred. Therefore they had no arms; and were unacquainted with the art of war. They determined the differences and diſputes of their neighbours; and whoever fled to them from perſecution, found a ſafe aſylum; it would have been ſacrilege to hurt, to inſult him in their county.

ARGIVI (*Encycl.*). For the ſubject referred to, but accidentally omitted, ſee ARGEIA, in this Supplement.

ARGOS, an ancient name of Peloponneſus; from Argos, one of the kings. (Homer. Strabo.)

ARGOS, the capital, and an inland town, of Argolis. It had different furnames; as *Achaicum*, from the country, or an ancient people (Homer); *Inachium*, from the river Inachus, which runs by (Pliny); &c. It had two citadels (Livy); the one called *Larissa* (Strabo); the other unnamed. At the siege of this city, Pyrrhus king of Epirus was killed by a tile thrown by an old woman. *Argos* was 26 stadia distant from Temenium, a maritime town, and 50 to the south of Mycenæ: now *Argo*. E. Long. 23. 5. Lat. 37. 30.

ARGOS HIPPIUM, the ancient name of *Arpi*; but *Lampe* is a still more ancient; afterwards called *Argyrippa*, and *Argippa*; built by, and the residence of, Diomedes, on the Cerbalus (Virgil); afterwards a large and populous city (Livy). A town of Apulia; now in ruins, and the place called *Arpe*.

ARGOSTOL, a seaport of the isle of Cefalonia, over-against Albania. It is the best harbour in all the island, and the proveditor resides in the fortress, which is five miles distant.

ARGUN, a river of Asia, which divides the Russian from the Chinese empire.

ARGUN, a town of Eastern Tartary, on the frontiers of the Chinese empire. There are mines of silver and lead near it; and a pearl fishery in the river Argun. Long. 103. 56. E. Lat. 42. 30. N.

ARGYROPOEIA, among alchemists, a pretended art of transmuting or changing other metals into silver.

ARGYROPYLUS (Joannes), one of the first of those learned persons, who fled into Italy upon the taking of Constantinople by Mahomet II. in 1453, and contributed to the revival of the Greek learning in the west. Cosmo de Medicis, duke of Tuscany, made him professor of Greek at Florence, and appointed him preceptor to his son Peter, and to his grandson Laurence. He had several illustrious pupils at Florence, to whom he read lectures in the Greek language and philosophy; and among the rest Angelus Politianus. In 1456 he went into France, to implore the assistance of Charles VII. in behalf of some friends and relations, whom he wanted to redeem from Turkish slavery. He continued many years in his professorship at Florence; but the plague at length obliging him to quit it, he went to Rome, where he publicly read lectures upon the Greek text of Aristotle. He was carried off by an autumnal fever, which he got by an intemperate eating of melons, in the 70th year of his age, and about the year 1480.

ARGYRUNTUM, a maritime town of Illyria (Ptolemy, Pliny). Now Novigrad, a town of Dalmatia. E. Long. 17. 30. Lat. 44. 30.

ARIANO, a town of Italy, in the Ferrarese, on a branch of the river Po, 22 miles N. E. of Ferrara. Long. 12. 8. E. Lat. 45. 0. N.

ARIAS MONTANUS, a learned Spanish divine, employed by Philip II. of Spain to publish another edition of the Bible, after that of Cardinal Ximenes; which he finished with applause, and died at Seville in 1598.

ARICONIUM, a town of the Silures (Antonine); near Hereford (Camden). W. Long. 2. 42. Lat. 52. 6.

ARIMASPI (Pliny), a people of Sarmatia Europea, to the south of the Montes Riphæi, said by Mela to have but one eye; a fable broached by Aristeas Proconnesius, according to Herodotus.

ARIMINUM, a town of Umbria, or Romagna, at the mouth of the Ariminus, on the Gulf of Venice. The seizing on by Cæsar gave rise to the civil war. Now called *Rimini*. E. Long. 13. 30. Lat. 44. 8.

ARION, an excellent musician and poet, inventor of dithyrambics. Periander entertained him at his court, where getting an estate, and returning to Corinth, the sailors, for lucre of his money, threw him into the sea; when according to the poets, a dolphin, charmed with his music, took him on her back and carried him safe to shore.

ARISTANDER, a famous soothsayer under Alexander the Great, over whom he gained a wonderful influence by the good success of his art. He had already had the same employment at the court of King Philip; and it was he who explained better than his brethren the dream that this prince had after having married Olympias.

ARISTARCHUS, a Grecian philosopher of Samos, one of the first that maintained that the earth turns upon its own centre. We are not sure of the age in which he lived; and have none of his works but *a Treatise of the Greatness and Distance of the Sun and Moon*, translated into Latin by Frederic Commandine, and published with Pappus's explanations in 1572.

ARISTARCHUS, a celebrated grammarian, much esteemed by Ptolemy Philometor, who committed to him the education of his son. He applied himself chiefly to criticism, and made a revisal of Homer's poems, but in too magisterial a way; for such verses as he did not like he treated as spurious. He commented on other poets. Cicero and Horace made use of his name to express a very rigid critic.

ARISTIDES, surnamed the *Just*, flourished at Athens at the same time with Themistocles, who triumphed over him by his boisterous eloquence, and got him banished, 483 years before Christ; but Aristides being recalled a short time after, would never join with the enemies of Themistocles, to get him banished; for nothing could make him deviate from the strictest rules of moderation and justice. Aristides brought the Greeks to unite against the Persians; distinguished himself at the famous battle of Marathon, and that of Salamine and Platea; and established an annual income of 460 talents for a fund to supply the expences of war. This great man died so poor, though he had the management of the revenues of Greece, that the state was obliged to pay his funeral expences, to give fortunes to his daughters in marriage, and a maintenance to his son Lysimachus.

ARISTIDES of Miletus, a famous Greek author, often cited by the ancients.

ARISTIDES, a very eloquent Athenian orator, who became a convert to the Christian religion, and about the year 124 presented to the Emperor Adrian an apology for the Christians.

ARISTIDES (Ælius), a celebrated orator, born in Mysia, about 129 years before the Christian æra. The best edition of his works is that of Oxford, printed in Greek and Latin, in two volumes quarto.

ARISTIDES, a painter contemporary with Apelles, flourished at Thebes about the 122d Olympiad. He is said to have been the first who attempted to delineate the passions of the mind in colours. His Bacchus was so excellent a piece, as to become proverbial.

ARISTIPPUS, the founder of the Cyrenaic sect of philosophy, was the son of Aretades, and born at Cyrene in Lybia. He flourished about the 96th Olympiad. The great reputation of Socrates induced him to leave his own country, and remove to Athens, that he might have the satisfaction of hearing his discourses. He was chiefly delighted with those discourses of Socrates that related the most to pleasure; which he asserted to be the ultimate end in which all happiness consists. His manner of life was agreeable to his opinion; for he indulged himself extremely in all the luxuries of dress, wine, and women. Though he had a good estate, and three country seats, yet he was the

only one of the disciples of Socrates who took money for teaching; which being observed by the philosopher, he asked Aristippus, How he came to have so much? Who in reply asked him, How he came to have so little? Upon his leaving Socrates, he went to Ægina, as Athenæus informs us, where he lived with more freedom and luxury than before. Socrates sent frequent exhortations to him, in order to reclaim him; but all in vain: and with the same view he published that discourse which we find in Xenophon. Here Aristippus became acquainted with Lais, the famous courtezan of Corinth; for whose sake he took a voyage to that city. He continued at Ægina till the death of Socrates, as appears from Plato's *Phædo*, and the epistle which he wrote upon that occasion. He returned at last into his own country Cyrene, where he professed philosophy, and instituted a sect which, as we observed above, was called the *Cyrenaic*, from the place, and by some writers the *Hedonic*, or voluptuous, from its doctrines. During the height of the grandeur of Dionysius the Sicilian tyrant, a great many philosophers resorted to him; and among the rest Aristippus, who was tempted thither by the magnificence of that court. Dionysius asking him the reason of his coming, he replied, "That it was in order to give what he had, and to receive what he had not:" or, as others represent it, "That when he wanted wisdom, he went to Socrates; but now as he wanted money, he was come to him." He very soon insinuated himself into the favour of Dionysius; for, being a man of a soft easy temper, he conformed himself exactly to every place, time, and person, and was a complete master of the most refined complaisance.

We have several remarkable passages concerning him during his residence at that court, mentioned by Diogenes Laertius. Dionysius, at a feast, commanded that all should put on women's purple habits, and dance in them. But Plato refused, repeating these lines:

> I cannot in this gay effeminate dress
> Disgrace my manhood, or my sex betray.

But Aristippus readily submitted to the command, and made this reply immediately:

> ——At feasts, where mirth is free,
> A sober mind can never be corrupted.

At another time, interceding with Dionysius in behalf of a friend, but not prevailing, he cast himself at his feet: being reproved by one for that excess of humility, he replied, "That it was not he who was the cause of that submission; but Dionysius, whose ears were in his feet." Dionysius shewed him three beautiful courtezans, and ordered him to take his choice. Upon which, he took them all three away with him, alleging, that Paris was punished for preferring one to the other two; but when he had brought them to his door, he dismissed them, in order to shew that he could either enjoy or reject with the same indifference. Having desired money of Dionysius, the latter observed to him, that he had assured him a wise man wanted nothing. "Give me (says he) what I ask, and we will talk of that afterwards." When Dionysius had given it him, "Now (says he), you see I do not want." By this complaisance he gained so much upon Dionysius, that he had a greater regard for him than for all the rest of the philosophers, though he sometimes spoke with such freedom to that king, that he incurred his displeasure. When Dionysius asked, Why philosophers haunted the gates of rich men, but not rich men those of philosophers? he replied, "Because the latter know what they want, and the others not." Another time, Dionysius repeating (out of Sophocles, as Plutarch affirms, who ascribes this to Zeno) these verses,

> He that with tyrants seeks for bare support,
> Enslaves himself, though free he came to court;

he immediately answered,

> He is no slave, if he be free to come.

Diocles, as Laertius informs us, related this in his *Lives of the Philosophers*; though others ascribe this saying to Plato. Aristippus had a contest with Antisthenes, the Cynic philosopher; notwithstanding which, he was very ready to employ his interest at court for some friends of Antisthenes, to preserve them from death, as we find by a letter of his to that philosopher. Diogenes followed the example of his master Antisthenes in ridiculing Aristippus, and called him the *court-spaniel*.

We have many apophthegms of his preserved. Suidas observes, that he surpassed all the philosophers in the acuteness of his apophthegms. Being once railed at, he left the room; and the person who abused him, following him, and asking him why he went away, he answered, "Because it is in your power to rail, but it is not in my power not to hear you." A person observing, that the philosophers frequented the houses of rich men; "Why (says he), the physicians frequent the chambers of the sick yet that is no reason why a man should rather choose to lie sick than be cured." To one who boasted of his great reading, he said, "That as they who feed and exercise most are not always more healthy than they who only eat and exercise to satisfy nature; so neither they who read much, but they who read no more than is useful, are truly learned." Among other instructions which he gave to his daughter Arete, he advised her particularly to despise superfluity. To one who asked him what his son would be the better for being a scholar? "If for nothing else (said he), yet for this alone, that when he comes into the theatre, one stone will not sit upon another." When a certain person recommended his son to him, he demanded 500 drachmas; and upon the father's replying, that he could buy a slave for that sum, "Do so (said he), and then you'll be master of a couple." Being reproached, because, having a suit of law depending, he fee'd a lawyer to plead for him, "Just so (said he), when I have a great supper to make, I always hire a cook." Being asked what was the difference between a wise man and a fool, he replied, "Send both of them together naked to those who are acquainted with neither of them, and then you'll know." Being reproved by a certain person (who, according to Mr. Stanley, was Plato) for his costly and voluptuous feasts, "I warrant you (said he), that you would not have bestowed three farthings upon such a dinner;" which the other confessing, "Why then (said he) I find myself less indulgent to my palate, than you are to your covetous humour;" or, as it is otherwise represented, "I find, that I love my belly, and you love your money." When Simus, treasurer to Dionysius, shewed him his house magnificently furnished, and paved with costly marble (for he was a Phrygian, and consequently profuse); Aristippus spit in his face: upon which the other growing angry, "Why, truly (said he), I could not find a fitter place." His servant carrying after him a great weight of money, and being ready to sink upon the road under his burden, he bid him throw away all what was too much for him to carry. Horace mentions this fact in his third satire of the second book:

> Quid simile isti
> Græcus Aristippus? qui servos projicere aurum
> In media jussit Libya, quia tardius irent
> Propter onus segnes.

Being asked what things were most proper for children to be instructed in? he answered, "Those which might prove of

the greateſt advantage to them when they came to be men." Being reproached for going from Socrates to Dionyſius, he replied, "That he went to Socrates when he wanted ſerious inſtruction, and to Dionyſius for diverſion." Having received money of Dionyſius at the ſame time that Plato accepted a book only, and being reproached for it, "The reaſon is plain (ſays he), I want money, and Plato wants books." Having loſt a conſiderable farm, he ſaid to one who ſeemed exceſſively to compaſſionate his loſs, "You have but one field; I have three left: why ſhould not I rather grieve for you?" Plutarch, who relates this in his book *De Tranquillitate Animi*, obſerves upon it, that it is very abſurd to lament for what is loſt, and not to rejoice for what is left. When a perſon told him, "That the land for his ſake was loſt," he replied, "That it was better ſo, than that he ſhould be loſt for the land." Being caſt by ſhipwreck aſhore on the iſland of Rhodes, and perceiving mathematical ſchemes and diagrams drawn upon the ground, he ſaid, "Courage, friends; for I ſee the footſteps of men."

After he had lived a long time with Dionyſius, his daughter Arete ſent to him, to deſire his preſence at Cyrene, in order to take care of her affairs, ſince ſhe was in danger of being oppreſſed by the magiſtrates. But he fell ſick in his return home, and died at Lipara, an Æolian iſland. With regard to his principal opinions, like Socrates, he rejected the ſciences as they were then taught, and pretended that logic alone was ſufficient to teach truth and fix its bounds. He aſſerted, that pleaſure and pain were the criterions by which we were to be determined; that theſe alone made up all our paſſions; that the firſt produced all the ſoft emotions, and the latter all the violent ones. The aſſemblage of all pleaſure, he aſſerted, made true happineſs, and that the beſt way to attain this was to enjoy the preſent moments. He wrote a great many books: particularly the Hiſtory of Libya, dedicated to Dionyſius; ſeveral Dialogues; and four books Of the Luxury of the Ancients. There are four epiſtles of his extant in the Socratic Collection publiſhed by Leo Allatius.

Beſides Arete his daughter, whom he educated in philoſophy, Ariſtippus had alſo a ſon, whom he diſinherited for his ſtupidity. Arete had a ſon, who was named *Ariſtippus* from his grandfather, and had the ſurname of Μητροδιδακτος from his mother's inſtructing him in philoſophy. Among his auditors, beſides his daughter Arete, we have an account of Æthiops of Ptolemais, and Antipater of Cyrene. Arete communicated the philoſophy, which ſhe received from her father, to her ſon Ariſtippus, who tranſmitted it to Theodorus *the Atheiſt*, who inſtituted the ſect called *Theodorean*. Antipater communicated the philoſophy of Ariſtippus to Epitimedes his diſciple; Epitimedes to Paræbates; Paræbates to Hegeſias and Anniceris; and theſe two laſt, improving it by ſome additions of their own, obtained the honour each of them of giving a name to the *Hegeſiac* and *Annicerian* ſect.

Laertius mentions two other perſons of the name of Ariſtippus; one, who wrote the Hiſtory of Arcadia; the other, a philoſopher of the New Academy.

ARISTO, a Stoic philoſopher, the diſciple of Zeno the chief of the Stoics, flouriſhed about 290 years before the Chriſtian æra. He differed but little from his maſter Zeno. He rejected logic as of no uſe, and natural philoſophy as being above the reach of the human underſtanding. It is ſaid, that being bald, the ſun burnt his head; and that this cauſed his death. There is a ſaying of his recorded, which might render the doctrine of Ariſtippus leſs odious than it ordinarily is (ſee ARISTIPPUS). He uſed to ſay, "That a philoſopher might do thoſe of his hearers a prejudice who put a wrong interpretation upon good meanings; as for example, that the ſchool of Ariſtippus might ſend out debauchees, and that of Zeno Cynics:" which ſeems to imply, that the doctrine of this philoſopher never produced this effect but when it was miſunderſtood. He ſhould alſo have added, that every teacher is therefore obliged to forbear laying down ambiguous maxims, or to prevent falſe gloſſes being put upon them.

ARISTO (Titus), a Roman lawyer, perfect maſter of the public and civil law, of hiſtory and antiquity. The Pandects mention ſome books of his, as does Aulus Gellius.—He was contemporary with Pliny the Younger, who gives him a noble character, and had a moſt tender friendſhip for him. See *Plinii Epiſt.* lib. i. ep. 22.

ARISTOGITON, a famous Athenian, who, with Armodius, killed Hipparchus, tyrant of Athens, about 513 years before the Chriſtian æra. The Athenians erected a ſtatue to him.

ARISTOMENES, a general of the Meſſenians, renowned for his valour and virtue.

ARISTOTLE (*Encycl.*), beſides his treatiſes on philoſophy, wrote alſo on poetry, rhetoric, law, &c. to the number of 400 treatiſes, according to Diogenes Laertius; or more, according to Francis Patricius of Venice. An account of ſuch as are extant, and of thoſe ſaid to be loſt, may be ſeen in Fabricius's *Bibliotheca Græca*. He left his writings with Theophraſtus, his beloved diſciple and ſucceſſor in the Lycæum; and forbade that they ſhould ever be publiſhed. Theophraſtus, at his death, truſted them to Neleus, his good friend and diſciple; whoſe heirs buried them in the ground at Scepſis, a town of Troas, to ſecure them from the king of Pergamus, who made great ſearch every-where for books to adorn his library. Here they lay concealed 160 years, until, being almoſt ſpoiled, they were ſold to one Apellicon, a rich citizen of Athens. Sylla found them at this man's houſe, and ordered them to be carried to Rome. They were ſome time after purchaſed by Tyrannium a grammarian: and Andronicus of Rhodes having bought them of his heirs, was in a manner the firſt reſtorer of the works of this great philoſopher; for he not only repaired what had been decayed by time and ill-keeping, but alſo put them in a better order, and got them copied. There were many who followed the doctrine of Ariſtotle in the reigns of the twelve Cæſars, and their numbers increaſed much under Adrian and Antonius: Alexander Aphrodinus was the firſt profeſſor of the Peripatetic philoſophy at Rome, being appointed by the emperors Marcus Aurelius and Lucius Verus; and in ſucceeding ages the doctrine of Ariſtotle prevailed among almoſt all men of letters, and many commentaries were written upon his works.

The firſt doctors of the church diſapproved of the doctrine of Ariſtotle, as allowing too much to reaſon and ſenſe; but Anatolius biſhop of Laodicea, Didymus of Alexandria, St. Jerome, St. Auguſtin, and ſeveral others, at length wrote and ſpoke in favour of it. In the ſixth age, Boethius made him known in the weſt, and tranſlated ſome of his pieces into Latin. But from the time of Boethius to the eighth age, Joannes Damaſcenus was the only man who made an abridgement of his philoſophy, or wrote any thing concerning him. The Grecians, who took great pains to reſtore learning in the 11th and following ages, applied much to the works of this philoſopher, and many learned men wrote commentaries on his writings: amongſt theſe were Alfarabius, Algazel, Avicenna, and Averoes. They taught his doctrine in Africa, and afterwards at Cordova in Spain. The Spaniards introduced his doctrine into France, with the commentaries of Averroes and Avicenna; and it was taught in the univerſity of Paris, until Amauri, having ſupported ſome particular tenets on the principles of this philoſopher, was condemned of hereſy, in a coun-

cil held there in 1210, when all the works of Ariſtotle that could be found were burnt, and the reading of them forbidden under pain of excommunication. This prohibition was confirmed, as to the phyſics and metaphyſics, in 1215, by the Pope's legate; though at the ſame time he gave leave for his logic to be read, inſtead of St. Auguſtin's uſed at that time in the univerſity. In the year 1265, Simon, cardinal of St. Cecil, and legate from the holy ſee, prohibited the reading of the phyſics and metaphyſics of Ariſtotle. All theſe prohibitions, however, were taken off in 1366; for the cardinals of St. Mark and St. Martin, who were deputed by Pope Urban V. to reform the univerſity of Paris, permitted the reading of thoſe books, which had been prohibited: and in the year 1448, Pope Stephen approved of all his works, and took care to have a new tranſlation of them into Latin.

Paſſing from hand to hand, in the manner above mentioned, the works of Ariſtotle have greatly ſuffered from the ignorance or the inaccuracy of tranſcribers. This has given birth to much obſcurity, and to omiſſions that are now irreparable: it is this which has rendered the ſenſe of Ariſtotle ſo doubtful, and opened ſuch a wide field for the combats of ſcholaſtic philoſophy. Beſides, our philoſopher was not himſelf very much inclined to be perfectly plain and familiar. His ſtyle was difficult and conciſe. He has employed a mathematical manner of communication; often uſes terms which have no determinate meaning; and, with many of his doctrines, he mixes ancient opinions as taken for granted, which are altogether falſe or uncertain. In a word, the Peripatetic philoſophy is very obſcure in itſelf, and commentators have rather contributed to increaſe the obſcurity.

ARISTOXENUS, the moſt ancient muſical writer, of whoſe works any tracts are come down to us. He was born at Tarentum, a city in that part of Italy called *Magna Græcia*, now Calabria. He was the ſon of a muſician, whom ſome call *Mneſias*, others *Spintharus*. He had his firſt education at Mantinæa, a city of Arcadia, under his father, and Lamprus of Erythræ; he next ſtudied under Xenophilus, the Pythagorean; and laſtly under Ariſtotle, in company with Theophraſtus. Suidas, from whom theſe particulars are tranſcribed, adds, that Ariſtoxenus, enraged at Ariſtotle having bequeathed his ſchool to Theophraſtus, traduced him ever after. But Ariſtocles the Peripatetic, in Euſebius, exculpates Ariſtoxenus in this particular, and aſſures us that he always ſpoke with great reſpect of his maſter Ariſtotle. From the preceding account it appears that Ariſtoxenus lived under Alexander the Great, and his firſt ſucceſſors. His *Harmonics* in three books, all that are come down to us, together with Ptolemy's Harmonics, were firſt publiſhed by Gogavinus, but not very correctly, at Venice, 1562, in 4to, with a Latin verſion. John Meurſius next tranſlated the three books of Ariſtoxenus into Latin, from the MS. of Joſ. Scaliger; but, according to Meibomius, very negligently. With theſe he printed at Leyded, 1616, 4to. Nicomachus and Alypius, two other Greek writers on muſic. After this, Meibomius collected theſe muſical writers together; to which he added Euclid, Bacchius ſenior, Ariſtides Quintilianus; and publiſhed the whole, with a Latin verſion and notes, from the elegant preſs of Elzevir, Amſt. 1652. The learned editor dedicates theſe ancient muſical treatiſes to Chriſtina queen of Sweden. Ariſtoxenus is ſaid by Suidas to have written 452 different works, among which thoſe on muſic were the moſt eſteemed; yet his writings on other ſubjects are very frequently quoted by ancient authors, notwithſtanding Cicero and ſome others ſay that he was a bad philoſopher, and had nothing in his head but muſic. The titles of ſeveral of the loſt works of Ariſtoxenus, quoted by Athenæus and others, have been collected by Meurſius in his notes upon this author, by Tonſius and Menage, all which Fabricius has digeſted into alphabetical order.

ARLESHEM, a handſome town of Switzerland, in the biſhopric of Baſil, where the canons of that city reſide.

ARMACALES, a river of Babylon (Abydenus); called *Foſſa Regia*, the *Royal Trench*, or *Cut* (Polybius); the *Royal River* (Ptolemy); *Almarchur* (Pliny); *Naarmalcha* (Ammian); a factitious channel, or cut, made by Nebuchadanoſor, and a horn or branch of the Euphrates (Abydenus). The Euphrates naturally divides into two channels, one paſſing through Babylon, the other through Seleucia, and then falls into the Tigris; the factitious channel between theſe two is the Royal River; which mixes with the Tigris, a great deal lower down than Seleucia, at Apamea (Ptolemy).

ARMAGH, a city of Ireland, and capital of the county ſo called, the ſee of an archbiſhop, who is lord primate of all Ireland. St. Patrick founded the ſee in the year 444. This city was much decayed, but by the munificence of Lord Rokeby, the archbiſhop, it has been conſiderably increaſed; he has built a handſome palace, and a noble houſe for the ſchool, which is a royal foundation; to which he added a public library for the promotion of ſcience. He has alſo erected an obſervatory, with a liberal income for an aſtronomer, ſecuring the endowments by ſeveral acts of the legiſlature; 62 miles N. Dublin, and 46 S. S. E. Londonderry. Long. 6. 35. W. Greenwich. Lat. 54. 21. N.

ARMENE, or ARMINA, anciently a hamlet of Paphlagonia (Ptolemy). The inhabitants encompaſſed it with a wall, becauſe of the coldneſs of the place, imagining by that means to render it warmer. But this proving ineffectual, gave riſe to the proverb *Armenen muro cingere*, uſed to expreſs ſome egregious folly.

ARMENIA (*Encycl.*). The Armenians are an honeſt, civil, polite people, ſcarce troubling themſelves about any thing elſe but trade, which they carry on in moſt parts of the world, by which means they have ſpread themſelves over the eaſt, and alſo great part of Europe; and wherever they come, commerce is carried on with ſpirit and advantage.

The religion of the Armenians is the Chriſtian, of the Eutychian ſect: that is, they own but one nature in Jeſus Chriſt; and when they ſpeak of the hypoſtatical union, that he is perfect God and perfect man without mixture. They have a high eſteem for a book they call the *Little Goſpel*, which treats of the infancy of Jeſus, and ſays that the Virgin Mary being pregnant, her ſiſter Salome accuſed her of having proſtituted herſelf; to which the Virgin anſwered, that ſhe needed only to lay her hand on her belly, and ſhe would know how ſhe came to be with child: this Salome accordingly did, and fire came out of her belly, which conſumed the half of her arm; upon which ſhe acknowledged her fault, and drew it back: after which it was healed by putting it to the ſame place.

The Armenian clergy conſiſt of patriarchs, archbiſhops, doctors, ſecular prieſts, and monks. The ſecular prieſts are not allowed to marry a ſecond time; and therefore they take care to chooſe young healthy wives: they maintain themſelves and families by following ſome occupation, inſomuch, that they have hardly time to perform their eccleſiaſtical functions: they lie in the churches on the vigils of thoſe days they are obliged to officiate.

The Armenian monks are of the order of St. Baſil; and every Wedneſday and Friday they eat neither fiſh, nor eggs, nor oil, nor any thing made of milk, and during Lent they live upon nothing but roots: they are allowed wine only on the Saturday in the Holy Week, and meat on the Eaſter Sunday. Beſides the great Lent, they have four others of eight

days each, which are inſtituted to prepare for the four great feſtivals of the Nativity, the Aſcenſion, the Annunciation, and of St. George; in which times they muſt not ſo much as ſpeak of eggs, fiſh, oil, or butter.

The Armenians have ſeven ſacraments; baptiſm, confirmation, penance, the euchariſt, extreme unction, orders, and matrimony. In baptiſm, the child is plunged three times into the water, and the ſame form of words that is uſed with us is repeated every time; the prieſt then puts a ſmall cord made with ſilk and cotton on the neck of the infant, and anoints his forehead, chin, ſtomach, arm-pits, hands, and feet, making the ſign of the croſs on each part. When the child is baptized, he is carried home by the godfather with the ſound of drums and trumpets. The women do not go to church till forty days after their delivery; and they obſerve many Jewiſh cuſtoms.

At the communion, to which infants of two or three months old are admitted, the prieſts give a piece of the conſecrated hoſt, ſoaked in the conſecrated wine. The elements are covered with a great veil, and placed in a cup-board near the altar, on the ſide of the goſpels. When the prieſt takes the chalice and pattin, he is followed by his deacons, and ſub-deacons, with flambeaux and plates of copper furniſhed with bells: in this manner, with a cenſer before him, he goes in proceſſion round the ſanctuary; he then ſets them on the altar, pronounces the words of conſecration, and turns himſelf to the people, who fall down, kiſs the earth, and beat their breaſts: then, after taking it himſelf, he diſtributes the hoſt ſoaked in wine to the people.

The Armenians ſeem to place the chief part of their religion in faſtings and abſtinences: and among the clergy, the higher the degree, the lower they muſt live; inſomuch that it is ſaid the archbiſhops live on nothing but pulſe. They conſecrate holy water but once a-year, at which time every one fills a pot and carries it home, which brings in a conſiderable revenue to the church.

ARMINIUS (James), whoſe real name in Low Dutch was James Harmanni, a famous Proteſtant divine, from whom the modern ſect of Arminians take their name, was born at Oudewater, in Holland, in 1560. He was ordained miniſter at Amſterdam on the 11th of Auguſt, 1588; when he ſoon diſtinguiſhed himſelf by his ſermons, which were remarkable for their ſolidity and learning, and gained him univerſal applauſe: but Martin Lydias, profeſſor of divinity at Franeker, judging him a fit perſon to refute a writing in which Beza's doctrine of predeſtination had been attacked by ſome miniſters of Delft, Arminius at his intreatics undertook the taſk; but upon thoroughly examining the reaſons on both ſides, he came into the opinions he propoſed to deſtroy, and afterwards went ſtill farther than the miniſters of Delft had done. In 1600 he oppoſed thoſe who maintained that miniſters ſhould ſubſcribe the confeſſion and catechiſm every year. In 1602 a peſtilential diſeaſe raged at Amſterdam, during which he acted with the greateſt reſolution and courage, in aſſiſting the poor, and comforting the ſick; and Lucas Trelcatius and Francis Junius dying of that diſeaſe at Leyden, the curators of that univerſity choſe Arminius profeſſor of divinity there, and he was afterwards made doctor of divinity. Diſputes upon grace were ſoon after kindled in that univerſity; and he was at length engaged in a new conteſt, occaſioned by a diſputation of his concerning the divinity of the Son. Theſe conteſts, his continual labour, and the concern of ſeeing his reputation blaſted by a multitude of ſlanders in relation to his opinions, impaired his health, and threw him into a fit of ſickneſs, of which he died on the 19th of October, 1609.

Arminius was eſteemed an excellent preacher: his voice was low, but very agreeable; and his pronunciation admirable: he was eaſy and affable to perſons of all ranks, and facetious in his converſation amongſt his friends. His great deſire was, that Chriſtians would bear with one another in all controverſies which did not affect the fundamentals of their religion; and when they perſecuted each other for points of indifference, it gave him the utmoſt diſſatisfaction. The curators of the univerſity of Leyden had ſo great a regard for him, that they ſettled a penſion upon his wife and children.

He left ſeveral works, viz. 1. Diſputationes de diverſis Chriſtianæ religionis capitibus. 2. Orationes, itemque tractatus inſigniores aliquot. 3. Examen modeſti libelli Gulielmi Perkinſii de prædeſtinationis modo et ordine, itemque de amplitudine gratiæ divinæ. 4. Analyſis capitis noni ad Romanos. 5. Diſſertatio de vero et genuino ſenſu capitis ſeptimi epiſtolæ ad Romanos. 6. Amica collatio cum D. Franciſco Junio de prædeſtinatione per literas habita. 7. Epiſtola ad Hippolytum a collibus.

ARMOZA, or HARMOZIA, a town in Carmania, at the mouth of the Anamis, which falls into the Perſian Gulf (Arrian); *Armuza* (Ptolemy); and from this the neighbouring iſland, and a ſmall kingdom, take the modern name of *Ormus*. E. long. 56. 17. N. lat. 27. 20.

ARMSTRONG (*Encycl.*), like Akenſide, another poet and phyſician, never arrived at much practice. In 1735 he publiſhed a little humorous fugitive pamphlet, entitled, An Eſſay for abridging the Study of Phyſic; to which is added, A Dialogue betwixt Hygeia, Mercury, and Pluto; as alſo an Epiſtle from Uſbek the Perſian to Joſhua Ward, Eſq. In 1737 he publiſhed A Synopſis of the Hiſtory and Cure of Venereal Diſeaſes. This was ſoon followed by the Œconomy of Love, a poem which has much merit, but is too ſtrongly tinctured with the licentiouſneſs of Ovid. His Art of preſerving Health, which was publiſhed in 1744, is his beſt performance, and will tranſmit his name to poſterity as one of the firſt Engliſh writers. In 1746 Dr. Armſtrong was appointed one of the phyſicians to the hoſpital for lame and ſick ſoldiers, behind Buckingham-houſe. In 1751 he publiſhed his poem On Benevolence; and in 1753, Taſte, an Epiſtle to a young Critic. In 1760 he had the honour of being appointed phyſician to the army in Germany; where, in 1761, he wrote a poem called Day, an Epiſtle to John Wilkes, of Ayleſbury, Eſq. In this poem, which is not collected in his works, he wantonly hazarded a reflection on Churchill, which drew on him the ſerpent-toothed vengeance of that ſevereſt of ſatiriſts. In 1770 Dr. Armſtrong publiſhed a collection of Miſcellanies in two volumes; containing, 1. The Art of preſerving Health. 2. Of Benevolence, an Epiſtle to Eumenes. 3. Taſte, an Epiſtle to a young Critic, 1753. 4. Imitations of Shakſpeare and Spenſer. 5 The Univerſal Almanac, by Noureddin Ali. 6. The Forced Marriage, a Tragedy. 7. Sketches. In 1771 he publiſhed A ſhort Ramble through ſome Parts of France and Italy, by Lancelot Temple; and in 1773, a quarto pamphlet, under the title of Medical Eſſays. He died in September 1779.

ARMSTRONG (Sir Thomas), deſcended of an ancient and loyal family, was born at Nimeguen in Holland. As he grew up, he diſcovered a vigorous, martial diſpoſition, which recommended him to the acquaintance and eſteem of many perſons of quality, who looked upon him as a man of a warm heart, and a good head. He was a very ſtirring and active royaliſt during the exile of King Charles II. which expoſed him to the malice of the Protector, Cromwell, who cauſed him to be confined a year in Lambeth-houſe, which in thoſe times was a priſon. He ſuffered greatly in this impriſonment; for the royaliſts were at that time ſo exhauſted, that, how warm ſoever their charity might be in their hearts, its effects were but cold, and therefore Mr. Armſtrong was very near ſinking

under this misfortune, when by some accident or other he recovered his liberty. This usage, hard and cruel as it was, could neither break his spirits, nor abate his loyalty, which induced the principal friends the king had in his dominions, to make choice of him to go to his majesty, then at Brussels, with bills of exchange of great value, and other papers of still greater importance, which commission he executed with such diligence and discretion, that he not only put the bills and papers safely into the king's hands, but brought home and delivered as safely the answers with which he was entrusted. But the Protector had so good intelligence, that within a week after he came back, he was seized and sent to the Gatehouse, where he suffered another sharp imprisonment, and was in great danger of losing his life. This service was so acceptable to the king when performed, that he conferred on him the honour of knighthood; and yet the remembrance of it was so far from being of any service to him in his troubles, that it was thought one principal reason for taking away his life. After this he was again imprisoned in the Tower, and obtained his liberty only by the death of the Protector, and on his obtaining it, returned to the service of his master, and was one of those distinguished royalists, that signed that excellent address to the Lord General Monk, that operated so strongly in favour of the Restoration. On the king's return he was taken into great favour, was employed in many services of importance, promoted to the rank of lieutenant in one of the troops of horseguards, and was gentleman of horse to his majesty. The heat and vehemence of his temper betrayed him however into some excesses, and particularly into one, which was extremely fatal to his reputation, and, but for the king's favour, might have been fatal also to his life. This was the killing one Mr. Scroop in a play-house-quarrel, which misfortune rendered it necessary, or at least expedient, for him to leave the kingdom, but he did it in an honourable way, and as an attendant upon the king's natural son, Mr. James Crofts, afterwards so well known to the world, by the title of Duke of Monmouth. He served with him in Flanders with great reputation, and there acquired such a degree of military skill, as made him be considered as an active and accomplished officer, which made him the more dear to those noblemen of a martial disposition who attached themselves to that duke. After the war was over he returned to England, and stood in all appearance in as high favour, and as great credit with the king, as ever. But this did not continue long; for the times growing troublesome, and factions arising both in the court and country, he had the misfortune to fall into such measures as disobliged his master, drew upon him at first his coldness and displeasure, and ended at last in removing him from all his places, and in his total dismission from court. The long intercourse of friendship he had with, and his great dependence on, the Duke of Monmouth, proved the first cause of his troubles, and in the end that of his ruin. The court had no sooner received informations of a traitorous nature against Sir Thomas, than they took all imaginable pains to get him into their hands; but he having timely notice of the discoveries made against him, made his escape, and after some time spent, with as much secrecy as possible, in England, he withdrew into Holland, and passed by the name of Mr. Henry Lawrence, and there thought himself safe; but Mr. Chudleigh, King Charles's minister there, obtaining a warrant from the States, for apprehending such of the conspirators as had fled from England, he was seized at Leyden, and delivered up to the king's minister, who sent him to England. While this unfortunate gentleman was in Holland, an indictment was preferred against him in London, for high-treason, upon which he was outlawed, and upon his being brought home, it was resolved to proceed against him upon this outlawry, without allowing him the benefit of a trial. He was accordingly committed to Newgate, and on the 20th of June, 1684, executed at Tyburn as a traitor.

ARNA, a town of Andros, an island of the Archipelago, with a good harbour.

ARNALD (Richard), was born at London, and admitted a pensioner of Benet College, Cambridge, in 1714. After taking the degree of B. A. being disappointed of a fellowship, he removed to Emanuel College, March 10, 1718, where he proceeded M. A. and was elected fellow in 1721. He commenced B. D. seven years after, as the statutes of that house required, and continued there till the society presented him to the rectory of Thurcaston in Leicestershire. Whilst fellow of that college, he printed two copies of Sapphics on the death of King George; a sermon preached at Bishop Stortford schoolfeast, August 3, 1726; and another at the archdeacon's visitation at Leicester, April 22, 1737. A third, preached at Thurcaston, October 9, 1746, was published under the title of The Parable of the Cedar and Thistle, exemplified in the great victory at Culloden, 4to. In 1744 he published his celebrated Commentary on Wisdom, in folio; that on Ecclesiasticus, in 1748; and another on Tobit, &c. in 1752. He married a daughter of Mr. Wood, rector of Wilford, near Nottingham, and died in 1756.

ARNALL (William), a noted political writer in defence of Sir Robert Walpole, was originally an attorney's clerk; but being recommended to Walpole, he employed him for a course of years in writing the *Free Briton* and other papers in defence of his administration. By the report of the secret committee, he appears to have received, in the space of four years, no less than 10,997*l.* 6*s.* 8*d.* out of the treasury for his writings! but spending his money as fast as it came, and his supplies stopping on Sir Robert's resignation, he died broken-hearted and in debt, in the 26th year of his age. His invention was so quick, that his honourable employer used to say, no man in England could write a pamphlet in so little time as Arnall.

ARNAUD DE MEYRVEILH, or MEREUIL, a poet of Provence, who lived at the beginning of the 13th century. He wrote a book entitled, *Las recaſtenas de ſa comteſſe*; and a collection of poems and sonnets. He died in the year 1220. Petrarch mentions him in his Triumph of Love.

ARNAUD DE VILLA NOVA, a famous physician, who lived about the end of the 13th and beginning of the 14th century. He studied at Paris and Montpelier, and travelled through Italy and Spain. He was well acquainted with languages, and particularly with the Greek, Hebrew, and Arabic. He was at great pains to gratify his ardent desire after knowledge; but this passion carried him rather too far in his researches: he endeavoured to discover future events by astrology, imagining this science to be infallible; and upon this foundation he published a prediction, that the world would come to an end in the middle of the 14th century. He practised physic at Paris for some time: but having advanced some new doctrines, he drew upon himself the resentment of the university; and his friends, fearing he might be arrested, persuaded him to retire from that city. Upon his leaving France, he retired to Sicily, where he was received by King Frederic of Arragon with the greatest marks of kindness and esteem. Some time afterwards, this prince sent him to France, to attend Pope Clement in an illness; and he was shipwrecked on the coast of Genoa, about the year 1313. The works of Arnaud, with his life prefixed, were printed in one volume, in folio, at Lyons, in 1520; and at Basil in 1585, with the notes of Nicholas Tolerus.

ARNAUD D'ANDILLY (Robert), the son of a celebrated advocate of the parliament of Paris, was born in 1588; and, being introduced young at court, was employed in many considerable offices, all which he discharged with great integrity and reputation. In 1644 he quitted business, and retired into

the convent of Port Royal des Champs, where he paſſed the remainder of his days in a continued application to works of piety and devotion; and enriched the French language with many excellent tranſlations of different writers, as well as with religious compoſitions of his own. He died in 1674, and his works are printed in eight volumes folio.

ARNAUD (Anthony), brother of the preceding, and a doctor of the Sorbonne, was born in 1612. He publiſhed, in 1643, *A Treatiſe on frequent Communion*, which highly diſpleaſed the Jeſuits; and the diſputes upon grace, which broke out about this time in the univerſity of Paris, and in which he took a zealous part with the Janſeniſts, helped to increaſe the animoſity between him and the Jeſuits. But nothing raiſed ſo great a clamour againſt him, as the two letters he wrote on *Abſolution*; in the ſecond of which the faculty of divinity found two propoſitions which they condemned, and M. Arnaud was expelled the ſociety. Upon this he retired; and during a retreat which laſted near 25 years, he compoſed that great variety of works which are extant of his, on grammar, geometry, logic, metaphyſics, and theology. In 1679 he withdrew from France, living in obſcurity in the Netherlands, and died in 1694. His heart, at his own requeſt, was ſent to be depoſited in the Port Royal. Arnaud had a remarkable ſtrength of genius, memory, and command of his pen, nor did theſe decay even to the laſt year of his life. Mr. Bayle ſays, he had been told by perſons who had been admitted into his familiar converſation, that he was a man very ſimple in his manners; and that unleſs any one propoſed ſome queſtion to him, or deſired ſome information, he ſaid nothing that was beyond common converſation, or that might make one take him for a man of great abilities; but when he ſet himſelf to give an anſwer to ſuch as propoſed a point of learning, he ſeemed as it were transformed into another man: he would then deliver a multitude of fine things with great perſpicuity and learning, and had a particular talent at making himſelf intelligible to perſons of not the greateſt penetration.

ARNDT (John), a famous proteſtant divine of Germany, born at Ballenſtad in the duchy of Anhalt, in the year 1555. At firſt he applied himſelf to the ſtudy of phyſic: but falling into a dangerous ſickneſs, he made a vow to change his profeſſion for that of divinity, if he ſhould be reſtored to health; which he accordingly did upon his recovery. He was miniſter firſt at Quedlinburg, and then at Brunſwick. He met with great oppoſition in this laſt city: his ſucceſs as a preacher raiſed the enmity of his brethren, who became his bitter enemies. In order to ruin his character, they aſcribed a variety of errors to him; and perſecuted him to ſuch a degree, that he was obliged to leave Brunſwick, and retire to Iſleb, where he was miniſter for three years. In 1611, George duke of Lunenburg, who had a high opinion of his integrity and ſanctity, gave him the church of Zell, and appointed him ſuperintendant of all the churches in the duchy of Lunenburg; which office he diſcharged for 11 years, and died in 1621. It is reported that he foretold his death, having ſaid to his wife, upon his return home after his laſt ſermon, that now he had preached his funeral ſermon. He wrote in High Dutch A Treatiſe on true Chriſtianity, which has been tranſlated into ſeveral languages.

ARNE (Dr. Thomas Auguſtine), diſtinguiſhed by his great muſical talents, was the ſon of Mr. Arne, an upholſterer in Covent-Garden, whom Addiſon is ſuppoſed to have characteriſed in No. 155, and No. 160, of The Tatler; and brother of Mrs. Cibber, the player. He was early devoted to muſic, and ſoon became eminent in his profeſſion. July 6, 1759, he had the degree of doctor of muſic conferred on him at Oxford. His compoſitions are univerſally applauded, and he was alſo particularly ſkilful in inſtructing vocal performers. He died March 5, 1778, having written the following pieces: Artaxerxes, 1762; The Guardian Outwitted, 1764; The Roſe, 1778; all of them operas, and in high eſteem.

ARNEBERG, a town of Germany in Brandenburg, on the Elbe, between Angermund and Werben, three miles from each.

ARNEDO, a ſea-port of Peru, 25 miles N. of Lima.

ARNISÆUS (Henningus), a philoſopher and phyſician of great reputation, about the beginning of the 17th century. He was born at Halberſtad in Germany, and was profeſſor of phyſic in the univerſity of Helmſtad. His political works are much eſteemed. The moſt remarkable of them is his book *De authoritate principum in populum ſemper inviolabili*, printed at Frankfort in 1612. In this he maintains that the authority of princes ought not to be violated. He wrote alſo upon the ſame doctrine his three books *De jure majeſtatis*, printed at the ſame place in 1610; and his *Reflectiones politicæ*, printed at Frankfort in 1615. Having received an invitation to go to Denmark, he went thither, and was made counſellor and phyſician to the king. He travelled into France and England, and died in November 1635. Beſides the pieces already mentioned, he wrote ſeveral philoſophical, medicinal, and political treatiſes.

ARNO, a large river in Tuſcany. It has its ſource in the Appennines, and paſſing by Florence and Piſa, falls into the ſea a little below the latter.

ARNOBIUS, profeſſor of rhetoric at Sicca in Numidia, towards the end of the third century. It was owing to certain dreams which he had, that he became deſirous of embracing Chriſtianity. For this purpoſe he applied to the biſhops to be admitted into the church. But they, remembering the violence with which he had always oppoſed the true faith, had ſome diſtruſt of him; and, before they would admit him, inſiſted on ſome proofs of his ſincerity. In compliance with this demand, he wrote againſt the Gentiles; wherein he has refuted the abſurdities of their religion, and ridiculed their falſe gods. In this treatiſe he has employed all the flowers of rhetoric, and diſplayed great learning: but from an impatience to be admitted into the body of the faithful, he is thought to have been in too great a hurry in compoſing his work, and thence it is that there does not appear in this piece ſuch an exact order and diſpoſition as could be wiſhed; and not having a perfect and exact knowledge of the Chriſtian faith, he publiſhed ſome very dangerous errors. Mr. Bayle remarks, that his notions about the origin of the ſoul, and the cauſe of natural evil, and ſeveral other important points, are highly pernicious. St. Jerom, in his epiſtle to Paulinus, is of opinion that his ſtyle is unequal and too diffuſe, and that his book is written without any method; but Dr. Cave thinks this judgment too ſevere, and that Arnobius wants neither elegance nor order in his compoſition. Voſſius ſtyles him *the Varro of the eccleſiaſtical writers*. Du Pin obſerves that his work is written in a manner worthy of a profeſſor of rhetoric: the turn of his ſentiments is very oratorical; but his ſtyle is a little African, his expreſſions being harſh and inelegant. We have ſeveral editions of this work of Arnobius againſt the Gentiles, one publiſhed at Rome in 1542, at Baſil in 1546 and 1560, at Paris in 1570, at Antwerp in 1582, and one at Hamburg in 1610, with notes by Gebhard Elmenhorſtius, beſides many others. He wrote alſo a piece entitled, *De rhetorica inſtitutione*; but this is not extant.

ARNOLD, of Breſcia, in Italy, diſtinguiſhed himſelf by being the founder of a ſect, which oppoſed the wealth and power of the Romiſh clergy. He went into France, where he ſtudied under the celebrated Peter Abelard. Upon his return to Italy, he put on the habit of a monk, and maintained in his ſermons, That the pope and the clergy ought not to enjoy any

temporal eſtate; and that thoſe eccleſiaſtics who had any eſtates of their own, or held any lands, were entirely cut off from the leaſt hopes of ſalvation: that the clergy ought to ſubſiſt upon the alms and voluntary contributions of Chriſtians; and that all other revenues belonged to princes and ſtates, in order to be diſpoſed of amongſt the laity, as they thought proper. He maintained alſo ſeveral hereſies with regard to baptiſm and the Lord's ſupper. St. Bernard has drawn his character in very ſtrong colours. "Would to God (ſays he) that his doctrine was as holy as his life is ſtrict: would you know what ſort of man this is? Arnold of Breſcia is a man that neither eats nor drinks; who, like the devil, is hungry and thirſty after the blood of ſouls; who goes to and fro upon the earth, and is always doing among ſtrangers what he cannot do amongſt his own countrymen; who ranges like a roaring lion, always ſeeking whom he may devour; an enemy to the croſs of Chriſt, an author of diſcords, an inventor of ſchiſms, and a diſturber of the public peace: he is a man, whoſe converſation has nothing but ſweetneſs, and his doctrine nothing but poiſon in it; a man who has the head of a dove, and the tail of a ſcorpion." He engaged a great number of perſons in his party, who were diſtinguiſhed by his name, and proved very formidable to the popes. His doctrines rendered him ſo obnoxious, that he was condemned in the year 1139, in a council of near 1000 prelates, held in the church of St. John Lateran at Rome, under Pope Innocent II. Upon this he left Italy, and retired to Switzerland. After the death of that pope, he returned to Italy, and went to Rome, where he raiſed a ſedition againſt Pope Eugenius III. and afterwards againſt Hadrian IV. who laid the people of Rome under an interdict till they had baniſhed Arnold and his followers. This had its deſired effect: the Romans ſeized upon the houſes which the Arnoldiſts had fortified, and obliged them to retire to Otricoli in Tuſcany; where they were received with the utmoſt affection by the people, who conſidered Arnold as a prophet. However, he was ſeized ſome time after by Cardinal Gerard; and, notwithſtanding the efforts of the viſcounts of Campanio, who had reſcued him, he was carried to Rome, and condemned by Peter, the prefect of that city, to be hanged, and was accordingly executed in the year 1155. Thirty of his followers went from France to England, about the year 1160, in order to propagate their doctrine there; but they were immediately ſeized and deſtroyed.

ARNOLDUS (Gothofredus), paſtor and inſpector of the churches of Perleberg, and hiſtoriographer to the King of Pruſſia, was born at Annaburg in the mountains of Miſnia, in 1666. He was a zealous defender of Pietiſts, a ſect among the German Proteſtants, and compoſed a great number of religious works; particularly an *Eccleſiaſtical Hiſtory*, which expoſed him to the reſentment of the divines; and another giving an account of the doctrines and manners from the firſt ages, in which he frequently animadverts upon Cave's primitive Chriſtianity. He died in 1714. Various are the opinions concerning Arnoldus in Germany; ſome of his own countrymen and profeſſion extolling him to the ſkies as a ſaint of the laſt century, and ſetting an ineſtimable value upon his works; while others pronounce damnation upon him as an arch-heretic, and condemn his writings as heterodox.

ARNSHEIM, a town of Germany, in the palatinate of the Rhine, eight miles from Crutzenach.

ARNULPH, or ERNULPH, biſhop of Rocheſter in the reign of Henry I. He was born in France, where he was ſome time a monk of St. Lucian de Beauvais. The monks led moſt irregular lives in this monaſtery; for which reaſon he reſolved to quit it, but firſt took the advice of Lanfranc archbiſhop of Canterbury, under whom he had ſtudied in the abbey of Bec, when Lanfranc was prior of that monaſtery. This prelate invited him over to England, and placed him in the monaſtery of Canterbury, where he lived a private monk till Lanfranc's death. When Anſelm came to the archiepiſcopal ſee, Arnulph was made prior of the monaſtery of Canterbury, and afterwards abbot of Peterborough. In 1115 he was conſecrated biſhop of Rocheſter, which ſee he held nine years, and died in March 1124, aged 84.

Arnulph wrote, 1. A piece in Latin concerning the foundation, endowment, charters, laws, and other things relating to the church of Rocheſter: it is generally known by the title of *Textus Roffenſis*, and is preſerved in the archives of the cathedral church of Rocheſter. 2. An Epiſtle in Anſwer to ſome Queſtions of Lambert, Abbot of Munſter; and, 3. An Epiſtle on Inceſtuous Marriage.

ARNWAY (John), a clergyman diſtinguiſhed by his benevolence and loyalty to King Charles I. was deſcended from a very good family in the county of Salop, from which he inherited a conſiderable eſtate. He was educated at Oxford; and, having received holy orders, obtained the rectories of Hodnet and Ightfield, where he diſtinguiſhed himſelf by his piety and exemplary charity: for it was his cuſtom to clothe annually 12 poor people, and every Sunday to entertain as many at his table, not only plentifully, but with intimacy and reſpect. The civil war breaking out, he preached againſt rebellion, and raiſed and clothed eight troopers for the ſervice of King Charles I. upon which his houſe was plundered by the parliament's army. He then went to Oxford to ſerve the king in perſon, which ſubjected him to a new train of misfortunes: for his eſtate was ſoon after ſequeſtered, and himſelf impriſoned till the king's death; after which, he went to the Hague, where he publiſhed, 1. The Tablet, or the Moderation of Charles I. the Martyr; and, 2. An Alarm to the Subjects of England. He at laſt went to Virginia, where he died in 1653.

AROBE (*Encycl.*). The word AROBAS, referred to in that article ſhould have been ſpelled ARROBAS.

AROMATA, a town of Lydia, famous for its generous wines; and hence the appellation (Strabo). Alſo the name of a trading town and promontory of Ethiopia, at the termination of the Sinus Avalites of the Red Sea (Arrian).

ARPINAS, or ARPINO (Joſeph Cæſar), a famous painter, born in the year 1560, at the caſtle of Arpinas, in the kingdom of Naples. He lived in great intimacy with Pope Clement VIII. who conferred upon him the honour of knighthood, and beſtowed on him many other marks of his friendſhip. In the year 1600 he went to Paris with Cardinal Aldobrandin, who was ſent legate to the French court on the marriage of Henry IV. with Mary of Medicis. His Chriſtian majeſty gave Arpinas many conſiderable preſents, and created him a knight of St. Michael. The colouring of this painter is thought to be cold and inanimate; yet there is ſpirit in his deſigns, and his compoſitions have ſomewhat of fire and elevation. The touches of his pencil being free and bold, give therefore pleaſure to connoiſſeurs in painting; but they are generally incorrect. What he painted of the Roman hiſtory is the moſt eſteemed of all his works. The French king has in his collection the following pieces of this maſter, *viz.* the nativity of our Saviour, Diana and Acteon, the rape of Europa, and a Suſanna. He died at Rome in 1640.

ARPINUM, a town of the Volſci, a little to the eaſt of the confluence of the rivers Liris and Fibrenus, in the Terra di Lavora; now decayed, and called *Arpino*. It was the native place of Cicero, and of C. Marius (Salluſt).

ARRAN, a town of Switzerland, on the Aar, 25 miles S. W. of Baden.

ARRETIUM (Cicero, Cæſar); *Arrhetium* (Ptolemy); *Urbs Arrhetinorum* (Polybius); one of the twelve ancient towns of Tuſcany, near the Arnus and Clanis, ſituated in a

pleaſant valley. Now *Arezzo*, 42 miles eaſt of Florence. E. long. 13. 18. Lat. 43. 15.

ARRIAN, a famous philoſopher and hiſtorian under the Emperor Hadrian and the two Antonines, was born at Nicomedia in Bithynia. His great learning and eloquence procured him the title of *The ſecond Xenophon*; and raiſed him to the moſt conſiderable dignities at Rome, even the conſulſhip itſelf. We have four books of his *Diſſertations upon Epictetus*, whoſe ſcholar he had been; and his *Hiſtory of Alexander the Great*, in ſeven books, is greatly admired by the beſt judges.

ARRIEGE, a department of France, containing the late provinces of Couſerans and Foix. It is ſo named from a river which riſes in the Pyrenées, and paſſing by Foix and Pamiers, falls into the Garonne, near Toulouſe. Gold duſt is found among its ſands.

ARSAMAS, a town of the Ruſſian empire, ſeated on the river Mokcha-reca, on the road to Aſtracan, 300 miles S. by E. of Moſcow, and 500 N. by W. of Aſtracan.

ARSENIATES, in the new chemiſtry, are combinations of arſenic with metallic ſubſtances. In the Phil. Tranſ. Part I. for 1801, we find a deſcription of the arſeniates of copper, and of iron, from the county of Cornwall, by the Count de Bournon.

This paper is divided into two ſections: the firſt of which contains an account of the *arſeniates of copper*, the natural combination of the arſenic acid with copper; and the different aſpects under which this combination appears, according to the proportions in which theſe two ſubſtances are united, Count de Bournon obſerves, were among thoſe objects of mineralogy, reſpecting which our imperfect knowledge required the aid of ſtudy and obſervation. A new copper mine, lately worked, called Huel Gorland, in the pariſh of Gwennap, in the county of Cornwall, having, within the laſt two years, enriched the cabinets of London with ſome very fine ſpecimens of theſe arſeniates, he was induced to pay particular attention to them; and in this paper he gives a very accurate deſcription of the different ſpecies of theſe ores. He ſays,

"It is now above twenty years ſince arſeniate of copper was diſcovered in the county of Cornwall; it was firſt found either in Carrarach mine, in the pariſh of Gwennap, or in Tincroft mine, in the pariſh of Allogan. Its matrix, like that of almoſt all the copper ores of this country, was ſiliceous, and conſiſted of a decompoſed granite, of which the greateſt part of the feldſpar had paſſed into the ſtate known by the name of kaolin. It was accompanied with grey vitreous copper-ore, frequently in conſiderable maſſes: alſo with much black oxyd of copper; and with various oxyds of iron.

"The arſeniate here ſpoken of, which had never been found in large quantity, had ceaſed to exiſt in the above-mentioned mines, when Huel Gorland mine, lately wrought, began to enrich mineralogy with this uncommon ſubſtance. The matrix of this is likewiſe ſiliceous; ſometimes cryſtalline; and ſometimes in an amorphous maſs. Here and there we find mixed with it, in greater or leſs profuſion, all the known oxyds of copper; many of the argillaceous oxyds of iron; alſo grey vitreous copper ore; arſenical pyrites; and the rich deep-coloured yellow copper ore."

The exiſtence of arſeniate of copper ſeems, even at this day, to be an object of doubt among the French mineralogiſts: for "the Abbé Hauy does not mention it in the 28th and following numbers of the Journal des Mines, although they contain an intereſting extract of a ſyſtem of mineralogy, which he was then preparing for the preſs; nor has M. Fourcroy even hinted at it, in his Syſtême des Connoiſſances Chimiques, lately publiſhed."

Nature appears to have "eſtabliſhed very remarkable differences between the arſeniates of copper; and theſe take place not only in their forms, but likewiſe in their hardneſs and ſpecific gravity. Theſe differences ariſe, either from the manner in which the arſenic acid is combined with the copper, or from the different proportions in which theſe two ſubſtances are combined."

The Count follows the ſame order, and divides the arſeniates of copper into four different ſpecies; and the very intereſting analyſis of this ſubſtance, made by Mr. Chenevix, has, he obſerves, afforded the moſt ſatisfactory ſanction to this diviſion.

The firſt ſpecies is, arſeniate of copper in the form of an obtuſe octaedron—2d, in hexaedral laminæ, with inclined ſides—3d, in the form of an acute octaedron: of this ſpecies, he deſcribes five varieties—4th, in the form of a triedral priſm.

The ſecond ſection contains an account of the *arſeniates of iron*.

"Muttrell mine," our author obſerves, "which is immediately contiguous to Huel Gorland mine, in the county of Cornwall, has produced ſome ſpecimens of arſeniates of copper, exactly ſimilar to thoſe deſcribed in the former part of this paper. But this mine is ſtill more intereſting to mineralogiſts, on account of a combination found therein, of arſenic acid with iron, and alſo a double combination of that acid with both iron and copper.

"The firſt mentioned of theſe arſeniates ſeems analogous to thoſe cryſtals, or cubes, of a fine green colour, of which ſome ſpecimens had already been found in Carrarach and Tincroft mines, and which Klaproth, in his Memoir upon the Mineralogy of Cornwall, conſidered as belonging to the arſeniates of copper; but, according to the analyſis made by Mr. Chenevix, with all the care which his extenſive knowledge and extreme zeal for ſcience would naturally lead him to employ, it appears to be a true arſeniate of iron, containing only a ſmall quantity of copper; and even that quantity ſeems to be merely an accidental mixture. As, in the ſpecimens from the old mines of Tincroft and Carrarach, the greateſt part of the cryſtals adhered to vitreous grey copper ore, it is poſſible that ſome particles of that ore remained attached to the cryſtals; or, as I have frequently found to be the caſe, that ſome ſuch particles had penetrated into the cryſtals, and that Mr. Klaproth had been thereby deceived, by finding in the button left by the blow-pipe, a much greater proportion of copper than this ore really contains. The natural decompoſition of this arſeniate, which produces an oxyd of iron of a fine reddiſh yellow colour, ſtrongly confirms the reſult of Mr. Chevenix's analyſis.

"The double combination of the arſenic acid with iron and copper, although it had appeared to exiſt in the arſeniate juſt ſpoken of, in the mines of Tincroft and Carrarach, had not excited the attention of mineralogiſts. It is however poſſible, that the tranſparency, the brilliancy, and the pale blue colour of its cryſtals, might occaſion them to be miſtaken for cryſtals of a ſtony nature. Beſides, their ſmallneſs might eaſily cauſe them to eſcape the notice of common obſervation, particularly when they are not in pretty large groups."

The matrix of theſe arſeniates appears, from our author's deſcription, to be exactly the ſame as that of the arſeniates of copper; "conſiſting, like that, of quartz, mixed with yellow, grey, and vitreous ores of copper, with oxyds of iron, and with miſpickel. The mines of Huel Gorland and Muttrell, although not ſituated in the diſtrict of the tin mines, have yet produced ſome ſpecimens of tin, the cryſtals of which are covered with thoſe of the arſeniate here ſpoken of. Two ſpecimens of this kind are in the collection of Sir John St. Aubyn."

Of theſe arſeniates, the count deſcribes two ſpecies: 1ſt,

Simple arſeniate of iron, which cryſtallizes in perfect cubes 2d, Cupreous arſeniate of iron. The cryſtals of this ſpecies are of uncommon brilliancy, and perfectly tranſparent. Their form is a rhomboidal tetraedral priſm, having two of its edges very obtuſe, and the other two very acute.

Our limits do not permit us to preſent our readers with the deſcriptions of this very accurate mineralogiſt, but we refer them to the work itſelf: the paper is accompanied by two plates, containing delineations of the figures of the cryſtals of the different ſpecies.

The next article in the volume contains the "Analyſis of the Arſeniates of Copper, and of Iron, deſcribed in the preceding Paper; likewiſe an Analyſis of the red octaedral Copper Ore of Cornwall; with Remarks on ſome particular modes of Analyſis, by Richard Chenevix, Eſq. M. R. I. A."

Mr. Chenevix writes thus, "when the Count de Bournon had completed what appeared to him the mineralogical claſſification of theſe copper ores, he gave me ſome ſpecimens of each kind, numbered indiſcriminately, for the very purpoſe of excluding prejudice; and it was not till my taſk was ended, that we compared our obſervations. If I had been admitted into any previous knowledge of the arrangement dictated to him by the principles of cryſtallography, I ſhould have been afraid, that I had merely thought true, what I wiſhed to be ſo. But I can, moſt conſcientiouſly, indulge in the ſatisfaction which the according reſults of different means to prove the ſame propoſition naturally excite; and which is juſtly due to the truth of the outward marks, however delicate, yet ſtill to be perceived, that Nature has left viſible to thoſe who will obſerve her."

The following are the general reſults of this analyſis.

The firſt ſpecies deſcribed by the Count de Bournon in the preceding paper, according to Mr. Chenevix, contains 49 parts of oxyd of copper, 14 of arſenic acid, and 35 of water. The ſecond ſpecies contains 58 of oxyd of copper, 21 of arſenic acid, and the ſame quantity of water. The third ſpecies was found to contain 60 parts of oxyd of copper, and 39.7 of arſenic acid. In the fourth were found 54 parts of oxyd of copper, 30 of arſenic acid, and 16 of water.

After having expelled the water of cryſtallization by expoſure to a proper degree of heat in a platina crucible, the reſiduum was diſſolved in diluted nitric acid, and nitrat of lead poured in. Arſeniate of lead and nitrat of copper were thus formed, by double decompoſition. To ſeparate theſe two ſalts, alkohol was added, on which the arſeniate of lead fell to the bottom, while the nitrat of copper was held in ſolution. From the arſeniate of lead procured by filtration, it was eaſy to calculate the quantity of arſenic acid which the ore contained; and the ſpirituous ſolution being diſtilled, from the nitrat of copper remaining, the quantity of that metal was obtained, by boiling the ſolution with potaſh or ſoda.

Mr. Chenevix next proceeds to the examination of the arſeniates of iron, which were formerly included among the arſeniates of copper, but which are now ſeparated from them upon the authority of chemical analyſis. Our author very properly obſerves, that "although to recogniſe, by external character and form, in all their modifications, ſubſtances already known, is particularly the province of cryſtallography; yet he, who would expect that it ſhould declare the nature of thoſe ſubſtances which it beholds for the firſt time, would exact more than it ever has promiſed, or ever could perform. Among foſſils, it may claſs, and find new ſpecies; but chymical analyſis is the baſis of all arrangement, among metallic ores. In them, to ſeparate, is the taſk of the one; to aſſign a place, is the buſineſs of the other."

The cupreous arſeniate of iron was found to be compoſed of 3 parts of ſilica, 33.5 of arſenic acid, 27.5 of oxyd of iron, 22.5 of oxyd of copper, and 12 of water.

The ſimple arſeniate of iron is found to contain 4 parts of ſilica, 31 of arſenic acid, 45.5 of oxyd of iron, 9 of oxyd of copper, and 13.5 of water. This ore, our author obſerves, appears to be a pure arſeniate, mixed accidentally with a little copper, as ſome of the cupreous arſeniates caſually give traces of iron.

The third ſection of this ingenious and elaborate eſſay, contains an "Analyſis of the red octaedral Copper Ore, in which the Metal exiſts in a State hitherto unknown in Nature."

In the courſe of the experiments which have been ſtated in the preceding ſections, the author obſerves, that he had occaſion to examine a great number of copper ores, particularly thoſe from Cornwall; but the only ore which afforded any intereſting reſults, was the well-known ſpecies called red copper ore, cryſtallized in regular and brilliant octaedrons. This ore has been ſo long known, and ſo often mentioned by mineralogiſts, that it may excite our ſurpriſe when we reflect that its chemical nature has not been accurately aſcertained before; and that mineralogiſts differ ſo very much in their accounts of it.

"Romé de Liſle, the Baron de Born, Lametherie, the Abbé Hauy, and indeed every other mineralogiſt, concur in calling this ſubſtance red calx of copper; but ſome of them aſſert, that it contains a portion of carbonic acid. Among the many analyſes which have been made of this ore, by Fontana, Monnet, de Born, Renovantz, and others, I could not find one, that in the proportions, or even in the ingredients, reſembled what I had found to be its contents. The higheſt amount of copper (that given by Fontana), does not exceed 66 per cent. and is far ſhort of the real quantity. The remainder, as he ſtates, conſiſts of water, and of pure and fixed airs."

The difference in the reſults which our author obtained, together with ſome new facts he had occaſion to obſerve during his experiments, induced him, he ſays, to conſider the ſubject at ſome length; he particularly deſcribes his experiments, which preſented a number of curious and ſome unexpected reſults, and ſtates the component parts of this ore to be 88.5 of copper, and 11.5 of oxygen; ſo that this ore is a ſuboxyd of copper; a ſtate in which it has not before been ſuppoſed to exiſt in nature.

Mr. Chenevix obſerves, that when "we reflect, not ſo much on the quantity as upon the extreme purity of the copper, and the wonderful facility with which this uſeful metal may be extracted, it will be found much ſuperior to every copper ore hitherto diſcovered. It would be well worth the attention of miners to keep a conſtant look-out for this ſubſtance, which, I am informed, is not rare in Cornwall. It contains no iron, and no ſulphur; the abſence of which latter is a peculiar advantage. It is a fact not generally known, I believe, that there is hardly ſuch a thing in commerce, as copper which does not contain a little ſulphur; at leaſt I have rarely met with any ſuch; and it requires but a very minute portion of ſulphur, to increaſe the fuſibility of copper. The advantage of obtaining copper free from ſulphur, is too obvious to require to be pointed out; and that advantage does this ore poſſeſs."

Beſides an account of the experiments for the purpoſes of analyſis, this paper contains a number of ingenious obſervations and diſquiſitions, and ſome valuable remarks on the methods generally uſed in the docimaſtic art, which we have not room to tranſcribe, and they are incapable of abridgment. We ſhall conclude our account with a quotation, which we have little doubt will afford as great pleaſure to the reader.

"But, what is not the leaſt to be admired, is the wonderful accordance in the order which two ſciences operating with very different inſtruments, have allotted to be the ſame ſubſtances.

By that, not only the ſagacity of nature becomes very ſtriking; but, from the acknowledged accuracy of one method of inveſtigation, the reliance to be placed upon the other is rendered more conſpicuous; and each receives additional ſtrength and confirmation. Chemiſtry has long been in the habit of aiding the ſcience of mineralogy, of which it laid the foundation; but it was not till lately, that cryſtallography could form a judgment of its own, much leſs confirm the truth of the ſource from which it ſprung."

ARSENIUS, a deacon of the Roman church, of great learning and piety. He was pitched upon by the pope to go to the Emperor Theodoſius, as tutor to his ſon Arcadius. Arſenius arrived at Conſtantinople in the year 383. The emperor happening one day to go into the room where Arſenius was inſtructing Arcadius, his ſon was ſeated and the preceptor ſtanding; at this he was exceedingly diſpleaſed, took from his ſon the imperial ornaments, made Arſenius ſit in his place, and ordered Arcadius for the future to receive his leſſons ſtanding uncovered. Arcadius, however, profited but little by his tutor's inſtructions, for ſome time after he formed a deſign of diſpatching him. The officer, to whom Arcadius had applied for this purpoſe, divulged the affair to Arſenius, who retired to the deſerts of Scete, where he paſſed many years in the exerciſes of the moſt ſtrict and fervent devotion. He died there, at ninety-five years of age.

ARTS, *Progreſs of the* (*Encycl.*). In all countries where the people are barbarous and illiterate, the progreſs of arts is extremely ſlow. It is vouched by an old French poem, that the virtues of the loadſtone were known in France before anno 1180. The mariner's compaſs was exhibited at Venice anno 1260, by Paulus Venetus, as his own invention. John Goya of Amalphi was the firſt who, many years afterward, uſed it in navigation; and alſo paſſed for being the inventor. Though it was uſed in China for navigation long before it was known in Europe, yet to this day it is not ſo perfect as in Europe. Inſtead of ſuſpending it in order to make it act freely, it is placed upon a bed of ſand, by which every motion of the ſhip diſturbs its operation. Hand-mills, termed *querns*, were early uſed for grinding corn; and when corn came to be raiſed in greater quantity, horſe-mills ſucceeded. Water-mills for grinding corn are deſcribed by Vitruvius. Wind-mills were known in Greece and in Arabia as early as the ſeventh century; and yet no mention is made of them in Italy till the fourteenth. That they were not known in England in the reign of Henry VIII. appears from a houſhold book of an earl of Northumberland, contemporary with that king, ſtating an allowance for three mill-horſes, "two to draw in the mill, and one to carry ſtuff to the mill and fro." Water-mills for corn muſt in England have been of a later date. The ancients had mirror-glaſſes, and employed glaſs to imitate cryſtal vaſes and goblets: yet they never thought of uſing it in windows. In the 13th century, the Venetians were the only people who had the art of making cryſtal glaſs for mirrors. A clock that ſtrikes the hours was unknown in Europe till the end of the 12th century. And hence the cuſtom of employing men to proclaim the hours during night; which to this day continues in Germany, Flanders, and England. Galileo was the firſt who conceived an idea that a pendulum might be uſeful for meaſuring time; and Huygens was the firſt who put the idea in execution, by making a pendulum clock. Hook, in the year 1660, invented a ſpiral ſpring for a watch, though a watch was far from being a new invention. Paper was made no earlier than the 14th century; and the invention of printing was a century later. Silk manufactures were long eſtabliſhed in Greece before ſilk-worms were introduced there. The manufacturers were provided with raw ſilk from Perſia: but that commerce being frequently interrupted by war, two monks, in the reign of Juſtinian, brought eggs of the ſilk-worm from Hindoſtan, and taught their countrymen the method of managing them.—The art of reading made a very ſlow progreſs. To encourage that art in England, the capital puniſhment for murder was remitted if the criminal could but read, which in law-language is termed *benefit of clergy*. One would imagine that the art muſt have made a very rapid progreſs when ſo greatly favoured: but there is a ſignal proof of the contrary; for ſo ſmall an edition of the Bible as 600 copies, tranſlated into Engliſh in the reign of Henry VIII. was not wholly ſold off in three years. The people of England muſt have been profoundly ignorant in Queen Elizabeth's time, when a forged clauſe added to the 20th article of the Engliſh creed paſſed unnoticed till about forty years ago.

The diſcoveries of the Portugueſe on the weſt coaſt of Africa is a remarkable inſtance of the ſlow progreſs of arts. In the beginning of the 15th century, they were totally ignorant of that coaſt beyond Cape Non, 28 deg. north latitude. In 1410 the celebrated Prince Henry of Portugal fitted out a fleet for diſcoveries, which proceeded along the coaſt to Cape Bojadore in 26 deg. but had not courage to double it. In 1418 Triſtan Vaz diſcovered the iſland Porto Santo; and the year after, the iſland Madeira was diſcovered. In 1439 a Portugueſe captain doubled Cape Bojadore; and the next year the Portugueſe reached Cape Blanco, lat. 20. deg. In 1446 Nuna Triſtan doubled Cape Verd, lat. 14. 40. In 1448 Don Gonzallo Vallo took poſſeſſion of the Azores. In 1449 the iſlands of Cape Verd were diſcovered for Don Henry. In 1471 Pedro d'Eſcovar diſcovered the iſland St. Thomas and Prince's iſland. In 1484 Diego Cam diſcovered the kingdom of Congo. In 1486 Bartholomew Diaz, employed by John II. of Portugal, doubled the Cape of Good Hope, which he called *Carbo Tormentoſo*, from the tempeſtuous weather he found in the paſſage.

The exertion of national ſpirit upon any particular art, promotes activity to proſecute other arts. The Romans, by conſtant ſtudy, came to excel in the art of war, which led them naturally to improve upon other arts. Having, in the progreſs of ſociety, acquired ſome degree of taſte and poliſh, a talent for writing broke forth. Nevius compoſed in verſe ſeven books of the Punic war; beſides comedies, replete with bitter raillery againſt the nobility. Ennius wrote annals, and an epic poem. Lucius Andronicus was the father of dramatic poetry in Rome. Pacuvius wrote tragedies. Plautus and Terence wrote comedies. Lucilius compoſed ſatires, which Cicero eſteems to be ſlight and void of erudition. Fabius Pictor, Cincius Alimentus, Piſo Frugi, Valerius Antias, and Cato, were rather annaliſts than hiſtorians, confining themſelves to naked facts, ranged in order of time. The genius of the Romans for the fine arts was much inflamed by Greek learning, when free intercourſe between the two nations was opened. Many of thoſe who made the greateſt figure in the Roman ſtate commenced authors; Cæſar, Cicero, &c.: Sylla compoſed memoirs of his own tranſactions, a work much eſteemed even in the days of Plutarch.

The progreſs of art ſeldom fails to be rapid, when a people happen to be rouſed out of a torpid ſtate by ſome fortunate change of circumſtances: proſperity contraſted with former abaſement, gives to the mind a ſpring, which is vigorouſly exerted in every new purſuit. The Athenians made but a mean figure under the tyranny of Piſiſtratus; but upon regaining freedom and independence, they were converted into heroes. Miletus, a Greek city of Ionia, being deſtroyed by the King of Perſia, and the inhabitants made ſlaves, the Athenians, deeply affected with the miſery of their brethren, boldly attacked the king in his own dominions, and burnt the city of Sardis. In leſs than ten years after, they gained a

ſignal victory at Marathon; and, under Themiſtocles, made head againſt that prodigious army with which Xerxes threatened utter ruin to Greece. Such proſperity produced its uſual effect: arts flouriſhed with arms, and Athens became the chief theatre for ſciences as well as for fine arts. The reign of Auguſtus Cæſar, which put an end to the rancour of civil war, and reſtored peace to Rome with the comforts of ſociety, proved an auſpicious æra for literature; and produced a cloud of Latin hiſtorians, poets, and philoſophers, to whom the moderns are indebted for their taſte and talents. One who makes a figure rouſes emulation in all: one catches fire from another, and the national ſpirit is every-where triumphant: claſſical works are compoſed, and uſeful diſcoveries made in every art and ſcience. With regard to Rome, it is true, that the Roman government under Auguſtus was in effect deſpotic: but deſpotiſm, in that ſingle inſtance, made no obſtruction to literature, it having been the politic of that reign to hide power as much as poſſible. A ſimilar revolution happened in Tuſcany about three centuries ago. That country having been divided into a number of ſmall republics, the people, excited by mutual hatred between ſmall nations in cloſe neighbourhood, became ferocious and bloody, flaming with revenge for the ſlighteſt offence. Theſe republics being united under the Great Duke of Tuſcany, enjoyed the ſweets of peace in a mild government. That comfortable revolution, which made the deeper impreſſion by a retroſpect to recent calamities, rouſed the national ſpirit, and produced ardent application to arts and literature. The reſtoration of the royal family in England, which put an end to a cruel and envenomed civil war, promoted improvements of every kind: arts and induſtry made a rapid progreſs among the people, though left to themſelves by a weak and fluctuating adminiſtration. Had the nation, upon that favourable turn of fortune, been bleſſed with a ſucceſſion of able and virtuous princes, to what a height might not arts and ſciences have been carried! In Scotland, a favourable period for improvement was the reign of the firſt Robert, after ſhaking off the Engliſh yoke: but the domineering ſpirit of the feudal ſyſtem rendered abortive every attempt. The reſtoration of the royal family, mentioned above, animated the legiſlature of Scotland to promote manufactures of various kinds: but in vain; for the union of the two crowns had introduced deſpotiſm into Scotland, which ſunk the genius of the people, and rendered them heartleſs and indolent. Liberty, indeed, and many other advantages, were procured to them by the union of the two kingdoms; but the ſalutary effects were long ſuſpended by mutual enmity, ſuch as commonly ſubſiſts between neighbouring nations. Enmity wore out gradually, and the eyes of the Scots were opened to the advantages of their preſent condition; the national ſpirit was rouſed to emulate and to excel; talents were exerted, hitherto latent; and Scotland at preſent makes a figure in arts and ſciences, above what it ever made while an independent kingdom.

Another cauſe of activity and animation, is the being engaged in ſome important action of doubtful event; a ſtruggle for liberty, the reſiſting a potent invader, or the like. Greece, divided into ſmall ſtates, frequently at war with each other, advanced literature and the fine arts to unrivalled perfection. The Corſicans, while engaged in a perilous war for defence of their liberties, exerted a vigorous national ſpirit: they founded an univerſity for arts and ſciences, a public library, and a public bank. After a long ſtupor during the dark ages of Chriſtianity, arts and literature revived among the turbulent ſtates of Italy. The Royal Society in London, and the Academy of Sciences in Paris, were both of them inſtituted after civil wars that had animated the people and rouſed their activity.

As the progreſs of arts and ſciences toward perfection is greatly promoted by emulation, nothing is more fatal to an art or ſcience than to remove that ſpur, as where ſome extraordinary genius appears who ſoars above rivalſhip. Mathematics ſeem to be declining in Britain: the great Newton, having ſurpaſſed all the ancients, has not left to the moderns even the faineſt hope of equalling him; and what man will enter the liſts who deſpairs of victory?

In a country thinly peopled, where even neceſſary arts want hands, it is common to ſee one perſon exerciſing more arts than one: in ſeveral parts of Scotland, one man ſerves as a phyſician, ſurgeon, and apothecary. In every populous country, even ſimple arts are ſplit into parts, and each part has an artiſt appropriated to it. In the large towns of ancient Egypt, a phyſician was confined to a ſingle diſeaſe. In mechanic arts that method is excellent. As a hand confined to a ſingle operation becomes both expert and expeditious, a mechanic art is perfected by having its different operations diſtributed among the greateſt number of hands: many hands are employed in making a watch; and a ſtill greater number in manufacturing a web of woollen cloth. Various arts or operations carried on by the ſame man, envigorate his mind, becauſe they exerciſe different faculties; and as he cannot be equally expert in every art or operation, he is frequently reduced to ſupply want of ſkill by thought and invention. Conſtant application, on the contrary, to a ſingle operation, confines the mind to a ſingle object, and excludes all thought and invention: in ſuch a train of life, the operator becomes dull and ſtupid, like a beaſt of burden. The difference is viſible in the manners of the people: in a country, where, from want of hands, ſeveral occupations muſt be carried on by the ſame perſon, the people are knowing and converſable; in a populous country, where manufactures flouriſh, they are ignorant and unſociable. The ſame effect is equally viſible in countries where an art or manufacture is confined to a certain claſs of men. It is viſible in Indoſtan, where the people are divided into caſts, which never mix even by marriage, and where every man follows his father's trade. The Dutch lintboors are a ſimilar inſtance: the ſame families carry on the trade from generation to generation; and are accordingly ignorant and brutiſh even beyond other Dutch peaſants. The inhabitants of Buckhaven, a ſea-port in the county of Fife, were originally a colony of foreigners, invited hither to teach our people the art of fiſhing. They continue fiſhers to this day, marry among themſelves, have little intercourſe with their neighbours, and are dull and ſtupid to a proverb.

Uſeful arts paved the way to fine arts. Men upon whom the former had beſtowed every convenience, turned their thoughts to the latter. Beauty was ſtudied in objects of ſight; and men of taſte attached themſelves to the fine arts, which multiplied their enjoyments and improved their benevolence. Sculpture and painting made an early figure in Greece; which afforded plenty of beautiful originals to be copied in theſe imitative arts. Statuary, a more ſimple imitation than painting, was ſooner brought to perfection: the ſtatue of Jupiter by Phidias, and of Juno by Polycletes, though the admiration of all the world, were executed long before the art of light and ſhade was known. Apollodorus, and Zeuxis his diſciple, who flouriſhed in the 15th Olympiad, were the firſt who figured in that art. Another cauſe concurred to advance ſtatuary before painting in Greece, viz. a great demand for ſtatues of their gods. Architecture, as a fine art, made a ſlower progreſs. Proportions, upon which its elegance chiefly depends, cannot be accurately aſcertained, but by an infinity of trials in great buildings: a model cannot be relied on; for a large and a ſmall building, even of the ſame form, require different proportions.

From the fine arts mentioned, we proceed to *literature*. It is agreed, among all antiquaries, that the firſt writings were

in verſe, and that writing in proſe was of a much later date. The firſt Greek who wrote in proſe was Pherecides Syrus: the firſt Roman was Appius Cæcus, who compoſed a declamation againſt Pyrrhus. The four books of the Chatah Bhade, which is the ſacred book of Hindoſtan, are compoſed in verſe ſtanzas; and the Arabian compoſitions in proſe followed long after thoſe in verſe. To account for that ſingular fact, many learned pens have been employed; but without ſucceſs. By ſome it has been urged, that as memory is the only record of events where writing is unknown, hiſtory originally was compoſed in verſe, for the ſake of memory. This is not ſatisfactory. To undertake the painful taſk of compoſing in verſe, merely for the ſake of memory, would require more fore-ſight than ever was exerted by a Barbarian: not to mention that other means were uſed for preſerving the memory of remarkable events; a heap of ſtones, a pillar, or other object that catches the eye. The account given by Longinus is more ingenious. In a fragment of his treatiſe on verſe, the only part that remains, he obſerves, "that meaſure or verſe belongs to poetry, becauſe poetry repreſents the various paſſions with their language; for which reaſon the ancients, in their ordinary diſcourſe, delivered their thoughts in verſe rather than in proſe." Longinus thought, that anciently men were more expoſed to accidents and dangers, than when they were protected by good government, and by fortified cities. But he ſeems not to have adverted, that fear and grief, inſpired by dangers and misfortunes, are better ſuited to humble proſe than to elevated verſe. It may be added, that however natural poetical diction may be when one is animated with any vivid paſſion, it is not ſuppoſeable that the ancients never wrote nor ſpoke but when excited by paſſion. Their hiſtory, their laws, their covenants, were certainly not compoſed in that tone of mind.

An important article in the progreſs of the fine arts, which writers have not ſufficiently attended to, will, perhaps, explain this myſtery. The article is the profeſſion of a bard, which ſprung up in early times, before writing was known (ſee the article WRITING), and died away gradually as writing turned more and more common (ſee BARD).

The ſongs of the bards, being univerſal favourites, were certainly the firſt compoſitions that writing was employed upon: they would be carefully collected by the moſt ſkilful writers, in order to preſerve them in perpetual remembrance. The following part of the progreſs is obvious. People acquainted with no written compoſitions, but what were in verſe, compoſed in verſe their laws, their religious ceremonies, and every memorable tranſaction that was intended to be preſerved in memory by writing. But when ſubjects of writing multiplied, and became more and more involved; when people began to reaſon, to teach, and to harangue; they were obliged to deſcend to humble proſe; for to confine a writer or ſpeaker to verſe in handling ſubjects of that nature, would be a burden unſupportable.

The proſe compoſitions of early *hiſtorians* are all of them dramatic. A writer deſtitute of art is naturally prompted to relate facts as he ſaw them performed: he introduces his perſonages as ſpeaking and conferring; and he himſelf relates what was acted, and not ſpoke. The hiſtorical books of the Old Teſtament are compoſed in that mode; and ſo addicted to the dramatic are the authors of thoſe books, that they frequently introduce God himſelf into the dialogue. At the ſame time, the ſimplicity of that mode is happily ſuited to the poverty of every language in its early periods. The dramatic mode has a delicious effect in expreſſing ſentiment, and every thing that is ſimple and tender. Read, as an inſtance of a low incident becoming, by that means, not a little intereſting, Ruth i. 8. to iv. 16.

The dramatic mode is far from pleaſing ſo much in relating bare hiſtorical facts. Read, as an example, the ſtory of Adonijah in 1 Kings i. 11—49.

In that paſſage there are frequent repetitions; not however by the ſame perſon, but by different perſons who have occaſion in the courſe of the ſtory to ſay the ſame things; which is natural in the dramatic mode, where things are repreſented preciſely as they were tranſacted. In that view, Homer's repetitions are a beauty, not a blemiſh; for they are confined to the dramatic part, and never occur in the narrative.

But the dramatic mode of compoſition, however pleaſing, is tedious and intolerable in a long hiſtory. In the progreſs of ſociety new appetites and new paſſions ariſe; men come to be involved with each other in various connections; incidents and events multiply, and hiſtory becomes intricate by an endleſs variety of circumſtances. Dialogue accordingly is more ſparingly uſed, and in hiſtory plain narration is mixed with it. Narration is as it were the ground-work; and dialogue is raiſed upon it, like flowers in embroidery. Homer is admitted by all to be the great maſter in that mode of compoſition.

The narrative mode came in time ſo to prevail, that in a long chain of hiſtory, the writer commonly leaves off dialogue altogether. Early writers of that kind appear to have very little judgment in diſtinguiſhing capital facts from minute circumſtances, ſuch as can be ſupplied by the reader without being mentioned. The hiſtory of the Trojan war by Dares Phrygius is a curious inſtance of that cold and creeping manner of compoſition. The Roman hiſtories before the time of Cicero are chronicles merely. Cato, Fabius Pictor, and Piſo, confined themſelves to naked facts. In the Auguſtæ Hiſtoriæ Scriptores we find nothing but a jejune narrative of facts, commonly of very little moment, concerning a degenerate people, without a ſingle incident that can rouſe the imagination or exerciſe the judgment. The Monkiſh hiſtories are all of them compoſed in the ſame manner.

The dry narrative manner being very little intereſting or agreeable, a taſte for embelliſhment prompted ſome writers to be copious and verboſe. Saxo-Grammaticus, who in the 12th century compoſed in Latin a hiſtory of Denmark, ſurpriſingly pure at that early period, is extremely verboſe and full of tautologies. Such a ſtyle, at any rate unpleaſant, is intolerable in a modern tongue, before it is enriched with a ſtock of phraſes for expreſſing aptly the great variety of incidents that enter into hiſtory.

The perfection of hiſtorical compoſition, which writers at laſt attain to after wandering through various imperfect modes, is a relation of intereſting facts, connected with their motives and conſequences. An hiſtory of that kind is truly a chain of cauſes and effects.

The hiſtory of Thucydides, and ſtill more that of Tacitus, are ſhining inſtances of that mode.

Eloquence was of a later date than the art of literary compoſition; for till the latter was improved, there were no models for ſtudying the former. Cicero's oration for Roſcius is compoſed in a ſtyle diffuſe and highly ornamented; which, ſays Plutarch, was univerſally approved, becauſe at that time the ſtyle in Aſia, introduced into Rome with its luxury, was in high vogue. But Cicero, in a journey to Greece, where he leiſurely ſtudied Greek authors, was taught to prune off ſuperfluities, and to purify his ſtyle, which he did to a high degree of refinement. He introduced into his native tongue a ſweetneſs, a grace, a majeſty, that ſurpriſed the world, and even the Romans themſelves. Cicero obſerves with great regret, that if ambition for power had not drawn Julius Cæſar from the bar to command legions, he would have become the moſt complete orator in the world. So partial are men to the profeſſion in which they excel. Eloquence triumphing at

popular aſſembly, makes ſome figure in a court of law compoſed of many judges, very little where there is but a ſingle judge, and none at all in a deſpotic government. Eloquence flouriſhed in the republics of Athens and Rome; and makes ſome figure at preſent in a Britiſh Houſe of Commons.

The Greek ſtage has been juſtly admired among all polite nations. The *tragedies* of Sophocles and Euripides in particular are by all critics held to be perfect in their kind, excellent models for imitation, but far above rivalſhip. If the Greek ſtage was ſo early brought to maturity, it is a phenomenon not a little ſingular in the progreſs of arts. The Greek tragedy made a rapid progreſs from Theſpis to Sophocles and Euripides, whoſe compoſitions are wonderful productions of genius, conſidering that the Greeks at that period were but beginning to emerge from roughneſs and barbarity into a taſte for literature. The compoſitions of Eſchylus, Sophocles, and Euripides, muſt have been highly reliſhed among a people who had no idea of any thing more perfect. We judge by compariſon, and every work is held to be perfect that has no rival. It ought at the ſame time to be kept in view, that it was not the dialogue which chiefly enchanted the Athenians, nor variety in the paſſions repreſented, nor perfection in the actors; but machinery and pompous decoration, joined with exquiſite muſic. That theſe particulars were carried to the greateſt height, we may with certainty conclude from the extravagant ſums beſtowed on them: the exhibiting a ſingle tragedy was more expenſive to the Athenians, than their fleet or their army in any ſingle campaign.

One would imagine, however, that theſe compoſitions were too ſimple to enchant for ever; as variety in action, ſentiment, and paſſion, is requiſite, without which the ſtage will not continue long a favourite entertainment: and yet we find not a ſingle improvement attempted after the days of Sophocles and Euripides. The manner of performance, indeed, prevented abſolutely any improvement. A fluctuation of paſſion and refined ſentiments would have made no figure on the Grecian ſtage. Imagine the diſcording ſcene between Brutus and Caſſius in Julius Cæſar to be there exhibited, or the handkerchief in the Moor of Venice: how ſlight would be their effect, when pronounced in a maſk, and through a pipe? The workings of nature upon the countenance, and the flections of voice expreſſive of various feelings, ſo deeply affecting in modern repreſentation, would have been entirely loſt. If a great genius had ariſen with talents for compoſing a pathetic tragedy in perfection, he would have made no figure in Greece. An edifice muſt have been erected of a moderate ſize: new actors muſt have been trained to act with a bare face, and to pronounce in their own voice. And after all there remained a greater miracle ſtill to be performed, *viz.* a total reformation of taſte in the people of Athens. In one word, the ſimplicity of the Greek tragedy was ſuited to the manner of acting; and that manner excluded all improvements.

With reſpect to *comedy*, it does not appear that the Greek comedy ſurpaſſed the tragedy in its progreſs toward perfection. Horace mentions three ſtages of Greek comedy. The firſt well ſuited to the rough and coarſe manners of the Greeks, when Eupolis, Cratinus, and Ariſtophanes, wrote. Theſe authors were not aſhamed to repreſent on the ſtage real perſons, not even diſguiſing their names: of which we have a ſtriking inſtance in a comedy of Ariſtophanes, called *The Clouds*, where Socrates is introduced, and moſt contemptuouſly treated. This ſort of comedy, ſparing neither gods nor men, was reſtrained by the magiſtrates of Athens, ſo far as to prohibit perſons to be named on the ſtage. This led writers to do what is done at preſent: the characters and manners of known perſons were painted ſo much to the life, that there could be no miſtake; and the ſatire was indeed heightened by this regulation, as it was an additional pleaſure to find out the names that were meant in the repreſentation. This was termed the *middle comedy*. But as there ſtill remained too great ſcope for obloquy and licentiouſneſs, a law was made prohibiting real events or incidents to be introduced upon the ſtage. This law happily baniſhed ſatire againſt individuals, and confined it to manners and cuſtoms in general. Obedient to this law are the comedies of Meander, Philemon, and Diphilus, who flouriſhed about 300 years before the Chriſtian æra. And this is termed the *third ſtage* of Greek comedy. The comedies of Ariſtophanes, which ſtill remain, err not leſs againſt taſte than againſt decency. But the Greek comedy is ſuppoſed to have been conſiderably refined by Menander and his contemporaries. Their works, however, were far from perfection, if we can draw any conjecture from their imitator Plautus, who wrote about a century later. Plautus was a writer of genius; and it may be reaſonably ſuppoſed that his copies did not fall much ſhort of the originals, at leaſt in matters that can be faithfully copied; and he ſhews very little art, either in his compoſitions, or in the conduct of his pieces. With reſpect to the former, his plots are wondrous ſimple, very little varied, and very little intereſting. The ſubject of almoſt every piece is a young man in love with a muſic-girl, deſiring to purchaſe her from the procurer, and employing a favourite ſlave to cheat his father out of the price; and the different ways of accompliſhing the cheat is all the variety we find. In ſome few of his comedies the ſtory riſes to a higher tone, the muſic-girl being diſcovered to be the daughter of a free-man, which removes every obſtruction to a marriage between her and her lover. In the conduct of his pieces there is a miſerable defect of art. Inſtead of unfolding the ſubject in the progreſs of the action, as is done by Terence, and by every modern writer, Plautus introduces a perſon for no other end but to explain the ſtory to the audience. In one of his comedies, a houſehold-god is ſo obliging as not only to unfold the ſubject, but to relate before-hand every particular that is to be repreſented, not excepting the cataſtrophe.

The *Roman theatre*, from the time of Plautus to that of Terence, made a rapid progreſs. Ariſtotle defines comedy to be "an imitation of light and trivial ſubjects, provoking laughter." The comedies of Plautus correſpond accurately to that definition: thoſe of Terence riſe to a higher tone.

Nothing is more evident than the ſuperiority of Terence above Plautus in the art of writing; and, conſidering that Terence is a later writer, nothing would appear more natural, if they did not copy the ſame originals. It may be owing to genius that Terence excelled in purity of language, and propriety of dialogue; but how account for his ſuperiority over Plautus in the conſtruction and conduct of a play? It will not certainly be thought, that Plautus would imitate the worſt conſtructed plays, leaving the beſt to thoſe who ſhould come after him. This difficulty does not ſeem to have occurred to any of the commentators. Had the works of Menander and of his contemporaries been preſerved, they probably would have explained the myſtery; which for want of that light will probably remain a myſtery for ever.

Homer has for more than 2000 years been held the prince of poets. Such perfection in an author who flouriſhed when arts were far ſhort of maturity, is truly wonderful. The nations engaged in the Trojan war are deſcribed by him as in a progreſs from the ſhepherd-ſtate to that of agriculture. Frequent mention is made in the Iliad of the moſt eminent men being ſhepherds. Andromache, in particular, mentions ſeven of her brethren who were ſlain by Achilles as they tended their father's flocks and herds. In that ſtate, garments

of woollen cloth were uſed; but the ſkins of beaſts, the original clothing, were ſtill worn as an upper garment: every chief in the Iliad appears in that dreſs. Such indeed was the ſimplicity of this early period, that a black ewe was promiſed by each chief to the man who would undertake to be a ſpy. In times of ſuch ſimplicity, literature could not be far advanced; and it is a great doubt, whether there was at that time a ſingle poem of the epic kind for Homer to imitate or improve upon. Homer is undoubtedly a wonderful genius, perhaps the greateſt that ever exiſted: his fire, and the boldneſs of his conceptions, are inimitable. But in that early age, it would fall little ſhort of a real miracle, to find ſuch ripeneſs of judgment, and correctneſs of execution, as in modern writers are the fruits of long experience and progreſſive improvements during the courſe of many centuries. Accordingly, that Homer is far from being ſo ripe, or ſo correct, cannot eſcape the obſervation of any reader of taſte and diſcernment. One ſtriking particular is, his digreſſions without end, which draw our attention from the principal ſubject. Diomedes, for inſtance, meeting with Glaucus in the field of battle, and doubting, from his majeſtic air, whether he might not be an immortal, enquires who he was, declaring that he would not fight with a god. Glaucus lays hold of this very ſlight opportunity, in the very heat of action, to give a long hiſtory of his family. In the mean time, the reader's patience is put to a trial, and his ardour cools. Again, Agamemnon deſiring advice how to reſiſt the Trojans, Diomedes ſprings forward; but, before he offers advice, gives the hiſtory of all his progenitors, and of their characters, in a long train. And, after all, what was the ſage advice that required ſuch a preface? It was, that Agamemnon ſhould exhort the Greeks to fight bravely. At any rate, was Diomedes ſo little known, as to make it proper to ſuſpend the action at ſo critical a juncture, for a genealogical hiſtory? There is a third particular, which juſtly merits cenſure; and that is, an endleſs number of minute circumſtances, eſpecially in the deſcription of battles, where they are moſt improper. The capital beauty of an epic poem is, the ſelection of ſuch incidents and circumſtances as make a deep impreſſion, keeping out of view every thing low or familiar. An account of a ſingle battle employs the whole fifth book of the Iliad, and a great part of the ſixth: yet in the whole there is no general action; but unknown warriors, whom we never heard of before, killed at a diſtance with an arrow or a javelin; and every wound deſcribed with anatomical accuracy. The whole ſeventeenth book is employed in the conteſt about the dead body of Patroclus, ſtuffed with minute circumſtances, below the dignity of an epic poem. In ſuch ſcenes the reader is fatigued with endleſs particulars; and has nothing to ſupport him but the melody of Homer's verſification.

Having traced the progreſs of the fine arts toward maturity, in a ſummary way, the *decline of theſe arts* comes next in order. An art, in its progreſs toward maturity, is greatly promoted by emulation; and, after arriving at maturity, its downfal is not leſs promoted by it. It is difficult to judge of perfection but by compariſon; and an artiſt, ambitious to outſtrip his predeceſſors, cannot ſubmit to be an imitator, but muſt ſtrike out ſomething new, which, in an art advanced to ripeneſs, ſeldom fails to be a degeneracy. This cauſe of the decline of the fine arts may be illuſtrated by various inſtances. The perfection of vocal muſic is to accompany paſſion, and to enforce ſentiment. In ancient Greece, the province of muſic was well underſtood; which, being confined within its proper ſphere, had an enchanting influence. Harmony at that time was very little cultivated, becauſe it was of very little uſe: melody reaches the heart, and it is by it chiefly that a ſentiment is enforced, or a paſſion ſoothed: harmony, on the contrary, reaches the ear only; and it is a matter of undoubted experience, that the moſt melodious airs admit but of very ſimple harmony. Artiſts, in latter times, ignorant why harmony was ſo little regarded by the ancients, applied themſelves ſeriouſly to its cultivation; and they have been wonderfully ſucceſsful. But they have been ſucceſsful at the expence of melody; which, in modern compoſitions, generally ſpeaking, is loſt amid the blaze of harmony. Theſe compoſitions tickle the ear by the luxury of complicated ſounds, but ſeldom make any impreſſion on the heart. The Italian opera, in its form, reſembles the Greek tragedy, from which it is evidently copied; but very little in ſubſtance. In the latter, muſic being made ſubſervient to ſentiment, the dialogue is nervous and ſublime: in the former, the whole weight is laid on muſic; and the dialogue, devoid of ſentiment, is weak and ſpiritleſs. Reſtleſs man knows no golden mean, but will be attempting innovations without end.—By the ſame ambition, architecture has viſibly declined from its perfection. The Ionic was the favourite order when architecture was in its height of glory. The Corinthian order came next; which, in attempting greater perfection, has deviated from the true ſimplicity of nature: and the deviation is ſtill greater in the Compoſite order. With reſpect to literary productions, the firſt eſſays of the Romans were very imperfect. We may judge of this from Plautus, whoſe compoſitions are abundantly rude, though much admired by his contemporaries, being the beſt that exiſted at that time. The exalted ſpirit of the Romans hurried them on to the grand and beautiful; and literary productions of all kinds were in perfection when Auguſtus reigned. In attempting ſtill greater perfection, the Roman compoſitions became a ſtrange jumble of inconſiſtent parts: they were tumid and pompous; and, at the ſame time, full of antitheſes, conceit, and tinſel wit. Every thing new in the fine arts pleaſes, though leſs perfect than what we are accuſtomed to; and, for that reaſon, ſuch compoſitions were generally reliſhed. We ſee not by what gradual ſteps writers, after the time of Auguſtus, deviated from the patterns that were before them; for no book of any moment after that time is preſerved, till we come down to Seneca, in whoſe works nature and ſimplicity give place to artificial thought and baſtard wit. He was a great corrupter of the Roman taſte; and after him nothing was reliſhed but brilliant ſtrokes of fancy, with very little regard to ſentiment: even Virgil and Cicero made no figure in compariſon. Lucan has a forced elevation of thought and ſtyle, very difficult to be ſupported; and, accordingly, he ſinks often into puerile reflections; witneſs his encomium on the river Po, which, ſays he, would equal the Danube, had it the ſame number of tributary ſtreams. Quintillian, a writer of true and claſſical taſte, who was protected and encouraged by Veſpaſian, attempted to ſtem the tide of falſe writing. His rhetoric is compoſed in an elegant ſtyle; and his obſervations contain every delicacy of the critical art. At the ſame time flouriſhed Tacitus, poſſeſſing a more extenſive knowledge of the nature of man than any other author, ancient or modern, if Shakſpeare be not excepted. His ſtyle is original, conciſe, compact, and comprehenſive; and, in what is properly called his *hiſtory*, perfectly correct and beautiful. He has been imitated by ſeveral, but never equalled by any. Brutus is ſaid to be the laſt of the Romans for love of liberty: Quintillian and Tacitus may be ſaid to be the laſt of the Romans for literary genius. Pliny the Younger is no exception: his ſtyle is affected, turgid, and full of childiſh brilliancy. Seneca and Pliny are proper examples of writers who ſtudy ſhow more than ſubſtance, and who make ſenſe yield to ſound. The difference between theſe authors and thoſe of the Auguſtan age, reſembles the difference between Greek and Italian muſic. Muſic, among the Greeks,

limited itſelf to the employment to which it is deſtined by nature, viz. to be the handmaid of ſenſe, to enforce, enliven, or ſweaten a ſentiment. In the Italian opera, the miſtreſs is degraded to be handmaid; and harmony triumphs, with very little regard to ſentiment.

Another great cauſe that precipitates the downfal of every fine art is deſpotiſm. The reaſon is obvious; and there is a diſmal example of it in Rome, particularly with regard to eloquence. We learn from a dialogue accounting for the corruption of the Roman eloquence, that in the decline of the art it became faſhionable to ſtuff harangues with impertinent poetical quotations, without any view but ornament merely: and this alſo was long faſhionable in France. It happened unluckily for the Romans, and for the world, that the fine arts were at their height in Rome, and not much upon the decline in Greece, when deſpotiſm put an end to the republic. Auguſtus, it is true, retarded their fall, particularly that of literature; it being the politic of his reign to hide deſpotiſm, and to give his government an air of freedom. His court was a ſchool of urbanity, where people of genius acquired that delicacy of taſte, that elevation of ſentiment, and that purity of expreſſion, which characterize the writers of his time. He honoured men of learning, admitted them to his table, and was bountiful to them. It would be painful to follow the decline of the fine arts in Rome to their total extirpation. The tyranny of Tiberius, and of ſubſequent emperors, broke at laſt the elevated and independent ſpirit of the brave Romans, reduced them to abject ſlavery, and left not a ſpark of genius. The ſcience of law is the only exception, as it flouriſhed even in the worſt of times: the Roman lawyers were a reſpectable body, and leſs the object of jealouſy than men of power and extenſive landed property. Among the Greeks alſo, a conquered people, the fine arts decayed; but not ſo rapidly as at Rome; the Greeks, farther removed from the ſeat of government, being leſs within the reach of a Roman tyrant. During their depreſſion, they were guilty of the moſt puerile conceits; witneſs verſes compoſed in the form of an ax, an egg, wings, and ſuch like. The ſtyle of Greek authors, in the reign of the Emperor Adrian, is unequal, obſcure, ſtiff, and affected. Lucian is the only exception that may be made.

We need ſcarce any other cauſe but deſpotiſm, to account for the *decline of ſtatuary and painting* in Greece. Theſe arts had arrived at their utmoſt perfection about the time of Alexander the Great; and from that time they declined gradually with the vigour of a free people: for Greece was now enſlaved by the Macedonian power. It may in general be obſerved, that when a nation becomes ſtationary in that degree of power which it acquires from its conſtitution and ſituation, the national ſpirit ſubſides, and men of talents become rare. It is ſtill worſe with a nation that is ſunk below its former power and pre-eminence; and worſt of all when it is reduced to ſlavery. Other cauſes concurred to accelerate the downfal of the arts mentioned. Greece in the days of Alexander was filled with ſtatues of excellent workmanſhip; and there being little demand for more, the later ſtatuaries were reduced to heads and buſts. At laſt the Romans put a total end both to ſtatuary and painting in Greece, by plundering it of its fineſt pieces; and the Greeks, expoſed to the avarice of the conquerors, beſtowed no longer any money on the fine arts.

The *decline of the fine arts in Rome* is by Petronius Arbiter, a writer of taſte and elegance, aſcribed to a cauſe different from any above mentioned, a cauſe that overwhelms manhood as well as the fine arts wherever it prevails; and that is *opulence*, joined with its faithful attendants avarice and luxury. "In ancient times (ſays he), when naked virtue had her admirers, the liberal arts were in their higheſt vigour; and there was a generous conteſt among men, that nothing of real and permanent advantage ſhould long remain undiſcovered. Democritus extracted the juice of every herb and plant; and, leſt the virtue of a ſingle ſtone or twig ſhould eſcape him, he conſumed a lifetime in experiments. Eudoxus, immerſed in the ſtudy of aſtronomy, ſpent his age upon the top of a mountain. Chryſippus, to ſtimulate his inventive faculty, thrice purified his genius with hellebore. To turn to the imitative arts: Lyſippus, while labouring on the forms of a ſingle ſtatue, periſhed from want. Myron, whoſe powerful hand gave to the braſs almoſt the ſoul of man, and animals—at his death found not an heir! Of us of modern times what ſhall we ſay? Immerſed in drunkenneſs and debauchery, we want the ſpirit to cultivate thoſe arts which we poſſeſs. We inveigh againſt the manners of antiquity; we ſtudy vice alone; and vice is all we teach. Where now is the art of reaſoning? Where aſtronomy? Where is the right path of wiſdom? What man now-a-days is heard in our temples to make a vow for the attainment of eloquence, or for the diſcovery of the fountain of true philoſophy? Nor do we even pray for health of body, or a ſound underſtanding. One, while he has ſcarce entered the porch of the temple, devotes a gift in the event of the death of a rich relation; another prays for the diſcovery of a treaſure; a third for a miniſterial fortune. The ſenate itſelf, the exemplary preceptor of what is good and laudable, has promiſed a thouſand pounds of gold to the capitol; and, to remove all reproach from the crime of avarice, has offered a bribe to Jupiter himſelf. How ſhould we wonder that the art of painting has declined, when, in the eyes both of the gods and men, there is more beauty in a maſs of gold, than in all the works of Phidias and Apelles."—In England, the fine arts are far from ſuch perfection as to ſuffer by opulence. They are in a progreſs, it is true, toward maturity: but they proceed in a very ſlow pace.

There is ſtill another cauſe that never fails to undermine a fine art in a country where it is brought to perfection, abſtracting from every one of the cauſes above mentioned. It is remarked a little above, that nothing is more fatal to an art or to a ſcience than a performance ſo much ſuperior to all of the kind as to extinguiſh emulation. This remark is exemplified in the great Newton, who, having ſurpaſſed all the ancients, has not left to his countrymen even the faineſt hope of rivalling him; and to that cauſe is attributed the viſible decline of mathematics in Great Britain. The ſame cauſe would have been fatal to the arts of ſtatuary and painting among the Greeks, even though they had continued a free people. The decay of painting in modern Italy is, probably, owing to the ſame cauſe: Michael Angelo, Raphael, Titian, &c. are lofty oaks that bear down young plants in their neighbourhood, and intercept from them the ſunſhine of emulation. Had the art of painting made a ſlower progreſs in Italy, it might have there continued in vigour to this day. Velleius Paterculus ſays judiciouſly, "Ut primo ad conſequendos quos priores ducimus accendimur; ita, ubi aut præteriri aut æquari eos poſſe deſperavimus, ſtudium cum ſpe ſeneſcit; et quod adſequi non poteſt, ſequi deſinit: præteritoque eo in quo eminere non poſſimus, aliquid in quo nitamur conquirimus."

The decline of an art or ſcience proceeding from the forgoing cauſe, is the moſt rapid where a ſtrict compariſon can be inſtituted between the works of different maſters. The ſuperiority of Newton above every other mathematician can be aſcertained with preciſion; and hence the ſudden decline of that ſcience in Great Britain. In Italy a talent for painting continued many years in vigour, becauſe no painter appeared with ſuch ſuperiority of genius as to carry perfection in every branch of the art. As one ſurpaſſed in deſigning, one in colouring, one in graceful attitudes, there was ſtill ſcope for emulation. But when at laſt there was not a ſingle perfection but what one

or other maſter had excelled in, from that period the art began to languiſh. Architecture continued longer in vigour than painting, becauſe the principles of compariſon in the former are leſs preciſe than in the latter. The artiſt who could not rival his predeceſſors in an eſtabliſhed mode, ſought out a new mode for himſelf, which though perhaps leſs elegant or perfect, was for a time ſupported by novelty.

Uſeful ARTS will never be neglected in a country where there is any police; for every man finds his account in them. Fine arts are more precarious. They are not reliſhed but by perſons of taſte, who are rare; and ſuch as can ſpare great ſums for ſupporting them, are ſtill more rare. For that reaſon they will never flouriſh in any country, unleſs patroniſed by the ſovereign, or by men of power and opulence. They merit ſuch patronage, as one of the ſprings of government: and a capital ſpring they make, by multiplying amuſements, and humanizing manners; upon which account they have always been encouraged by good princes.

General Theory of the Polite ARTS. The eſſence of the polite arts, as before obſerved, conſiſts in *expreſſion*. The end of all theſe arts is *pleaſure*; whereas the end of the ſciences is *inſtruction* and *utility*. Some of the polite arts indeed, as eloquence, poetry, and architecture, are frequently applied to objects that are uſeful, or exerciſed in matters that are inſtructive, as we ſhall ſhew more particularly in their proper place; but in theſe caſes, though the ground-work belongs to thoſe ſciences which employ the underſtanding, yet the expreſſion ariſes from the inventive faculty. It is a picture that is deſigned by Minerva, to which the muſes add the colouring, and the graces the frame. This union forms therefore the perfection of the art, according to that ſententious and well-known precept of Horace: *Omne tulit punctum, qui miſcuit utile dulci.*

Under the denomination, therefore, of Polite Arts, we comprehend, 1. Eloquence; 2. Poetry; 3. Muſic; 4. Painting; 5. Sculpture; 6. Graving; 7. Architecture; 8. Declamation; 9. Dancing. Particular deſcriptions of theſe arts are given under their reſpective names. This branch of the preſent article is intended as a general introduction to them; and, as ſuch, will be occaſionally referred to.

There is one very eſſential reflection, which it appears to us proper to make in the firſt place, on the polite arts in general. All the rules in the world are not ſufficient to make a great poet, an able orator, or an excellent artiſt; becauſe the quality, neceſſary to form theſe, depends on the natural diſpoſition, the fire of genius, which no human art can confer, but which is the pure gift of Heaven. The rules, however, will prevent a man from being a bad artiſt, a dull orator, or a wretched poet; ſeeing they are the reflections of the greateſt maſters in thoſe arts, and that they point out the rocks which the artiſt ſhould ſhun in the exerciſe of his talents. They are of uſe, moreover, in facilitating his labours, and in directing him to arrive by the ſhorteſt and ſureſt road to perfection. They refine, ſtrengthen, and confirm his taſte. Nature, abandoned to herſelf, has conſtantly ſomething wild and ſavage. Art, founded on juſt and ſagacious rules, gives her elegance, dignity, and politeneſs; and it is impoſſible to ſacrifice properly to the graces, without knowing the incenſe that is pleaſing to them.

Beauty is the object of all the polite arts. It is not however ſo eaſy, as it may ſeem, to give a clear and determinate idea of what we preciſely mean by that term. Many able writers, who have treated expreſsly on the ſubject, have ſhewn that they were totally ignorant of what it was. It is one of thoſe expreſſions that we comprehend immediately, that preſent us with a clear and preciſe idea, that leave a diſtinct impreſſion on our minds, when it is ſimply written or pronounced; but which philoſophers envelope in darkneſs, when they attempt to elucidate it by definitions and deſcriptions; and the more, as mankind have different ideas of beauty, their opinions and taſtes being as various as their underſtandings and phyſiognomies. We may ſay, however, in general, that beauty reſults from the various perfections of which any object is ſuſceptible, and which it actually poſſeſſes; and that the perfections which produce beauty conſiſt principally in the agreeable and delightful proportions which are found, 1. Between the ſeveral parts of the ſame object; 2. Between each part and the whole together; 3. Between the parts and the end or deſign of the object to which they belong. *Genius*, or invention, is that faculty of the mind by which *beauty* is produced. *Taſte*, diſpoſition, or rather the natural ſenſation of the mind refined by art, ſerves to guide the genius in diſcerning, embracing, and producing, that which is beautiful of every kind. From whence it follows, that the general theory of the polite arts is nothing more than the knowledge of what they contain that is truly beautiful and agreeable; and it is this knowledge, this theory, which modern philoſophers call by the Latin name of *æſthetica*.

It ſhould be conſtantly remembered, that the eſſence of the polite arts conſiſts in expreſſion. This expreſſion lies ſometimes in the words, and ſometimes in the pen; ſometimes in ſounds and their harmony, and at others in corporeal attitudes; ſometimes in the pencil or in the chiſel, and at others in the graver; ſometimes in a proper diſpoſition or judicious employment of the mechanic arts, and at others merely in their manner of acting. From whence ariſe thoſe arts that we have mentioned, and which are deſcribed in their order.

The general theory of the polite arts, or *æſthetics*, neceſſarily ſuppoſes, therefore, certain rules; but theſe general rules are of no great number. The firſt is, That whoever would devote himſelf to the polite arts, ſhould above all things *conſult his genius*: diveſt himſelf of all ſelf-love; and examine if he be a true ſon of Apollo, and cheriſhed by the muſes: for

> In vain, raſh author, doſt thou ſtrive to climb,
> By lofty verſe, Parnaſſus' height ſublime,
> If Heaven does not by ſecret powers inſpire,
> Or if thy natal ſtar darts not poetic fire.

This precept, with regard to poetry in particular, is applicable to all the polite arts in general; for their moſt happy ſucceſs is founded on *imagination*. By this term we underſtand, in general, a faculty of the mind, a particular genius, a lively invention, a certain ſubtil ſpirit, which gives a facility in diſcovering ſomething new. But it is neceſſary alſo to preſcribe juſt bounds to this term *new*, which muſt not be here taken in an abſolute ſenſe. Solomon wiſely remarks, that, even in his time, *there was nothing new under the ſun*. In fact, all that exiſts, and all that is capable of being diſcovered in the known world, has already been diſcovered. The fine arts in their imitations of nature, in their expreſſions, can borrow images, figures, compariſons, from thoſe things only that exiſt and are known. As there have been, from the beginning of the world to our days, millions of authors in each of the polite arts, almoſt all the poſſible combinations of the various ſubjects have been produced by their lively imaginations; and when we hear the ignorant part of mankind talk of a work of wit or of art *that is entirely new*, that offers ideas which were before utterly unknown, that had never entered into the brain of any other man, we ſhould refer ſuch aſſertions to the claſs of popular errors; and reflect on thoſe ſtories we every day hear of certain empirics, who pretend to be alone poſſeſſed of marvellous methods of cure by means of ſimples; as if there were any plant, any ſtalk of graſs that grows in our world, that can have eſcaped the reſearches of botaniſts. But the novelty, of which we here ſpeak, conſiſts in the ingenious uſe of combinations of all the various objects of nature, that are new, happy, and agreeable, that have not yet been exhauſted, and

which appear even to be inexhauſtible; and of the uſe which the artiſt makes of all new diſcoveries, which he turns to his advantage, by a judicious application. Invention therefore ſuppoſes a conſiderable fund of preliminary knowledge, ſuch as is capable of furniſhing ideas and images, to form new combinations. But there is no art by which invention itſelf can be produced; for that, as we have already ſaid, is the gift of Heaven; and it is an endowment which we cannot even make uſe of whenever we pleaſe. We would rather ſay, therefore, that invention conſiſts in producing, in works of genius, *that which is unexpected*; an object, a harmony, a perfection, a thought, an expreſſion, of which we had no idea, that we could not foreſee, nor hope to find, where the artiſt has ſo happily placed it, and where we perceive it with delight. This idea appears applicable to ſuch of the polite arts as affect the mind by the hearing as well as by the ſight; and it is a matter that is highly eſſential.

The *ſecond rule* is, That every artiſt ought inceſſantly to labour in the improvement of his *taſte*; in acquiring that ſenſible, refined, and clear diſcernment, by which he will be enabled to diſtinguiſh the real beauties in each object, the ornaments that are agreeable to it, and the proportions and relations that ſubſiſt among the ſeveral parts: and by this faculty, he will be regulated in the employment of his natural talents. This labour conſiſts not only in the profound reflections he will make on the properties of objects as they relate to the fine arts, but alſo in a conſtant, aſſiduous ſtudy of the grand models of beauty.

The *third rule*, to be obſerved in the practice of the polite arts, is *the imitation of nature*. Every object in the univerſe has its peculiar nature, of which the artiſt ſhould never loſe ſight in his manner of treating it. In vain will he otherwiſe ornament his work with the moſt refined and moſt brilliant ſtrokes; for, if nature be not juſtly imitated, it will for ever remain imperfect. The ſublime Homer has ſometimes ſinned againſt this rule: for, as the gods have a nature peculiar to themſelves, it cannot be a juſt imitation when we attribute to them paſſions that are ſcarce pardonable in mortals, and make them frequently converſe in a language that is at once vulgar and ridiculous. It was not to imitate nature, to put into the mouth of a hero, at the moment of a deciſive battle, an harangue that muſt become tedious by its exceſſive length, and which certainly could not have been heard by the thouſandth part of a numerous army: but we have already touched upon ſome of the faults that are ſtrewed over the poems of that great man; to multiply or dwell upon them would be ungrateful. We muſt however obſerve, that this imitation of nature, which appears at firſt view ſo ſimple and ſo eaſy, is of all things the moſt difficult in practice; and that it requires a diſcernment ſo ſagacious, and an expreſſion ſo happy, as is rarely beſtowed by Heaven on mortal man.

Perſpicuity forms the fourth rule of expreſſion. In all the fine arts, in general, an obſcure, perplexed, ambiguous, and elaborate expreſſion, is always bad. The true, ſtriking beauty muſt be manifeſt, and perceptible to the moſt ignorant of mankind as well as the moſt learned. Thoſe are very falſe or inferior beauties that have occaſion for a covering, a kind of veil that may make them appear greater than they really are: true beauty wants no veil, but ſhines by its native luſtre. From the union of the true imitation of nature with perſpicuity of expreſſion ariſes that *truth* which is ſo eſſential in the productions of the fine arts.

In all the polite arts, and in all the ſubjects they embrace, there muſt neceſſarily reign an *elevation of ſentiment*, that expreſſes each object in the greateſt perfection of which it is ſuſceptible; that imitates Nature in her moſt exalted beauty. This makes the fifth general rule. The deſign of the fine arts being to excite pleaſure by the expreſſion of that which is beautiful, every artiſt ſhould raiſe himſelf above his ſubject; and, chooſing the moſt favourable light wherein to place it, ſhould there embelliſh it with the greateſt, moſt noble, and beautiful ornaments, that his own genius can ſuggeſt; ſtill, however, obſerving a ſtrict imitation of nature.

From the obſervation of theſe two laſt rules reſults *the ſublime*, which is the union of the greateſt perſpicuity with the ſtricteſt truth and moſt exalted elevation poſſible. It is neceſſary to remark here, that the moſt ſimple and common ſubjects are ſuſceptible of a ſublime that is agreeable to their nature. An idyl or landſcape may be as ſublime in their kinds as an epic poem or a hiſtory-piece. When Moſes begins the book of Geneſis with theſe words, *In the beginning, God created the heaven and the earth*; or when he tells us, that God ſaid, *Let there be light, and there was light*; theſe expreſſions are ſublime in the higheſt degree, becauſe they are perfectly clear, true, and elevated. Every author ſhould therefore endeavour after the ſublime in every ſubject that he undertakes; and this makes the ſixth and laſt general rule in the practice of the polite arts. But if he cannot attain to this, it is, however, indiſpenſably neceſſary that he conſtantly make uſe of expreſſions that are *noble and refined*. Every thing that is *low, indecent*, or *diſagreeable*, is naturally repugnant to the ſublime, and ought to be for ever baniſhed from all works that proceed from the noble and liberal arts.

ARTABANUS, the name of ſeveral kings of Parthia. See PARTHIA.

ARTABAZUS, the ſon of Pharnaces, commanded the Parthians and Choraſmians in the famous expedition of Xerxes. After the battle of Salamis, he eſcorted the king his maſter to the Helleſpont with 60,000 choſen men; and after the battle of Platea, in which Mardonius engaged contrary to his advice, he made a noble retreat, and returned to Aſia with 40,000 men under his command.

ARTALIS (Joſeph), born at Mazara in Sicily, 1628, had an early paſſion for poetry, and a ſtrong inclination for arms. He finiſhed his ſtudies at fifteen years of age, about which time he fought a duel, in which he mortally wounded his adverſary. He ſaved himſelf by taking ſhelter in a church; and it was owing to this accident that he afterwards applied himſelf to the ſtudy of philoſophy. His parents being dead, and himſelf much embarraſſed in his circumſtances, he reſolved to quit his country, and ſeek his fortune elſewhere. He accordingly went to Candia, at the time when that city was beſieged by the Turks; and gave there ſo many proofs of his bravery, that he obtained the honour of knighthood in the military order of St. George. When he was upon his return for Italy, he was often obliged to draw his ſword: he was ſometimes wounded in theſe rencounters, but being an excellent ſwordſman had often the advantage. He rendered himſelf ſo formidable even in Germany, that they uſed to ſtyle him Chevalier de Sang. Earneſt duke of Brunſwick and Lunenburgh appointed him captain of his guards; but this did not make him neglect the muſes, for he cultivated them amidſt the noiſe of arms. He was member of ſeveral academies in Italy, and became highly in favour with many princes, eſpecially the Emperor Leopold. He died in 1679 at Naples.

ARTAXATA, *oram*, the royal reſidence, and metropolis of Armenia Major (Strabo, Pliny, Juvenal), and built according to a plan of Hannibal, for King Artaxias, after whom it was called. It was ſituated on an elbow of the river Araxes, which formed a kind of peninſula, and ſurrounded the town like a wall, except on the ſide of the Iſthmus, but this ſide was ſecured by a rampart and ditch. This town was deemed ſo ſtrong, that Lucullus, after having defeated Tigranes, durſt not lay ſiege to it; but Pompey compelled him to deliver it

up without ſtriking a blow. It was then levelled with the ground; but the Armenians have a tradition that the ruins of it are ſtill to be ſeen at a place called *Ardachat*. Sir John Chardin ſays, that it has the name of *Ardachat* from Artaxias, whom in the Eaſt they call *Ardechier*. Here are the remains of a ſtately palace which the Armenians take to be that of Tiridates who reigned in the time of Conſtantine the Great. One front of this building is but half ruined, and there are many other fine antiquities which the inhabitants call *Tact. Tardat*, that is, the throne of Tiridates. Tavernier alſo mentions the ruins of Artaxata between Erivan and mount Ararat, but does not ſpecify them. The ancient geographers mention another city of the ſame name, likewiſe ſituated on the Araxis, but in the northern part of Media, known among the ancients by the name of *Atropatia*.

ARTAXERXES, the name of ſeveral kings of Perſia. See Perſia.

ARTEMIDORUS, famous for his Treatiſe upon Dreams. He was born at Epheſus, but took upon him the ſurname of *Daldianus* in this book, by way of reſpect to his mother's country, Daltis. He ſtyled himſelf *the Epheſian* in his other performances. He not only bought up all that had been written concerning the explication of dreams, which amounted to many volumes; but he likewiſe ſpent many years in travelling, in order to contract an acquaintance with fortune-tellers: he alſo carried on an extenſive correſpondence with all the people of this ſort in the cities and aſſemblies of Greece, Italy, and the moſt populous iſlands; collecting at the ſame time all the old dreams, and the events which are ſaid to have followed them. The work which he wrote on dreams conſiſted of five books: the firſt three were dedicated to one Caſſius Maximus; and the laſt two to his ſon, whom he took a good deal of pains to inſtruct in the nature and interpretation of dreams. This work, though filled with frivolous obſervations, contains ſome things that are intereſting. It was firſt printed in Greek, at Venice, in 1518; and Rigaltius publiſhed an edition at Paris, in Greek and Latin, in 1603, and added ſome notes. Artemidorus wrote alſo a treatiſe upon Auguries, and another upon Chiromancy; but they are not extant. He lived under the Emperor Antoninus Pius.

ARTEMISIA, wife of Mauſolus king of Caria, has immortalized herſelf by the honours which ſhe paid to the memory of her huſband. She built for him in Halicarnaſſus a very magnificent tomb, called the *Mauſoleum*, which was one of the ſeven wonders of the world, and from which the title of *mauſoleum* was afterwards given to all tombs remarkable for their grandeur: but ſhe died of regret and ſorrow before the Mauſoleum was finiſhed. She appointed panegyrics to be made in honour of him, and propoſed a prize of great value for the perſon who ſhould compoſe the beſt. He died about the end of the 106th Olympiad, 351 years before the Chriſtian æra.

ARTEMISIA, queen of Caria, and the daughter of Ligdamis, marched in perſon in the expedition of Xerxes againſt the Greeks, and performed wonders in the ſea-fight near Salamis, 480 years before the Chriſtian æra. Being purſued by an Athenian veſſel, ſhe attacked one of the Perſian ſhips, commanded by Demaſithymus, king of Calyndus, her enemy, and ſunk it; on which the Athenians, thinking that her ſhip was on the ſide of the Greeks, ceaſed their purſuit: but Xerxes was the principal perſon impoſed upon in this affair; for believing ſhe had ſunk an Athenian veſſel, he declared, that "the men had behaved like women, and the women like men." Xerxes intruſted her with the care of the young princes of Perſia, his ſons; when, agreeably to her advice, he abandoned Greece, in order to return to Aſia. Theſe great qualities did not ſecure her from the weakneſs of love: ſhe was paſſionately fond of a man of Abydos, whoſe name was Dardanus, and was ſo enraged at his neglect of her, that ſhe put out his eyes while he was aſleep. The gods, in order to puniſh her for this, inſpired her with ſtill a ſtronger paſſion for him; ſo that the oracle having adviſed her to go to Leucas, which was the uſage of deſperate lovers, ſhe took the leap from thence, and was interred at that place.—Many writers confound this Artemiſia with the former, the wife of Mauſolus.

ARTEMISIUM, either a promontory (Harpocration), or a part of the ſea-coaſt, on the north-eaſt of Eubœa (Plutarch); called *Leon*, and *Cale Acte* (Ptolemy); memorable for the firſt ſea-engagement between the Greeks and Xerxes.—Another promontory of Caria (Strabo). A third in Spain, now called *Cape Martin*, in Valencia: in the meridian of London, and lat. 38. 50.

ARTEMISIUM, a town of Oenotria (Stephanus): now *S. Agatha*, in the Hither Calabria, on the river Piſaurus, or La Foglia, diſtant eight miles from the Tuſcan Sea.—Another of the Conteſtani, in Spain (Strabo); otherwiſe called *Dianium*: now *Denia*, on the ſea-coaſt of Valencia. W. long. 20. Lat. 39.

ARTHINGTON (Henry), a gentleman of a good family in Yorkſhire, who, towards the latter end of the reign of Queen Elizabeth, engaged in ſome ſeditious practices againſt the government. He was a man of moderate ſenſe and learning, zealouſly addicted to the Geneva diſcipline, and was engaged for ſeveral years in diſtributing books in defence of a farther reformation, and containing ſevere reflections on the lords of the privy-council, the judges, and other magiſtrates. In the proſecution of his deſigns, he became acquainted with Mr. Edmund Coppinger, a younger brother of a good family, and ſworn ſervant to Queen Elizabeth, who was as far gone as himſelf in fanatical opinions, and who was continually repreſenting to him the neceſſity of a thorough reformation in church and ſtate. This acquaintance of theirs laſted ſeveral years, till by frequent converſations, hearing warm ſermons, and praying together, they had greatly heated their imaginations, in conſequence of which, they began to believe themſelves very extraordinary perſons. Some time in Eaſter term, 1591, Coppinger became acquainted with Hacket, and ſoon after introduced Arthington alſo to his acquaintance. On Thurſday, the 14th of July, 1591, Arthington penned his prophecy of judgments againſt England. Coppinger alſo drew up a life of Hacket, which Arthington wrote over again fair, and annexed to it his prophecy. The ſame day they penned a joint letter to Mr. Thomas Lancaſter, a ſchool-maſter, ſigned by Coppinger as the meſſenger of peace, and by Arthington as the prophet of God's judgments, though it ſeems Arthington did well know why he ſtyled himſelf ſo. For on Friday, the 15th of July, Coppinger having ſent for Arthington out of his bed, declared to him, that he had had a revelation, which aſſured him that he was prophet of mercy, and Arthington prophet of judgment; that Hacket was king of Europe, and that they were to go before him, and ſeparate the ſheep from the goats. Arthington the more readily credited this, becauſe he found a mighty burning in himſelf, which he interpreted a commencement of the angelic nature. Their firſt exploit was to go together to the houſe of a gentleman in the city, between ſix and ſeven in the morning, to appoint him chief governor under her majeſty; but he would have nothing to do with them, nor would he ſuffer them to pray. Then they went to Wood-ſtreet Compter, to Mr. Wigginton, a miniſter, with whom they had a long conference; then they left him and went to Hacket's chamber, at the houſe of one Walker, at Broken Wharf. Afterwards they went together towards Cheapſide, by Watling-ſtreet, and the Old 'Change, crying out, "Chriſt is come," &c. To this Arthington added, "Repent, England, repent;"

threatening alſo ſtrange judgments againſt the city of London. A paper was taken out of Arthington's ſleeve, which he ſaid he was glad of, for it was an epiſtle to the queen, which ſhe would not receive, and therefore ſhe was no longer queen, but deprived of her dignity. About one o'clock they were apprehended and conducted to the lord mayor's, where ſeveral privy-counſellors were met, to whom Arthington refuſed to ſhew the leaſt reſpect. He did not recede in the leaſt from his ſtrange notions, even after he had heard that Hacket was tried and condemned; but in the afternoon of Wedneſday the 28th of July, when he was aſſured that Hacket was actually hanged, drawn, and quartered, he preſently diſcerned his own deluſion and great danger. Upon this he wrote in the moſt humble manner to the chancellor, and to the treaſurer, beſeeching them to pardon the injuries he had done them; and afterwards he wrote to the body of the council, giving the beſt account he was able of the whole buſineſs, beſeeching them to intercede with her majeſty for him, that he might not be proceeded againſt as his companions had been. As for Coppinger, he, a little after he was apprehended, ran abſolutely diſtracted, and never recovered his ſenſes, but obſtinately refuſing all nouriſhment, died of hunger the day after Hacket was executed. It was thought proper to detain Arthington ſome time in Wood-ſtreet Compter, in order to diſcover whether his repentance was ſincere, as alſo whether there was no danger of his relapſing into his enthuſiaſtic fit. But he remaining perfectly ſober and ſenſible, the queen was pleaſed to extend her mercy towards him, by granting him a pardon. He afterwards recovered his reputation ſo far, as to be thought an honeſt and ſincere, though a warm and weak man.

ARTICLES *of Religion*, in the church of England. In the beginnings of Chriſtianity, the declaration that was required of a Chriſtian's faith was conceived in very general terms; but, as hereſies ſprung up, it was found neceſſary to guard againſt them, by enlarging the creeds or confeſſions of faith. It was in imitation of this procedure that the reformers were ſo copious in ſtating the doctrines of the church of England in that work which is entitled, "Articles whereupon it was agreed by Archbiſhops and Biſhops of both provinces, and the whole Clergie, in the convocation holden at London, in the yeare of our Lorde God 1562, according to the computation of the Church of Englande, for the voiding of the diverſities of opinions, and for the eſtabliſhing of conſent touching true religion." There were two particular circumſtances in hat time which made this ſeem to be the more neceſſary: the one was, that there ſprung up, together with the reformation, many impious and extravagant ſects; the other, that, having but juſt got rid of Popery, it was abſolutely neceſſary to take the utmoſt precautions againſt it for the future. Theſe articles were prepared, as is moſt probable, by the biſhops Cranmer and Ridley, and were publiſhed by royal authority. The moſt authentic manuſcript of them is in the library of Corpus Chriſti College in Cambridge. It belonged to Archbiſhop Parker, and was left by him to that college.

The ſubſcription to theſe articles is enjoined by ſtatute, which eſtabliſhes them, and requires every clergyman to declare his aſſent, and ſubſcribe them in the preſence of his ordinary. The form of the ſubſcription is not preſcribed by the ſtatute; but by the canon it is expreſsly required, that he acknowledge them, and every one of them, to be agreeable to the word of God. There is a clauſe in the ſtatute, which ſubjects every miniſter, who maintains any doctrine repugnant to theſe articles, to deprivation.

ARTIGI, indeclinable (Pliny); *Artigis* (Ptolemy); a town of the Turduli, in Bætica. Now *Alhama*. See ALHAMA.

ARTOBRIGA, a town of Vindelicia (Ptolemy); now *Altzburg*, in Bavaria, on the Danube, below Ingolſtadt (Aventinus); but Cluverius ſuppoſes it to be *Lebenau*, on the Saltzbach, below Lauffen, in the archbiſhopric of Saltzburg.

ARUCCI, a town of Bætica, in the Conventus Hiſpalenſis (Pliny): now *Moron*, in Andaluſia, from an ancient inſcription; five leagues to the weſt of Oſſuna. W. long. 5. 20. Lat. 37.

ARVERNI, an appellation early uſed for the capital of the Arverni, according to the cuſtom of the latter ages of naming towns from the people; it was formerly called *Nemoſſus* (Strabo). The *Arverni*, a brave and ancient people, and one of the moſt powerful nations of Gaul, claimed affinity with the Romans, as deſcendants from Antenor (Lucan): and after their conqueſt by the Romans, their ancient liberty was preſerved to them, on account of their bravery (Pliny). Above 1000 years ago the town was called *Clarus Mons*, from its ſituation (Valeſius). Now *Clermont*, in Auvergne. E. long. 3. 20. N. lat. 45. 42.

ARVIRAGUS, an ancient Britiſh king who flouriſhed in the time of the Emperor Domitian. He gained a complete victory over Claudius; but being ſoon after beſieged in the city of Wincheſter, he made a treaty with the Romans, and married the emperor's daughter Genuiſſa. This monarch lived to a good old age; he confirmed the ancient laws, enacted new ones, and liberally rewarded perſons of merit.

ARUN, a river which riſes in the weſtern border of Suſſex, and falls into the ſea below Arundel. It is famous for mullets.

ARUNDA, a town of Hiſpania Bætica, on the Annas, or Guadiana (Ptolemy, Pliny): now ſaid to be *Ronda*, in the province of Granada, on the confines of Andaluſia. W. long. 5. 40. Lat. 36. 26.

ARUNDEL (Thomas), archbiſhop of Canterbury, in the reigns of Richard II. Henry IV. and Henry V. He was the ſecond ſon of Robert earl of Arundel and Warren, and brother to Richard earl of Arundel, who was beheaded. At twenty-two years of age (from being archdeacon of Taunton, he was raiſed to the biſhopric of Ely, the 6th of April, 1375, in the reign of Edward III. He was a great benefactor to the church and palace of this ſee. In 1386 he was appointed lord chancellor of England; two years after, he was tranſlated to the ſee of York; and in 1396, was advanced to the archiepiſcopal ſee of Canterbury, when he reſigned the chancellorſhip. This was the firſt inſtance of the tranſlation of an archbiſhop of York to the ſee of Canterbury. Scarce was he fixed in this ſee, when he had a conteſt with the univerſity of Oxford, about the right of viſitation. The affair was referred to King Richard, who determined it in favour of the archbiſhop. At his viſitation in London, he revived an old conſtitution, by which the inhabitants of the reſpective pariſhes were obliged to pay to their rector one halfpenny in the pound of the rent of their houſes. In the ſecond year of his tranſlation, a parliament being held at London, the commons, with the king's leave, impeached the archbiſhop, together with his brother the Earl of Arundel, and the Duke of Gloceſter, of high-treaſon. The archbiſhop was ſentenced to be baniſhed, and within forty days to depart the kingdom upon pain of death. He retired firſt to France, and then to the court of Rome, where Pope Boniface IX. gave him a kind reception, and wrote a letter to King Richard in his favour; but this having no effect, his holineſs reſolved to interpoſe his authority; he accordingly nominated Arundel to the biſhopric of St. Andrew's, and declared his intention of giving him ſeveral preferments in England. The king being informed of the pope's deſigns, wrote a letter, which had ſo good an

effect upon his holineſs, that he withheld his intended favours from Arundel; and, at the king's requeſt, promoted Roger Walden to the ſee of Canterbury.

Next year Arundel returned to England with the Duke of Lancaſter, afterwards Henry IV. upon whoſe acceſſion to the throne, the pope revoked the bull granted Walden, and reſtored Arundel to his ſee. In the year 1408, Arundel began to exert himſelf againſt the Lollards, or Wickliffites: he ſummoned the biſhops and clergy at Oxford, in order to ſtop the progreſs of this new ſect, and prevent the univerſity's being farther tinctured with their opinions. In 1411, being informed that this doctrine gained ground, notwithſtanding the condemnation thereof in a full congregation at Oxford, he reſolved to viſit the univerſity, and apply ſome farther remedy. His rigorous proceedings rendered Arundel extremely odious to the Wickliffites, and his zeal for ſuppreſſing that ſect, carried him to ſeveral unjuſtifiable ſeverities againſt the heads of it, particularly againſt Sir John Oldcaſtle and Lord Cobham. This prelate died at Canterbury, the 20th of February, 1413, having held the archiepiſcopal ſee ſeventeen years.

ARUNDEL (Thomas), earl of Arundel and Surrey, lord-marſhal of England, who ſent William Petty into Aſia to ſearch for ſome curious monuments of antiquity, where he bought thoſe which we call the *Arundel marbles*, of a Turk, who had taken them from a learned man ſent by the famous Pireſq into Greece and Aſia upon the ſame deſign. Theſe curious marbles were placed in the earl's houſe and gardens, upon the banks of the Thames, and afterwards entruſted to the care of the univerſity of Oxford, where they now are. This chronology, engraved 264 years before the Chriſtian æra, ſerves to rectify the dates of a great many events of the ancient hiſtory of Greece. The great Selden wrote a book on their contents, 1629. They have ſince been publiſhed by Dr. Prideaux, 1676, at Oxford; and again, at London, 1732, with commentaries, and an index, by Maittaire. The reader will meet with a correct Latin and Engliſh tranſlation of theſe marbles, in *The Chronological Tables of Univerſal Hiſtory*, by the learned Abbé Lenglet Dufrenoy, lately tranſlated into Engliſh.

ARUSINI CAMPI, plains in Lucania, famous for the laſt battle fought between the Romans and Pyrrhus, and the total defeat of the latter (Florus, Frontinus).

ARZINA, a river of Ruſſian Lapland, into a bay of which, in 1553, two Engliſh veſſels, which had penetrated as high as the 72d degree of latitude to the coaſt of Spitzbergen, were forced by ſtreſs of weather; and the crews of both were frozen to death.

ASAD-ABAD, a handſome town of Perſia, 68 miles N. E. of Amadon. Long 48. 25. Lat. 36. 20. N.

ASAPH (St.) gave his name to the epiſcopal ſee of St. Aſaph in Wales. He was deſcended of a good family in North Wales, and became a monk in the convent of Llan-Elvy, over which Kentigern the Scotch biſhop of that place preſided. That prelate, being recalled to his own country, reſigned both his convent and cathedral to Aſaph, who demeaned himſelf with ſuch ſanctity, that after his death Llan-Elvy loſt its name, and took that of the ſaint. St. Aſaph flouriſhed about the year 590, under Carentius king of the Britons. He wrote the Ordinances of his Church, the Life of his maſter Kentigern, and ſome other pieces. The time of his death is not certainly known. Bale tells us, he was the firſt who received unction from the pope.

ASAR-ADDON, or ESAR-HADDON, the ſon of Sennacherib, ſucceeded his father about 712 years before the Chriſtian æra, and united the kingdoms of Nineveh and Babylon. He rendered himſelf maſter of Syria; ſent a colony to Samaria; and his generals took King Maneſſes, and carried him loaded with chains to Babylon. Aſar-Addon died after a reign of 12 years.

ASBAMEA, a fountain of Cappadocia, near Tyana, ſacred to Jupiter, and to an oath. Though this fountain bubbled up, as in a ſtate of boiling, yet its water was cold; and never ran over, but fell back again; (Philoſtratus, Ammian).

ASCALON, an ancient city, and one of the five ſatrapies or principalities of the Philiſtines; ſituated on the Mediterranean, 43 miles to the ſouth-weſt of Jeruſalem (Antonine), between Azotus to the north, and Gaza to the ſouth. The birth place of Herod the Great, thence ſurnamed *Aſcalonita* (Stephanus). Famous for its ſcallions which take name from this town (Strabo, Pliny). Now *Scalona*. E. Long. 34. 30., Lat. 31. 30.

ASCANIUS, the ſon of Æneas and Creuſa, ſucceeded his father in the kingdom of the Latins, and defeated Mezentius king of the Tuſcans, who had refuſed to conclude a peace with him. At length he founded Alba Longa; and died about 1139 years before the Chriſtian æra, after a reign of 38 years.

ASCHAM (Roger), was born at Kirby-Wiſke, near North-Allerton in Yorkſhire, in the year 1516. His father was ſteward to the noble family of Scroop. Our author Roger was educated in the family of Sir Anthony Wingfield, who, about the year 1530, ſent him to St. John's College, Cambridge, where he was ſoon diſtinguiſhed for his application and abilities. He took his degree of bachelor of arts at the age of eighteen, was ſoon after elected fellow of his college, and in 1536 proceeded maſter of arts. In 1544 he was choſen univerſity orator; and in 1548 was ſent for to court, to inſtruct the Lady Elizabeth (afterwards queen) in the learned languages. In the year 1550 he attended Sir Richard Moryſine, as ſecretary, on his embaſſy to the Emperor Charles V. at whoſe court he continued three years, and in the mean time was appointed Latin ſecretary to King Edward VI. But, upon the death of that prince, he loſt his preferment and all his hopes, being profeſſedly of the reformed religion; yet, contrary to his expectations, he was ſoon after, by the intereſt of his friend Lord Paget, made Latin ſecretary to the king and queen. In June 1554 he married Mrs. Margaret How, a lady of a good family, with whom he had a conſiderable fortune. It is very remarkable of Mr. Aſcham, that though he was known to be a Proteſtant, he continued in favour not only with the miniſtry of thoſe times, but with Queen Mary herſelf. Upon the acceſſion of Queen Elizabeth, he was not only confirmed in his poſt of Latin ſecretary, but was conſtantly employed as preceptor to her Majeſty in the Greek and Latin languages. He died in the year 1568, much regretted, eſpecially by the queen, who ſaid ſhe had rather loſt ten thouſand pounds. Camden and ſome other writers tell us, that he had a great propenſity to dice and cock-fighting. He certainly died poor. He wrote,

1. Toxophilus. The ſchole or partitions of ſhooting, contayned in two bookes, written by Roger Aſcham, 1544, and now newly peruſed. Pleaſaunt for all gentlemen and yeomen of England, &c. Lond. 1571. Whilſt at the univerſity he was fond of archery by way of exerciſe and amuſement, for which he was cenſured; and on that account he ſat down to write this book, which was dedicated to Henry VIII. who ſettled a penſion of 10l. per annum on

the author. It is rather whimſical; but is admirably well written, and full of learning. 2. A report and diſcourſe, written by Roger Aſcham, of the affairs and ſtate of Germany and the Emperor Charles, his court, &c. 4to. A valuable curioſity. 3. The Schoolmaſter. Firſt printed in 1573, 4to. Mr. Upton publiſhed an edition with notes in 1711. It has uncommon merit; abounding in great good ſenſe, as well as knowledge of ancient and modern hiſtory: it is alſo expreſſive of the great humanity of the author, who was for making the paths of knowledge as level and pleaſant as poſſible, and for trying every gentle method of enlarging the mind and winning the heart. 4. Latin Epiſtles. Firſt publiſhed by Mr. Grant in 1576; have ſince paſſed many editions: the beſt is that of Oxford in 1703. Much admired on account of the ſtyle, and eſteemed almoſt the only claſſical work of that kind written by an Engliſhman. 5. Apologia contra miſſam: 1577, 8vo.

ASCHERLEBEN, a town of Germany, in the principality of Anhalt, ſeated on the river Eine.

ASCLEPIADES, one of the moſt celebrated phyſicians among the ancients, was a native of Pruſa, in Bithynia; and practiſed phyſic at Rome, under Pompey, ninety-ſix years before the Chriſtian æra. He was the head of a new ſect; and, by making uſe of wine and cold water in the cure of the ſick, acquired a very great reputation. He wrote ſeveral books, which are frequently mentioned by Galen, Celſus, and Pliny; but they are now loſt.

ASCLEPIADES, a famous phyſician under Hadrian, of the ſame city with the former: he wrote ſeveral books concerning the compoſition of medicines, both internal and external.

ASCONIUS (PEDIANUS), an ancient grammarian of Padua; and, if we believe Servius, an acquaintance of Virgil's. Yet Jerome ſays that he flouriſhed under the Veſpaſians, which is rather at too great a diſtance for one and the ſame man; but Jerome's account is rejected by the learned. We have ſome Commentaries of Aſconius upon the Orations, which indeed are but fragments: they have been publiſhed ſeparately, but they are to be found in many editions of Cicero's works.

ASCOT HEATH, a famous race-ground, four miles from Windſor, in the road from the Great Park to Reading. Here the King's ſtag-hounds are kept.

ASCOUGH (WILLIAM), doctor of laws, and biſhop of Saliſbury, in the reign of King Henry VI. was deſcended from a very ancient family, ſeated at Kelſey in Lincolnſhire. He was conſecrated to the afore-mentioned ſee in the chapel of Windſor, July 20, 1438: ſoon after which he was appointed king's confeſſor, this being the firſt inſtance of a biſhop's diſcharging that office. The moſt remarkable particular concerning this prelate was the tragical manner of his death. For after he had ſat near twelve years, the famous rebel Jack Cade and his followers, coming to Edington in Lincolnſhire, where the biſhop then was, and being joined by ſeveral of that prelate's own tenants, fell upon his carriages and plundered them. The next day they aſſaulted the biſhop himſelf, whilſt he was officiating at the altar, and dragged him away to a neighbouring hill, where they barbarouſly murdered him, by daſhing out his brains: then tearing his bloody ſhirt in pieces, to be preſerved in memory of the action; they left his body naked on the place. This maſſacre happened the 29th of June, 1450.

ASEER, or ASEERGUR, a ſtrong fortreſs of the ſoubah of Candeiſh, in the Deccan of Hindooſtan, 20 miles N. E. of Burhampore. Long. 76. 0. E. Lat. 31. 35. N.

ASGILL (John), a very humourous writer, was bred to the law, and practiſed in Ireland with great ſucceſs. He was there elected a member of the houſe of commons; but was expelled for writing a treatiſe on the poſſibility of avoiding death; and being afterwards choſen a member for the borough of Bramber in Suſſex, he was alſo on the ſame account expelled the parliament of England. After this, he continued thirty years a priſoner in the Mint, Fleet, and King's-bench; during which time he publiſhed a multitude of ſmall political pamphlets, ſeveral of which were in defence of the ſucceſſion of the houſe of Hanover, and againſt the Pretender. He died in the rules of the King's-bench, in the year 1738, when he was upwards of fourſcore.

ASHES (*Encycl.*). Some obſervations concerning the aſhes of different kinds of wood, by C. Piſſis, M. D. publiſhed in the Annales de Chimie, are worthy of being annexed to our original article.

"Having burnt a conſiderable quantity of poplar-wood," ſays Mr. Piſſis, "during the winter of the year 8 (of the French Republic), I obſerved that the aſhes when heated again formed ſemi vitreous cruſts, ſuch as that produced from the aſhes of the ſea-weed, excepting that they were very thin and ſmall, having been neither agitated, nor expoſed to any other heat than that of a moderate chamber fire.

"At firſt I ſuppoſed the cauſe to be an extraordinary quantity of potaſh, but as I could not attribute it to the quality of the wood, white woods having always been reckoned to yield a ſmaller quantity of ſalt than the others (for example, the aſpin (*populus tremula*, Linn.), a tree of the ſame genus as our poplar (*populus alba*), yields only gros. 45 grs. of potaſh to the quintal of the wood), I imagined that the circumſtance depended upon a change in the ligneous ſubſtance. We cultivate poplar for the purpoſe of procuring props for our vines; and as it is bad fuel, we do not cut it down till it has ceaſed to produce any more ſhoots. It is not rare to ſee poplars, the bark and branches of which appear ſtill to poſſeſs a great deal of life, whilſt the trunk is reduced to a few handfuls of mould.

"This idea of the augmentation of the potaſh in rotten wood was not ſtrictly juſt; but it ſhall be ſhewn that it has led me to ſome concluſions very different from the ideas generally received. I ſhall revert to all the points of theory, after having related the following facts, which tend to throw a light upon them.

"1. One hundred parts of dry ſound poplar wood yielded four parts of aſhes.

"2. One hundred parts of dry poplar wood, that was rotten, but not reduced to mould, yielded eight parts of aſhes.

"3. One hundred parts of each of theſe kinds of aſhes, lixiviated till the water was drawn off inſipid, and perfectly dried in a red heat, loſt twenty-eight parts of their weight; the firſt waters having been very ſtrongly impregnated.

"4. One hundred parts of the ſame aſhes, heated over again, and treated in the ſame manner as above, loſt twenty-two parts; the leys were more ſtrong and cauſtic than the preceding.

"5. One hundred parts of the aſhes of dry and ſound oak, when heated over again, and treated as above, loſt ſixteen parts.

"6. One hundred parts of the wet mould of rotten oak, of the colour of ochre, when placed upon a red hot plate of iron, were very ſoon dried and incinerated, leaving three parts of aſhes, which, even when heated over again, had the colour of iron filings. This is nearly twice as much as the quintal of dry oak has generally yielded. Theſe aſhes were perfectly inſipid.

"7. One hundred parts of the cruſts, of which I have ſpoken at the beginning of this memoir, when treated in the ſame manner as the aſhes No. 3, loſt thirty-ſeven parts of their weight. This cruſt at firſt ſeems inſipid, the potaſh being as it were in a latent ſtate; but after it has been kept for ſome time, and triturated, water extracts from it a large quantity of this ſalt; it is however probable, that ſome of it ſtill remains in reſiduum. Theſe leys are extremely cauſtic.

"8. Some pieces of this cruſt having been made red-hot, and afterwards extinguiſhed in a ſmall quantity of water, yielded a ley ſufficiently cauſtic to form ſoap with melted wax and tallow, upon which I poured the cold ley.

"9. This ley, when filtrated through plaſter (calcareous ſulphate mixed with lime), burnt into powder, loſt its alkaline taſte, and yielded, by ſpontaneous evaporation, fine cryſtals of ſulphate of potaſh.

"From theſe facts it appears:

"1. From the four firſt compared with the fifth, that the wood of the white poplar abounds more in ſalt than that of the oak; ſo that this is an exception from the maxim generally adopted, that the hard woods contain a greater abundance of potaſh than the ſoft.

"The wood of the poplar is of ſo ſpongy a texture, that rats cannot gnaw it through, as its fibres reſiſt the impreſſion of their teeth in the ſame manner as thoſe of hemp; it is alſo difficult to ſaw; this quality renders it expenſive for articles of furniture, and the more ſo, as this wood, which is very ſubject to rot, ought, in order to be fit for ſawing, to be cut down whilſt in its full vigour, againſt which there is a great objection, as has been already mentioned.

"This wood burns, when it is dry, with a white flame, emits very little heat, is quickly conſumed, and yields no live coal. It is evident that the combuſtible particles abound more in it than in the other kinds of wood; as is alſo the caſe with the willow, which yields twice as much aſhes, but only about the ſame quantity of ſalt as the oak; that is to ſay, 15 grammes for one myriagramme of the wood, whilſt our poplar yields 72. To what then are we to aſcribe this large quantity? this might be determined by analyſing its ſap: poſſibly alſo the acrid and viſcous fluid of its buds, which is uſed in pharmacy, might furniſh ſome data towards ſolving the queſtion.

"According to a calculation made from the returns of the revenue collectors, a myriagramme of aſpen wood yields only ſeven grammes of ſalt. (Ann. de Chimie, t. xix. p. 178.)

"This difference in the quantity of ſalt, which is in the proportion of more than ten to one, in two trees of the ſame genus, will not ſurpriſe thoſe who know that the dock and ſorrel are of the ſame genus, and that the ſour and the bitter cherry are of one and the ſame ſpecies. Nature is not ſubject to our confined ideas of analogy. It has been laid down as a principle, that plants of the ſame family may mutually ſupply the place of each other for medicinal purpoſes; but prudence requires that we ſhould not act upon this principle, till after having accurately analyzed the two plants which we intend to ſubſtitute the one for the other.

"2. From the five firſt experiments it appears, that rotten wood yields a larger quantity of aſhes than ſound, frequently more than twice as much. This circumſtance is eaſily accounted for. The wood, whilſt it rots, becomes ſpongy and light: I have ſeen ſome rotten wood which did not weigh more than half as much as an equal bulk of the ſound wood of the ſame tree. It burns without flame, like tinder, and it cannot be incinerated but with great difficulty. It appears that the hydrogen has been almoſt entirely deſtroyed; and that the carbon, by being ſheathed in the earthy particles, eſcapes the effects of combuſtion.

"This wood has frequently a phoſphoreſcent quality, the cauſe of which ſtill remains to be diſcovered. We ought not to confound rotten wood with wood that has been eaten by worms. In the latter caſe, the wood, without loſing its colour, is reduced to an impalpable powder, and in that portion of the wood which ſtill retains its ſolidity we may find the paſſage which the worm has formed for itſelf, and frequently the worm itſelf. One hundred parts of vine-ſtalks, reduced to an impalpable powder by the worms, and burnt in a red heat, were perfectly incinerated, leaving three parts of aſhes, which is nearly the quantity obtained from a quintal of dry vine twigs burnt under the inſpection of the revenue officers. This wood, to which the term of worm-eaten peculiarly belongs, has nothing in common with the rotten wood, which is alſo termed worm-eaten, excepting its appellation, which is very improperly applied to the latter.

"It has been aſſerted that rotten wood yields little ſalt; and this aſſertion is true as far as applied only to wood waſhed out by the rain, and it is proved by Experiment 8; but Experiment 3 proves that wood which has rotted without being waſhed out in this manner, has not loſt one particle of its potaſh; and that, as an equal weight of rotten wood yields twice as much aſhes of equal quality, it will furniſh double the quantity of ſalt: hence manufactories may derive great advantage, conſidering the ſmall value which this wood generally bears.

"One might employ, both in the preparation of leys for domeſtic purpoſes, and in the manufactories of nitre and ſalt, the aſhes of dead trees, whoſe ſummits and bark being ſtill in good preſervation have prevented the acceſs of the rain-water to the trunk. The mould of theſe trees might alſo be uſed as an excellent manure, ſince it retains the whole of its potaſh. It is further evident, that when this mould is waſhed by the rain it muſt be of advantage to the vegetation. The experiments of Citizen Vauquelin have ſhewn us, that in the ſap of trees the potaſh exiſts in the ſtate of an acetite: it would be intereſting to know alſo in what ſtate it exiſts as well in the wood as in the mould of trees.

"3. Experiment 4 ſhews that by baking the aſhes over again they loſe one-fifth of their ſalt: this is a neceſſary conſequence of their loſing more and more of their carbonic acid; but at the ſame time they gain in quality, as is proved by Experiment 8. However, if we bake over again aſhes of a very rich quality, like thoſe of our poplar, we ſhall obtain a half vitrified cruſt, which will retain a part of the potaſh; it will further be neceſſary to triturate this cruſt, in order to lixiviate it, which will add to the labour of the workmen. This cruſt, from which ſalt may be extracted in the proportion of 30 per cent. and which contains ſtill a good deal more in a concealed ſtate, might perhaps be employed in the manufacture of glaſs equally well with many kinds of ſoda. This ſemi-vitreous ſtate of the ſubſtance, and the ſolidity of the ſoaps obtained in Experiment 8, led me at firſt to ſuſpect that the aſhes of the poplar contained ſoda; but the Doctor was undeceived by Experiment 9. He made uſe of ſome parget, which he had by him for want of ſulphuric acid, which was not immediately at hand. Franklin ſays, it is good to know how to ſaw with a whimble. For the ſame reaſon he made uſe of wax and tallow."

Dr. Piſſis concludes with ſome ideas to which this experiment gave riſe. Melted wax, tallow, and hogs-lard, and heated oils, acquire a temperature higher than that of water, and even of boiling ley: when an alkaline ley is added, the mixture immediately puffs up in an extraordinary manner, the whole of the water is inſtantly evaporated; and when the ingredients are employed in equal proportions, the ſoap remains more ſolid than that made according to the proceſſes uſually employed in the manufactories; beſides which, it is dry as ſoon as formed. "Theſe advantages," ſays Dr. Piſſis, "are

well worth the trouble of making ſome experiments, by which we might examine the following queſtions:

" 1. If the oil were heated before the water, would not the expanſion, which takes place when they are mixed together, occaſion ſome accident?—To me it appears that it would not, provided the boiler were ſufficiently large, and only one-fourth of its capacity filled.

" 2. Might the mixture be ſtirred?—It might, after the whole of the ley has been added, as the mixture then remains in a tranquil ſtate of fuſion.

" 3. Would the ſalts which are of no uſe in forming the ſoap, particularly the alkaline carbonates, be carried off by the tube?—I apprehend they would not; for, in the experiments which I have made on a ſmall ſcale, no liquid was left behind.

" 4. Would not the only ſubſtances, by being too much heated, have their properties ſo altered as to affect the quality of the ſoap?—I fear they would; for the ſoaps which I obtained were of a greyiſh colour."

ASHLEY (Robert), a Wiltſhire gentleman, deſcended from the family of that name reſiding at Naſhhill, in that county, was admitted a gentleman-commoner of Hart Hall in Oxford, in the year 1580, being then fifteen years of age. From the univerſity he removed to the Middle Temple, where he was called to the dignity of barriſter at law. After ſome time, he travelled into Holland, France, &c. converſing with the learned, and frequenting the public libraries. Being returned into England, he lived many years in the Middle Temple, and honoured the commonwealth of learning with ſeveral of his lucubrations. He died, in a good old age, the beginning of October, 1641. His other works were for the moſt part tranſlations.

ASHMOLE (Elias), a great antiquary and herald, founder of the Aſhmolean muſeum at Oxford, was born at Lichfield in Staffordſhire, 1617. In the early part of his life he practiſed in the law; and in the civil war had a captain's commiſſion under the king, and was alſo comptroller of the ordnance. He married the Lady Mainwaring in 1649, and ſettled at London; where his houſe was frequented by all the learned and ingenious men of the time. Mr. Aſhmole was a diligent and curious collector of manuſcripts. In the year 1650 he publiſhed a treatiſe written by Dr. Arthur Dee, relating to the philoſopher's ſtone; together with another tract on the ſame ſubject, by an unknown author. About the ſame time, he was buſied in preparing for the preſs a complete collection of the works of ſuch Engliſh chemiſts as had till then remained in manuſcript. This undertaking coſt him great labour and expence; and at length the work appeared, towards the cloſe of the year 1652. He propoſed at firſt to have carried it on to ſeveral volumes; but he afterwards dropped this deſign, and ſeemed to take a different turn in his ſtudies. He now applied himſelf to the ſtudy of antiquity and records: he was at great pains to trace the Roman road, which in Antoninus's Itinerary is called *Bennevanna*, from Weedon to Lichfield, of which he gave Mr. Dugdale an account in a letter. In 1658 he began to collect materials for his hiſtory of the Order of the Garter, which he lived to finiſh, and thereby did no leſs honour to the order than to himſelf. In September following, he made a journey to Oxford, where he ſet about giving a full and particular deſcription of the coins preſented to the public library by Archbiſhop Laud.

Upon the reſtoration of King Charles II. Mr. Aſhmole was introduced to his Majeſty, who received him very graciouſly; and on the 18th of June, 1660, beſtowed on him the place of Windſor herald. A few days after, he appointed him to give a deſcription of his medals, which were accordingly delivered into his poſſeſſion, and King Henry VIII.'s cloſet was aſſigned for his uſe. On the 15th of February, Mr. Aſhmole was admitted a fellow of the Royal Society; and, on the 9th of February following, the king appointed him ſecretary of Surinam, in the Weſt Indies. On the 19th of July, 1699, the univerſity of Oxford, in conſideration of the many favours they had received from Mr. Aſhmole, created him doctor of phyſic by diploma, which was preſented to him by Dr. Yates, principal of Brazen Noſe College. On the 8th of May, 1672, he preſented his " Inſtitution, Laws, and Ceremonies, of the moſt noble Order of the Garter," to the king; who received it very graciouſly, and, as a mark of his approbation, granted him a privy ſeal for 400l. out of the cuſtom of paper. On the 26th January, 1679, a fire broke out in the Middle Temple, in the next chamber to Mr. Aſhmole's, by which he loſt a noble library, with a collection of 9000 coins, ancient and modern, and a vaſt repoſitory of ſeals, charters, and other antiquities and curioſities; but his manuſcripts and his moſt valuable gold medals were luckily at his houſe at Lambeth. In 1683, the univerſity of Oxford having finiſhed a magnificent repoſitory near the theatre, Mr. Aſhmole ſent thither his curious collection of rarieties; which benefaction was conſiderably augmented by the addition of his manuſcripts and library at his death, which happened at Lambeth, the 18th of May, in the 76th year of his age. He was interred in the church of Great Lambeth in Surrey, on the 26th of May, 1692, and a black marble ſtone laid over his grave, with a Latin inſcription.

Beſides the works which we have mentioned, Mr. Aſhmole left ſeveral which were publiſhed ſince his death, and ſome which remain ſtill in manuſcript.

ASHTED, a village of Surrey, ſituated near Epſom, on one of the moſt delightful ſpots in the county.

ASHTON (Charles), one of the moſt learned critics of his age, elected maſter of Jeſus College, Cambridge, July 5, 1701, was inſtalled in a prebend of Ely on the 14th of the ſame month. His great knowledge in eccleſiaſtical antiquities was excelled by none, and equalled by few; as his MS. remarks upon the fathers, and corrections of the miſtakes of tranſlators, will ſufficiently ſhew. His critical ſkill in the writers of the claſſics is well known. Dr. Taylor always ſpoke with raptures of his correction of the inſcription to Jupiter Urios, which he looked on as the happieſt thing, and the moſt to the credit of the doer, and the art itſelf, that he knew of. He lived to a good old age, but in the latter part of his life ſeldom appeared abroad.

ASHTON (Thomas), educated at Eton, and elected thence to King's College, Cambridge, 1733, was probably the perſon to whom Mr. Horace Walpole addreſſed his Epiſtle from Florence, in 1740, under the title of Thomas Aſhton, eſq. tutor to the Earl of Plymouth. He was preſented to the rectory of Aldingham in Lancaſhire, which he reſigned in March, 1749; and, on the 3d of May following, was preſented by the provoſt and fellows of Eton to the rectory of Sturminſter Marſhall in Dorſetſhire. He was then M. A. and had been choſen a fellow of Eton in December, 1745. In 1752 he was collated to the rectory of St. Botolph, Biſhopſgate: in 1759, took the degree of D. D.; December 10, 1760, he married Miſs Amyand; and in May, 1762, was elected preacher at Lincoln's Inn, which he reſigned in 1764. In 1770 he publiſhed, in 8vo. a volume of Sermons on ſeveral Occaſions. Dr. Aſhton died March 1, 1775, at the age of fifty-nine, after having for ſome years ſurvived a ſevere attack of the palſy. His diſcourſes, admirable as they are in themſelves, were rendered ſtill more ſo by the excellence of his delivery. His other publications were: 1. A Diſſertation on 2 Peter i. 19. 1750. 2. A Letter to the Rev. Mr. Thomas Jones. 3. An Extract from the Caſe of the Obligation of the

Electors of Eton College, to supply all Vacancies in that Society with those who are, or have been, Fellows of King's College, Cambridge, so long as Persons properly qualified are to be had within that Description. London, 1771. 4. A Letter to the Rev. Dr. Morell, on the Question of electing Aliens into the vacant Places in Eton College. 5. A Second Letter to Dr. Morell.

ASHTON-UNDER-LINE, a village of Lancashire, seven miles east of Manchester. It has a manufactory of cotton, and an iron foundry, both very considerable.

ASHWELL (George), rector of Hanwell, near Banbury, in Oxfordshire, son of Robert Ashwell, of Harrow on the Hill, Middlesex, was born in London, November 18, 1612. He was admitted a scholar of Wadham College, in Oxford, in 1627, took the degrees in arts, was elected fellow, and became a celebrated tutor in that house. In the time of the grand rebellion he continued in Oxford, and preached several times before the king, court, and parliament. A little before the surrender of the garrison of Oxford, he had the degree of bachelor in divinity conferred on him. About the latter end of the year 1658, he was presented to the living of Hanwell, vacant by the death of Dr. Robert Harris, having been before (as Mr. Wood thinks) chaplain in the family of Sir Anthony Cope, lord of the manor of Hanwell. He had the character of a very peaceable and religious man, and was well versed in logic, the schoolmen, and the fathers. He wrote the following books: 1. A Discourse asserting the received Authors and Authority of the Apostles Creed. Oxon. 1653. 2. A double Appendix, the first touching the Athanasian, the second touching the Nicene Creed. 3. Concerning the Gesture to be used at the receiving of the Sacrament. Oxon. 1668. 4. A Treatise concerning Socinus, and the Socinian Heresy. 5. A Dissertation concerning the Church of Rome. Oxon. 1688. 6. An Answer to Plato Redivivus. 7. He also translated out of Latin into English, Philosophus Autodidactus. Our author died at Hanwell, the 8th of February, 1693.

Ashwell, a village of Hertfordshire, in Doomsday Book called a borough, having 14 burgesses and a mayor. Near the church are the remains of a Roman camp, which consists of 12 acres of land, inclosed by a deep ditch, and formerly a rampart. It is situated near Caldicot, on the borders of Cambridgeshire.

ASINIUS (Pollio), consul and Roman orator, distinguished himself under Augustus by his exploits and his literary works. He is frequently mentioned with praises by Horace and Virgil, and is said to have collected the first library at Rome. He died at Frescati, at 80 years of age.

ASKEATON, a town of Ireland, in the county of Limerick, on the river Shannon. It sends two members to parliament.

ASMONEUS, or Assamoneus, the father of Simon, and chief of the Asmoneans, a family that reigned over the Jews during 126 years.

ASNA (*Encycl.*). This town in Upper Egypt is believed by some authors to be the ancient *Syena*, though others say the ruins of it are still to be seen near Assuan. It is so near the cataracts of the Nile, that they may be heard from thence. It contains several monuments of antiquity; and among the rest an ancient Egyptian temple, pretty entire, all painted throughout, except in some places that are effaced by time. The columns are full of hieroglyphic figures. This superb structure is now made use of for a stable, wherein they put oxen, camels, and goats. A little way from thence are the ruins of an ancient nunnery, said to be built by St. Helena, surrounded with tombs. Asna is the principal town in these parts, and the inhabitants are rich in corn and cattle. They drive a considerable trade into Lower Egypt and Nubia, by means of the Nile, and also by the caravans that pass over the Desert. The inhabitants are all Arabs, except about 200 Copts, the ancient inhabitants, and a sort of Christians. They are under the government of the Turks, who have a cadi, and the Arabs have two sheriffs of their own nation.

ASOPUS, a river of Phrygia Major, which, together with the Lycus, washes Laodicea (Pliny).—Another of Bœotia, which running from mount Cithæron, and watering the territory of Thebes, separates it from the territory of Platæa, and falls with an east course into the Euripus, at Tanagra. On this river Adrastus, king of Sicyon, built a temple to Nemesis, thence called Adrasteia. From this river Thebæ came to be surnamed Asopides (Strabo). It is now called Asopo. A third Asopus, a river of Peloponnesus, which runs by Sicyon (Strabo); and with a north-west course falls into the Sinus Corinthiacus, to the west of Corinth. A fourth, a small river of the Locri Epicnemidii, on the borders of Thessaly (Pliny); rising in Mount Oeta, and falling into the Sinus Maliacus.

Asopus, a town of Laconica (Pausanius); on the Sinus Laconicus, with a port in a peninsula, between Boæ to the east, and the mouth of the Eurotas to the west. The citadel only remains standing, now called by the sailors Castel Rampano.

ASPA, a town of Parthia (Ptolemy); now Ispahan (Holstenius). In Ptolemy the latitude seems to agree, being 33°; but whether the longitude does, is a question. E. Long. 51. Lat. 32. 30.

ASPICUETA (Martin de), commonly called the *Doctor of Navarre*, or *Doctor Navarrus*; was descended of a noble family, and born the 13th of December 1491, at Varasayn, a small city of Navarre, not far from Pampeluna. He entered very young into the monastery of Regular canons at Roncevaux, where he took the habit, which he continued to wear after he left the convent. He studied classical learning, natural and moral philosophy, and divinity, at Alcala, in New Castile, adopting chiefly the system of Petrus Lombardus, commonly called the *Master of the Sentences*. He applied to the study of the law at Ferrara, and taught it with applause at Toulouse and Cahors. After being first professor of canon law at Salamanca for fourteen years, he quitted that place to be professor of law at Coimbra, with a larger salary. The duties of this office he discharged for the space of twenty years, and then resigned it to retire into his own country, where he took care of his nieces, the daughters of his deceased brothers. Having made a journey to Rome, to plead the cause of Bartholomeo de Caranza archbishop of Toledo, who had been accused of heresy before the tribunal of the inquisition in Spain, and whose cause was, by the pope's order, to be tried in that city, Aspicueta's writings, which were well known, procured him a most honourable reception. Pope Pius V. made him assistant to Cardinal Francis Aciat, his vice-penitentiary; and Gregory XIII. never passed by his door without calling for him, and stopped sometimes a whole hour to talk with him in the street. His name became so famous, that even in his life-time the highest encomium on a learned man was to call him *a Navarrus*. He was consulted as an oracle. By temperance he prolonged his life to a great length. His œconomy enabled him to give substantial proofs of his charity. Being very old, he used to ride on a mule through the city, and relieved all the poor he met; to which his mule was so well accustomed, that it stopped of its own accord at the sight of every poor man, till its master had relieved him. He refused several honourable posts in church and state, that he might have leisure to correct and improve the works he had already written, and compose others. He

died at the age of ninety-four, on the 21ſt of June, 1586. He wrote a vaſt number of treatiſes, all which are either on morality or canon law.

ASSAM, a country of Aſia, bounded on the W. by Bengal and Bootan, on the N. by the mountains of Thibet, and on the S.E. and S. by Meckley. The river Burrampooter flows through the whole length of it. Its capital is Ghergon. The natives prefer the fleſh of dogs to any other kind of animal food. They pay no taxes, the king being the ſole proprietor of all the gold, ſilver, and other metals, found in his kingdom. They live comfortably; almoſt each houſekeeper having an elephant, for the conveniency of his wives. The invention of gunpowder is aſcribed to the Aſſameſe. It is certain that gunpowder was known in China and Hindooſtan, far beyond all periods of inveſtigation; and, in the code of Gentoo laws, is a prohibition of the uſe of fire-arms. Aſſam lies between 91° and 96° E. long. and 25° and 28° N. lat.

ASSELYN (John), a famous Dutch painter, was born in Holland, and became the diſciple of Iſaiah Vandevelde, the battle-painter. He diſtinguiſhed himſelf in hiſtory-paintings, battles, landſcapes, animals, and particularly horſes. He travelled into France and Italy; and was ſo pleaſed with the manner of Bambochio, that he always followed it. He painted many pictures at Lyons, where he married the daughter of a merchant of Antwerp, and returned with her to Holland. Here he firſt diſcovered to his countrymen a freſh and clear manner of painting landſcapes, like Claude Lorraine; upon which, all the painters imitated his ſtyle, and reformed the dark brown they had hitherto followed. Aſſelyn's pictures were ſo much admired at Amſterdam, that they ſold there at a high price. He died in that city, in 1660. Twenty-four pieces of landſcapes and ruins, which he painted in Italy, have been engraved by Perelle.

ASSER, John (or Asserius Menevensis, that is, *Aſſer of St. David's*), biſhop of Shirburn in the reign of Alfred the Great. He was born in Pembrokeſhire, in South Wales; and educated in the monaſtery of St. David's by the Archbiſhop Aſſerius, who, according to Leland, was his kinſman. In this monaſtery he became a monk, and by his aſſiduous application ſoon acquired univerſal fame as a perſon of profound learning and great abilities. Alfred, the munificent patron of genius, about the year 880, ſent for him to court. The king was then at Dean in Wiltſhire. He was ſo charmed with Aſſer, that he made him his preceptor and companion. As a reward for his ſervices, he appointed him abbot of two or three different monaſteries; and at laſt promoted him to the epiſcopal ſee of Shirburn, where he died, and was buried, in the year 910. He was, ſays Pits, a man of a happy genius, wonderful modeſty, extenſive learning, and great integrity of life. He is ſaid to have been principally inſtrumental in perſuading the king to reſtore the univerſity of Oxford to its pritine dignity and luſtre.—He wrote, *De vita et r[illegible]geſtis Alfredi*, &c. Lond. 1574, publiſhed by Archbiſhop [illegible] in the old Saxon character, at the end of *Walſingham hiſt.*—Francf. 1602, fol. Oxf. 1722, 8vo. Many other works are aſcribed to this author by Gale, Bale, and Pits; but all doubtful.

ASSHETON (William), doctor of divinity, and rector of Beckenham in Kent, was born in the year 1641, and was educated at Brazen-noſe College, Oxford. After entering into orders, he became chaplain to the Duke of Ormond, and was admitted doctor of divinity in 1673. Soon after, he was nominated to a prebend in the church of York, preſented to the living of St. Antholin, London, and to the rectory of Beckenham in Kent. He was the firſt projector of the ſcheme for providing for clergymen's widows, and others, by a jointure payable out of the mercers' company. He wrote ſeveral pieces againſt the Papiſts and Diſſenters, and ſome devotional tracts. He died at Beckenham, in September 1711, in the 70th year of his age.

ASSOS, a ſeaport town of Natolia, ſeated on a bay of the Archipelago, twelve miles S.E. of Troas, ſubject to the Turks. Long. 26. 36. E. Lat. 39. 32. N.

ASSUS, *i*, feminine (Strabo); *Aſſum*, or *Aſſon*, *i*, neuter (Ptolemy); a town of Troas (though by others ſuppoſed to be of Myſia), and the ſame with Apollonia (Pliny); but different from the Apollonia on the river Rhyndacus. Ptolemy places it on the ſea-coaſt, but Strabo more inland; if he does not mean the head of an inland bay, as appears from Diodorus Siculus. It was a town of the Leleges, the country of Cleanthes the ſtoic philoſopher, who ſucceeded Zeno; and is ſtill called *Aſſos*. E. long. 27. 30 N. lat 38. 30.

ASSYNT, a diſtrict in the weſtern part of Sutherlandſhire, in Scotland. It exhibits an aſſemblage of ſhattered mountains, heaped, as it were, upon each other; and ſeemingly torn and convulſed in a truly tremendous manner. Toward the rugged peninſula of Aſſynt Point, are ſeveral vaſt conic hills, the higheſt of which is diſtinguiſhed by the name of the Sugar Loaf.

ASTA, an inland town of Liguria, a colony (Ptolemy); on the river Tanarus: now *Aſti*. E. Long. 8. 15. Lat. 44. 40.

Asta *Regia*, a town of Bætica (Pliny); ſituated at that mouth of the Bætis, which was choaked up with mud, to the north of Cadiz; ſixteen miles diſtant from the port of Cadiz (Antonine). Its ruins ſhew its former greatneſs. Its name is Phœnician, denoting a *frith*, or arm of the ſea, on which it ſtood. It is ſaid to be the ſame with Xera; which ſee.

ASTAROTH, the royal reſidence of Og king of Baſhan; whether the ſame with Aſtaroth Carnaim, is matter of doubt: if one and the ſame, it follows from Euſebius's account, that it lay in Baſhan, and to the eaſt of Jordan, becauſe in the confines of Arabia.

ASTARTE, a city on the other ſide Jordan; one of the names of Rabbath Ammon, in Arabia Patræa (Stephanus).

ASTELL (Mary), the great ornament of her ſex, and country, was the daughter of —— Aſtell, an opulent merchant at Newcaſtle-upon-Tyne, where ſhe was born about the year 1668. She was educated in a manner ſuitable to her ſtation; and, amongſt other accompliſhments, was miſtreſs of the French, and had ſome knowledge of the Latin tongue. Her uncle, a clergyman, obſerving in her ſome marks of a promiſing genius, took her under his tuition, and taught her mathematics, logic, and philoſophy. She left the place of her nativity when ſhe was about twenty years of age, and ſpent the remaining part of her life at London, and at Chelſea. Here ſhe purſued her ſtudies with great aſſiduity, made great proficiency in the above-mentioned ſciences, and acquired a more complete knowledge of many claſſic authors. Among theſe Seneca, Epictetus, Hierocles, Antoninus, Tully, Plato, and Xenophon, were her principal favourites.

Her life was ſpent in writing for the advancement of learning, religion, and virtue; and in the practice of thoſe religious duties which ſhe ſo zealouſly and pathetically recommended to others, and in which perhaps no one was ever more ſincere and devout. Her ſentiments of piety, charity, humility, friendſhip, and other Chriſtian graces, were uncommonly refined and ſublime; and religion ſat gracefully upon her, unattended with any forbidding airs of ſourneſs or of gloom. Her mind was generally calm and ſerene; and her converſation was innocently facetious, and highly entertaining. She would ſay, "The good Chriſtian only hath reaſon, and he always ought to be chearful;" and, "That dejected looks and melancholy airs were very unſeemly in a Chriſtian." But theſe ſubjects ſhe hath treated at large in ſome of her excellent writings.

She was remarkably abſtemious; and ſeemed to enjoy an uninterrupted ſtate of health, till a few years before her death; when, having one of her breaſts cut off, it ſo much impaired her conſtitution, that ſhe did not long ſurvive it. This painful operation ſhe underwent without diſcovering the leaſt timidity, or ſo much as uttering a groan; and ſhewed the ſame reſolution and reſignation during her whole illneſs. When ſhe was confined to her bed by a gradual decay, and the time of her diſſolution drew near, ſhe ordered her ſhroud and coffin to be made, and brought to her bed-ſide; and there to remain in her view, as a conſtant memento of her approaching fate, and to keep her mind fixed on proper contemplation. She died in the year 1731, in the 63d year of her age, and was buried at Chelſea. She wrote, 1. A ſerious Propoſal to the Ladies. 2. An Eſſay in Defence of the Female Sex. 3. Letters concerning the Love of God. 4. Reflections upon Marriage. 5. Moderation truly ſtated. 6. The Chriſtian Religion, as profeſſed by a Daughter of the Church of England: and ſome other works.

ASTIGI, indeclinable; a colony, and conventus juridicus, of Bætica, ſurnamed *Auguſta Firma*, ſituated on the Singulus, which falls into the Bætis; ealled alſo *Collonia Aſtigitana* (Pliny): now *Ecya*, midway between Seville and Corduba. W. Long. 5. Lat. 37. 20.

ASTLEY (John), was born at Wem in Shropſhire, of parents much leſs ſhowy in their circumſtances, but, morally, much more enviable. His father practiſed medicine. After a little time ſpent at a country ſchool, which uſually does little more than turn ignorance into preſumption, John Aſtley came to London, and was apprenticed to Hudſon the portrait painter, who, bad as he was, was the beſt of his time; and, though otherwiſe not worth the remembering, will never be forgotten, as the maſter of Sir Joſhua Reynolds. Aſtley, too, though not ſo elegantly minded as Reynolds, might have been conſpicuous in his art. When he left Hudſon, and went to Rome, he ſhewed ſuch parts as got, and kept, the patronage of Lord Cheſterfield. The beſt pictures he ever painted, were copies of the Bentivoglios, and Titian's Venus, and a head much in the manner of Shakſpeare. When he returned from Rome, he was received for ſeveral months into the houſe of a friend, whoſe abundant kindneſs he never returned: he then went an adventurer to Ireland; there his fortune was ſo good, and his uſe of it ſo diligent, that in three years he left the country with three thouſand pounds more than he brought into it.

As he was painting his way back to London, in his own poſt-chaiſe, and with an out-rider, he loitered with a little pardonable vanity, in his native neighbourhood; and entering Knutsford aſſembly with Major Eſte, of the 68th, Lady Daniel was at once won by his appearance. She contrived the next day to ſit for her portrait, and the next week ſhe gave him the original: ſuperſeding the claims of Mr. Smith Barry, Lady Daniel married Mr. Aſtley. The marriage articles reſerved her fortune to herſelf; but ſo ſatisfactory was his behaviour, that ſhe ſoon gave him the Tably eſtate; and dying ſoon after, ſettled on him, after the death of her ideot daughter, by Sir W. Daniel, the whole Duckenfield eſtate in fee, amounting together to five thouſand pounds a-year.

In the ſtructure and decoration of ſmall buildings, rich as the time is in architecture, Aſtley's architecture was pre-eminent. Pall-Mall is one inſtance; Lady Archer's ſaloon and converſatory at Barnes is another; Duckenfield is yet finer than either. The ſaloon, the loggio in front, the chamber on each ſide, and the great octagon, are all as exquiſite as original, from their firſt idea to the laſt.

Aſtley's ingenuity led him alſo to commercial arts; but in this adventure the balance was againſt him. In the different ſinkings on his colliery, he ſunk more money than he raiſed; in the furnaces for his iron-ſtone, he conſumed more metal from his pocket than the mine.

But in the article of money, his deſtiny was inexhauſtible. The waſtes of folly were more than equalled by the wantonneſs of fortune. His brother, the Putney ſurgeon, was run over by a waggon at Wimbledon, and breathed his laſt on the road: this at once, more than replaced the ten thouſand pounds he had run down in the furnace. Eſtimating what he got by painting, by legacies, and by his marriage, he was worth above 100,000l. Of this, about 25,000l. were ſpent in arts, and elegant accommodations, blameleſs at leaſt, if not praiſe-worthy. Thirty thouſand pounds, he told Dr. Warren, he had ſpent on ſeven years' exceſſes, when he was languiſhing under their conſequences; and, in the ſelf-diſapprobation of a retroſpective hour, he declared he would give the remaining 100,000l. to redeem the time he had loſt. He died at Duckenfield, November 14, 1787.

ASTON (Sir Arthur), an officer of note in King Charles the Firſt's army, was ſon of Sir Arthur Aſton, of Fulham in Middleſex. He was a great traveller, and made ſeveral campaigns in foreign countries. Being returned to England about the beginning of the grand rebellion, with as many ſoldiers of note as he could bring with him, he took part with the king againſt the parliament. He commanded the dragoons in the battle of Edge-hill, and with them did his majeſty conſiderable ſervice. The king having a great opinion of his valour and conduct, made him governor of the garriſon of Reading in Berkſhire, and commiſſary-general of the horſe; in which poſt he three times repulſed the earl of Eſſex, who, at the head of the parliament army, laid ſiege to that place; but Sir Arthur being dangerouſly wounded, the command devolved on Colonel Richard Fielding, the eldeſt colonel in the garriſon. Sir Arthur was ſuſpected of taking this opportunity to get rid of a dangerous command. Some time after he was appointed governor of the garriſon of Oxford, in the room of Sir William Pennyman, deceaſed. In September following, he had the misfortune to break his leg by a fall from his horſe, and was obliged to have it cut off; whereupon, on the 25th of December, he was diſcharged from his command, which was conferred on Colonel Gage. After the king's death, Sir Arthur was employed in the ſervice of King Charles II. and went with the flower of the Engliſh veterans into Ireland, where he was appointed governor of Drogheda. At length Cromwell having taken the town, about the 10th of Auguſt, 1649, and put the inhabitants to the ſword, Sir Arthur, the governor, was cut to pieces, and his brains beaten out with his wooden leg.

ASTRABAD, a town of Perſia, capital of a province of the ſame name, on the Caſpian Sea, 200 miles N. of Iſpahan. Long. 55. 35. E. Lat. 36. 50. N.

ASTROP-WELLS, near Banbury in Oxfordſhire, much reſorted to on account of the virtues of their waters.

ASTYAGES, ſon of Cyaxares, the laſt king of the Medes. He dreamed that from the womb of his daughter Mandane, married to Cambyſes king of Perſia, there ſprang a vine that ſpread itſelf over all Aſia. She being with child, he reſolved to kill the infant as ſoon as born. Its name was Cyrus; and Harpagus, being ſent to deſtroy it, preſerved it: which Aſtyages after a long time hearing of, he cauſed Harpagus to eat his own ſon. Harpagus called in Cyrus, who dethroned his grandfather, and thereby ended the monarchy of the Medes. See MEDIA and PERSIA.

ASTYANAX, the only ſon of Hector and Andromache; after the taking of Troy, he was thrown from the top of a tower by Ulyſſes's orders.

ATABYRIS, a very high mountain in the iſland of Rhodes,

on which, according to Strabo and Diodorus Siculus, there ſtood a temple of Jupiter Atrabyrius, whoſe worſhip a colony of Rhodians carried into Sicily, where a temple was built to the ſame deity at Agrigentum.

ATACAMA, a harbour of South America, in Peru. There is a great deſert of the ſame name, and a chain of mountains which ſeparate Peru from Quito. On the mountains the cold is ſo violent, that paſſengers are ſometimes frozen to death. Long. 80. 20. W. Lat. 0. 22. S.

ATALAUA, a town of Portugal, in Eſtramadura, on an eminence, with a fort, five miles S. of Tomer, and as near the Trajo. Long. 7. 56. W. Lat. 39. 25. N.

ATE (*Encycl.*), the goddeſs of miſchief, was daughter of Jupiter, and caſt down from heaven at the birth of Hercules. For Juno having deceived Jupiter, in cauſing Euriſtheus to be born before Hercules, Jupiter expreſſed his reſentment on Ate, as the author of that miſchief; and threw her headlong from heaven to earth, ſwearing ſhe ſhould never return thither again (*Homeri Il.* xix. 125). The name of this goddeſs comes from *ατaω*, *noceo*, to *hurt*. Her being the daughter of Jupiter means, according to mythologiſts, that no evil happens to us but by the permiſſion of Providence; and her baniſhment to earth denotes the terrible effects of divine juſtice among men.

ATENA, a town of Italy, in Naples, near the river Negro twenty-two miles N. of Policaſtro. Long. 15. 58. E. Lat. 40. 36. N.

ATERNUM, a town of Lucania in Italy; now *Aterni* (Cluvenus): alſo a town in the territory of the Piceni; now *Peſcara;* a port-town of Naples, ſituated on the Adriatic. E. long. 15. 25. N. lat. 42. 30.

ATESTE, a town in the territory of Venice in Italy, now called *Eſte*. E. long. 12. 6. N. lat. 45. 25.

ATH, a ſmall, handſome, and ſtrong town in Hainault. It was taken by the French in 1745, but reſtored to the Auſtrians. It is ſeated on the Dender, twelve miles N. W. of Mons. Long. 3. 44. E. Lat. 50. 35. N.

ATHANASIA (*Encycl.*), GOLDILOCKS. Of this genus of plants Linnæus mentions eleven *ſpecies;* of which the following ſix are, by Mr. Miller, reckoned worthy of a place in thoſe gardens where there are conveniences for preſerving tender plants, as none of theſe ſpecies will outlive the winters of this country. 1. The *dentata* grows naturally at the Cape of Good Hope. It riſes three or four feet high, ſending out many ſide-branches, garniſhed with pretty long narrow leaves, having ſome reſemblance to thoſe of buckthorn plantain. The branches are generally terminated by yellow flowers formed into a kind of umbel. Theſe flowers appear early in ſummer, and the ſeeds ripen in autumn. 2. The *trifurcata,* is alſo a native of Africa, as are the three following ſorts. It is a ſhrubby plant, about the height of the former, ſending out ſeveral weak ſhoots, garniſhed with awl-ſhaped trifid leaves ſet cloſe to them, of a pale ſilvery colour. The flowers are yellow, and terminate the branches in a corymbus. They appear in Auguſt, and the ſeeds ripen in October. 3. The *crithmifolia* riſes with a ſtrong ſhrubby ſtalk to the height of ſix or eight feet, ſending out many ligneous branches garniſhed with long narrow leaves terminating in four or five parts like thoſe of ſamphire. The flowers are like thoſe of the former, and appear in July and Auguſt, being ſucceeded by ſeeds which ripen in October. 4. The *pubeſcens* hath ſtrong woody ſtalks four or five feet high, covered with a woolly bark, as are alſo the branches, which are cloſely garniſhed with entire, ſpear-ſhaped, woolly leaves, and are terminated by yellow flowers having a long foot-ſtalk, and are ſometimes ſucceeded by ſeeds that ripen in the autumn. 5. The *annua* is a low annual plant, ſeldom riſing above a foot high, and ſending forth two or three ſlender branches garniſhed with wing-pointed leaves: the ſtalks are terminated by bright yellow flowers growing in umbels, which appear in Auguſt and September; but unleſs the ſeaſon is very favourable, the ſeeds do not ripen in this country. 6. The *maritima,* or ſea cudweed, grows naturally on the coaſts of the Mediterranean, as alſo in Wales, and ſome other parts of Britain; notwithſtanding which, Mr. Miller ſays it muſt be put under a glaſs-frame in winter, and rarely perfects good ſeeds in Britain. It riſes two or three feet high, ſending out a few weak branches, garniſhed with white ſpear-ſhaped leaves terminated by a ſingle flower upon each foot-ſtalk. The firſt four of theſe ſorts may be propagated either by ſeeds or cuttings; and their culture is not materially different from that of the common hot-bed plants.

ATHANASIUS (St.), biſhop of Alexandria, and one of the greateſt defenders of the faith againſt the Arians, was born in Egypt. He followed St. Alexander to the council of Nice, in 325, where he diſputed againſt Arius, and the following year was made biſhop of Alexandria; but, in 335, was depoſed by the council of Tyre: when, having recourſe to the Emperor Conſtantine, the Arian deputies accuſed him of having hindered the exportation of corn from Alexandria to Conſtantinople; on which the emperor, without ſuffering him to make his defence, baniſhed him to Treves. The emperor, two years after, gave orders that he ſhould be reſtored to his biſhopric: but, on his return to Alexandria, his enemies brought freſh accuſations againſt him, and choſe Gregory of Cappadocia to his ſee; which obliged Athanaſius to go to Rome to reclaim it of Pope Julius. He was there declared innocent, in a council held in 342, and in that of Sardica in 347, and two years after was reſtored to his ſee by order of the Emperor Conſtans: but after the death of that prince, he was again baniſhed by the Emperor Conſtantius, which obliged him to retire into the deſerts. The Arians then elected one George in his room; who being killed in a popular ſedition under Julian, in 360, St. Athanaſius returned to Alexandria, but was again baniſhed under Julian, and reſtored to his ſee under Jovian. He addreſſed to that emperor a letter, in which he propoſed that the Nicene creed ſhould be the ſtandard of the orthodox faith, and condemned thoſe who denied the divinity of the Holy Ghoſt. He was alſo baniſhed by Valen in 367, and afterwards recalled. St. Athanaſius died on the 2d of May, 373.

His works principally contain a defence of the myſtery of the Trinity, and of the incarnation and divinity of the Word and Holy Spirit. There are three editions of his works which are eſteemed; that of Commelin, printed in 1600; that of Peter Nannius, in 1627; and that of Father Montfaucon. As to the creed which bears his name, ſee the church Liturgy.

ATHELNEY, a river-iſland of Somerſetſhire, at the confluence of the Thone and Parret, memorable for having afforded ſhelter, amid its inacceſſible moraſſes, to the illuſtrious King Alfred. Here he collected ſome of his retainers; on which account, he called it Æthelingay, or the Iſle of Nobles; and hence he made frequent and unexpected ſallies upon the Danes.

ATHENÆUS, a phyſician, born in Cilicia, contemporary with Pliny, and founder of the pneumatic ſect. He taught that the fire, air, water, and earth, are not the true elements, but that their qualities are, *viz.* heat, cold, moiſture, and dryneſs; and to theſe he added a fifth element, which he called *ſpirit,* whence his ſect had its name.

ATHENÆUS, a Greek grammarian, born at Naucratis in Egypt, in the 3d century, one of the moſt learned men of his time. Of all his works we have none extant but his Deipnoſophis, i. e. the Sophiſts at Table; there is an infinity of facts

and quotations in this work which render it very agreeable to admirers of antiquity.

There was alſo a mathematician of this name, who wrote a treatiſe onmechanics, which is inſerting in the works of the ancient mathematicians, printed at Paris in 1693, in folio, in Greek and Latin.

ATHENAGORAS, an Athenian philoſopher, flouriſhed about the middle of the 2d century; and was remarkable for his zeal for Chriſtianity, and his great learning, as appears from the apology which he addreſſed to the emperors Marcus Aurelius Antoninus and Lucius Commodus.

ATHENODORUS, a famous ſtoic philoſopher, born at Tarſus, went to the court of Auguſtus, and was made by him tutor to Tiberius. Auguſtus had a great eſteem for him, and found him by experience a man of virtue and probity. He uſed to ſpeak very freely to the emperor. He, before he left the court to return home, warned the emperor not to give himſelf up to anger, but, whenever he ſhould be in a paſſion, to rehearſe the 24 letters of the alphabet before he reſolved to ſay or do any thing. He did not live to ſee his bad ſucceſs in the education of Tiberius.

ATHENOPOLIS, a town of the Maſſilienſes, an ancient nation of Gaul. It is conjectured by Harduin to be the ſame with *Telo Martius*, now *Toulon*; by others to be the ſame with *Antipolis* or *Antibes*.

ATIGNY, an ancient town of Champagne in France, where ſeveral of the kings of France had their reſidence. It is ſeated on the river Arſne, in E. long. 4. 47. N. lat. 49. 30.

ATKINS (Sir Robert), lord chief-baron of the Exchequer, was born in 1621, and educated at the univerſity of Oxford, from whence he removed to the inns of court, and became eminent in the law. He was made knight of the Bath, with many other perſons of the firſt diſtinction, at the coronation of King Charles II. In 1672 he was appointed one of the judges of Common Pleas; in which honourable ſtation he continued till 1679, when forſeeing the troubles that ſoon after enſued, he thought fit to reſign, and retire into the country. In 1689 he was made by King William, lord chief-baron of the Exchequer; and about the ſame time executed the office of ſpeaker to the Houſe of Lords, which had been previouſly refuſed by the Marquis of Halifax. He diſtinguiſhed himſelf by an unſhaken zeal for the laws and liberties of his country. He wrote ſeveral pieces, which have been collected into one volume 8vo, under the title of *Parliamentary and Political Tracts*. The authors of the Biographia Britannica remark, that whoever inclines to be thoroughly informed of the true conſtitution of his country, of the grounds and reaſons of the revolution, and of the danger of ſuffering prerogative to joſtle law, cannot read a better or plainer book than thoſe tracts of Sir Robert Atkins. He died in 1709, aged 88.

ATKINS (Sir Robert), ſon of the preceding, was born in 1646, and was eminent for all the virtues that could adorn an Engliſh gentleman. He wrote the ancient and preſent ſtate of Glouceſter, in one large volume in folio; and died October 29, 1711.

ATKYNS (Richard), was deſcended from a good family, and was born at Tuſſleigh in Glouceſterſhire, in the year 1615. He was educated at Oxford, from whence he removed to Lincoln's Inn, and afterwards diſtinguiſhed himſelf by his loyalty to King Charles I. for whom he raiſed a troop of horſe at his own expence. At the reſtoration he was made one of the deputy lieutenants of Glouceſterſhire, and diſtinguiſhed himſelf by his attachment to the government. But at length being committed priſoner to the Marſhalſea in Southwark for debt, he died there on the 14th of September, 1677. He wrote ſeveral pieces, particularly a treatiſe on the origin of Printing.

ATLAS, king of Mauritania, a great aſtronomer, contemporary with Moſes. From his taking obſervations of the ſtars from a mountain, the poets feigned him to have been turned into a mountain, and to ſuſtain the heavens on his ſhoulders. Being an excellent aſtronomer, and the firſt who taught the doctrine of the ſphere, they tell us that his daughters were turned into ſtars: ſeven of them forming the Pleiades, and other ſeven the Hyades.

ATREUS, in fabulous hiſtory, the ſon of Pelops and Hippodamia, and the father of Agamemnon and Menelaus, is ſuppoſed to have been king of Mycenæ and Argos about 1228 years before the Chriſtian æra. He drove his brother Thyeſtes from court, for having a criminal commerce with Ærope his wife: but underſtanding that he had had two children by her, he ſent for him again, and made him eat them; at which horrid action, the ſun, it is ſaid, withdrew his light.

ATTENTION, is that ſtate of mind which prepares one to receive impreſſions. According to the degree of attention, objects make a ſtronger or weaker impreſſion. Attention is requiſite even to the ſimple act of ſeeing: the eye can take in a conſiderable field at one look; but no object in the field is ſeen diſtinctly, but that ſingly which fixes the attention: in a profound reverie that totally occupies the attention, we ſcarce ſee what is directly before us. In a train of perceptions, no particular object makes ſuch a figure as it would do ſingly and a part; for when the attention is divided among many objects, no particular object is entitled to a large ſhare. Hence, the ſtillneſs of night contributes to terror, there being nothing to divert the attention:

Horror ubique animos, ſimul ipſa ſilentia terrent. *Æneid.* ii.

Zara. Silence and ſolitude are ev'ry-where!
Through all the gloomy ways and iron doors
That hither lead, nor human face nor voice
Is ſeen or heard. A dreadful din was wont
To grate the ſenſe, when enter'd here, from groans
And howls of ſlaves condemn'd, from clink of chains,
And craſh of ruſty bars and creaking hinges;
And ever and anon the ſight was daſh'd
With frightful faces, and the meagre looks
Of grim and ghaſtly executioners.
Yet more this ſtillneſs terrifies my ſoul
Than did that ſcene of complicated horrors.
Mourning Bride, act 5. ſc. 8.

In matters of ſlight importance, attention is moſtly directed by will; and for that reaſon, it is our own fault if trifling objects make any deep impreſſion. Had we power equally to withhold our attention from matters of importance, we might be proof againſt any deep impreſſion. But our power fails us here: an intereſting object ſeizes and fixes the attention beyond the poſſibility of control; and while our attention is thus forcibly attached to one object, others may ſolicit for admittance; but in vain, for they will not be regarded. Thus a ſmall misfortune is ſcarce felt in preſence of a greater:

Lear. Thou think'ſt 'tis much, that this contentious ſtorm
Invades us to the ſkin; ſo 'tis to thee;
But where the greater malady is fix'd,
The leſſer is ſcarce felt. Thou'dſt ſhun a bear;
But if thy flight lay tow'rd the roaring ſea,
Thou'dſt meet the bear i' the mouth. When the mind's free,
The body's delicate: the tempeſt in my mind
Doth from my ſenſes take all feeling elſe,
Save what beats there. *King Lear, act 3. ſc. 5.*

ATTERBURY (Lewis), father of the celebrated Dr. Atterbury, biſhop of Rocheſter, was born about the year 1631. He was the ſon of Francis Atterbury, rector of Middleton-Malſor, or Milton, in Northamptonſhire, who, among other miniſters, ſubſcribed the Solemn League and Covenant, in 1648. Lewis was entered a ſtudent of Chriſt-church, Oxford, in 1647, took the degree of bachelor of arts on the 23d of February, 1649, and was created maſter of arts by virtue of a diſpenſation from Oliver Cromwell the chancellor, March 1, 1651. He was one of thoſe who had ſubmitted to the authority of the viſitors appointed by the parliament. In 1654 he became rector of Great or Broad-Riſſington in Glouceſterſhire; and after the reſtoration, took a preſentation for that benefice under the great ſeal, and was inſtituted again to confirm his title to it. On the 11th of September, 1657, he was admitted rector of Milton, or Middleton Keynes, in Bucks; and at the return of Charles II. took the ſame prudent method to corroborate his title to this living. July 25, 1660, he was made chaplain extraordinary to Henry duke of Glouceſter; and on the 1ſt of December, in the ſame year, was created doctor in divinity. Returning from London, whither the law-ſuits he was frequently involved in had brought him, he had the misfortune to be drowned near his own houſe, in the beginning of December, 1693.

ATTERBURY (Lewis), eldeſt ſon of the preceding, was born at Caldecot, in the pariſh of Newport-Pagnel, in Bucks, on the 2d day of May, 1656. He was educated at Weſtminſter-ſchool under Dr. Buſby, and ſent to Chriſt-church, Oxford, at the age of eighteen. He was ordained deacon in September, 1679, being then bachelor of arts; and prieſt the year following, when alſo he commenced maſter of arts. In 1683 he ſerved the office of chaplain to Sir William Pritchard, lord mayor of London. In February, 1684, he was inſtituted the rector of Symel in Northamptonſhire, which living he afterwards reſigned upon his accepting of other preferments. July 8, 1687, he accumulated the degrees of bachelor and doctor of civil-law. In 1691 we find him lecturer of St. Mary Hill in London. Soon after his marriage he ſettled at Highgate, where he ſupplied the pulpit of the reverend Mr. Daniel Lathom, who was very old and infirm, and had loſt his ſight: and, upon the death of this gentleman, was, in June 1695, elected by the truſtees of Highgate chapel to be their preacher. He had a little before been appointed one of the ſix preaching chaplains to the Princeſs Anne of Denmark, at Whitchall and St. James's, which place he continued to ſupply after ſhe came to the crown, and likewiſe during part of the reign of George I. When he firſt reſided at Highgate, obſerving what difficulties the poor in the neighbourhood underwent for want of a good phyſician or apothecary, he ſet himſelf to the ſtudy of phyſic: and after acquiring conſiderable ſkill, practiſed it gratis occaſionally among his poor neighbours. In 1707 the queen preſented him to the rectory of Shepperton in Middleſex; and in March 1719 the Biſhop of London collated him to the rectory of Hornſey, which was the more agreeable to him, becauſe the chapel of Highgate being ſituate in that pariſh, many of his conſtant hearers became now his pariſhioners.

In 1720, on a report of the death of Dr. Sprat, archdeacon of Rocheſter, he applied to his brother, in whoſe gift this preferment was, to be appointed to ſucceed him: but the biſhop refuſed.

Dr. Lewis Atterbury died at Bath, whither he went for a paralytic diſorder, October 20th, 1731. He publiſhed in his life-time two volumes of ſermons, and four occaſional ones, beſides ſome other pieces. In his will he gave ſome few books to the libraries of Bedford and Newport, and his whole collection of pamphlets, amounting to upwards of two hundred volumes, to the library of Chriſt-church, Oxford. He charged his eſtate for ever with the payment of ten pounds yearly to a ſchool-miſtreſs to inſtruct girls at Newport-Pagnel, which ſalary he had himſelf in his life-time paid for many years.

ATTICUS (Titus Pomponius), one of the moſt honourable men of ancient Rome. He underſtood the art of managing himſelf with ſuch addreſs, that, without leaving his ſtate of neutrality, he preſerved the eſteem and affection of all parties. His ſtrict friendſhip with Cicero did not hinder him from having great intimacy with Hortenſius. The conteſts at Rome between Cinna's party and that of Marius induced him to go to Athens, where he continued for a long time. He was very fond of polite learning, and kept at his houſe ſeveral librarians and readers. He might have obtained the moſt conſiderable poſts in the government; but choſe rather not to meddle, becauſe in the corruption and faction which then prevailed he could not diſcharge them according to the laws. He wrote Annals. He married his daughter to Agrippa; and attained to the age of 77.

ATTILA, king of the Huns, ſurnamed *the ſcourge of God*, lived in the 5th century. He may be ranked among the greateſt conquerors, ſince there was ſcarcely any province in Europe which did not feel the weight of his victorious arms. See HUNS

ATTOCK, a city and fortreſs of Hindooſtan Proper, on the E. bank of the Indus; ſuppoſed to ſtand on the ſite of the Taxila of Alexander, where he croſſed that river. It was built by the Emperor Acbar, in 1581; and is 180 miles N.W. of Lahore. Long. 70. 36. E. Lat. 32. 27. N.

ATTOCK, a river, which riſes in the Tartarian mountains, N. of Hindooſtan, and paſſing by Cabul, flows into the Indus, above Attock.

ATURÆ, an ancient town in the diſtrict of Novempopulana in Aquitania, on the river Aturus; now Aire in Gaſcony, on the Adour. E. long. 0. 3. N. lat. 43. 40.

AVA, a large river of Aſia, which riſes in Thibet, and croſſing the kingdoms of Burmah and Pegu, falls into the bay of Bengal, by ſeveral mouths.

AVA (*Encycl.*), a kingdom Aſia, in the peninſula beyond the Ganges. The king is very powerful, his dominions being bounded by Mogulſtan on the weſt, Siam on the ſouth, Tonquin and Cochin-China on the eaſt, and by Tibet and China on the north. Several large rivers run through this country, which annually overflow their banks like the Nile, and thus render it extremely fertile. Here are mines of lead and copper, together with ſome of gold and ſilver, beſides large quantities of the fineſt oriental rubies, ſapphires, emeralds, &c.

AVA, the metropolis of the kingdom of the ſame name, is ſituated in E. long. 96. 30. N. lat. 21. 0. It is pretty large; the houſes built with timber or bamboo canes, with thatched roofs, and floors made of teak plank or ſplit bamboo. The ſtreets are very ſtraight, with rows of trees planted on each ſide. The king's palace is an exact quadrangle, each ſide of which is 800 paces, and is ſurrounded with a brick wall; but the palace itſelf is of ſtone. It has four gates; the golden gate, through which all ambaſſadors enter; the gate of juſtice, through which the people bring petitions, accuſations, or complaints; the gate of grace, through which thoſe paſs who have received any favours, or have been acquitted of crimes laid to their charge; and the gate of ſtate, through which his majeſty himſelf paſſes when he ſhews himſelf to the people.

AVARICUM, an ancient town of the Bituriges in Gallia Celtica, ſituated on the rivulet Avara, in a very fertile ſoil (Cæſar). Now Bourges in Berry. E. long. 2. 30. N. lat. 47. 10.

AUBE, a department of France, containing part of the

late province of Champagne. It takes its name from a conſiderable river, which paſſing by Bar-ſur-Aube, and Arcis falls into the Seine near Nogent.

AUBIGNE (Theodore Agrippa d'), a very illuſtrious Frenchman, and grandfather of the no leſs illuſtrious madam de Maintenon, was born about the year 1550. His parts were ſo uncommon, and his progreſs in letters ſo very rapid, that he is ſaid to have tranſlated the "Crito" of Plato from the Greek into French, when no more than eight years old. His father dying when he was thirteen, and leaving him nothing but his name and his debts, he attached himſelf to the perſon and cauſe of King Henry IV. imagining that his ſword would provide for him better than his pen. Henry made him gentleman of his bedchamber, and raiſed him ſucceſſively to ſeveral high offices and commands; and Aubigné was abſolutely a favourite with him: but he loſt at length his favour, partly by refuſing to comply with the paſſions of his maſter, but chiefly by a certain hardneſs and inflexibility of temper, which is not agreeable to any body, but is particularly diſguſting to kings, and all who think that ſome homage is due to ſuperiority of ſtation. He quitted therefore the court of Henry, and afterwards the kingdom, and took refuge at Geneva, where he met with the moſt welcome reception, and was diſtinguiſhed with the higheſt honours. Here he ſpent a good portion of his time in writing, and is the author of ſeveral productions. His principal work is Hiſtoire Univerſelle, from 1550 to 1601, with a ſhort account of the death of Henry IV. in three volumes folio. The firſt volume was ſcarcely publiſhed, when the parliament of Paris cauſed it to be burnt, as a production wherein kings are not only treated with little reſpect, but ſometimes outraged. Aubigné died at Geneva in 1630, aged eighty.

AUBIN, a town of the iſland of Jerſey. It has a good harbour defended by a fort.

AUCKLAND, Bishop's, a town in the biſhopric of Durham, with a market on Thurſday. It is pleaſantly ſeated on the ſide of a hill, and noted for its caſtle, beautifully repaired about one hundred years ago; for its chapel, whoſe architecture is very curious; and for its bridge. It is eight miles S. by W. of Durham, and 251 N.N.W. of London. Long. 1. 31. W. Lat. 54 43. N.

AUDE, a department of France, part of the late province of Languedoc. It receives its name from a river, which riſes in the Pyrenées, and flowing by Quillan and Limoux, falls into the Mediterranean below Narbonne.

AUDEUS, the chief of the Audeans, obtained the name of an heretic, and the puniſhment of baniſhment, for celebrating Eaſter in the manner of the Jews, and attributing an human form to the Deity. He died in the country of the Goths, about the year 370.

AUDLEY (James), Lord Audley, of Heleigh, in the county of Stafford, was born about the year 1314, being the 7th of Edward II. By the ſpecial favour of Edward III. he had livery of all the lands of his inheritance, in the third year of that prince's reign, though he was not then of full age. This prince ſoon after did him a great favour: Roger Mortimer, earl of March, who was this lord's guardian, had in his minority exacted from him a recognizance for ten thouſand marks, which debt, on the attainder of Mortimer, becoming due to the king, he totally diſcharged Lord Audley therefrom. In 1343 the ſame prince made him governor of Berwick-upon-Tweed, and the two next years he ſerved in France. In 1348 he was elected into the noble order of the Garter, then firſt founded, and in 1353 he reduced a great part of the country of Valois. In 1356, and thirtieth of Edward III. he was preſent at the famous battle of Poictiers; where, having demanded of the Black Prince leave to charge in the front, it was, on account of a vow he had made, given him. There, with four eſquires who attended him, he performed ſuch extraordinary feats of arms, as diſtinguiſhed him from all the gallant noblemen who that day engaged. At length, however, he was ſo grievouſly wounded, that his eſquires were conſtrained to bear him out of the field of battle. In 1390 he attended King Edward III. and his three ſons, in their wars in France; and in the year following, ſwore to the peace then concluded in the name of King Edward. For theſe ſervices he was appointed conſtable of the caſtle of Glouceſter for life; and was alſo governor of Aquitain, and ſeneſchal of Poicton. He died April 1, 1386.

AUDLEY (Edmund), ſon of James lord Audley, was educated in Lincoln College, in Oxford, and in the year 1463 took the degree of bachelor of arts in that univerſity. In 1471 he became prebendary of Farendon, in the church of Lincoln; and in October 1475 attained the like preferment in the church of Wells. On Chriſtmas-day, the ſame year, he became archdeacon of the Eaſt Riding of Yorkſhire, and had other conſiderable preferments. Theſe preferments he quitted, on his being promoted to the biſhopric of Rocheſter, in 1480, being the twentieth of Edward IV. in which ſee he ſucceeded John Ruſſel, who was tranſlated into Lincoln, and who was tutor to Edward prince of Wales. In 1492, being the eighth of Henry VII. our Biſhop Audley was tranſlated to Hereford, and thence, in 1502, being the eighteenth of the ſame king, to Saliſbury, and about that time was made chancellor of the moſt noble order of the Garter. He was a man of learning, and of a generous ſpirit. In 1518, he gave four hundred pounds to Lincoln College, to purchaſe lands; and beſtowed upon the ſame houſe the patronage of a chantry, which he had founded in the cathedral church of Saliſbury. He was a benefactor, likewiſe, to St. Mary's church, in Oxford. He died Auguſt 23, 1524.

AUDLEY (Sir Thomas), was deſcended of an ancient and honourable family in Eſſex, and born in 1488. He had the advantage of an univerſity education, and afterwards ſtudied the law in one of the inns of court. In 1526 he was autumn-reader of the Inner-Temple. On the recommendation of the Duke of Suffolk, the king took notice of him, and finding him to be a man of great parts and good addreſs, procured him to be choſen ſpeaker of that parliament which met on the 3d of November, 1529. Audley's conduct on this ſtation, fully anſwered the king's expectations. The next year he was made attorney of the duchy of Lancaſter; and May 20, 1532, upon the reſignation of Sir Thomas More, the king delivered to him the great ſeal, with the title of lord-keeper, and at the ſame time conferred on him the honour of knighthood. In January following the king appointed him lord-chancellor; and ſoon after granted him the ſcite of the priory of Chriſt-church, near Aldgate, now called Duke's-Place, with all the church plate and lands belonging to that houſe. In this high office he was as diligent in the king's buſineſs, as he had been when ſpeaker of the Houſe of Commons; for in July 1535 he ſat in judgment, and pronounced ſentence of death, upon Sir Thomas More, indicted of high treaſon, for refuſing to acknowledge the king's ſupremacy in the church. When ſentence was paſt, Sir Thomas ſaid, that he had for ſeven years bent his mind and ſtudy upon this cauſe, but as yet he found it no where writ, by any approved doctor of the church, that a layman could be head of the eccleſiaſtical ſtate. To which Audley returned, "Sir, will you be reckoned wiſer, or of a better conſcience, than all the biſhops, the nobility, and the whole kingdom?"

On the 29th of November, 1538, he was created Baron Audley, of Walden in Eſſex, and inſtalled knight of the Garter. A little before his death, he obtained from the king a licence to change the name of Buckingham College, in Cambridge, into that of Magdalen, or Maudlin. To this college he was a great benefactor, beſtowed on it his own arms, and is generally reputed its founder. He died on the laſt of April, 1544, having held the ſeals upwards of twelve years, and in the fifty-ſixth year of his life.

AVEIRON, a department of France, including the late province of Rouergue. It is named from a river, which riſes near Severac-le-Chateau, and flowing by Rhodez and Villefranche, falls into the Garonne, below Montauban.

AVELLINO, a city in Italy, in the kingdom of Naples, with a biſhop's ſee. It was almoſt ruined by an earthquake in 1694. E. long. 15. 13. N. lat. 40. 53.

AVENACEOUS, ſomething belonging to or partaking of the nature of oats.

AVENIO, an ancient town of the Cavares, and one of the moſt opulent in Gallia Narbonenſis; now *Avignon*, in Provence. See AVIGNON.

AVENTINE (John), author of the annals of Bavaria, was born of mean parentage, in the year 1466, at Abenſperg, in the country juſt named. He ſtudied firſt at Ingolſtadt, and afterwards in the univerſity of Paris. In 1503 he privately taught eloquence and poetry at Vienna; and in 1507 he publicly taught Greek at Cracow in Poland. In 1509 he read lectures on ſome of Cicero's pieces at Ingolſtadt; and in 1512 was appointed to be preceptor to Prince Lewis and Prince Erneſt, ſons of Albert the Wiſe, duke of Bavaria; and travelled with the latter of thoſe two princes. After this he undertook to write the annals of Bavaria, being encouraged by the dukes of that name, who ſettled a penſion upon him, and gave him hopes that they would defray the charges of the book. This work, which gained its author great reputation, was firſt publiſhed in 1554, by Jerome Zieglerus, profeſſor of poetry in the univerſity of Ingolſtadt; and afterwards at Baſil in 1580, by Nicholas Ciſner. An affront which Aventine received in the year 1529, ſtuck by him all the reſt of his life: he was forcibly taken out of his ſiſter's houſe at Abenſperg, and hurried to a gaol; the true cauſe of which violence was never known: but it would probably have been carried to a much greater length, had not the Duke of Bavaria interpoſed, and taken this learned man into his protection. Mr. Bayle remarks, that the incurable melancholy which from this time poſſeſſed Aventine, was ſo far from determining him to lead a life of celibacy, as he had done till he was 64, that it induced him perhaps to think of marrying. The violence of his new paſſion was not however ſo great, but that it ſuffered him to adviſe with two of his friends, and conſult certain paſſages of the bible relating to marriage. The reſult was, that it was beſt for him to marry; and having already loſt too much time, conſidering his age, he took the firſt woman he met with, who happened to be his own maid, ill-tempered, ugly, and extremely poor. He died the 9th of January, 1534, aged 68; leaving one daughter, who was then but two months old. He had a ſon, who died before.

AVERNO (*Encycl.*), alſo called AVERNUS. See AVERNUS.

AVERRHOA (*Encycl.*). Correct an obvious botanical miſtake in that article; the *claſs* being put for the *order*, and vice verſa.

AVERROES, an Arabian philoſopher, was a native of Corduba, and flouriſhed in the twelfth century. He was inſtructed in the laws and the religion of the country by his father, who was high prieſt and chief judge (under the emperor of Morocco) of the kingdom of Corduba, his authority extending over all Andaluſia and Valencia. Averroes was profeſſor in the univerſity of Morocco, and after the death of his father ſucceeded to his places, the duties whereof he diſcharged with great approbation, being eminently ſkilled in law and divinity. He had alſo ſtudied natural philoſophy, medicine, aſtrology, and mathematics; but underſtood the theory of medicine much better than the practice. The king of Morocco making him an offer of the place of judge of Morocco and Mauritania, with leave to keep thoſe he held at Corduba, he accepted it, went over to Morocco, and having ſettled judges as his ſubdelegates, returned to Corduba.

He referred all criminal cauſes to his deputy, never giving his own opinion. One Abraham Ibnu Sahal, a philoſopher, phyſician, and aſtrologer, at Corduba, in an unlucky hour fell in love, and began to write verſes, without any regard to his character as a doctor. The Jews, his brethren in religion, adviſing him not to publiſh them, he returned them a profane anſwer in verſe. This obliged them to apply to the civil magiſtrate. They repreſented to Averroes, that Sahal had debauched the whole city, and eſpecially the youth of both ſexes, by his poems; and that nothing elſe was ſung at the marriage feaſts. Averroes forbad him to write any more, under a penalty; but being afterwards informed that his prohibition could not ſtop the poetical humour of the Jew, he reſolved to be aſſured of the truth of it, and ſent to him a truſty perſon, who reported at his return, that he found nobody at his houſe but Averroes's eldeſt ſon, writing verſes; and that there was neither man, woman, nor child, at Corduba, who had not got by heart Abraham Ibnu Sahal's verſes. Upon this Averroes dropped the proſecution, ſaying, "Can one ſingle hand ſtop a thouſand mouths?"

Surpriſing things are related of his patience, liberality, and meekneſs. Once, when he was reading a lecture in the civil law, the ſervant of one of his enemies came and whiſpered ſomething in his ear: Averroes changed countenance, and anſwered only, "Yes, yes." The next day the ſame ſervant returned, and publicly aſked pardon, confeſſing that he had ſaid a rude thing to Averroes the day before, when he whiſpered him in the ear. "God bleſs you," replied Averroes, "for declaring that I am endued with patience." He gave him afterwards a ſum of money, and bid him not to do to others as he had done to him. Though Averroes was rich both by marriage and his poſts, he was always in debt, becauſe he was very liberal to men of letters in neceſſity, whether they were his friends or enemies. He would not conſent to his youngeſt ſon's accepting of the honours offered him at the court of Morocco; and was ſo far from ſhewing any peculiar ſatisfaction at the deference paid to this young man, which was intended to do a pleaſure to his father, that he was abſolutely uneaſy at it. He explained Ariſtotle's doctrine of the unity of the intellect in ſuch a manner, as to overturn the immortality of the ſoul, and conſequently future rewards and puniſhments. Obſerving the people to eat the ſacrament they had juſt worſhipped, "Let my ſoul," ſaid he, "be with thoſe of the philoſophers, ſince the Chriſtians worſhip what they eat." His good qualities did not hinder him from having a great many enemies among the nobility and doctors of Corduba; who repreſenting to Manſor king of Morocco that the philoſophical tenets he had maintained in a lecture to his pupils were groſs hereſy, that prince fell into a paſſion, ordered his eſtate to be confiſcated, and confined him to the Jews' quarter. After this, Averroes being pelted with ſtones by the children as he went to moſque to perform his devotions, removed from Corduba to Fez, and lay concealed there for ſome days; but being diſcovered, was ſent to gaol. Manſor aſſembled a great many doctors in divinity and law, to conſider what puniſhment he deſerved.

The greateſt part of them replied, that as an heretic, he merited capital puniſhment; but others were of opinion, that a man of his eminence ought not to be put to death, but be obliged to retract. Manſor approving of this advice, our philoſopher was conducted, one Friday, at the hour of prayer, to the gate of the moſque, and placed bare-headed upon the higheſt ſtep, and all who entered into the moſque ſpat in his face. Prayers being ended, the doctors, with notaries, and the judge with his aſſeſſors, came thither, and aſked this unhappy man, whether he repented of his hereſy? He anſwered, "Yes;" upon which he was diſcharged. He ſtaid at Fez, and read lectures in law. Some time after, Manſor gave him leave to return to Corduba, where he lived very unhappily, being deprived of his eſtate and books. In the mean time, the judge who had ſucceeded him, behaved in ſuch a manner, and juſtice was ſo badly adminiſtered, that the people groaned under heavy oppreſſion: wherefore Manſor aſſembled his council, and propoſed the reſtoring of Averroes. This motion being approved of by the majority, Averroes was brought back to Morocco, and inveſted with his former office. Being aſked in what ſituation his mind was whilſt under proſecution, "I was pleaſed," ſaid he, "and diſpleaſed. I was glad to be diſcharged from the troubleſome office of a judge, but I was uneaſy to be oppreſſed by falſe witneſſes. I did not wiſh to be reſtored to my poſt as a magiſtrate, and have not accepted it again till my innocence has been made to appear."

He died at Morocco in 1206. He was exceſſively fat, though he ate but once a day. He ſpent all his nights in the ſtudy of philoſophy; and when he was fatigued, amuſed himſelf with reading poetry or hiſtory. Of Averroes's medicinal works himſelf gives the following account in the preface to them: "At the deſire of the noble lord Audelach Sempſe, who by the advice of his philoſophers, Avoſait and Avenchlit, enjoined me to write a book in Arabic, which ſhould contain the whole art of phyſic, in order to aſſiſt them in forming a judgment of the opinions of the ancients, I compiled this work Colliget, that is, Univerſal; ſo entitled on account of the order to be obſerved in this ſcience, which deſcends from univerſals to particulars: for in this book I have begun with general rules, and hereafter, with God's aſſiſtance, ſhall undertake another treatiſe upon particulars," &c. He wrote a great many amorous verſes, but when he grew old he caſt them into the fire. His other poems are all loſt, except a ſmall piece, in which he declares that when he was young he acted againſt his reaſon, but that when he was in years he followed the dictates of it: upon which he utters this wiſh; "Would to God I had been born old, and that in my youth I had been in a ſtate of perfection."

AVESBURY (Robert), an Engliſh hiſtorian, of whom little more is known, than that he was keeper of the regiſtry of the Court of Canterbury in the reign of Edward III. and conſequently that he lived in the 14th century. He wrote *Memorabilia geſta magnifici regis Angliæ domini Edwardi tertii poſt conqueſtum, proceruinque; tactis primitus quibuſdam geſtis de tempore patris ſui domini Edwardi ſecundi, quæ in regnis Angliæ, Scotiæ, et Franciæ, ac in Aquitannia et Britannia, non humana ſed Dei potentia, contigerunt, per Robertum de Aveſbury.* This hiſtory ends with the battle of Poictiers, about the year 1356. It continued in manuſcript till the year 1720, when it was printed by the induſtrious Thomas Hearne, at Oxford, from a manuſcript belonging to Sir Thomas Seabright. It is now become very ſcarce.

AUGUSTA *Auſciorum*, a town of Aquitania, ſo named out of compliment to Auguſtus, being originally called *Climberrum*, which name it afterwards reſumed. In the middle age, it took the name of the people, *Auſci*; and is now called *Auch*, the capital of Gaſcony.

AUGUSTA *Emerita*, a town of Luſitania on the river Anas, the capital of the province; a colony of the Emeriti, or ſuch ſoldiers as had ſerved out their legal time, were men of experience, or had received marks of favour. The colony was founded by Auguſtus; and is now called *Merida*, a city of Spain, in Eſtremadura, on the river Guadiana. See MERIDAN.

AUGUSTA *Prætoria*, a town and colony of Gallia Ciſalpina, and capital of the Salaſſii; ſeated at the foot of the Alps Graiæ on the Duria. Now *Aouſte* in Piedmont. See AOUSTE.

AUGUSTA *Rauracorum*, a town of Gallia Belgica: now a ſmall village called *Auguſt*, at the bend of the Rhine northwards, but from the ruins, which are ſtill to be ſeen, appears to have been a conſiderable colony, at the diſtance of ſix miles from Baſil to the Eaſt.

AUGUSTA *Sueſſonum*, a town of Gallia Belgica on the Axona; ſo called from Auguſtus, and with great probability ſuppoſed to be the Noviodunum Sueſſonum of Cæſar.—Now *Soiſſons*, on the river Aiſne, in the Iſle of France. See SOISSONS.

AUGUSTA *Taurinorum*, a town of the Taurini, at the foot of the Alps, where the Duria Minor falls into the Po; now *Turin*, the capital of Piedmont.

AUGUSTA *Tieba*, a town of the Æqui, near the ſprings of the river Anio, in Italy; now *Trevi* in Umbria, or in the eaſt of the Campagna di Roma.

AUGUSTA *Trevirorum*, a town of the Treviri, a people inhabiting between the Rhine and the Meuſe, but eſpecially about the Moſelle; now *Trier*, or *Treves*, in the circle of the Lower Rhine on the Moſelle.

AUGUSTA *Vindelicorum*, a town of the Licates on the Licus; called by Tacitus a noble colony of *Rhætia*; now *Augſburg*, the capital of Suabia.

AUGUSTIN, or AUSTIN (St.), the firſt archbiſhop of Canterbury, was originally a monk in the convent of St. Andrew, at Rome, and educated under St. Gregory, afterwards Pope Gregory I. by whom he was diſpatched into Britain with 40 other monks of the ſame order, about the year 596, to convert the Engliſh Saxons to Chriſtianity.—They landed in the iſle of Thanet; and having ſent ſome French interpreters to King Ethelbert, with an account of their errand, the king gave them leave to convert as many of his ſubjects as they could, and aſſigned their place of reſidence at Dorovernum, ſince called *Canterbury*; to which they were confined till the king himſelf was converted, whoſe example had a powerful influence in promoting the converſion of his ſubjects; but though he was extremely pleaſed at their becoming Chriſtians, he never attempted to compel them. He diſpatched a prieſt and a monk to Rome, to acquaint the pope with the ſucceſs of his miſſion, and to deſire his reſolution of certain queſtions. Theſe men brought back with them a pall, and ſeveral books, veſtments, utenſils, and ornaments for the churches. His holineſs, by the ſame meſſengers, gave Auguſtin directions concerning the ſettling of epiſcopal ſees in Britain; and ordered him not to pull down the idol-temples, but to convert them into Chriſtian churches; only deſtroying the idols, and ſprinkling the place with holy water, that the natives, by frequenting the temples they had been always accuſtomed to, might be the leſs ſhocked at their entrance into Chriſtianity. Auguſtin reſided principally at Canterbury, which thus became the metropolitan church of England; and having eſtabliſhed biſhops in ſeveral of the cities, he died on the 26th of May, 607. The Popiſh writers aſcribe ſeveral miracles to him. The obſervation of the feſtival of St. Auguſtin was firſt injoined in a ſynod held under Cuthbert archbiſhop of Canterbury, and afterwards by the pope's bull, in the reign of King Edward III.

AUGUSTINE (St.), an illuſtrious father of the church, was born at Thagaſte, a city of Numidia, on the 13th of November, 354. His father, a burgeſs of that city, was called *Patricius;* and his mother *Monica*, who, being a woman of great virtue, inſtructed him in the principles of the Chriſtian religion. In his early youth he was in the rank of the catechumens; and falling dangerouſly ill, earneſtly deſired to be baptized; but the violence of the diſtemper ceaſing, his baptiſm was delayed. His father, who was not yet baptized, made him ſtudy at Thagaſte, Madaura, and afterwards at Carthage. Auguſtine, having read Cicero's books of philoſophy, began to entertain a love for wiſdom, and applied himſelf to the ſtudy of the holy ſcriptures; nevertheleſs, he ſuffered himſelf to be ſeduced by the Manicheans. At the age of 19, he returned to Thagaſte, and taught grammar, and alſo frequented the bar: he afterwards taught rhetoric at Carthage with applauſe. The inſolence of the ſcholars at Carthage made him take a reſolution to go to Rome, though againſt his mother's will. Here alſo he had many ſcholars; but diſliking them, he quitted Rome, and ſettled at Milan, and was choſen public profeſſor of rhetoric in that city. Here he had opportunities of hearing the ſermons of St. Ambroſe, which, together with the ſtudy of St. Paul's epiſtles, and the converſion of two of his friends, determined him to retract his errors, and quit the ſect of the Manicheans: this was in the 32d year of his age. In the vacation of the year 386 he retired to the houſe of a friend of his, named *Verecundus*, where he ſeriouſly applied himſelf to the ſtudy of the Chriſtian religion, in order to prepare himſelf for baptiſm, which he received at Eaſter, in the year 387. Soon after this, his mother came to ſee him at Milan, and invite him back to Carthage; but at Oſtia, whither he went to embark in order to his return, ſhe died. He arrived in Africa about the end of the year 388; and having obtained a garden-plot without the walls of the city of Hippo, he aſſociated himſelf with eleven other perſons of eminent ſanctity, who diſtinguiſhed themſelves by wearing leathern girdles, and lived there in a monaſtic way for the ſpace of three years, exerciſing themſelves in faſting, prayer, ſtudy, and meditation, day and night: from hence ſprung up the Auguſtine friars, or eremites of St. Auguſtine, being the firſt order of mendicants; thoſe of St. Jerome, the Carmelites, and others, being but branches of this of St. Auguſtine.—About this time, or before, Valerius biſhop of Hippo, againſt his will, ordained him prieſt: nevertheleſs, he continued to reſide in his little monaſtery, with his brethren, who, renouncing all property, poſſeſſed their goods in common. Valerius, who had appointed St. Auguſtine to preach in his place, allowed him to do it in his preſence, contrary to the cuſtom of the churches in Africa. He explained the creed, in a general council of Africa, held in 393. Two years after, Valerius, fearing he might be preferred to be biſhop of another church, appointed him his coadjutor or colleague, and cauſed him to be ordained biſhop of Hippo, by Megalus biſhop of Calame, then primate of Numidia. St. Auguſtine died the 28th day of Auguſt, 430, aged 76 years, having had the misfortune to ſee his country invaded by the Vandals, and the city where he was biſhop beſieged for ſeven months.

The works of St. Auguſtine make ten volumes; the beſt edition of them is that of Maurin, printed at Antwerp, in 1700. They are but little read at this time, except by the clergy of the Greek church, and in the Spaniſh univerſities. The bookſellers of London receive frequent commiſſions for them, and indeed for the moſt of the fathers, from Ruſſia, and alſo from Spain.

AUGUSTOBONA, a city of the Tricaſſers in ancient Gaul, from whom it was afterwards called *Tricaſſes*, and *Trecaſſæ;* and ſtill farther corrupted to *Tracæ*, or *Treci;* whence the modern name *Troyes*, in Champagne on the Seyne. See TROYES.

AUGUSTODUNUM, the capital of the Ædui, where there was a famous academy or ſchool for the education of youth; now Auſtun, or *Autun*, in the duchy of Burgundy, on the Arroux. See AUTUN.

AUGUSTOMAGUS, an ancient town of Gallia Belgica; now *Sentis* in the Iſle of France. E. long. 2. 30. N. lat. 49. 10.

AUGUSTUS (Caius Julius Cæſar Octavianus), the nephew of Julius Cæſar, was born at Rome 63 years before Jeſus Chriſt. When he underſtood that his uncle had adopted him for his heir, he went to Italy and attached himſelf to his party. He quarrelled with M. Antonius; but afterwards entering into a treaty with him and Lepidus, theſe three formed the ſecond triumvirate, agreed to a proſcription of their reſpective enemies, and divided the empire among them. Lepidus being abandoned by his army, was ſent into exile; and Antonius being reduced to deſtroy himſelf, Octavius aſſumed the title of Emperor, and the appellation of *Auguſtus*. He was cruel in his triumvirate, but ſeemed to have adopted new virtues with his imperial dignity; ſince he now appeared juſt, affable, moderate, and liberal: he maintained peace; advanced men of merit; and patroniſed arts and ſciences, which under his reign were brought to the greateſt perfection. He died at the age of 75. See ROME.

AVICENNA, a celebrated philoſopher and phyſician among the Mohammedans, was born in the year 980. By the time he was ten years old, he had learned the Koran, and made a great progreſs in claſſical literature. He was next ſent to a man who dealt in herbs, and was ſkilled in the Indian method of accounts, to learn arithmetic. After this, the rudiments of logic and the firſt five or ſix propoſitions of Euclid were explained to him by a private tutor. He went through the reſt of Euclid by himſelf, conſulting the commentaries: when he entered on the Almageſt, his tutor left him. He next applied himſelf to the ſtudy of phyſic, and to gain experience, viſited patients, being then about ſixteen. The following year and a half he employed with incredible application in reading; and when any difficulty occurred, he had recourſe to Heaven. Having attained to a perfect knowledge of logic, natural philoſophy, and mathematics, he proceeded to divinity, and as a proper preparation for this ſtudy, he was deſirous to make himſelf maſter of Ariſtotle's Metaphyſics; but having read the book over forty times, and even got it by heart, without being able to comprehend the author's meaning, he laid it by as unintelligible. —One day whilſt he was in a bookſeller's ſhop, a broker offered him a book of metaphyſics to ſell, which he rejected with ſcorn, ſaying it was an uſeleſs ſcience: the broker, however, telling him he might have it cheap, the owner being under the neceſſity of ſelling it, he purchaſed it. The book proved to be a treatiſe of Al Farabius, "concerning the objects of metaphyſics;" which Avicenna had no ſooner run over, than he plainly perceived the ſenſe of Ariſtotle, whoſe words he retained in his memory, and out of joy gave a conſiderable alms to the poor. Having recovered the King of Khoraſan, who during a fit of illneſs had ſent for Avicenna, though a very young man, that prince kept him near his perſon, and allowed him free acceſs to his large and valuable library; which happening to be burnt ſoon after, Avicenna's enemies accuſed him of having ſet it on fire, that nobody elſe might enjoy the fame advantage, and that what he had learned there might be taken for his own.

A very remarkable ſtory is told of Avicenna's ſagacity. When he was at Jorgân Kabûs, the ſovereign of the country ſent for him to viſit his nephew, who was confined to his bed by a diſorder, which baffled all the phyſicians of that country. Avicenna, having felt the young man's pulſe and ſeen his urine, judged his illneſs to proceed from concealed love. He ſent for the chief eunuch of the palace, and whilſt he kept his finger on the patient's pulſe, deſired him to call over the names of the ſeveral apartments: obſerving great emotions in the ſick man at the naming of one particular apartment, he made the eunuch name all the women in that apartment; and finding his patient's pulſe to beat extremely high at the mention of one perſon, he no longer doubted but that ſhe was the object of his paſſion, and declared that his cure was only to be expected from the enjoyment of that lady. Avicenna died in the year 1036. He had a good conſtitution, which he greatly impaired by a too free uſe of women and wine. The number of his books, including his ſmaller tracts, is computed at near 100, the greateſt part of which is either loſt, or not known in Europe.

AVILES, a town of Spain, in the principality of Aſturias, on the bay of Biſcay, 25 miles N. of Oveido. Long. 6. 5. W. Lat. 43. 27. N.

AVISON (Charles), organiſt of Newcaſtle, and a diſciple of Geminiani, was the author of an eſſay on muſical expreſſion, publiſhed in the year 1752, in which are ſome judicious reflections on muſic in general, but his diviſion of the modern authors into claſſes is rather fanciful than juſt. Throughout his book he celebrates Marcello and Geminiani; the latter frequently in prejudice to Mr. Handel. In the year 1753 came out remarks on Mr. Aviſon's eſſay on muſical expreſſion, the author whereof firſt points out ſundry errors againſt the rules of compoſition in the works of Aviſon. In the ſame year Aviſon republiſhed his eſſay, with a reply to the author of the remarks; and a letter, containing a number of looſe particulars relating to muſic collected in a courſe of various reading, unqueſtionably written by Dr. Jortin. Aviſon promoted and aſſiſted in the publication of Marcello's muſic to the pſalms adapted to Engliſh words. Of his own compoſition there are extant five collections of concertos for violins, forty-four in number; and two ſets of ſonatas for the harpſichord and two violins, a ſpecies of compoſition little known in England till his time. The muſic of Aviſon is light and elegant, but it wants originality; a neceſſary conſequence of his too cloſe attachment to the ſtyle of Geminiani, which in a few particulars only he was able to imitate. *Hawkins's Hiſt. of Muſic.*

AUNGERVYLE (Richard), commonly known by the name of *Richard de Bury*, was born in 1281, at St. Edmund's Bury, in Suffolk, and educated at the univerſity of Oxford. —After this he entered into the order of Benedictine monks, and became tutor to Edward prince of Wales, afterwards King Edward III. Upon the acceſſion of his royal pupil to the throne he was appointed cofferer, then treaſurer of the wardrobe, archdeacon of Northampton, prebendary of Lincoln, Sarum, and Litchfield, keeper of the privy ſeal, dean of Wells, and laſt of all was promoted to the biſhopric of Durham. He likewiſe enjoyed the offices of lord high-chancellor, and treaſurer of England; and diſcharged two important embaſſies at the court of France. Learned himſelf, and a patron of the learned, he maintained a correſpondence with ſome of the greateſt geniuſes of the age, particularly with the celebrated Italian poet Petrarch. He was alſo of a moſt humane and benevolent temper, and performed many ſignal acts of charity. Every week he made eight quarters of wheat into bread, and gave it to the poor. Whenever he travelled between Durham and Newcaſtle, he diſtributed eight pounds ſterling in alms; between Durham and Stockton, five pounds; between Durham and Aukland, five marks; and between Durham and Middleham, five pounds. He founded a public library at Oxford, for the uſe of the ſtudents, which he furniſhed with the beſt collection of books then in England; and appointed five keepers, to whom he granted yearly ſalaries. At the diſſolution of religious houſes in the reign of Henry VIII. Durham College, where he fixed the library, being diſſolved among the reſt, ſome of the books were removed to the public library, ſome to Baliol College, and ſome came into the hands of Dr. George Owen, a phyſician of Godſtow, who bought that college of King Edward VI. Biſhop Aungervyle died at his manor of Aukland, April 24, 1345, and was buried in the ſouth part of the croſs iſle of the cathedral church of Durham, to which he had been a benefactor. He wrote, 1. *Philobiblos*, containing directions for the management of his library at Oxford, and a great deal in praiſe of learning, in bad Latin. 2. *Epiſtolæ familiarium*; ſome of which are written to the famous Petrarch. 3. *Orationes ad principes*; mentioned by Bale and Pitts.

AVON, a river which riſes in Wilts, coaſts the edge of the New Foreſt, and enters the Engliſh Channel at Chriſtchurch-bay, in Hampſhire.

AVON, a river that riſes in Leiceſterſhire, and running S.W. by Warwick, continues its courſe by Eveſham, and falls into the Severn at Tewkſbury.

AVON, LOWER, a river that riſes in Wiltſhire, and running W. to Bath, becomes navigable there, continues its courſe to Briſtol, and falls into the Severn N.W. of that city.

AURELIANUS (Lucius Domitius), emperor of Rome, was one of the greateſt generals of antiquity, and commanded the armies of the Emperor Claudius with ſuch glory, that after the death of that emperor all the legions agreed to place him on the throne; this happened in the year 270. He carried the war from the eaſt to the weſt, with as much facility, ſays a modern writer, as a body of troops marches from Alſace into Flanders. He defeated the Goths, Sarmatians, Marcomanni, the Perſians, Egyptians, and Vandals; conquered Zenobia, queen of the Palmyrenians, and Tetricus, general of the Gauls; both of whom were made to grace his triumph, in the year 274. He was killed by one of his generals in Thrace, in the year 275, when he was preparing to enter Perſia with a great army. See ROME.

AURICULAR, whatever belongs or relates to the ear.

AURICULAR *Tube*, an inſtrument to facilitate hearing. See ACOUSTICS and TRUMPET.

AURUNGABAD, a conſiderable city of Aſia, in the Decan of Hindooſtan. It is but a modern city; owing its riſe, from a ſmall town, to the capital of Dowlatabad, to the great Aurungzebe, from whom it had its name. It is 260 miles N.E. of Bombay. Long. 76. 2. E. Lat. 19. 45. North.

AUSONIUS (in Latin *Decius*, or rather *Decimus*, Magnus Auſonius), one of the beſt poets of the fourth century, was the ſon of an eminent phyſician, and born at Bourdeaux. Great care was taken of his education, the whole family intereſting themſelves in it, either becauſe his genius was very promiſing, or that the ſcheme of his nativity, which had been caſt by his grandfather on the mother's ſide, made them imagine that he would riſe to great honour. He made an uncommon progreſs in claſſical learning, and at the age of 30 was choſen to teach grammar at Bourdeaux. He was promoted ſome time after to be profeſſor of rhetoric,

in which office he acquired ſo great a reputation, that he was ſent for to court to be preceptor to Gratian, the Emperor Valentinian's ſon. The rewards and honours conferred on him for the faithful diſcharge of his office prove the truth of Juvenal's maxim, that when fortune pleaſes ſhe can raiſe a man from a rhetorician to the dignity of a conſul. He was actually appointed conſul by the Emperor Gratian, in the year 379, after having filled other conſiderable poſts; for beſides the dignity of quæſtor, to which he had been nominated by Valentinian, he was made prefect of the Prætorium in Italy and Gaul, after that prince's death. His ſpeech, returning thanks to Gratian on his promotion to the conſulſhip, is highly commended. The time of his death is uncertain; he was ſtill living in 392, and lived to a great age. The Emperor Theodoſius had a great eſteem for Auſonius, and preſſed him to publiſh his poems. There is a great inequality in his works; and in his manners and his ſtyle there is a harſhneſs which was perhaps rather the defect of the times he lived in, than of his genius. Had he lived in Auguſtus's reign, his verſes, according to good judges, would have equalled the moſt finiſhed of that age. He is generally ſuppoſed to have been a Chriſtian: ſome ingenious authors indeed think otherwiſe, but, according to Mr. Bayle, without juſt reaſon.—The beſt edition of his poems is that of Amſterdam, in 1671.

AUSTIN (St.). See St. AUGUSTIN.

AUTRE-EGLISE, a village of Brabant, in the Auſtrian Netherlands; to which the left wing of the French army extended, when the confederates obtained the victory at Ramillies, in 1706. E. long. 4 50. N. lat. 50. 40.

AUTRICUM, the capital of the Carnutas, a people of Gallia Celtica; afterwards called *Carnotena, Carnotenus,* and *Civitas Carnotenum;* now *Chartres,* in the Orleanois on the Eure. E. long. 1. 32. N. lat. 48. 47.

AWATSKA-BAY, a harbour of Kamtſchatka, ſaid to be the ſafeſt and moſt extenſive that has been diſcovered, and the only one, in that part of the world, that can admit veſſels of a conſiderable burden. The entrance into it is in 52. 51. N. lat. 158. 48. E. long.

AWE, LOCH, one of the moſt beautiful lakes of Scotland, in Argyleſhire, about thirty miles long, and, in ſome parts, above two broad. It contains many fine little iſlands, tufted with trees. The river Awe, the outlet of this lake, is diſcharged into Loch Etive, at the village of Bunawe.

AXATI, a town of ancient Bætica, in the Bœtis; now *Lora,* a ſmall city of Andaluſia in Spain, ſeated on the Guadalquivir. W. long. 5. 20. N. lat. 37. 20.

AXIOPOLIS, a town of the Triballi, in Mæſia Inferior; now *Axiopoli* in Bulgaria. E. long. 34. 0. N. lat. 45. 40.

AXTEL (Daniel), a colonel in the ſervice of the long parliament, and executed for the ſhare he had in the murder of King Charles I. He was of a good family, and had a tolerable education, that is to ſay, ſuch a one as might fit him for the courſe of life it was intended he ſhould lead, being placed by his relations as an apprentice to a grocer in Watling-ſtreet. As he was of a very ſerious diſpoſition, and had been very early tinctured with thoſe principles which were in that age ſtyled puritanical, he became an eager follower of ſuch miniſters as diſtinguiſhed themſelves by their zealous preaching. His great attachment to theſe ſort of people, and the natural warmth of his own temper, were the occaſions of his quitting his own calling, and going into the army, in which he behaved with ſo much zeal, courage, and conduct, that he roſe by degrees to the ſeveral commands of captain, major, and lieutenant-colonel, in a regiment of foot. It was in this laſt capacity, that he acted with great vehemence againſt all endeavours for a reconciliation with the king.

On the twentieth of January, when the king was brought before the high court of juſtice, Colonel Stubberd, and Colonel Axtel, had the command of the ſoldiers below ſtairs. The king demanded of Serjeant Bradſhaw, who was the preſident, by what authority they brought him there? And the preſident appealing to the charge, which was in the name of the Commons and People of England, Lady Fairfax, the general's wife, cried out, "It is a lie, it is falſe, not a half, not a quarter of the people; Oliver Cromwell is a rogue and a traitor;" which words were repeated by Mrs. Nelſon. Upon this Colonel Axtel cried out, "Down with the whores, ſhoot them;" which vehemence of his made him be taken notice of. After the ſentence was paſſed, the king was carried through the middle of King-ſtreet, in a common ſedan, by two porters, who, out of reverence to his perſon, went bare headed, till the ſoldiers, under Colonel Axtel's command, beat them, and forced them to put on their hats. After the murder of the king, when Cromwell was ſent into Ireland, the regiment in which Colonel Axtel ſerved was drawn out by lot for that expedition, which occaſioned his going over into that kingdom, where he made a conſiderable figure, was much eſteemed and truſted by Cromwell, and raiſed, for his fidelity, courage, and conduct, to the command of a regiment, and the government of Kilkenny and the adjacent precinct.

After the death of the protector, Oliver, which happened on the third of September, 1658, things took a new turn, and Axtel uſed his utmoſt induſtry to conceal himſelf, as foreſeeing that it would not be long before he might be called to an account for the large ſhare he had taken in the trial of the king: but his care in this reſpect was to very little purpoſe, for before the cloſe of the month, he was diſcovered and committed to priſon. On the 10th of October following, the grand jury for the county of Middleſex, having found bills againſt twenty-eight perſons, for their concern in the king's murder, of which Mr. Axtel was the laſt, they were brought to the ſeſſions-houſe, in the Old Bailey, where Colonel Axtel was the ſame day arraigned, upon an indictment for compaſſing and imagining the death of the late king. The trial laſted, on account of the priſoner's long and large defence, for upwards of three hours; but the jury, without going from the bar, found him guilty, and on the 19th of October he was executed at Tyburn.

AXUM, a village, ſuppoſed to have been once the capital of Abyſſinia. Its ruins are very extenſive, but, like the cities of ancient times, conſiſt altogether of public buildings. In one ſquare there are forty obeliſks, none of which have any hieroglyphics on them. They are all of one piece of granite, and on the top of that which is ſtanding, is a *patera* exceedingly well carved in the Greek taſte. It is 125 miles W. of the Red Sea. Long. 36. 4. E. Lat. 14. 6. N.

AYLESBURY (Thomas), the ſecond ſon of William Ayleſbury, was born in London, in the year 1576. He received his education in Weſtminſter-ſchool, from whence he went to Oxford, and in 1598 became a ſtudent of Chriſt-church. He diſtinguiſhed himſelf there by his aſſiduous application to his ſtudies, and eſpecially affected the mathematics. This made him known to perſons of the greateſt parts in the univerſity, and was the reaſon of his being careſſed by ſome of the greateſt quality in the kingdom. On the 19th of June, 1605, he took his degree of maſter of arts. After he quitted the univerſity, he became ſecretary to Charles,

earl of Nottingham, then lord high-admiral of England; in which poſt he had an opportunity of improving his mathematical knowledge, as alſo of giving many and ſhining proofs of it. On this account, when George Villiers, duke of Bucks, ſucceeded the Earl of Nottingham as high-admiral, Mr. Ayleſbury not only kept his employment, but was alſo, by the favour of that powerful duke, created a baronet, the 19th of April, 1627, having been before made maſter of requeſts, and maſter of the mint. Theſe great employments, as they furniſhed him with the means of expreſſing his regard for learned men, ſo in him they met a perſon who put them to their right uſe. He not only made all men of ſcience welcome at his table, and afforded them all the countenance he could, but likewiſe gave to ſuch of them as were in narrow circumſtances, regular penſions out of his pocket, and carried them with him to his houſe in Windſor-park, where he uſually ſpent the ſummer. In 1642, adhering ſteadily to the king, he was of conſequence ſtripped of his places, and plundered of his eſtate However, he bore up chearfully under his misfortunes till 1649, when, having ſeen the bloody murder of his ſovereign, he grew ſick of his country, and retiring with his family into Flanders, lived for ſome time at Bruſſels. In 1652 he removed to Breda, where he led a very private life, his loyalty having left him very little to live on; and in 1657, being then eighty-one years of age, he ended his days with honour.

AYLESBURY (William), ſon of the before-mentioned Sir Thomas Ayleſbury, became very early a gentleman-commoner of Chriſt-church, and took a degree in arts at ſixteen years of age. Though he had at that time the proſpect of a very plentiful fortune, yet he purſued his ſtudies with ſuch diligence, and behaved with ſo much modeſty and prudence, that King Charles I. made choice of him to be governor to George Villiers, duke of Bucks, and his brother Lord Francis, with whom he went to travel. He met in Italy with a very extraordinary misfortune. Walking one evening in the garden of the houſe where they lodged, he was ſhot, through a hole in the wall, and a couple of bullets lodged in his thigh: thoſe who did it leaped over the wall, came up, and looked upon him, begged his pardon, told him they were miſtaken, and that they intended to have ſhot another perſon, which was all the ſatisfaction he ever received. He returned into England with his pupils a little after the civil war commenced, and carried them with him to Oxford, where he preſented them to the king. His majeſty expreſſed his great ſatisfaction in regard to Mr. Ayleſbury's conduct, and promiſed on the firſt vacancy, to make him groom of his bed-chamber; which promiſe, however, he lived not to perform. After the king's murder, he retired with his father to Antwerp, and dwelt there as long as his circumſtances would afford it: but at length, through very want, returned into England in the year 1650; ſpending his time here, as moſt of the Royaliſts did, in ſeeking ſhelter and a meal of meat where it was to be had. Living ſometimes in one place, ſometimes in another, chiefly at Oxford, which was always loyal, till the year 1657, when the protector fitted out a fleet to go on ſome expedition to the Weſt Indies, as alſo to carry a ſupply to the iſland of Jamaica, our author, from pure neceſſity, engaged himſelf as ſecretary to the governor; which poſt he enjoyed not long, death removing him when he had been but a ſhort time in the iſland.

AYLMER (John), was born of a good family at Aylmer-hall in Norfolk, about the year 1521. Grey marquis of Dorſet, and afterwards duke of Suffolk, taking a liking to him when he was very young, entertained him as his ſcholar, and gave him an exhibition at the univerſity of Cambridge, where Mr. Wood ſuppoſes he took his degrees in arts; after which the marquis made him tutor to his children, among whom was the Lady Jane Grey, afterwards queen. He early adopted the opinions of the reformers; and under the patronage of the Duke of Suffolk and the Earl of Huntingdon, in the reign of Edward VI. was for ſome time the only preacher in Leiceſterſhire, and was highly inſtrumental in bringing over the people of that county to the Proteſtant religion. In 1553 he was made archdeacon of Stow in the dioceſe of Lincoln. In the convocation which ſat in the firſt year of Queen Mary, he diſtinguiſhed himſelf by his warmth againſt popery. The violent meaſures of that queen's miniſtry rendered his ſtay in England unſafe; he retired beyond ſea, and reſided firſt at Straſburg, and afterwards at Zurich in Switzerland, where he undertook the inſtruction of ſeveral young gentlemen in claſſical learning and religion. During his exile he alſo viſited the univerſities of Italy and Germany. At that of Jena in Saxony he was offered the Hebrew profeſſorſhip; but, having a near proſpect of returning home, he declined it. After the acceſſion of Queen Elizabeth, he came back to England; and in the beginning of that princeſs's reign, was one of the eight divines appointed to diſpute at Weſtminſter, before many perſons of diſtinction, againſt an equal number of popiſh biſhops. In 1562, by the intereſt of Secretary Cecil, he was made archdeacon of Lincoln; and aſſiſted at the ſynod held this year, wherein the doctrine and diſcipline of the church, and the reformation from popery, were eſtabliſhed. He continued long without any other conſiderable preferment, though often nominated by the Archbiſhop of Canterbury to ſome vacant biſhopric. However, he was appointed one of the queen's juſtices of the peace for the county, and one of her eccleſiaſtical commiſſioners. In 1573 he accumulated the degree of bachelor and doctor in divinity in the univerſity of Oxford. In 1576 on the tranſlation of his friend and fellow exile, Dr. Edwin Sandys, to the archbiſhopric of York, he was made biſhop of London; and though Sandys had been very inſtrumental in his promotion, recommending him to the queen as a proper perſon for his ſucceſſor, he ſued him for dilapidations, and after ſome years' proſecution recovered 900 or 1000*l.*

When the plague raged in London in 1578, his principal attention was directed to preſerve the lives of his clergy; and yet to make proviſion that the infected might be viſited, and have proper aſſiſtance with reſpect to religion. He ſummoned the London clergy before him, in order to elect and appoint out of their body viſitors of the ſick, purpoſing to ſpare the reſt by reaſon of the danger of the infection. Strype tell us, that the forwardneſs of many miniſters to undertake this office was remarkable; ſome from covetouſneſs, others from vain glory, and others to ſupply their wants. The biſhop likewiſe ordered books, containing directions for preventing the rage of the peſtilence, to be printed and diſperſed.

In 1581 he propoſed that a number of learned and ſound divines ſhould be appointed to preach at ſet times before great aſſemblies, particularly at St. Paul's Croſs, for confirming the people's judgments in the doctrine and diſcipline of the eſtabliſhed church, which was then ſtruck at and undermined by many; and that for the ſupport of it, contributions ſhould be made and ſettled on the preachers by the city. But Sir John Branch, lord mayor, and the aldermen, did not much like this motion, on account of the ſtanding charge to which it muſt put the city; ſo the deſign was dropped.

Beginning now to be uneaſy in his dioceſe of London, he uſed all his endeavour to obtain a removal to the ſee of Ely, or that of Wincheſter, but without ſucceſs. When he came to be broken with age, he was deſirous to reſign his biſhopric to Dr. Bancroft, but the latter refuſed it. He died at Fulham, the 3d of June, 1594, aged ſeventy-three. He was an excel-

lent logician and hiſtorian, and well ſkilled in the Hebrew tongue: he underſtood the civil law, divinity, and the ancient writers; and was a rhetorical, bold, and pathetic preacher.

AYLOFFE (Sir Joſeph), of Framfield in Suſſex, was deſcended from a Saxon family, anciently ſeated at Bocton Aloſ near Wye, in the county of Kent, in the reign of Henry III. who removed to Horn-church in the county of Eſſex in that of Henry IV. and to Sudbury in that of Edward IV. Sir William Ayloffe of Great Braxtead in the county of Eſſex was knighted by James I. May 1, 1603, and created a baronet November 25, 1612; and from his eldeſt ſon by his third wife, the late baronet was the fourth in deſcent and fifth in title. His father and grandfather were both of Gray's Inn. He was born about the year 1708; received the early part of his education at Weſtminſter-ſchool; admitted of Lincoln's Inn 1724, and in the ſame year was entered a gentleman-commoner at St. John's College, Oxford, which college he quitted about 1728; elected F.A.S. February 10, 1731; one of the firſt council under their charter, 1751; vice-preſident, and F.R.S. June 3, 1731. He prevailed on Mr. Kirby, painter in Ipſwich, to make drawings of a great number of monuments and buildings in Suffolk, of which twelve were engraved, with a deſcription, 1748; and others remain unpubliſhed. He had at that time an intention to write a hiſtory of the county; but, being diſappointed of the materials which he had reaſon to expect for ſo laborious a work, they were never publiſhed. On the building of Weſtminſter-bridge, he was appointed ſecretary to the commiſſioners 1736-7; and on the eſtabliſhment of the Paper-office, on the reſpectable footing it at preſent is, by the removal of the ſtate-papers from the old gate at Whitehall to new apartments at the Treaſury, he was nominated the firſt in the commiſſion for the care and preſervation of them. In 1757 he circulated propoſals for printing, by ſubſcription, *Encyclopædia;* or, a rational Dictionary of Arts and Sciences, and Trade. In 1772 he publiſhed, in 4to. Calendars of the Ancient Charters, &c. and of the Welſh and Scottiſh Rolls now remaining in the Tower of London, &c. and in the introduction gives a moſt judicious and exact account of our public records. He drew up the account of the chapel of London-bridge, of which an engraving was publiſhed by Vertue, 1748, and again by the Society of Antiquaries, 1777. His hiſtorical deſcription of the interview between Henry VIII. and Francis I. on the Champ de Drap d'Or, from an original painting at Windſor, and his account of the paintings of the ſame age at Cowdray, were inſerted in the third volume of the Archæologia, and printed ſeparately to accompany engravings of two of theſe pictures by the Society of Antiquaries, 1775. His account of the body of Edward I. as it appeared on opening his tomb, 1774, was printed in the ſame volume, p. 376. Having been educated, as has been obſerved, at Weſtminſter, he acquired an early affection for that venerable cathedral; and his intimate acquaintance with every part of it diſplayed itſelf in his accurate deſcription of five monuments in the choir, engraved in 1779 by the ſame Society, who muſt reckon, among the many obligations which they owe to his zeal and attention to their intereſts, the laſt exertions of his life to put their affairs on the moſt reſpectable and advantageous footing, on their removal to their new apartments in Somerſet-Place. He ſuperintended the new edition of Leland's Collectanea, in nine volumes 8vo. and alſo of the Liber Niger Scaccarii, in two volumes 8vo. to each of which he added a valuable appendix. He alſo reviſed through the preſs a new edition of Hearne's Curious Diſcourſes, 1771, two volumes 8vo; and likewiſe the Regiſtrum Roſſenſe, publiſhed by Mr. Thorpe in 1769, folio. At the beginning of the ſeventh volume of Somers's Tracts is advertiſed, A Collection of Debates in Parliament before the Reſtoration, from MSS. by Sir Joſeph Ayloffe, bart. which is ſuppoſed never to have appeared. Sir Joſeph died at his houſe at Kennington-lane, Lambeth, April 19, 1781, aged ſeventy-two.

AYRMIN, or AYERMIN (William), biſhop of Norwich in the reigns of Edward II. and III. was deſcended of an ancient and wealthy family, ſeated at Oſgodby in Lincolnſhire. He was a canon in the cathedral church of York, and afterwards in that of Wells; and was for ſome time keeper of the ſeal, and vice-chancellor to King Edward II. under the chancellor John biſhop of Norwich, who could not diſcharge his office by reaſon of ſickneſs. About this time, ann. 1319, a war having broken out between England and Scotland, Ayrmin had the misfortune to be taken priſoner, in a battle between the Scotch and Yorkiſts. Afterwards recovering his liberty, he was made chancellor of England under King Edward III. and afterwards treaſurer. Being ſent ambaſſador to the court of Rome, he is ſaid to have neglected the buſineſs of his embaſſy, and to have employed his time and intereſt in obtaining the biſhopric of Norwich, which was then vacant. In which application meeting with ſucceſs, he returned to take poſſeſſion of that ſee: which the king hearing, and being diſguſted at his proceedings, ſent ſoldiers to Norwich to apprehend him; but Ayrmin lay hid in the cathedral church, till, by the interpoſition of friends, the king was reconciled to him, and conſented to his conſecration.

AYSCOUGH (George Edward), eſq. a lieutenant in the firſt regiment of foot-guards, was only ſon of the Rev. Dr. Franſcis Ayſcough, who was tutor to Lord Lyttleton at Oxford, and at length dean of Briſtol. In September 1777 he went to the Continent for the recovery of his health. While on his travels, he wrote an account of his journey, which, on his return, he publiſhed under the title of Letters from an Officer in the Guards to his Friend in England; containing ſome Accounts of France and Italy, 1778, 8vo. He received however but a temporary relief from the air of the Continent. After lingering for a ſhort time, he died October 14, 1779.

AYSCUE, AYSCOUGH, ASKEW (Sir George), an eminent Engliſh admiral in the laſt century. He was deſcended from a very good family in Lincolnſhire, and entered early into the ſea ſervice, where he obtained the character of an able and experienced officer, and the honour of knighthood from King Charles I. This, however, did not prevent him from adhering to the parliament, when, by a very ſingular intrigue, they got poſſeſſion of the fleet; and ſo zealous he was in the ſervice of his maſters, that when, in 1648, the greateſt part of the navy went over to the Prince of Wales, he, who then commanded the Lion, ſecured that ſhip for the parliament, which was by them eſteemed an acceptable ſervice, and an action of great importance. As this was a ſufficient proof of his fidelity, he had the command given him in a ſquadron, that was employed to watch the motions of the Prince of Wales; and accordingly ſailed therewith to the coaſt of Ireland, where, by his vigilance, he prevented his highneſs from doing what he would otherwiſe have done, and by his great intereſt with the ſeamen he drew many of them back to that ſervice from which they had deſerted. This recommended him ſtrongly to the parliament, who, the next year, ſent him with a conſiderable number of ſhips, and the honourable title of admiral in thoſe ſeas, to the coaſt of Ireland, which commiſſion he diſcharged with equal vigour and vigilance. After the war was finiſhed in Ireland, and the parliament had thereby time and opportunity to think of the proper means of ſubduing the reſt of the dominions of the crown of England to their obedience, Sir George Ayſcue had orders to ſail with a ſmall ſquadron to reduce the iſland of Barbadoes, which he effected.

On the 21ſt of June, 1652, Sir George Ayſcue, in obedience to the orders he had received from London, came to Dover,

with his eleven ſail, and there joined his old friend Admiral Blake, on board whoſe ſhip he dined, and was received with all imaginable marks of reſpect and kindneſs by that famous commander. In the beginning of the next month, Blake having received orders to ſail northward, and deſtroy the Dutch herring fiſhery, Sir George Ayſcue was left to command the fleet in the Downs. Within a few days after Blake's departure, he took five ſail of Dutch merchantmen, and had ſcarcely brought them in, before he received advice, that a fleet of forty ſail had been ſeen not far from the coaſt, upon which he gave chace, fell in amongſt them, took ſeven, ſunk four, and ran twenty-four upon the French ſhore, all the reſt being ſeparated from their convoy, which, conſidering that Sir George had with him only the ſquadron he brought with him from Barbadoes, was very gallantly performed. After various other ſucceſsful engagements with the Dutch, Sir George at length laid down his commiſſion. He retired after this to his country ſeat in the county of Surrey, and lived there in great honour and ſplendor till the death of the Protector. On the reſtoration of Charles II. Sir George Ayſcue had the honour to be introduced to his majeſty, and to kiſs his hand. Soon after the Dutch war breaking out, he was immediately put into commiſſion by the direction of the Duke of York, who then commanded the Engliſh fleet. In the ſpring of the year 1665, Sir George Ayſcue hoiſted his flag as rear-admiral of the blue, under the right honourable the Earl of Sandwich, and in the great battle that was fought the 3d of June in the ſame year, that ſquadron had the honour to break through the Dutch fleet, and thereby made way for one of the moſt glorious victories ever obtained by this nation at ſea: for, in this battle, the Dutch had ten of their largeſt ſhips ſunk or burned, beſides their Admiral Opdam's, which blew up in the midſt of the engagement, by which the admiral himſelf, and upwards of five hundred men, periſhed. Eighteen men-of-war were taken, four fire-ſhips deſtroyed, thirteen captains, and two thouſand and fifty private men, made priſoners; and this with ſo inconſiderable a loſs, as that of one ſhip only, and three hundred private men.

On the 1ſt of June, 1666, the Dutch and Engliſh fleets again met. This day's fight was very fierce and bloody; for the Dutch, confiding in their numbers, preſſed furiouſly upon the Engliſh fleet, while the Engliſh officers, being men of determined reſolution, fought with ſuch courage and conſtancy, that they not only repulſed the Dutch, but renewed the attack, and forced the enemy to maintain the fight longer than they were inclined to do, ſo that it was ten in the evening before their cannon were ſilent. The following night was ſpent in repairing the damages ſuffered on both ſides, and next morning the fight was renewed by the Engliſh with freſh vigour. On the third day Sir George Ayſcue, who commanded the Royal Prince (being the largeſt and heavieſt ſhip of the whole fleet), unfortunately ſtruck upon the ſand called the Galloper, where, being threatened by the enemy's fire-ſhips, and hopeleſs of aſſiſtance from his friends (whoſe timely return, the near approach of the enemy, and the tide, had abſolutely rendered impoſſible), he was forced to ſurrender, and was carried to the Hague. It is ſaid, that he afterwards returned to England, and ſpent the remainder of his days in peace.

AYR, a borough and ſea-port of Ayrſhire, ſituated on a ſandy plain, and built on both ſides of the river Ayr, over which is a bridge of four arches. Its chief trade is in coal and grain; the fiſhery being in a manner given up. In the New-Town are many good houſes, and the ruins of a Dominician monaſtery, founded by Alexander II. in 1230. A mile north from the town, is a houſe called King's Chapel, founded for lepers by Robert Bruce. The leproſy was a diſeaſe ſo common in thoſe days, as to be the ſubject of ſeveral parliamentary ſtatutes; but it is now ſcarcely known in Europe. Ayr is 65 miles S. W. of Edinburgh. Long. 4. 39. E. Lat. 55. 30. N.

AYRSHIRE, a county of Scotland, bounded on the weſt, north-weſt, and north, by the frith of Clyde and Renfrewſhire; on the eaſt by the counties of Lanerk and Dumfries; and on the ſouth-eaſt and ſouth by the ſhires of Kirkcudbright and Wigton. It exhibits the ſhape of two wings, extending to the north-weſt and ſouth-weſt, and forming a vaſt bay at the mouth of the frith of Clyde. Between its extreme points, it meaſures about 50 miles; its greateſt breadth is not quite 27. Its moſt northerly diviſion is Cunningham, the north-weſt angle of which, though mountainous, is rich in paſture.

AYTONIA (*Encycl.*). In that article the *claſs* is erroneouſly put for the *order*; and *vice verſa*.

AZARIAH, or UZZIAH, king of Judah, ſucceeded his father Amaziah, 810 years before Chriſt. He aſſembled an army of above 300.000 men, with which he conquered the Philiſtines, and demoliſhed the walls of Gath, Jabniel, and Aſhdod; built up the walls of Jeruſalem; furniſhed the city with conduits; and planted gardens and vineyards: but at laſt being elated with his proſperity, and reſolving to uſurp the office of high-prieſt, he was ſtruck with a leproſy, which obliged him to remain ſhut up in his palace for the reſt of his days. He died about 759 years before the Chriſtian æra, and was ſucceeded by Jonathan his ſon.—There are ſeveral other perſons of this name mentioned in the ſacred Scriptures.

B

BABINGTON (Gervaſe), biſhop of Worceſter, was born, according to Fuller, in Nottinghamſhire; but in what year is uncertain. He was ſent to Trinity College, Cambridge, of which he was made fellow; and, in 1578, was incorporated maſter of arts at Oxford. He appears, however, to have made Cambridge the place of his reſidence, where he became an eminent preacher; and, being now doctor in divinity, was made domeſtic chaplain to Henry earl of Pembroke. In this ſtation he is ſuppoſed to have aſſiſted the counteſs in her tranſlation of the Pſalms. In 1581 he was inſtalled prebend of Hereford, and, in 1591, conſecrated biſhop of Landaff. In 1594 he was tranſlated to the ſee of Exeter, and thence to Worceſter in 1597. About this time, or ſoon after, he was made queen's counſel for the marches of Wales. He was a

conſiderable benefactor to the library belonging to the cathedral of Worceſter, where he was buried, in May 1610, without a monument. The ſeveral hiſtorians, who have mentioned this prelate, agree in giving him the character of a learned and pious man. His writings, like thoſe of moſt of his contemporaries, abound with puns and quaint expreſſions. His works were printed both in folio and quarto in 1615, and again in folio in 1637, under this title: *The works of the right reverend father in God Gervaſe Babington, late Biſhop of Worceſter, containing comfortable notes upon the five books of Moſes, viz. Geneſis, &c. As alſo an expoſition upon the Creed, the Ten Commandments, the Lord's Prayer; with a conference betwixt man's frailty and faith, and three ſermons, &c.*

BABOLITZA CARETHNA, or BABOLIZA, a town of Sclavonia, ſeated near the river Drave, between Poſſega and Zygeth.

BABYLON (*Encycl.*). This capital was ſurrounded with walls, in thickneſs 87 feet, in height 350 feet, and in compaſs 480 furlongs, or 60 of our miles. Thus Herodotus, who was himſelf at Babylon; and though ſome diſagree with him in theſe dimenſions, yet moſt writers give us the ſame, or near the ſame, as he does. Diodorus Siculus diminiſhes the circumference of theſe walls very conſiderably, and takes ſomewhat from the height of them, as in Herodotus; though he ſeems to add to their breadth, by ſaying, that ſix chariots might drive a-breaſt thereon; while the former writes, that one chariot only might turn upon them; but then he places buildings on each ſide of the top of theſe walls, which, according to him, were but one ſtory high: which may pretty well reconcile them together in this reſpect. It is obſerved, that thoſe who give the height of theſe walls but at 50 cubits, ſpeak of them only as they were after the time of Darius Hyſtaſpis, who had cauſed them to be beaten down to that level. Theſe walls formed an exact ſquare, each ſide of which was 120 furlongs, or 15 miles, in length; and were all built of large bricks cemented together with bitumen, which in a ſhort time grows harder than the very brick and ſtone which it cements. The city was encompaſſed, without the walls, with a vaſt ditch filled with water, and lined with bricks on both ſides; and, as the earth that was dug out of it ſerved to make the bricks, we may judge of the depth and largeneſs of the ditch from the height and thickneſs of the walls. In the whole compaſs of the wall there were 100 gates, that is, 25 on each of the four ſides, all made of ſolid braſs. Between every two of theſe gates, at proper diſtances, were three towers, and four more at the four corners of this great ſquare, and three between each of theſe corners and the next gate on either ſide, and each of theſe towers was ten feet higher than the walls. But this is to be underſtood only of thoſe parts of the walls where towers were needful for defence. For ſome parts of them being upon a moraſs, and inacceſſible by an enemy, there the labour and coſt was ſpared, which, though it muſt have ſpoiled the ſymmetry of the whole, muſt be allowed to have favoured of good œconomy; though that is what one would not have expected from a prince who had been ſo determined, as Nebuchadnezzar muſt have been, to make the city complete both for ſtrength and beauty. The whole number, then, of theſe towers amounted to no more than 250; whereas a much greater number would have been neceſſary to have made the uniformity complete all round. From the 25 gates in each ſide of this ſquare, there was a ſtraight ſtreet, extending to the correſponding gate in the oppoſite wall; whence the whole number of the ſtreets muſt have been but 50; but then they were each about 15 miles long, 25 of them croſſing the other 25 exactly at right angles. Beſides theſe whole ſtreets, we muſt reckon four half ſtreets, which were but rows of houſes facing the four inner ſides of the walls. Theſe four half ſtreets were properly the four ſides of the city within the walls, and were each of them 200 feet broad, the whole ſtreets being about 150 of the ſame. By this interſection of the 50 ſtreets, the city was divided into 676 ſquares, each of four furlongs and an half on each ſide, or two miles and a quarter in compaſs. Round theſe ſquares on every ſide towards the ſtreets ſtood the houſes, all of three or four ſtories in height, and beautified with all manner of ornaments; and the ſpace within each of theſe ſquares was all void, and taken up by yards, or gardens, and the like, either for pleaſure or convenience.

A branch of the Euphrates divided the city into two, running through the midſt of it, from north to ſouth; over which, in the very middle of the city, was a bridge, a furlong in length, or rather more, and indeed much more, if we hearken to others, who ſay it was no leſs than five ſtades or furlongs in length, though but 30 feet broad, a difference we ſhall never be able to decide: this bridge, however, is ſaid to have been built with wonderful art, to ſupply a defect in the bottom of the river, which was all ſandy. At each end of this bridge were two palaces; the old palace on the eaſt ſide, the new one on the weſt ſide of the river; the former of which took up four of the ſquares above mentioned, and the latter nine. The temple of Belus, which ſtood next to the old palace, took up another of the ſame ſquares.

The whole city ſtood in a large flat or plain, in a very fat and deep ſoil; that part or half of it on the eaſt ſide of the river was the old city, and the other on the weſt was added by Nebuchadnezzar, both being included within the vaſt ſquare bounded by the walls aforeſaid. The form of the whole was ſeemingly borrowed from Nineveh, which was alſo 480 furlongs; but, though it was equal in dimenſions to this city, it was leſs with reſpect to its form, which was a parallelogram, whereas that of Babylon was an exact ſquare. It is ſuppoſed that Nebuchadnezzar, who had deſtroyed that old ſeat of the Aſſyrian empire, propoſed that this new one ſhould rather exceed it; and that it was in order to fill it with inhabitants, that he tranſported ſuch numbers of the captives from other countries hither; though that is what may be diſputed, ſeeing he therein only followed the conſtant practice of the kings of Aſſyria, who thought this the moſt certain means of aſſuring their conqueſts either to themſelves, or their poſterity.

But it plainly appears, that it was never wholly inhabited; ſo that, even in the meridian of its glory, it may be compared with the flower of the field, which flouriſhes to-day, and to-morrow is no more. It never had time to grow up to what Nebuchadnezzar viſibly intended to have made it; for, Cyrus removing the ſeat of the empire ſoon after to Shuſhan, Babylon fell by degrees to utter decay; yet it muſt be owned, that no country was better able to ſupport ſo vaſt and populous a city, had it been completed up to its firſt deſign. But ſo far was it from being finiſhed according to its original deſign, that, when Alexander came to Babylon, Q. Curtius tells us, "No more than 90 furlongs of it were then built:" which can be no otherwiſe underſtood than of ſo much in length; and, if we allow the breadth to be as much as the length (which is the utmoſt that can be allowed), it will follow, that no more than 8100 ſquare furlongs were then built upon: but the whole ſpace within the walls contained 14,400 ſquare furlongs; and therefore there muſt have been 6300 ſquare furlongs remaining unbuilt, which, Curtius tells us, were plowed and ſown. And, beſides this, the houſes were not contignous, but all built with a void ſpace on each ſide, between houſe and houſe.

The next great work of Nebuchadnezzar was the temple of Belus. The wonderful tower, however, that ſtood in the mid-

dle of it, was not his work, but was built many ages before; that, and the famous tower of Babel, being, as is commonly ſuppoſed, one and the ſame ſtructure. This tower is ſaid to have been compoſed of eight pyramidal ones raiſed above one another, and by Herodotus ſaid to have been a furlong in height; but as there is an ambiguity in his expreſſion, it has been diſputed whether each of the towers was a furlong in length, or the whole of them taken together. On the latter ſuppoſition, which is the moſt probable, this tower muſt have exceeded the higheſt of the Egyptian pyramids by 179 feet, though it fell ſhort of its breadth at the baſis by 33. The way to go up was by ſtairs on the outſide round it; whence it ſeems moſt likely, that the whole aſcent was, by the benching in, drawn in a ſloping line from the bottom to the top eight times round it; and that this made the appearance of eight towers, one above the other. Till the times of Nebuchadnezzar, it is thought this tower was all the temple of Belus: but as he did by the other ancient buildings of the city, ſo he did by this, making great additions thereto, by vaſt edifices erected round it, in a ſquare of two furlongs on every ſide, and juſt a mile in circumference, which exceeded the ſquare at the temple of Jeruſalem by 1800 feet. On the outſide of theſe buildings was a wall, which incloſed the whole; and, in conſideration of the regularity wherewith this city was to all appearance marked out, it is ſuppoſed that this wall was equal to the ſquare of the city wherein it ſtood, and ſo is concluded to have been two miles and a half in circumference. In this wall were ſeveral gates leading into the temple, and all of ſolid braſs; which it is thought may have been made out of the braſen ſea, and braſen pillars, and other veſſels and ornaments of the kind, which Nebuchadnezzar had tranſported from Jeruſalem; for in this temple he is ſaid to have dedicated his ſpoils from that of Jeruſalem.

In this temple were ſeveral images or idols of maſſy gold, and one of them, as we have ſeen, 40 feet in height; the ſame, as ſuppoſed, with that which Nebuchadnezzar conſecrated in the plains of Dura. For though this laſt is ſaid to have been 60 cubits, or 90 feet high, theſe dimenſions appear ſo incredible, that it has been attempted to reconcile them into one, by ſuppoſing, that in the 90 feet the height of the pedeſtal is included, and that the 40 feet are for the height of the ſtatue without the pedeſtal; and, being ſaid to have weighed 1000 talents of Babylon, it is thence computed, that it was worth three millions and a half of our money. In a word, the whole weight of the ſtatues and decorations, in Diodorus Siculus, amounting to 5000 and odd talents in gold, the whole is eſtimated at above one-and-twenty millions of our money; and a ſum about equal to the ſame, in treaſure, utenſils, and ornaments, not mentioned, is allowed for.

Next to this temple, on the eaſt ſide of the river, ſtood the old palace of the kings of Babylon, being four miles in circumference. Exactly oppoſite to it, on the other ſide of the river, was the new palace built by Nebuchadnezzar, eight miles in circumference, and conſequently four times as big as the old one.

But nothing was more wonderful at Babylon than the hanging-gardens, which Nebuchadnezzar made in complaiſance to his wife Amyte; who, being a Mede, and retaining a ſtrong inclination for the mountains and foreſts of her own country, was deſirous of having ſomething like them at Babylon. They are ſaid to have contained a ſquare of four plethra, or 400 feet, on each ſide; and to have conſiſted of terraces one above another, carried up to the height of the wall of the city, the aſcent from terrace to terrace being by ſteps ten feet wide. The whole pile conſiſted of ſubſtantial arches upon arches, and was ſtrengthened by a wall ſurrounding it on every ſide, 22 feet thick; and the floors on each of them were laid in this order: firſt, on the tops of the arches was laid a bed or pavement of ſtones 16 feet long, and four feet broad; over this was a layer of reed mixed with a great quantity of bitumen; and over this two courſes of brick, cloſely cemented together with plaſter; and over all theſe were thick ſheets of lead, and on theſe the earth or mould of the garden. This floorage was deſigned to retain the moiſture of the mould; which was ſo deep, as to give root to the greateſt trees which were planted upon every terrace, together with great variety of other vegetables pleaſing to the eye. Upon the uppermoſt of theſe terraces was a reſervoir, ſupplied by a certain engine with water from the river, from whence the gardens on the other terraces were ſupplied.

The other works attributed to Nebuchadnezzar by Beroſus and Abydenus, were the banks of the river, the artificial canals, and the great artificial lake ſaid to have been ſunk by Semiramis. The canals were cut out on the eaſt ſide of the Euphrates, to convey the waters of that river, when it overflowed its banks, into the Tigris, before they reached Babylon. The lake was on the weſt ſide of Babylon; and, according to the loweſt computation, 40 miles ſquare, 160 in compaſs, and in depth 35 feet, as we read in Herodotus, or 75, as Megaſthenes will have it; the former, perhaps, meaſured from the ſurface of the ſides, and the latter from the tops of the banks that were caſt upon them. This lake was dug to receive the waters of the river, while the banks were building on each ſide of it. But both the lake, and the canal which led to it, were preſerved after that work was completed, being found of great uſe, not only to prevent all overflowings, but to keep water all the year, as in a common reſervoir, to be let out, on proper occaſions, by ſluices, for the improvement of the land.

The banks were built of brick and bitumen, on both ſides of the river, to keep it within its channel; and extended on each ſide throughout the whole length of the city, and even farther, according to ſome, who reckon they extended 160 furlongs, or twenty miles; whence it is concluded they muſt have begun two miles and a half above the city, and have been continued an equal diſtance below it, the length of the city being no more than 15 miles. Within the city they were built from the bottom of the river, and of the ſame thickneſs with the walls of the city itſelf. Oppoſite to each ſtreet, on either ſide of the river, was a brazen gate in the ſaid wall, with ſtairs leading down from it to the river: theſe gates were open by day, and ſhut by night.

Beroſus, Megaſthenes, and Abydenus, attribute all theſe works to Nebuchadnezzar; but Herodotus tells us, the bridge, the banks, and the lake, were the work of a queen after him, called Nitocris, who may have finiſhed what Nebuchadnezzar left imperfect, and thence have had the honour this hiſtorian gives her of the whole.

The tower or temple ſtood till the time of Xerxes. But that prince, on his return from the Grecian expedition, having firſt plundered it of its immenſe wealth, demoliſhed the whole, and laid it in ruins. Alexander, on his return to Babylon from his Indian expedition, propoſed to rebuild it, and accordingly ſet 10,000 men on work to clear away the rubbiſh. But his death happening ſoon after, a ſtop was put to all further proceedings in that deſign. After the death of that conqueror, the city of Babylon began to decline apace; which was chiefly owing to the neighbourhood of Seleucia, built by Seleucus Nicator, as is ſaid, out of ſpite to the Babylonians, and peopled with 500,000 perſons drawn from Babylon, which by that means continued declining till the very people of the country were at a loſs to tell where it had ſtood.

Such is the deſcription we have by ancient hiſtorians of the grandeur of this city; which, if theſe accounts are not exaggerated, muſt have exceeded every piece of human grandeur

that hath yet appeared. Many of the moderns, however, are of opinion that theſe magnificent deſcriptions are very far from being true; although it is certain that few other arguments can be brought againſt the reality of them, than that we do not ſee things of a ſimilar kind executed in our own days.

BABYLONIA (*Encycl.*). Concerning the nature of the country, manners, cuſtoms, &c. of the ancient Babylonians, the following account is collected by M. Sabbathier.

"As all the nations under the dominion of Cyrus, beſide the ordinary tributes, were obliged to maintain him and his army, the monarch and his troops were ſupported by all Aſia. The country of Babylon alone was obliged to maintain him four months of the year; its fertility, therefore, yielded a third of the produce of Aſia. The government of this country, which the Perſians termed *ſatrapy*, was richer and more extenſive, than any of the reſt. It maintained for the king, beſides the war-horſes, a ſtud of 800 ſtallions, and 16,000 mares. So great a number of Indian dogs were likewiſe bred in this province for the king, that four of its cities kept thoſe animals; and, in return, they were exempted from all taxes and tributes.

"It rained very ſeldom in this country, according to Herodotus. The earth was watered by the river, which was here diffuſed by human induſtry, as the Nile is over Egypt by nature: for all the country of Babylon was divided by canals, the greateſt of which was navigable, and flowed from ſouth to north, from the Euphrates to the Tigris. In ſhort, it was one of the fineſt countries for corn in the world; but for producing trees, the fig-tree, the vine, and the olive, it was not famous. It was ſo luxuriant in grain, that it commonly yielded a hundred times more than what was ſown; and in its good years it yielded three hundred times more than it received. The leaves of its wheat and barley were four inches broad. "Though I know," ſays Herodotus, "that the millet and the ſeſame of that country grow to the ſize of trees, I will not deſcribe them particularly; leſt thoſe who have not been in Babylonia ſhould think my account fabulous."

"They had no oil but what they made from Indian corn. The country abounded with palm-trees, which grew ſpontaneouſly; and moſt of them bore fruit, of which the inhabitants made bread, wine, and honey. They cultivated theſe trees and their fig-trees in the ſame manner. Some of them, as of other trees, the Greeks called *male ones*. They tied the fruit of the male to the trees which bore dates; that the moſquito, leaving the male, might cauſe the date to ripen, by penetrating it; for without that aſſiſtance it came not to maturity. Moſquitos bred in the male palms, as in the wild fig-trees.

"But we muſt not here omit to give an account of the peculiar and ſurpriſing conſtruction of their boats of ſkins, in which they ſailed along the river to Babylon. Theſe boats were invented by the Armenians, whoſe country lay north from Babylonia. They made them with poles of willow, which they bent, and covered with ſkins: the bare ſide of the ſkins they put outwards; and they made them ſo tight, that they reſembled boards. The boats had neither prow nor ſtern, but were of a round form, like a buckler. They put ſtraw on the bottom. Two men, each with an oar, rowed them down the river, laden with different wares, but chiefly with palm-wine. Of theſe boats ſome were very large, and ſome very ſmall. The largeſt carried the weight of 500 talents. There was room for an aſs in one of their ſmall boats; they put many into a large one. When they had unloaded, after their arrival at Babylon, they ſold the poles of their boats, and the ſtraw; and loading their aſſes with the ſkins, returned to Armenia: for they could not ſail up the river, its current was ſo rapid. For this reaſon they made their boats of ſkins, inſtead of wood; and on their return to Armenia with their aſſes, they applied the ſkins to their former uſe.

"As to their dreſs, they wore a linen ſhirt, which came down to their feet. Over it they wore a woollen robe; their outer garment was a white veſt. Their ſhoes reſembled thoſe of the Thebans. They let their hair grow. On their heads they wore a turban. They rubbed their bodies all over with fragrant liquors. Each man had a ring on his finger; and an elegant cane in his hand, with an apple at the top, or a roſe, a lily, or an eagle, or ſome other figure; for they were not ſuffered to uſe canes without devices.

"With regard to their policy, Herodotus thinks that their beſt law was one which the Heneti, an Illyrian people, likewiſe obſerved in every town and village. When the girls were marriageable, they were ordered to meet in a certain place, where the young men likewiſe aſſembled. They were then ſold by the public crier; but he firſt ſold the moſt beautiful one. When he had ſold her at an immenſe price, he put up others to ſale, according to their degrees of beauty. The rich Babylonians were emulous to carry off the fineſt women, who were ſold to the higheſt bidders. But as the young men who were poor could not aſpire to have fine women, they were content to take the uglieſt with the money which was given them: for when the crier had ſold the handſomeſt, he ordered the ugliſt of all the women to be brought; and aſked, if any one was willing to take her with a ſmall ſum of money. Thus ſhe became the wife of him who was moſt eaſily ſatisfied; and thus the fineſt women were ſold; and from the money which they brought, ſmall fortunes were given to the ugliſt, and to thoſe who had any bodily infirmity. A father could not marry his daughter as he pleaſed; nor was he who bought her allowed to take her home, without giving ſecurity that he would marry her. But, after the ſale, if the parties were not agreeable to each other, the law enjoined that the purchaſe money ſhould be reſtored. The inhabitants of any of their towns were permitted to buy wives at theſe auctions. Such were the early cuſtoms of the Babylonians.

"But they afterwards made a law, which prohibited the inhabitants of different towns to intermarry, and by which huſbands were puniſhed for treating their wives ill. When they had become poor by the ruin of their metropolis, fathers uſed to proſtitute their daughters for gain. There was a ſenſible cuſtom among the Babylonians, worthy to be related. They brought their ſick into the forum, to conſult thoſe who paſſed, on their diſeaſes; for they had no phyſicians. They aſked thoſe who approached the ſick, if they ever had the ſame diſtemper? if they knew any one who had had it? and how he was cured? Hence, in this country, every one who ſaw a ſick perſon was obliged to go to him, and enquire into his diſtemper.

"They embalmed their dead with honey; and their mourning was like that of the Egyptians.

"There were three Babylonian tribes, who lived only upon fiſh, and who prepared them in the following manner: they dried them in the ſun, and then beat them in a mortar to a kind of flour, which after they had ſifted through linen, they baked it in rolls.

"The Babylonians at firſt worſhipped only the ſun and the moon; but they ſoon multiplied their divinities. They deified Baal, Bel, or Belus, one of their kings, and Merodach-Baladan. They alſo worſhipped Venus, under the name of *Mylita*. She and Belus were the principal deities of the Babylonians. They counted their day from ſun-riſe to ſun-riſe. They ſolemnized five days of the year with great magnificence, and almoſt the ſame ceremonies with which the Romans celebrated their Saturnalia.

"The Babylonians were very much addicted to judicial

aſtrology. Their prieſts, who openly profeſſed that art, were obliged to commit to writing all the events of the lives of their illuſtrious men; and on a fancied connection between them and the motions of the heavenly bodies, the principles of their art were founded. They pretended that ſome of their books, in which their hiſtorical tranſactions and revolutions were accurately compared with the courſes of the ſtars, were thouſands of years old. This aſſertion of their judicial aſtrologers we may reaſonably diſpute; but that their aſtronomers had made a long ſeries of obſervations is inconteſtably true. It is certain that ſome of thoſe obſervations were extant in the days of Ariſtotle, and that they were older than the empire of the Babylonians.

BACACUM, a town of the Nervii in Gallia Belgica; now *Bavay*, in Hainault. E long. 3. 40. N. lat. 19. 0.

BACANO, a village of Italy, in the patrimony of St. Peter: on a ſmall lake, near a river of the ſame name; well known on account of the defeat of the Fabii, in the 277th year of Rome.

BACCHINI (Benedict), a Benedictine monk, and one of the moſt learned men in his time, was born at Borgo San Domino, in 1651; and wrote a great number of books, in Latin and Italian, the moſt conſiderable of which is a Literary Journal. He died at Bologna, in 1721, aged 70.

BACCHIUS, a follower of Ariſtoxenus, ſuppoſed by Fabricius to have been tutor to the Emperor Marcus Antoninus, and conſequently to have lived about A. C. 140 He wrote in Greek a very ſhort introduction to muſic in dialogue, which, with a Latin tranſlation thereof, Meibomius has publiſhed. It ſeems it was firſt publiſhed in the original by Merſennus, in his Commentary on the firſt ſix chapters of Geneſis; and that afterwards he publiſhed a tranſlation of it in French, which Meibomius, in the preface to his edition of the ancient muſical authors, cenſures as being groſsly erroneous.

BACCHUS (*Encycl.*). This perſonage is ſeldom named in modern times but as a ſenſual encourager of feaſt and jollity; but he was regarded in a more reſpectable light by the ancients, who worſhipped him in different countries under the following appellations: in Egypt, he was called *Oſiris*; in Myſia, *Panaces*; in India, *Dionyſius*; *Liber*, throughout the Roman dominions; *Adoneus*, in Arabia; and *Pentheus*, by the Lucanians. Mythologiſts furniſh reaſons for all theſe different names given to the ſame God, which may be ſeen in the ſecond volume of Banier's Mythology.

It is natural to ſuppoſe that the Greeks and Romans, as uſual, beſtowed upon the one Bacchus which they worſhipped, the ſeveral actions and attributes of the many divinities known by that name, and by other equivalent denominations in different countries. However, antiquity chiefly diſtinguiſhed two gods under the title of *Bacchus:* that of Egypt, the ſon of Ammon, and the ſame as Oſiris; and that of Thebes in Bœotia, the ſon of Jupiter and Semele.

The Egyptian Bacchus was brought up at Nyſa, a city of Arabia Felix, whence he acquired the name of *Dionyſius*, or the God of Nyſa; and this was the conqueror of India. Though this Bacchus of the Egyptians was one of the elder gods of Egypt, yet the ſon of Semele was the youngeſt of the Grecian deities. Diodorus Siculus tells us, that Orpheus firſt deified the ſon of Semele by the name of Bacchus, and appointed his ceremonies in Greece, in order to render the family of Cadmus, the grandfather of the Grecian Bacchus, illuſtrious.

The great Bacchus, according to Sir Iſaac Newton, flouriſhed but one generation before the Argonautic expedition. This Bacchus, ſays Hermippus, was potent at ſea, conquered eaſtward as far as India, returned in triumph, brought his army over the Helleſpont, conquered Thrace, and left muſic, dancing, and poetry, there. And, according to Diodorus Siculus, it was the ſon of Semele who invented farces and theatres, and who firſt eſtabliſhed a muſic-ſchool, exempting from all military functions ſuch muſicians as diſcovered great abilities in their art; on which account, ſays the ſame author, muſicians formed into companies have ſince frequently enjoyed great privileges.

Dr. Burney obſerves, that the dithyrambics which gave birth to dramatic repreſentations, are as ancient as the worſhip of Bacchus in Greece; and there is little doubt but that the ceremonies of his myſteries gave riſe to the pomp and illuſions of the theatre. Many of the moſt ſplendid exhibitions upon the ſtage for the entertainment of the people of Athens and Rome, being performed upon the feſtivals of Bacchus, gave occaſion to the calling all thoſe that were employed in them, whether for ſinging, dancing, or reciting, *ſervants of Bacchus.*

BACCHYLIDES, a famous Greek poet, was the nephew of Simonides, and the contemporary and rival of Pindar. Both ſung the victories of Hiero at the public games. Beſides odes to athletic victors, he was author of *Love Verſes*; *Proſodies*; *Dithyrambics*; *Hymns*; *Pæans*; *Hyporchemes*; *Parthenia*, or ſongs to be ſung by a chorus of virgins at feſtivals. The chronology of Euſebius places the birth of Bacchylides in the 82d Olympiad, about 450 B.C.

BACCIO, or BACCIUS (Andrew), a celebrated phyſician of the 16th century, born at St. Elpideo. He practiſed phyſic at Rome with great reputation, and was firſt phyſician to pope Sextus V. The moſt ſcarce and valuable of his works are, 1. *De thermis.* 2. *De naturali vinorum hiſtoria.* 3. *De venenis et antidotis.* 4. *De gemmis ac lapidibus pretioſis.*

BACON (Sir Nicholas), lord keeper of the great ſeal in the reign of Queen Elizabeth, was born at Chiſlehurſt in Kent, in 1510, and educated at the univerſity of Cambridge; after which he travelled into France, and made ſome ſtay at Paris. On his return, he ſettled in Gray's-Inn, and applied himſelf with ſuch aſſiduity to the ſtudy of the law, that he quickly diſtinguiſhed himſelf ſo, that on the diſſolution of the monaſtery of St. Edmund's Bury, in Suffolk, he had a grant from King Henry VIII. in the 36th year of his reign, of ſeveral manors. In the 38th of the ſame king he was promoted to the office of attorney in the court of Wards, which was a place both of honour and profit. In this office he was continued by King Edward VI.; and in 1552 he was elected treaſurer of Gray's-Inn. His great moderation and conſummate prudence preſerved him through the dangerous reign of Queen Mary. In the very dawn of that of Elizabeth he was knighted; and on the 22d of December, 1558, the great ſeal of England, being taken from Nicholas Heath, archbiſhop of York, was delivered to him with the title of *lord keeper*, and he was alſo made one of the Queen's privy-council. He had a conſiderable ſhare in the ſettling of religion: as a ſtateſman, he was remarkable for a clear head and deep counſels: but his great parts and high preferment were far from raiſing him in his own opinion, as appears from the modeſt anſwer he gave Queen Elizabeth, when ſhe told him his houſe at Redgrave was too little for him; "Not ſo, madam (returned he), but your majeſty has made me too great for my houſe." After having had the great ſeal more than twenty years, this able ſtateſman and faithful counſellor was ſuddenly removed from this life, as Mr. Mallet informs us, by the following accident: he was under the hands of the barber, and thinking the weather warm, had ordered a window before him to be thrown open, but fell aſleep as the current of freſh air was blowing in upon him, and awaked ſome time after diſtempered all over. He was immediately removed into his bed chamber, where he died a few days after, on the 26th of February, 1578-9, equally lamented by the queen and her ſubjects. He was

buried in St. Paul's, where a monument was erected to him, which was deſtroyed by the fire of London in 1666. Mr. Granger obſerves, that he was the firſt lord keeper that ranked as lord chancellor; and that he had much of that penétrating genius, ſolidity, and judgment, perſuaſive eloquence, and comprehenſive knowledge of law and equity, which afterwards ſhone forth with ſo great a luſtre in his ſon, who was as much inferior to his father in point of prudence and integrity as his father was to him in literary accompliſhments.

Bacon (Sir Nathaniel), knight of the Bath, and an excellent painter, was a younger ſon of the lord keeper, and half brother to the great Sir Francis. He travelled into Italy, and ſtudied painting there; but his manner and colouring approaches nearer to the ſtyle of the Flemiſh ſchool. Mr. Walpole obſerves, that at Culford, where he lived, are preſerved ſome of his works; and at Gorhambury, his father's ſeat, is a large picture by him in oil, of a cook-maid with a dead fowl, admirably painted, with great nature, neatneſs, and luſtre of colouring. In the ſame houſe is a whole length of him, by himſelf, drawing on a paper, his ſword and pallet hung up, and a half length of his mother by him.

Bacon (Anthony), elder brother to the chancellor, and eldeſt ſon to the lord keeper Bacon, by his ſecond wife Anne, was born in the year 1558. He received his education at Trinity College in Cambridge. Mr. Anthony Bacon began his travels in 1579, at the age of twenty-one, and reſided for ſome time at Paris, from whence he removed to Bourges, and thence to Geneva, where he lodged at the houſe of Theodore Beza. From Geneva he ſucceſſively removed to Montpellier, to Marſeilles, to Bourdeaux, to Montaubon, and again to Bourdeaux, where he reſided the longeſt. During his ſtay abroad, he correſponded with ſeveral eminent perſons in England, and ſometimes communicated intelligence of importance to the public ſervice. In the year 1585 he paid a viſit to Henry king of Navarre, at Bearn, where he became acquainted with the learned Lambert Danæus, who had ſo high an eſteem for him, that he dedicated to him ſeveral of his works. While Mr. Bacon was at Montaubon, in 1586, he contracted an intimacy with the famous Philip Pleſſis du Mornay, and his family. He returned to England in a very ill ſtate of health, in the beginning of February, 1591-2. It was not till the latter end of the year 1595, that he took up his reſidence in Eſſex-houſe; in which ſituation he carried on a moſt extenſive correſpondence. In 1596 Mr. Bacon received a letter from Henry the Fourth, king of France; in which that illuſtrious monarch aſſured him of his high eſteem, and requeſted his intereſt with the Earl of Eſſex. In the ſame year he was viſited by the Duke de Bouillon, then in England. He quitted Eſſex-houſe by the queen's command, in March 1599-1600. The time and place of his death cannot be aſcertained. It is certain that he ſurvived the Earl of Eſſex, and that he did not live till the acceſſion of King James the Firſt.

Bacon (Phanuel), rector of Balden in Oxfordſhire, and vicar of Bramber in Suſſex, was of Magdalen College, Oxford, where he took the degree of M.A. April 17th, 1722; B.D. April 29th, 1731; D.D. December 7, 1735. He poſſeſſed an exquiſite fund of humour, was a famous punſter, and wrote an admirable poem, called, The Artificial Kite. In the year 1757 he publiſhed no leſs than five dramatic performances; viz. 1. The Taxes. 2. The Inſignificants. 3. The Trial of the Twin-killers. 4. The Naval Quack. 5. The Oculiſt. He died at Balden, January 2, 1783.

Bacon (Robert), an eminent divine, in the thirteenth century, was born about the year 1168. He ſtudied in his youth at Oxford, where he diſtinguiſhed himſelf by the quickneſs of his parts, and his aſſiduous application to his ſtudies. Thence, according to the cuſtom of that age, he removed to Paris, where he perfected himſelf in all the branches of learning which were in repute in thoſe times. We are not told at what time he returned into England, but it appears clearly, that after his return he ſettled at Oxford, and read divinity lectures there. In 1233 he was made treaſurer of the cathedral church of Saliſbury. The ſame year he diſtinguiſhed himſelf by a ſermon before his royal maſter King Henry III. at Oxford, whither his majeſty came, in order to have held a great council of his lords. In 1240 Bacon loſt his great patron and intimate friend, Edmund archbiſhop of Canterbury; and very poſſibly this accident, joined to his fervent piety, and great love of a retired life, might induce Bacon, though he was very old, to enter into the order of Friars Preachers. In gratitude to the memory of the archbiſhop, Bacon wrote his life, notwithſtanding that prelate had for ſome years lived, and was even ſo unfortunate as to die, under the king's diſpleaſure: which work of his was highly eſteemed. He wrote alſo many other learned pieces, ſufficient to have eſtabliſhed his reputation. At length, worn out with ſo long a courſe of ſtudious application, he yielded to fate in the year 1248, and was interred at Oxford.

BACONTHORP (John), called the *reſolute doctor*, a learned monk, was born towards the end of the 13th century, at Baconthorp, a village in Norfolk. He ſpent the early part of his life in the convent of Blackney, near Walſingham, in the ſame country; whence he removed to Oxford, and from thence to Paris; where being diſtinguiſhed for his learning, he obtained degrees in divinity and laws, and was eſteemed the principal of Averroiſts. In 1329 he returned to England, and was immediately choſen twelfth provincial of the Engliſh Carmelites. In 1333 he was ſent for to Rome; where, we are told, he firſt maintained the pope's ſovereign authority in caſes of divorce, but that he afterwards retracted his opinion. He died in London in the year 1346. Leland, Bale, and Pits, unanimouſly give him the character of a monk of genius and learning. He wrote, 1. *Commentaria ſeu quæſtiones ſuper quatuor libros ſententiarum*; and, 2. *Compendium legis Chriſti, et quodlibeta:* both which underwent ſeveral editions at Paris, Milan, and Cremona. Leland, Bale, and Pits, mention a number of his works never publiſhed.

BACTRIA, or Bactriana, now *Choraſſan* or *Khoraſan*, an ancient kingdom of Aſia, bounded on the weſt by Margiana, on the north by the river Oxus, on the ſouth by Mount Paropiſmus, and on the eaſt by the Aſiatic Scythia and the country of the Maſſagetæ. It was a large, fruitful, and well-peopled country, containing according to Ammianus Marcellinus 1000 cities, though of theſe only a few are particularly mentioned by hiſtorians, of which that commonly called *Maracanda*, now *Samarcand*, is the moſt conſiderable.

Of the hiſtory of this country we know but little. Authors agree that it was ſubdued firſt by the Aſſyrians, afterwards by Cyrus, and then by Alexander the Great. Afterwards it remained ſubject to Seleucus Nicator and his ſucceſſors till the time of Antiochus Theos; when Theodotus, from governor of that province, became king, and ſtrengthened himſelf ſo effectually in his kingdom, while Antiochus was engaged in a war with Ptolemy Philadelphus king of Egypt, that he could never afterwards diſpoſſeſs him of his acquiſitions. His poſterity continued to enjoy the kingdom for ſome time, till they were driven out by the Scythians, who reigned in Bactria in the time of Adrian, Antoninus Pius, &c. The Scythians were in their turn driven out by the Huns or Turks, and theſe often conquered by the Saracens and Tartars; nevertheleſs they continued in poſſeſſion of this country in the time of Ladiſlaus IV. king of Hungary.

In early times the Bactrians differed little in their manners from the Nomades; and being near neighbours of the

Scythians, who were a very warlike people, the Bactrian ſoldiers were reckoned the beſt in the world. Their appearance was very ſavage; being of an enormous ſtature, having a terrible aſpect, rough beards, and long hair hanging down their ſhoulders. Some authors aſſert that they kept dogs on purpoſe to devour ſuch as arrived at extreme old age, or who were exhauſted by long ſickneſs. They add, that for all their fierceneſs, the Bactrian huſbands were ſuch dupes to their wives, that they durſt not complain of them even for conjugal infidelity, to which it ſeems the latter were very much addicted.

BACURIUS, or BATURIUS, king of the Iberians, a people on the ſide of the Caſpian ſea. One day being a-hunting, he loſt ſight of his company, through a great ſtorm and ſudden darkneſs; upon which he vowed to the God of his Chriſtian ſlave, that if he were delivered he would worſhip him alone: the day breaking up immediately, he made good his promiſe, and became the apoſtle of his country.

BADCOCK (Samuel), was the ſon of a creditable butcher at South Molton in Devonſhire, where he was born about the year 1747. All his friends being diſſenters, he was deſigned by them for the miniſterial function, and after receiving the rudiments of education at his native town, was placed in an academy ſet apart for the training up candidates for the diſſenting miniſtry, we believe at St. Mary's Ottery, in the ſame county; and from thence he was tranſplanted to an higher ſeminary, at Taunton. On leaving the academy, he preached occaſionally as a probationer, and after ſome ſmall time was ordained paſtor to a congregation of diſſenters of the Independent perſuaſion, at Bere Regis in Dorſetſhire. From thence he was invited to Barnſtaple in Devon, whither he removed about 1767, and continued there nine or ten years.

While at Barnſtaple, he met with ſome of Dr. Prieſtley's theological productions, which ſo mightily charmed him, that he paid a viſit to the doctor at Caln in Wiltſhire, and eſtabliſhed an intimacy and correſpondence with him. Unfortunately, however, for the cauſe of Socinianiſm, Mr. Badcock had a mind too deep and penetrating to be long ſatisfied with mere empty ſounds and ſhewy pretences. He read much, and he read with judgment; and as his reading was confined pretty much to eccleſiaſtical hiſtory, and the writings of the more ancient fathers, he ſoon diſcovered the ſource of Socinianiſm to be ſo far from commencing at the primitive ages of Chriſtianity, that it was nothing more than a poliſhed aſſemblage of almoſt every hereſy that has peſtered the church. From Barnſtaple he removed to South Molton, the diſſenting congregation of which place readily accepted his miniſtry. This was about 1777. The number of diſſenters there being but few, his ſtipend was conſequently but very ſmall; and had it not been for the kindneſs of friends, many of them perſons of diſtinguiſhed rank, who properly valued his great merit and eminent talents, his ſituation muſt have been exceedingly irkſome. About 1780 he engaged as a writer in the Monthly Review, though he had before been a contributor to periodical publications. In the year 1780, when the great controverſy concerning the materiality or immateriality of the human ſoul was warmly agitated by Dr. Prieſtley, Dr. Price, and other metaphyſicians, Mr. Badcock alſo publiſhed a pamphlet upon the ſubject; one of the leaſt, indeed, in ſize, though one of the firſt in merit. It was entitled, A ſlight Sketch of the Controverſy between Dr. Prieſtley and his Opponents, 8vo. This tract was ſhrewd, and diſcovered the author to be deeply acquainted with his ſubject; and it was quoted by very reſpectable writers, with marks of high approbation.

In 1781 he diſtinguiſhed himſelf as the reviewer and opponent of the late Mr. Martin Madan's weak but popular Thelyphthora. In this controverſy Mr. Badcock evinced a remarkable force of genius, ſkill of argument, and diſplay of learning; and juſtly engaged the attention and admiration of the public upon his criticiſms. In the ſame year he alſo wrote a poem entitled, The Hermitage.

In the Chattertonian controverſy, or rather the controverſy concerning the authenticity of Rowley's poems, Mr. Badcock took a conſiderable part in his capacity of reviewer. Whether he was on the right ſide of the queſtion, he being an Anti-Rowleian, is not for us to determine; certain it is, however, that his elucidations were ingenious, and that he was far from being the leaſt of the formidable group who aſſailed the pretenſions of the Briſtol prieſt.

On the publication of Dr. Prieſtley's Hiſtory of the Corruptions of Chriſtianity, Mr. Badcock undertook the refutation of that part which was the moſt laboured and important of the whole work, viz. The Hiſtory of Opinions relative to Jeſus Chriſt. This he accordingly did in the Monthly Review for 1783. His critique was long, but ſmart, and ſhewed an uncommon extent of reading in the ancient fathers, eccleſiaſtical hiſtory, and the Socinian writers. Dr. Prieſtley felt this attack ſo ſeverely, and eſpecially as it was made from a quarter ſo unexpected as the Monthly Review, that with his uſual celerity, in leſs than a month, he publiſhed, A Reply to the Animadverſions, though the remainder of the critique upon his work had not yet appeared. When he publiſhed this Reply he did not know who his antagoniſt was, and therefore, unbiaſſed by prejudice, and untouched with reſentment, he beſtowed this eulogium on him: "The knowledge and ability of the preſent reviewer makes him a much more formidable, and therefore a more reſpectable, antagoniſt."

In the Review for September, 1783, Mr. Badcock gave a complete examination, and, as hath been generally thought, a complete refutation, both of the doctor's hiſtory, and the above-mentioned defence of it. This critique is, indeed, a maſterly performance, and ſearches all the doctor's arguments for his favourite cauſe to the very bottom.

When Dr. White was appointed Bampton lecturer in Eaſter term, 1783, in order to complete the lectures on the plan he had formed, he found it expedient to avail himſelf of the beſt aid he could procure. This made him turn his attention to Mr. Badcock, and about November following he paid him a viſit at South Molton, for the purpoſe of ſoliciting his aſſiſtance in the formation of a work that ſhould be worthy the attention of the public. Mr. Badcock undertook his part with alacrity, executed it ſpeedily, and in a manner that will immortaliſe his name. The parts allotted to, and written by Mr. Badcock, are, the greateſt ſhare of Lecture the Firſt, the beſt part of Lecture the Third, about a fourth of Lecture the Fifth, almoſt the whole of Lecture the Seventh, and a ſmall part of Lecture the Eight. Of the notes appended to the lectures, Mr. Badcock is acknowledged to have furniſhed about one fourth.

Mr. Badcock quitted the diſſenting miniſtry ſome time toward the end of the year 1786, having an intention of conforming to the eſtabliſhed church, to which he was reconciled, as he declared, by obſerving the parity between it and the primitive ages of Chriſtianity.

In the ſpring of 1787 he was ordained in Exeter cathedral by Biſhop Roſs; and it is certain that his ordination was diſtinguiſhed by the following particulars:—He was not examined; he received the order of deacon one Sunday, and that of prieſt the Sunday following. When Mr. Badcock intimated that he neither expected nor deſired ſuch marks of diſtinction, the biſhop's reply was, "I chooſe to diſtinguiſh you." The title upon which he was ordained was the curacy of Broad Clyſt, near Exeter.

On account of his repeated and violent head-achs, he was

obliged ſhortly after to reſign the curacy upon which he was ordained, and then engaged himſelf as aſſiſtant to Dr. Gabriel, of the Octagon Chapel, Bath. He there preached a charity ſermon, which was afterwards printed, but not publiſhed. At the lent aſſize, 1788, he preached in the cathedral of Exeter, before the judges, a ſermon which was much admired by thoſe who heard it. May the 19th following he died of a bilious complaint, at the houſe of his affectionate and worthy friend, Sir John Chicheſter, baronet, in Queen-ſtreet, May-fair.

His diſpoſition was gentle, humane, and lively; his judgment acute and comprehenſive. His ſchool education was very confined, but his own attainments were wonderfully great and various. There was ſcarcely a ſubject but he was in ſome degree acquainted with, nor any branch of literature that he had entirely neglected. As a writer, the public have borne the moſt honourable teſtimony to his excellence; as a preacher, it was an unhappineſs not to have heard him.

Beſides the pieces already noticed of Mr. Badcock's compoſition, he was the author of ſome curious memoirs of the family of the celebrated Mr. John Weſley, and ſeveral other fugitive pieces. He had alſo engaged in, and began, the hiſtory of his native country; but did not live to complete it.

BADEN (*Encycl.*), the capital of the diſtrict of that name, is an agreeable city, moderately large, ſeated on the ſide of the Limmet, in a plain flanked by two high hills, between which the river runs. This city owes its riſe to its baths, which were famous before the Chriſtian æra. Several monuments of antiquity have been found here from time to time, particularly in 1420. When they were opening the large ſpring of the baths, they found ſtatues of ſeveral heathen gods, made of alabaſter; Roman coins, made of bronze, of Auguſtus, Veſpaſian, Decius, &c.; and ſeveral medals of the Roman emperors, of gold, ſilver, copper, and bronze. There are two churches in Baden; one of which is collegiate, and makes a good appearance; the other is a monaſtery of the Capuchins, near the town-houſe. This laſt building ſerves not only for the aſſemblies of their own council, but alſo for thoſe of the cantons. The diet aſſembles there in a handſome room made for that purpoſe; the deputies of Zurich ſit at the bottom behind a table, as the moſt honourable place; the ambaſſadors of foreign powers are ſeated on one ſide to the right, and the deputies of the other cantons are ranged on each ſide the room. The bailiff of Baden reſides in a caſtle at the end of a handſome wooden bridge, which is covered in. Before this caſtle there is a ſtone pillar, erected in honour of the Emperor Trajan, who paved a road in this country eighty-five Italian miles in length. The inhabitants are rigid Roman-catholics, and formerly behaved in a moſt inſolent manner to the Proteſtants, but they are now obliged by their maſters to be more ſubmiſſive. The baths which are on each ſide the river are a quarter of a league from the city. Joining to the ſmall baths there is a village, and to the large a town which may paſs for a ſecond Baden. It is ſeated on a hill, whoſe aſcent is ſteep. There the baths are brought into inns and private houſes, by means of pipes, which are about ſixty in all. There are alſo public baths in the middle of the town, from a ſpring which riſes in the ſtreet, where the poor bathe *gratis*, but they are expoſed quite naked to all that paſs by. All the baths are hot, and one to ſo great a degree as to ſcald the hand; and they are impregnated with a great deal of ſulphur, with ſome alum and nitre. They are uſeful for drinking as well as bathing; and are ſaid to cure all diſeaſes from a cold cauſe, head-achs, vertigos, &c. They ſtrengthen the ſenſes, cure diſeaſes of the breaſt and bowels, aſthmas, and obſtructions. They are peculiarly excellent for women's diſeaſes. E. long. 8. 25. N. lat. 47. 27.

BADENOCH, the moſt northerly part of Inverneſsſhire, in Scotland, extending about thirty-three miles in length from eaſt to weſt, and twenty-ſeven from north-eaſt to ſouth-weſt where broadeſt. It has no conſiderable town, and is very barren and hilly, but abounds with deer, and other kinds of game.

BADEW (Richard de), the firſt and original founder of Clare-hall, in Cambridge, was deſcended from a knightly family ſeated at Great Badew, or Badow, near Chelmsford, in the county of Eſſex. From this place of their reſidence they took their ſurname; and here, probably, Richard de Badew was born. In 1326 he was chancellor of the univerſity of Cambridge; and having purchaſed two tenements in Miln-ſtreet, of Nigel Thornton, a phyſician, he laid there, in the year above mentioned, the foundation of a building, to which was given the name of Univerſity-hall. In it he placed a principal, who was to take care of the penſioners that came to live there. It continued in this condition for the ſpace of ſixteen years, and then by an accidental fire was burnt down. Richard de Badew being unable to rebuild it, it lay for a few years in ruins; but one of the late penſioners having a great intereſt with Elizabeth, daughter of Sir Gilbert de Clare, earl of Glouceſter, and third ſiſter and coheir of Sir Gilbert de Clare, the laſt earl of Glouceſter and Hertford, he prevailed upon her to undertake what de Badew was not able to perform. Whereupon this charitable lady, after the reſignation of Walter Thaxtead, the principal, and with the conſent of Richard de Badew, new built that hall, and endowed it, in the year 1347, with revenues for one maſter, ten fellows, and ten ſcholars. At the ſame time ſhe named it Clare-hall, from her own family ſurname.

BADGEWORTH, a village of Glouceſterſhire, noted for a ſpring of mineral water, called Cold Pool, nearly the ſame in property as thoſe of Cheltenham. From the hill, above Crickly, is a very extenſive proſpect. It is three miles from Cheltenham.

BADIA, an ancient town of Bætica on the Anas; now ſuppoſed to be *Badajoz* on the Guadiana.

BADIUS (Conrad), and (Stephen Robert), his brother; French refugees; celebrated as printers at Geneva, and Conrad as an author. The latter died in 1566.

BÆCKEA (*Encycl.*). Correct a botanical error, by ſubſtituting the claſs for the order, and vice verſa.

BÆTERRÆ, an ancient town of the Tertoſages in Gallia Narbonenſis; now *Beſiers*, on the eaſt bank of the Obris, now *Orbis*, or *Orbe*, in Lower Languedoc.

BÆTICA, a province of ancient Spain, ſo called from the famed river Bætis, afterwards *Tarteſſus*, now *Guadalquiver*, or the great river. It was bounded on the weſt by Luſitania; on the ſouth, by the Mediterranean, and Sinus Gaditanus; on the north, by the Cantabric ſea, now the Bay of Biſcay. On the eaſt and north-eaſt, its limits cannot be ſo well aſcertained, as they are very reaſonably thought to have been in a continual ſtate of fluctuation, as each petty monarch had an opportunity of encroaching upon his neighbour. The province was divided in two by the river Bætis already mentioned. On the one ſide of which, towards the Anas, were ſituated the Turdetani, from whence the kingdom was called *Turdetania*, though more generally known by the name of *Bæturia*. On the other ſide were ſituated the Baſtuli, Baſtetani, and Conteſtani, along the Mediterranean coaſts. The Baſtuli were ſuppoſed to be of Phœnician extract, and dwelt along the coaſts of the Mediterranean, till, driven from thence by the Moors, they fled into the mountainous parts of Galicia, which they then called from their own name *Baſtulia*. The Baſtetani were ſeated higher up, on the ſame coaſts. The territories of both theſe made part of what has ſince become the kingdom

of *Granada*; in which there is a ridge of very high mountains, called, from the above-mentioned people, the *Baſtetanian mountains*. Mention is alſo made of their capital *Baſtetana*; a place of ſuch ſtrength, that King Ferdinand was ſix months beſieging it before he could take it from the Moors.—The whole province of Bætica, according to the moſt probable account, contained what is now called *Andaluſia*, part of the kingdom of Grenada, and the outward boundaries of Eſtremadura.

BÆTIS. See BÆTICA.

BÆTULO, a town of ancient Spain, in the Terraconenſis; now *Badelona* in Catalonia.

BAGAMADER, or BAGAMEDRI, a province of the kingdom of Abyſſinia in Africa. It is ſaid to receive its name from the great number of ſheep bred in it; *meder* ſignifying land or earth, and *bag* a ſheep. Its length is eſtimated about ſixty leagues, and its breadth twenty: but formerly it was much more extenſive; ſeveral of its provinces having been diſmembered from it, and joined to that of Tigre. A great part of it, eſpecially towards the eaſt, is inhabited by wandering Gallas and Caffres.

BAGFORD (John), the antiquary, and great collector of old Engliſh books, prints, &c. was born in London. He had been in his younger days a ſhoemaker, afterwards a bookſeller; and laſtly, for the many curioſities wherewith he enriched the famous library of Dr. John Moore, biſhop of Ely, his lordſhip got him admitted into the Charter-houſe. He was ſeveral times in Holland, and in other foreign parts, where he procured many valuable old books, prints, &c. ſome of which he diſpoſed of to the late earl of Oxford, who, after his death, purchaſed all his collections, papers, &c. for his library. In 1707 were publiſhed, in the Philoſophical Tranſactions, his propoſals for a General Hiſtory of Printing. He died at Iſlington, a little before ſix in the morning, May 15, 1716, aged ſixty-five years; and was buried the Monday following, in the cemetary belonging to the Charter-houſe. In 1728 a print was engraved of him, from a painting of Mr. Howard, by George Vertue. An account of his entries, which were deſigned for a General Hiſtory of Printing, is in the Catalogue of the Harleian Collection of MSS. vol. II. fol. London, 1759, from No. 5892 to No. 5910. His MSS. may be of uſe to ſuch as will take pains to extract good matter from a bad hand, and worſe orthography. This may be eaſily forgiven to his education, far from learned, and all his improvements owing to the ſtrength of genius, ſeconded by unuſual diligence and induſtry. A number of his letters to Humphry Wanley may be ſeen in the Britiſh Muſeum; and a large part of his collections is in the public library at Cambridge, where they are locked up in a large cubical deal box, and probably have never been opened ſince they were placed there

BAHAR, a country of Hindooſtan Proper, bounded on the W. by Allahabad and Oude, on the N. by Napaul, on the E. by Bengal, and on the S. by Oriſſa. It is ſubject to the Engliſh Eaſt-India Company; and moſt of the ſaltpetre they export is manufactured in this province, of which Patna is the capital.

BAJAZET I. Sultan of the Turks, a renowned warrior, but a tyrant, was conquered by Tamerlane, and expoſed by him in an iron cage; the fate he had deſtined for his adverſary if he had been the victor. He daſhed his head againſt the bars of this priſon, and killed himſelf, in 1413. See the article TURKS.

BAILLET (Adrian), a very learned French writer and critic, born in 1649, at the village of Neuville near Beauvais in Picardy. His parents were too poor to give him a proper education, which however he obtained by the favour of the biſhop of Beauvais, who afterward preſented him with a ſmall vicarage. In 1680 he was appointed librarian to M. de Lamoignon, advocate general to the parliament of Paris; of whoſe library he made a copious index in 35 vols. folio, all written with his own hand. He died in 1706, after writing many works, the principal of which are, *A Hiſtory of Holland from 1609, to the Peace of Nimeguen in 1679*, 4 vols. 12mo; *Lives of the Saints*, 3 vols. folio, which he profeſſed to have purged from fables; *Judgemens des Savans*, which he extended to 9 vols. 12mo; and *The Life of Des Cartes*, 2 vols. 4to. which he abridged, and reduced to 1 vol. 12mo.

BAILLIE (Robert), a preſbyterian divine in the church of Scotland during the laſt century, was born at Glaſgow, in the year 1599. He was educated in the univerſity of his native city, under the direction of Mr. Sharp, who was at that time the head of the college there. After Mr. Baillie had taken his degrees in arts, he turned his thoughts to the ſtudy of divinity, to which he applied with uncommon diligence. Having about the year 1622 received orders from Archbiſhop Law, he was choſen a regent of philoſophy in the univerſity of Glaſgow. While he was in this ſtation, he had, for ſome years, the care of the education of Lord Montgomery, who, at length, carried him with him to Kilwinning; to which church he was preſented by the Earl of Eglinton. Here he lived in the ſtricteſt friendſhip with that noble family, and the people connected with it; as he did, alſo, with his ordinary the Archbiſhop of Glaſgow, with whom he kept up an epiſtolary correſpondence. In 1633 he declined, from a principle of modeſty, an offer which was made him of a church in Edinburgh. In 1638 he was choſen, by the preſbytery of Irvine, a member of the famous aſſembly at Glaſgow, which was a prelude to the civil war. Though Mr. Baillie is ſaid to have behaved in this aſſembly with great moderation, it is evident that he was by no means deficient in his zeal againſt prelacy and arminianiſm. He was a member of all the following general aſſemblies, till 1653, excepting the time in which he attended the Weſtminſter aſſembly. In 1640 he was ſent by the covenanting lords to London, to draw up an accuſation againſt Dr. Laud, archbiſhop of Canterbury, for the innovations he had obtruded upon the church of Scotland. While Mr. Baillie was in England upon this occaſion, he wrote to the preſbytery of Irvine a regular account of the ſtate of public affairs; and ſent them, among other things, a large journal of the proceedings in the trial of the Earl of Stafford. Not long after his return to his own country (in 1642), he was appointed joint profeſſor of divinity, with Mr. David Dickſon, in the univerſity of Glaſgow. And his reputation was become ſo great, that he had before this received invitations from the other three univerſities, all of which he refuſed. He continued in his profeſſorſhip till the Reſtoration: but his diſcharge of the duties of it was interrupted, for a conſiderable time, by his reſidence in England; for in 1643 he was choſen one of the commiſſioners of the church of Scotland to the aſſembly of divines at Weſtminſter. Mr. Baillie returned again to his own country in the latter end of the year 1646. When, after the execution of Charles the Firſt, Charles the Second was proclaimed in Scotland, our profeſſor was one of the divines appointed by the general aſſembly to wait upon his majeſty at the Hague; upon which occaſion, on the 27th of March, 1649, he made a ſpeech in the royal preſence, wherein he expreſſed, in the ſtrongeſt terms, his abhorrence of the murder of the late king; and, in his ſentiments upon this event, it appears, that the preſbyterian divines of that period, both at home and abroad, almoſt univerſally agreed. After the reſtoration of King Charles the Second, Mr. Baillie, on the 23d of January, 1661, by the intereſt of the Earl of

Lauderdale, with whom he was a great favourite, was made principal of the univerſity of Glaſgow, upon the removal of Mr. Patrick Galleſpie, who had been patronized by Cromwell. It is ſaid, by ſeveral writers, that Mr. Baillie had the offer of a biſhopric, which he abſolutely refuſed. Though he was very loyal, and moſt ſincerely rejoiced in his majeſty's reſtoration, he began, a little before his death, to be extremely anxious for the fate of his beloved preſbytery. His health failed him in the ſpring of the year 1662, and he died in July, the ſame year, aged ſixty-three.

BAINBRIDGE (Dr. John), an eminent phyſician and aſtronomer, born at Aſhby de la Zouch in Leiceſterſhire, in 1582. He taught a grammar-ſchool for ſome years, and practiſed phyſic, employing his leiſure hours in aſtronomy, which was his favourite ſtudy: at length he removed to London, was admitted a fellow of the college of phyſicians, and raiſed his character by his deſcription of the comet in 1618. The next year Sir Henry Savile appointed him his firſt profeſſor of aſtronomy at Oxford; and the maſters and fellows of Merton College made him firſt junior, and then ſuperior, reader of Linacre's lecture. He died in 1643, having written many works, ſome of which have never been publiſhed: but the MSS. are preſerved in the library of Trinity College, Dublin.

BAIN GONGA, or Bain River, a large river of Hindooſtan, which riſes near the S. bank of the Nerbudda, runs ſouthward through the heart of Berar, and, after a courſe of near 400 miles, unites with the Godavery, within the hills that bound the Britiſh Northern Circars.

BAKER (Thomas), an eminent mathematician, was born at Ilton in Somerſetſhire, about the year 1625, and entered at Magdalen-hall, Oxon, in 1640; after which he was vicar of Biſhop's-Nymmet in Devonſhire, where he wrote The Geometrical Key, or the Gate of Equations unlocked; by which he gained a conſiderable reputation. A little before his death, the members of the Royal Society ſent him ſome mathematical queries, to which he returned ſo ſatisfactory an anſwer, that they preſented him a medal, with an inſcription full of honour and reſpect. He died at Biſhop's-Nymmet, on the 5th of June, 1690.

Baker (Thomas), a dramatic writer, was the ſon of an eminent attorney in the city of London. His turn was entirely to comedy, and his plays are five in number, viz. 1. Act at Oxford. 2. Fine Ladies' Airs. 3. Hampſtead Heath. 4. Humours of the Age. 5. Tunbridge Walks. All of them have a conſiderable ſhare of merit; yet only one among the number ſtands on the preſent liſt of acting plays, viz. Tunbridge Walks. It is ſaid that the character of Maiden in this play, which is perhaps the original of almoſt all the Fribbles, beau Mizens, &c. that have been drawn ſince, and in which effeminacy is carried to an height beyond what any one could conceive to exiſt in any man in real life, was abſolutely and without exaggeration, a portrait of the author's own former character; whoſe underſtanding having at length pointed out to him the folly he had ſo long been guilty of, he reformed it altogether in his ſubſequent behaviour, and wrote this character, in order to ſet it forth in the moſt ridiculous light, and warn others from that rock of contempt which he had himſelf for ſome time been wrecked upon. Whether this gentleman's attachment to the muſes drew him from any application to buſineſs, or from what other cauſe, is not known; but during the latter part of his life he ſtood on indifferent terms with his father, who allowing him a very ſcanty income, he was obliged to retire into Worceſterſhire, where he is reported to have died of that loathſome diſorder the *morbus pediculoſus*.

Baker (Henry), an ingenious and diligent naturaliſt, was born in Fleet-ſtreet, London, either near the end of the laſt, or very early in the beginning of the preſent, century. His father's profeſſion is not known; but his mother was, in her time, a midwife of great practice. He was brought up, under an eminent bookſeller who preceded the elder Dodſley, to the buſineſs of a bookſeller, in which, however, he appears not to have engaged at all after his apprenticeſhip; or, if he did, it was ſoon relinquiſhed by him: for though it was in his power to have drawn away all his maſter's beſt cuſtomers, he would not ſet up againſt him. Mr. Baker being of a philoſophical turn of mind, and having diligently attended to the methods which might be practicable and uſeful in the cure of ſtammering, and eſpecially in teaching deaf and dumb perſons to ſpeak, he made this the employment of his life. In the proſecution of ſo valuable and difficult an undertaking, he was very ſucceſsful; and ſeveral of his pupils, who are ſtill living, bear teſtimony to the ability and good effect of his inſtructions. He married Sophia, youngeſt daughter of the famous Daniel Defoe, who brought him two ſons, both of whom he ſurvived. On the 29th of January, 1740, Mr. Baker was elected a fellow of the Society of Antiquaries; and, on the 12th of March following, the ſame honour was conferred upon him by the Royal Society. In 1744 Sir Godfrey Copley's gold medal was beſtowed upon him, for having, by his microſcopical experiments on the cryſtallizations and configurations of ſaline particles, produced the moſt extraordinary diſcovery during that year. This medal was preſented to him by Sir Hans Sloane, late preſident of the Royal Society, and only ſurviving truſtee of Sir Godfrey Copley's donation, at the recommendation of Sir Hans's worthy ſucceſſor, Martin Folkes, eſq. and of the council of the ſaid ſociety. Having led a very uſeful and honourable life, he died at his apartments in the Strand, on the 25th of November, 1774, being then about ſeventy years of age.

Several of Mr. Baker's communications are printed in the Philoſophical Tranſactions; and, beſides the papers written by himſelf, he was the means, by his extenſive correſpondence, of conveying to the ſociety the intelligence and obſervations of other inquiſitive and philoſophical men. Mr. Baker was a poetical writer in the early part of his life. His Invocation of Health got abroad without his knowledge: but was reprinted by himſelf in his Original Poems, Serious and Humorous, part the firſt, 8vo. 1725. The ſecond part came out in 1726. Among theſe poems are ſome tales as witty and as looſe as Prior's. He was the author, likewiſe, of The Univerſe, a Poem, intended to reſtrain the Pride of Man; which has been ſeveral times reprinted. His account of the water polype, which was originally publiſhed in the Philoſophical Tranſactions, was afterwards enlarged into a ſeparate treatiſe, and hath gone through ſeveral editions. But his principal publications are, The Microſcope made Eaſy, and Employment for the Microſcope.

His eldeſt ſon, David Erſkine Baker, was a young man of genius and learning. Having been adopted by an uncle, who was a ſilk-throwſter in Spital-fields, he ſucceeded him in the buſineſs; but wanted the prudence and attention which are neceſſary to ſecure proſperity in trade. Like his father, he was both a philoſopher and a poet; and wrote ſeveral occaſional poems in the periodical collections. The public was indebted to him for The Companion to the Playhouſe, in two volumes, 1764, 12mo; a work which, though imperfect, had conſiderable merit, and ſhewed that he poſſeſſed a very extenſive knowledge of our dramatic authors.

BALAMIO (Ferdinand), of Sicily, was phyſician to Pope Leo X.; who greatly regarded him. He was no leſs ſkilled in the belles lettres than in medicine; and he cultivated poetry

and the Greek learning with much ſucceſs. He tranſlated from the Greek into Latin, ſeveral pieces of Galen; which were firſt printed ſeparately, and afterwards inſerted in the works of that ancient phyſician, publiſhed at Venice, 1536, in folio. He flouriſhed at Rome about the year 1555.

BALARUC, a town of France, near the road from Montpellier to Toulouſe; famous for its baths.

BALANUS, in zoology, the trivial name of a ſpecies of lepas. See LEPAS.

BALASORE, a ſeaport to the N.W. of the bay of Bengal, four miles from the ſea by land, but by the rivers twenty. The inhabitants make ſtuffs of ſilk, cotton, and a ſort of graſs. It is 180 miles S.W. of Hoogly. Long 87. 1. E. Lat. 21. 20 N.

BALBUS (Lucius Cornelius Theophanes), was born at Cadiz, and diſtinguiſhed himſelf by his valour in the war carried on by the Romans in Spain againſt Sertorius and the Luſitanians, on which account Pompey gave him the privileges of a Roman citizen. He was conſul in the 714th year of Rome, and was the firſt foreigner on whom that dignity was conferred. He was the friend of Pompey, Caſar, Craſſus, and Cicero.—There were many other illuſtrious Romans of the name of *Balbus*.

BALCH, a town of Uſbec Tartary, in Aſia, on the frontiers of Perſia, 200 miles S. of Bokhara. Long. 69. 0. E. Lat. 37. 20. N

BALDINUCCI (Philip), of Florence; a connoiſſeur in the polite arts, and the continuator of Vaſari's lives of the painters. He died in 1696, aged ſeventy-two.

BALDOCK (Ralph de), biſhop of London in the reigns of Edward I. and II. was educated at Moreton College, in Oxford; became dean of St. Paul's; was afterwards promoted to the ſee of London; and at laſt was made lord high-chancellor of England. He had a very amiable character both for morals and learning; and wrote *Hiſtoria Anglica*, or An Hiſtory of the Britiſh Affairs down to his own Time; and, A Collection of the Statutes and Conſtitutions of the church of St. Paul. Biſhop Baldock died at Stepney, July 24th, 1313.

About the ſame time there was a ROBERT DE BALDOCK, a canon of London, and archdeacon of Middleſex, who, upon the vacancy of the ſee of London by the death of Biſhop Baldock, was (together with John Colcheſter, another canon) preſented by the chapter of London to the chapter of Canterbury, that ſee being likewiſe vacant, for the choice of one of them to be official for the dioceſe of London. This Robert Baldock was in great favour with King Edward II. who made him his chancellor, and nominated him to the biſhopric of Norwich, into which he was elected about the middle of the year 1325, and confirmed by the archbiſhop in the month of Auguſt; but he could not obtain the ſee, by reaſon of a papal proviſion in favour of William de Ayremin. Soon after, he loſt his liberty and life by the national commotions, which deprived King Edward of his crown; for, being ſeized by the enraged populace, he was dragged to the priſon of Newgate, where he died in a moſt wretched condition.

BALDWIN, archbiſhop of Canterbury, was born of obſcure parents at Exeter, where, in the early part of his life, he taught a grammar-ſchool; after which he took orders, and was made archdeacon of Exeter: but he reſigned that dignity, and became a Ciſtertian monk in the monaſtery of Ford in Devonſhire, of which in a few years he was made abbot. In the year 1180 he was conſecrated biſhop of Worceſter. In 1184 he was promoted to the ſee of Canterbury by Pope Lucius III. and by his ſucceſſor Urban III. was appointed legate for that dioceſe. He laid the foundation of a church and monaſtery in honour of Thomas Becket, at Hackington, near Canterbury, for ſecular prieſts; but, being oppoſed by the monks of Canterbury and the pope, was obliged to deſiſt. In 1190 he crowned King Richard I. at Weſtminſter; and ſoon after followed that prince to the Holy Land, where he died at the ſiege of Ptolemais. Giraldus Cambrenſis, who accompanied him in this expedition, ſays he was of a mild diſpoſition, and of great abſtinence. He wrote various tracts on religious ſubjects, which were collected and publiſhed by Bertrand Tiſſier in 1662.

BALE (John), biſhop of Oſſory in Ireland, was born at Cove, near Dunwich, in Suffolk, in the year 1495. At twelve years of age he was entered in the monaſtery of Carmelites at Norwich, and was thence ſent to Jeſus College in Oxford. He was educated a Roman-catholic, but was converted to the Proteſtant religion by Thomas lord Wentworth. On the death of Lord Cromwell, favourite of Henry VIII. who protected him from the perſecutions of the Romiſh clergy, he was obliged to retire into the Low-countries, where he continued eight years. Soon after the acceſſion of Edward VI. he was recalled; and being firſt preſented to the living of Biſhop's-Stocke in Hampſhire, in 1552, he was nominated to the ſee of Oſſory. During his reſidence in Ireland he was remarkably aſſiduous in propagating the Proteſtant doctrines; but to very little purpoſe, and frequently at the hazard of his life. Once, in particular, they murdered five of his domeſtics, who were making hay in a meadow near his houſe; and would probably have done the ſame by him, if the ſovereign of Kilkenny had not come to his aſſiſtance with 100 horſe and 300 foot. On the acceſſion of Queen Mary, the tide of oppoſition became ſo powerful, that, to avoid aſſaſſination, he embarked for Holland, but was very unfortunate in his eſcape. Firſt he was taken by a Dutch man-of-war, and robbed by the captain of all his effects. Then, being forced by ſtreſs of weather into St. Ive's in Cornwall, he was confined on ſuſpicion of treaſon. Being however releaſed after a few days' confinement, the ſhip anchored in Dover road, where he was again ſeized on a falſe accuſation. After his arrival in Holland, he was kept priſoner for three weeks, and at length obtained his liberty on paying 30l. From Holland he travelled to Baſil in Switzerland, where he continued till Queen Elizabeth aſcended the throne. After his return to England, he was, in 1560, made prebendary of Canterbury, probably not chooſing to return to his former flock of wolves. He died in November 1563, at Canterbury, in the 68th year of his age. He was ſo ſevere a writer againſt the church of Rome, that his books are particularly prohibited in the expurgatory index publiſhed at Madrid, in folio, in the year 1667. He is the earlieſt dramatic writer in the Engliſh language, or at leaſt author of the firſt pieces of that kind that we find in print. Of his writings in that way, no fewer than twenty-one have been enumerated; only three of them, however, have been ſeen in print, *viz.* 1. God's Promiſes, an interlude; 2. St. John Baptiſt, an interlude; 3. Concerning the Laws of Nature corrupted: the firſt of which has been reprinted by Dodſley in the firſt volume of his collection of old plays, and the only copy extant of the laſt is preſerved in St. Sepulchre's library in Dublin. As to the reſt, they are mentioned by himſelf, as his own, in his account of the writers of Britain before mentioned.—He alſo tranſlated the tragedies of Pammachius.—His other works are very numerous; but the chief is his Catalogue of Britiſh authors: a book of ſome merit, as it contains ſome information which is not elſewhere to be found; but he has deſtroyed his credit by his intemperate Billingſgate abuſe of all thoſe who differed from him in religion. The authentic part of his work is tranſcribed from Leland. The title of it is, *Illuſtrium Majoris Britanniæ ſcriptorum Catalogus, a Japheto ſanctiſſimi Noah filio ad an. Dom.* 1557.

BALEARIC ISLANDS, the ancient name of the iſlands Majorca, Minorca, and Ivica, in the Mediterranean. See MAJORCA, &c.

BALES (Peter), was a moſt famous maſter in the art of penmanſhip, or fair writing, and one of the firſt inventors of ſhort-hand. He was born in 1547, and is ſtyled by Anthony Wood "a moſt dexterous perſon in his profeſſion, to the great wonder of ſcholars and others." He is recorded for his ſkill in micrography, or miniature writing, in Hollinſhed's chronicle, anno 1575; and Mr. Evelyn alſo hath celebrated his wonderful ſkill in this delicate operation of the hand. "Hadrian Junius ſpeaking as a miracle of ſomebody who wrote the Apoſtle's Creed, and the beginning of St. John's Goſpel, within the compaſs of a farthing; what would he have ſaid," ſays Mr. Evelyn, "of our famous Peter Bales, who, in the year 1575, wrote the Lord's Prayer, the Creed, Decalogue, with two ſhort prayers in Latin, his own name, motto, day of the month, year of the Lord, and reign of the queen, to whom he preſented it at Hampton Court, all of it written within the circle of a ſingle penny, inchaſed in a ring and borders of gold, and covered with a cryſtal ſo accurately wrought, as to be very plainly legible, to the great admiration of her majeſty, the whole privy-council, and ſeveral ambaſſadors then at court?" He was farther very dexterous in imitating hand-writing, and about 1586 was employed by Secretary Walſingham in certain political manœuvres. We find him at the head of a ſchool, near the Old Bailey, London, in 1590; in which year he publiſhed his Writing Schoolmaſter, in three parts; the firſt teaching ſwift writing, the ſecond true writing, the third fair writing. In 1595 he had a great trial of ſkill, in the Black Friars, with one Daniel Johnſon, for a golden pen of 20 l. value, and won it; and a contemporary author farther relates, that he had alſo the arms of calligraphy given him, which are, Azure, a Pen, Or, as a prize, at a trial of ſkill in this art among the beſt penmen in London. In 1597 he republiſhed his Writing Schoolmaſter, which was in ſuch high reputation, that no leſs than eighteen copies of commendatory verſes, compoſed by learned and ingenious men of that time, were printed before it.

BALEY (Walter), the ſon of Henry Baley of Warnwell in Dorſetſhire, was born at Potſham in the ſame county, and educated at Wincheſter ſchool. From thence he was ſent to Oxford; and, after two years' probation, was admitted perpetual fellow of New College in the year 1550. Having taken his degrees in arts, he practiſed phyſic, and in 1558 was proctor of the univerſity. About this time he obtained a prebend of Wells, which he reſigned in 1579. In the year 1561 he was appointed queen's profeſſor of phyſic, in 1563 proceeded doctor in that faculty, and afterwards became one of her majeſty's phyſicians in ordinary. He was thought ſkilful in his profeſſion, and had conſiderable practice. He died in 1592, aged ſixty-three; and was buried in the inner chapel of New college. His works are, 1. *A Diſcourſe of three Kinds of Pepper in common Uſe*, 1588, 8vo. 2. *Brief Treatiſe of the Preſervation of the Eye ſight*. Firſt printed in the reign of Elizabeth, in 12mo; afterwards at Oxford in 1616, and 1654, 8vo. 3. *Directions for Health, natural and artificial; with Medicines for all Diſeaſes of the Eyes*, 1626, 4to. 4. *Explicatio Galeni de potu convaleſcentium et ſenum*, &c. Manuſcript, formerly in Lord Ayleſbury's library.

BALGUY (John), an eminent divine of the church of England in the preſent century, was born on the 12th of Auguſt, 1686, at Sheffield in Yorkſhire. His father, Thomas Balguy, was maſter of the free grammar-ſchool in that place, and from him he received the firſt rudiments of his grammatical education. After his father's death, he was put under the inſtruction of Mr. Daubuz, who ſucceeded to the maſterſhip of the ſame ſchool, September 23, 1696, for whom he always profeſſed a great reſpect. In 1702 he was admitted of St. John's College, Cambridge, under the care of Dr. Edmondſon, and of Dr. Lambert, afterwards maſter of that college. He frequently lamented, in the ſucceeding part of his life, that he had waſted nearly two years of his reſidence there in reading romances; but at the end of that time he had the good fortune to meet with Livy, went through him with great delight, and from thence forward applied himſelf to ſerious ſtudies. In 1705-6 he was admitted to the degree of bachelor of arts, and to that of maſter of arts in the year 1726. Soon after he had taken his bachelor's degree he quitted the univerſity, and was engaged, for a while, in teaching the free-ſchool at Sheffield; but whether he was ever choſen maſter, or only employed during a vacancy, does not appear. On the 15th of July, 1708, he was taken into the family of Mr. Banks, as private tutor to his ſon, Joſeph Banks, eſq. afterwards of Reresby, in the county of Lincoln, and grandfather of the celebrated Sir Joſeph Banks, bart. ſo eminently diſtinguiſhed for his ſkill in natural hiſtory, and the expences, labours, and voyages he has undergone to promote that part of ſcience. Mr. Balguy, in 1710, was admitted to deacon's orders, by Dr. Sharp, archbiſhop of York; and in 1711 he was ordained a prieſt, by that prelate. By Mr. Banks's means he was introduced to the acquaintance of Mr. Bright of Badſworth, in the county of York; and was by him recommended to his father, Sir Henry Liddel, grandfather to the late Lord Ravenſworth. In 1711 this gentleman, who lived at Ravenſworth-caſtle, in the county of Durham, took Mr. Balguy into his family, and beſtowed upon him the donative of Lameſly and Tanfield, in that county. For the firſt four years after he had obtained this ſmall preferment, he did not intermit one week without writing a new ſermon; and all his ſermons were of his own compoſition. Being deſirous that ſo excellent an example ſhould be followed by his ſon, he deſtroyed almoſt his whole ſtock, and committed, at one time, two hundred and fifty to the flames, moſt of which deſerved to have been uſed in the beſt congregations. In July, 1715, he married Sarah, daughter of Chriſtopher and Sarah Broomhead, of Sheffield. She was born in 1686, and by her he had only a ſon, Dr. Thomas Balguy, archdeacon of Wincheſter, who owed his archdeaconry, and all his other preferments, to the favour and friendſhip of Biſhop Hoadly. In 1718 he publiſhed, without his name, Silvius's Examination of certain Doctrines lately taught and defended by the Rev. Mr. Stebbing; and in the following year, Silvius's Letter to the Rev. Dr. Sherlock. Both of theſe performances were written in vindication of Biſhop Hoadly. Mr. Stebbing having written againſt theſe pamphlets, Mr. Balguy, in 1720, again appeared from the preſs, in the cauſe of the biſhop, in a tract entitled, Silvius's Defence of a Dialogue between a Papiſt and a Proteſtant, in Anſwer to the Rev. Mr. Stebbing; to which are added, ſeveral Remarks and Obſervations upon that Author's Manner of Writing. This alſo being anſwered by Mr. Stebbing, Mr. Balguy had prepared a farther defence; but Dr. Hoadly prevailed upon him to ſuppreſs it, on account of the public having grown weary of the controverſy. In 1726 he publiſhed A Letter to a Deiſt, concerning the Beauty and Excellence of Moral Virtue, and the Support and Improvement which it receives from the Chriſtian Revelation. In this treatiſe he has attacked, with the greateſt politeneſs, and with equal ſtrength of reaſon, ſome of the principles advanced by the noble and celebrated writer of the Characteriſtics, in his Enquiry concerning Virtue. On the 25th of January, 1727-8, Mr. Balguy was collated by Biſhop Hoadly to a prebend in the church of Saliſbury; among the advantages of which preferment, was the right of preſenting to four livings,

and of preſenting alternately to two others. The beſt of them did not fall in his life-time; but two ſmall livings were diſpoſed of by him; one to Mr. Robinſon, who married his wife's ſiſter, the other to his own ſon. In the year 1727, or 1728, he preached an aſſize ſermon at Newcaſtle-upon-Tyne, the ſubject of which was party ſpirit. It was printed by order of the judges, and either inſcribed or dedicated to Dr. Talbot, biſhop of Durham. The Foundation of Moral Goodneſs, or a farther Enquiry into the Original of our Idea of Virtue, was publiſhed by him in 1728. In the ſame year he publiſhed The Second Part of the Foundation of Moral Goodneſs; illuſtrating and enforcing the Principles and Reaſonings contained in the former: being an Anſwer to certain Remarks communicated by a Gentleman to the Author. His next publication was, Divine Rectitude; or, A brief Enquiry concerning the Moral Perfections of the Deity; particularly in reſpect of Creation and Providence. This was followed by A Second Letter to a Deiſt, concerning a late Book, entitled, Chriſtianity as old as the Creation. To this ſucceeded The Law of Truth, &c. In 1741 appeared Mr. Balguy's Eſſay on Redemption. This, and his volume of ſermons, including ſix, which he had publiſhed before, were the laſt pieces committed by him to the preſs. A poſthumous volume was afterwards printed, which contained almoſt the whole of the ſermons he left behind him. He died on the 21ſt of September, 1748, in the 63d year of his age.

BALIOL. Balliol, or Boilliol (John), the brother of Alexander king of Scotland, and competitor with Robert Bruce for that crown.

BALL (John), a puritan divine in the ſeventeenth century, was born in the year 1585, of an obſcure family, at Caſſington, or Cherſington, near Woodſtock in Oxfordſhire. He was educated in grammar learning at a private ſchool, under the vicar of Yarnton, a mile diſtant from Caſſington; and was admitted a ſtudent of Brazen-noſe College in Oxford, in 1602. He continued there about five years, in the condition of a ſervitor, and under the diſcipline of a ſevere tutor; and from thence he removed to St. Mary's Hall, and took the degree of bachelor of arts in 1608. Soon after, he was invited into Cheſhire, to be tutor to the Lady Cholmondeley's children; and here he became acquainted with ſome rigid puritans, who gained ſo far upon his affections, that he went over to their party. About this time, having got a ſum of money, he came up to London, and procured himſelf to be ordained by an Iriſh biſhop, without ſubſcription. Soon after, he removed into Staffordſhire, and became curate of Whitmore, a chapel of eaſe to Stoke. He has, among the puritan writers, the character of an excellent ſchool-divine, a painful preacher, and a learned and ingenious author; and, though he was not well affected to ceremonies and church diſcipline, yet he wrote againſt thoſe who thought theſe matters a ſufficient ground for ſeparation. He died the 20th of October, 1640, aged about fifty-five.

BALLARD (George), one of thoſe ſingular compoſitions which ſhoot forth without culture, was born at Campden in Glouceſterſhire. Being of a weakly conſtitution, his parents put him to a habit-maker; and in this ſituation he maſtered the Saxon language. The time he employed in learning it was ſtolen from ſleep, after the labour of the day was over. Lord Chedworth, and the gentlemen of his hunt, who uſed to ſpend about a month of the ſeaſon at Campden, heard of his fame, and generouſly offered him an annuity of 100l.; but he modeſtly told them, that 60l. were fully ſufficient to ſatisfy both his wants and his wiſhes. Upon this he retired to Oxford, for the benefit of the Bodleian library; and Dr. Jenner, preſident, made him one of the eight clerks of Magdalen college. He was afterwards one of the univerſity beadles, but died in June, 1755, rather young; which is ſuppoſed to have been owing to too intenſe application. He left large collections behind him, but publiſhed only Memoirs of Britiſh Ladies, who have been celebrated for their Writings or Skill in the learned Languages, Arts, and Sciences, 1752, 4to. He drew up an account of Campden church, which was read at the Society of Antiquaries, November 21, 1771.

BALLENDEN (Sir John), a Scottiſh poet, in the reign of James V. of Scotland, was deſcended from an ancient family in that kingdom. His father, Mr. Thomas Ballenden, of Auchinoul, was director to the chancery in the year 1540, and clerk regiſter in 1541. Where our poet was educated, we are not informed; but from one of his poems we learn, that in his youth he had ſome employment at the court of King James V. and that he was in great favour with that prince. Having taken orders, and being created doctor of divinity at the Sorbonne, he was made canon of Roſs, and archdeacon of Murray. He likewiſe obtained the place of clerk regiſter, but was afterwards deprived of that employment by the factions of the times; however, in the ſucceeding reign, of Mary, he recovered that office, and was one of the lords of ſeſſion. Being a zealous papiſt, he, in conjunction with Dr. Laing, was extremely aſſiduous in retarding the progreſs of the reformation; till at laſt, finding the oppoſition too powerful, he quitted Scotland, and went to Rome, where he died in the year 1550. He is generally eſteemed one of the beſt Scottiſh poets of that age. His works are, 1. *The Hiſtory and Chronicles of Scotland of Hector Boëis* (Boethius), *tranſlated by Mr. John Ballenden*. Edinb. 1536. This is not a mere tranſlation, Ballenden having corrected ſeveral miſtakes of his author, and made large additions. It is in folio, and black letter. 2. *Coſmography to the Hiſtory of Scotland*, with a poetical Proem. 3. *A Deſcription of Albany*. 4. *Tranſlation of Boethius's Deſcription of Scotland*. 5. *Epiſtles to King James V.* Bale ſays he had ſeen theſe letters. 6. Several Poems in Carmichael's collection of Scottiſh Poems; beſides many others in manuſcript, in private libraries in Scotland. 7. *Virtue and Vice*, a poem, addreſſed to King James V.

BALLERUS, in ichthyology, the trivial name of a ſpecies of cyprinus. See Barbel.

BALLOGISTAN, Little, a country of Hindooſtan Proper, bordering on the N. of Mewat, and approaching within twenty-four miles of Delhi. It is eighty or ninety miles long, and from thirty to forty broad. Within this century it was ſeized by the Balloges, or Balloches, whoſe country adjoins to the W. bank of the Indus, oppoſite Moultan. They are repreſented as a very ſavage and cruel race. Their territory is full of ravines, and of courſe difficult of acceſs. It has, however, been ſucceſſively tributary to the Rohillas, the Jats, and the late Nudjuff Cawn. Weſtward it borders on the country of the Seiks.

BALNAVES (Henry), a Scottiſh proteſtant divine, born in the ſhire of Fife, in the reign of James V. and educated at the univerſity of St. Andrew's. He went afterwards to France in order to finiſh his ſtudies; and, returning to Scotland, was admitted into the family of the Earl of Arran, who at that time governed the kingdom: but in the year 1542 the earl diſmiſſed him for having embraced the proteſtant religion. In 1564 he joined, ſays Mackenzie, the murderers of Cardinal Beaton; for which he was declared a traitor, and excommunicated. Whilſt that party were beſieged in the caſtle of St. Andrew's, they ſent Balnaves to England, who returned with conſiderable ſupply of proviſions and money; but being at laſt obliged to ſurrender

to the French, he was ſent with the reſt of the garriſon to France. He returned to Scotland about the year 1559; and, having joined the congregation, he was appointed one of the commiſſioners to treat with the Duke of Norfolk, on the part of Queen Elizabeth. In 1563 he was made one of the lords of ſeſſion, and appointed by the general aſſembly, with other learned men, to reviſe the Book of Diſcipline. Knox, his contemporary and fellow-labourer, gives him the character of a very learned and pious divine. He died at Edinburgh in the year 1579. He wrote, 1. *A Treatiſe concerning Juſtification.* Edinb. 1550, 8vo. 2. *A Catechiſm, or Confeſſion of Faith.* Edinb. 1584, 8vo.

BALSHAM (Hugh de), or DE BEDESALE, or BELESALE, the tenth biſhop of Ely, and founder of St. Peter's College, otherwiſe Peter-houſe, in Cambridge, was in all probability born at Balſham in Cambridgeſhire (from whence he took his ſurname), towards the beginning of the thirteenth century. He was at firſt a monk, and afterwards ſub-prior of the Benedictine monaſtery at Ely. In 1247, November 13, he was choſen, by his convent, biſhop of Ely, in the room of William de Kilkenny, deceaſed. But King Henry III. who had recommended his Chancellor Henry de Wengham, being extremely angry at the diſobedience of the monks, refuſed to confirm the election; and, moreover, he ſelled the woods, ſpoiled the ponds, and otherwiſe waſted the manors and eſtates belonging to the biſhopric. He endeavoured at laſt to perſuade the monks to proceed to a new election; alleging, that it was not fit ſo ſtrong a place as Ely ſhould be intruſted with a man that had ſcarcely ever been out of his cloiſter, and who was utterly unacquainted with political affairs. Balſham, finding he was not likely to ſucceed at home, went to Rome, in order to be confirmed by the pope; who, through the plenitude of his apoſtolical power, pretended to diſpoſe of all eccleſiaſtical preferments in Chriſtendom. In the mean time, Boniface archbiſhop of Canterbury uſed his utmoſt intereſt at Rome to obſtruct Hugh de Balſham's confirmation, though he could allege no one fault againſt him; and recommended Adam de Maris, a learned Minorite friar, as a fit perſon to be promoted to the biſhopric: but all his endeavours proved unſucceſsful. As to Wengham, having been recommended by the king without his own deſire and knowledge, he did not ſtir in the leaſt to get himſelf elected by the monks; but rather, out of an uncommon exceſs of modeſty, declined the honour, alleging that the two others (Balſham and Maris) were more worthy of it, and more deſerving than himſelf. This matter remained in ſuſpence for above ten years, and was at length determined in favour of Hugh de Balſham. For Wengham being promoted to the biſhopric of London, upon Fulk de Baſſet's deceaſe, the pope confirmed Hugh de Balſham's election, on the 10th of March, 1257, and he was conſecrated the 14th of October following. Being thus fixed in his ſee, he applied himſelf to works of charity, and particularly, in the year 1257, or 1259 according to ſome, put in execution what he had deſigned, if not begun, before; that is, he laid the foundation of St. Peter's College, the firſt college in the univerſity of Cambridge. He built it without Trumpington gate, near the church of St. Peter (ſince demoliſhed), from whence it took its name. He died at Dodington, June 16, 1286, and was buried in the cathedral church of Ely.

BALTZAR (Thomas), a native of Lubec, was an eminent muſical compoſer, and eſteemed the fineſt performer on the violin of his time. He came into England in the year 1658, and lived about two years in the houſe of Sir Anthony Cope, of Hanwell in Oxfordſhire. He was the great competitor of Davis Mell, who, though a clockmaker by trade, was, till Baltzar came hither, allowed to be the fineſt performer on the violin in England; and after his arrival he divided with him the public applauſe, it being agreed that Mell excelled in the fineneſs of his tone and the ſweetneſs of his manner, and Baltzar in the power of execution and command of the inſtrument.—Moreover, it is ſaid of the latter, that he firſt taught the Engliſh the practice of ſhifting, and the uſe of the upper part of the finger-board. Baltzar was given to intemperance, and is ſaid to have ſhortened his days by exceſſive drinking: he was buried in Weſtminſter-abbey on the 27th day of July, 1663.

BALUZE (Stephen), a French writer, born in 1631, and ſome time librarian to M. Colbert. In 1693 he obtained a penſion, with the poſt of director of the royal college, for writing the lives of the Popes of Avignon; both which advantages he ſoon loſt in the fluctuation of court parties. M. Baluze is much more noted for collecting ancient MSS. and illuſtrating them by notes, than famed for his own compoſitions.

BALZAC (John Lewes Guez de), born at Angoulême in 1595. Voltaire allows him the merit of having given numbers and harmony to the French proſe, but cenſures his ſtyle as ſomewhat bombaſtic. The critics of his own time gave him no little diſquiet; and he gave them no little advantage over him by his ſallies of vanity, and ſome particular propoſitions which were a little dangerous. Mr. Balzac, getting rid of theſe diſputes by his moderation, ſettled at his country-ſeat; refined his ſtyle and genius; and got by his letters and other writings which he publiſhed from time to time, the reputation of being the firſt writer in France. He was at length drawn from his retirement by the hopes of making his fortune under Cardinal Richlieu, who had formerly courted his friendſhip; but in a few years he retired again, diſguſted with the ſlaviſh dependence of a court life. All he obtained from the court was a penſion of 2000 livres, with the titles of counſellor of ſtate and hiſtoriographer of France. He died in 1654; and was buried in the hoſpital of Notre Dame des Anges, to which he bequeathed 12,000 livres. He left an eſtate of 100 franks *per ann.* for a gold medal to be beſtowed every two years for the beſt diſcourſe on ſome moral ſubject.—Beſides his letters, he wrote a work called *Oeuvres Diverſes*, i. e. on various ſubjects; The Prince; The Chriſtian Socrates, &c. and many other pieces; all of which have been publiſhed in two volumes folio.

BAMBRIDGE or BAINBRIDGE (Chriſtopher), archbiſhop of York, and cardinal-prieſt of the Roman church, was born at Hilton, near Appleby, in Weſtmoreland, and educated at Queen's College, in Oxford. Having taken holy orders, he became rector of Aller, in the dioceſe of Bath and Wells. He enjoyed three prebends ſucceſſively in the cathedral church of Saliſbury; and that of South Grantham, in 1485, that of Chardſtock in the ſame year, and that of Horton in 1486. He was elected provoſt of Queen's College in 1495, and about the ſame time created doctor of laws. On September the 28th, 1503, he was admitted prebendary of Strenſhall, in the cathedral church of York, void by the conſecration of Jeoffrey Blyth to the ſee of Lichfield and Coventry; and on the 21ſt of December following, he was inſtalled in the deanery of that church, in the room of the ſaid Blyth. In 1505 he was made dean of Windſor, and the ſame year maſter of the rolls, and one of the king's privy-council. In 1507 he was advanced to the ſee of Durham, and received the temporalities the 17th of November. The next year he was tranſlated to the archbiſhopric of York, and received the

temporalities the 12th of December. Pits aſſures us, that Bambridge had been very intimate with Morton archbiſhop of Canterbury, and ſhared in that prelate's ſufferings during the uſurpation of Richard III. after whoſe death, his affairs took a more proſperous turn; for he was appointed almoner to King Henry VII. and employed by that prince on ſeveral embaſſies to the Emperor Maximilian, Charles VIII. king of France, and other potentates of Europe. But he diſtinguiſhed himſelf chiefly by an embaſſy from King Henry VIII. to Pope Julius II. who created him a cardinal, with the title of St. Praxede, in March 1511, and, eight days after, appointed him legate of the eccleſiaſtical army, which had been ſent into the Ferrareſe, and were then beſieging the fort of Baſtia. In return for which marks of honour, our new cardinal and legate prevailed with the king his maſter to take part with his holineſs againſt the King of France. Nor was he leſs zealous in the ſervice of that pontiff during his life, than in honouring and defending his memory after his death. There are extant in Rymer's Fœdera, &c. two letters, one from Cardinal Bambridge, during his reſidence at Rome, to King Henry VIII. concerning the pope's bull giving him the title of Moſt Chriſtian King; and another from the Cardinal de Sinigallia to the king, acquainting his highneſs that he had delivered that inſtrument to Cardinal Bambridge. This prelate died at Rome, the 14th of July, 1514, being poiſoned by one of his domeſtics, in revenge for ſome blows he had given him.

BAMPTON, a large town in Oxfordſhire, with a ſmall market on Monday. It is ſeated near the Thames, twelve miles W. of Oxford, and ſeventy W. by N. of London.—Long. 1. 25. W. Lat. 51. 46. N.

BANCROFT (Richard), archbiſhop of Canterbury, in the reign of King James I. was ſon of John Bancroft, gentleman, and Mary, daughter of Mr. John Curwyn, brother of Dr. Hugh Curwyn, archbiſhop of Dublin; and was born at Farnworth in Lancaſhire, in September 1544. After being ſeverely trained up in grammatical learning, he was entered a ſtudent of Chriſt College, in Cambridge, where, in 1566-7, he took the degree of bachelor of arts; and from thence he removed to Jeſus College, where, in 1570, he commenced maſter of arts. Soon after, he was made chaplain to Dr. Cox, biſhop of Ely, who, in 1575, gave him the rectory of Teverſham in Cambridgeſhire. The year following, he was licenſed one of the univerſity preachers; and in 1580 was admitted bachelor of divinity. September the 14th, 1584, he was inſtituted to the rectory of St. Andrew, Holborn, at the preſentation of the executors of Henry earl of Southampton. In 1585 he commenced doctor in divinity; and the ſame year was made treaſurer of St. Paul's cathedral, in London. The year following he became rector of Cottingham in Northamptonſhire, at the preſentation of Sir Chriſtopher Hatton, lord chancellor, whoſe chaplain he then was. February the 25th, 1589, he was made a prebendary of St. Paul's; in 1592, advanced to the ſame dignity in the collegiate church of Weſtminſter; and, in 1594, promoted to a ſtall in the cathedral of Canterbury. Not long before, he had diſtinguiſhed his zeal for the church of England by a learned and ſignificant ſermon, preached againſt the puritans at St. Paul's Croſs. In 1597, Dr. Bancroft, being then chaplain to the archbiſhop of Canterbury, Whitgift, was advanced to the ſee of London, in the room of Dr. Richard Fletcher, and conſecrated at Lambeth the 8th of May.—From this time he had, in effect, the archiepiſcopal power; for the archbiſhop, being declined in years, and unfit for buſineſs, committed the ſole management of eccleſiaſtical affairs to Biſhop Bancroft. Soon after his being made biſhop he expended 1000 marks in the repair of his houſe in London. In the year 1600, he, with others, was ſent by Queen Elizabeth to Embden, to put an end to a difference between the Engliſh and Danes: but the embaſſy had no effect. This prelate interpoſed in the diſputes between the ſecular prieſts and the Jeſuits, and furniſhed ſome of the former with materials to write againſt their adverſaries. In the beginning of King James's reign, Biſhop Bancroft was preſent at the conference held at Hampton-court, between the biſhops and the preſbyterian miniſters. The ſame year, 1603, he was appointed one of the commiſſioners for regulating the affairs of the church, and for peruſing and ſuppreſſing books, printed in England, or brought into the realm without public authority. A convocation being ſummoned to meet March 20, 1603-4, and Archbiſhop Whitgift dying in the mean time, Biſhop Bancroft was, by the king's writ, appointed preſident of that aſſembly. October 19th, 1604, he was nominated to ſucceed the archbiſhop in that high dignity, to which he was elected by the dean and chapter, November 17, and confirmed in Lambeth chapel, December 10. September 5, 1605, he was ſworn one of his majeſty's moſt honourably privy-council. This year, in Michaelmas term, Archbiſhop Bancroft exhibited certain articles, to the lords of the council, againſt the judges. In 1608 he was declared chancellor of the univerſity of Oxford, in the room of the Earl of Dorſet, deceaſed. In 1610 this archbiſhop offered to the parliament a project for the better providing a maintenance for the clergy, but without ſucceſs. One of our hiſtorians pretends, that Archbiſhop Bancroft ſet on foot the building a college near Chelſea, for the reception of ſtudents, who ſhould anſwer all popiſh and other controverſial writings againſt the church of England. This prelate died November 2, 1610, of the ſtone, in his palace of Lambeth.

BANCROFT (John), biſhop of Oxford, in the reign of King Charles I. and nephew of the preceding Dr. Richard Bancroft, archbiſhop of Canterbury, was born at Aſtell, or Eſtwell, a ſmall village, between Whitney and Burford, in Oxfordſhire, and admitted a ſtudent of Chriſt-church, in Oxford, in 1592, being then about eighteen years of age. Having taken the degrees in arts, and entered into holy orders, he became a preacher for ſome years in and near Oxford. In 1609, being newly admitted to proceed in divinity, he was, through the intereſt and endeavours of his uncle, elected head of the Univerſity College, in which ſtation he continued above twenty years; during which time he was at great pains and expence in recovering and ſettling the ancient lands belonging to that foundation. In 1632 he was advanced to the ſee of Oxford, upon the tranſlation of Dr. Corbet to that of Norwich, and conſecrated about the 6th of June. This prelate died in 1640, and was buried at Cuddeſden in Oxfordſhire, the 12th of February.

BANGALORE, a ſtrong fortreſs of Myſore, in the peninſula of Hindooſtan. It is a place of great political importance, being, from its ſituation, the bulwark of the Myſore country, toward Arcot. It was taken by the Engliſh in 1791; but reſtored by the treaty of peace in 1792. It is ſeventy-four miles from Seringapatam, the capital of Myſore. Long. 77. 37. E. Lat. 13. 0. N.

BANGIUS (Thomas), a Daniſh divine, and an elegant Latin writer on the origin of languages, and a variety of other ſubjects. He died in 1661.

BANJAR, a river in the iſland of Borneo, in the Indian Ocean, in the mouth of which is a town where the Engliſh Eaſt-India Company have a factory.

BANIER (Anthony), licentiate in laws, member of the Academy of Inſcriptions and Belles-lettres, and eccleſiaſtic of the dioceſe of Clermont in Auvergne; died in November 1741, aged 69. He is principally celebrated for his tranſla-

tion of the Metamorphoſes of Ovid, with hiſtorical remarks and explanations; which was publiſhed in 1732, at Amſterdam, in folio, finely ornamented with copper-plates, by Picart; and reprinted at Paris, 1738, in two vols. 4to.: and for his Mythology, or fables of the ancients explained by hiſtory; a work full of the moſt important information, which was tranſlated into Engliſh, and printed at London in 1741, in 4 vols. 8vo.

BANISTER (John), a phyſician and ſurgeon in the reign of Queen Elizabeth, was educated at Oxford, where, ſays Anthony Wood, he ſtudied logicals for a time; but afterwards applied himſelf ſolely to phyſic and ſurgery. In 1573 he took the degree of bachelor of phyſic; and, obtaining a licence from the univerſity to practiſe, ſettled at Nottingham, where he lived many years in great repute. When or where he died, is not known.' There was a long poetical memorial of him in the church of St. Olave, Silver-ſtreet, London, which is preſerved by Stow. He was author of, 1. *A needful, new, and neceſſary Treatiſe of Chirurgery, briefly comprehending the general and particular Curation of Ulcers.* Lond. 1575, 8vo. 2. *Certain Experiments*, of his own invention. 5. *The Hiſtory of Man, ſucked from the Sappe of the moſt approved Anatomiſts*, &c. in nine books. Lond. 1578, thin fol. 4. *Compendious Chirurgery, gathered and tranſlated eſpecially out of Wecker*, &c. Lond. 1585, 12mo. 5. *Antidotary chirurgical, containing variety of all Sorts of Medicines*, &c. Lond. 1589, 8vo. His works were collected and publiſhed in 1633, 4to.

BANSTEAD, a village of Surrey, noted for an abundance of walnut-trees; but more for its neighbouring downs, one of the moſt delightful ſpots in England, on account of its fine carpet ground, covered with ſhort herbage, perfumed with thyme and juniper, which make the mutton of this ſpot very ſweet, though ſmall. It has ſeveral ſeats around it, and a proſpect of ſeveral counties, including Windſor, Hampton-court, and London. Theſe downs form a tract of thirty miles, extending, under different denominations, from Croydon to Farnham. On that part of them near Banſtead is a noted four-miles courſe. Banſtead is thirteen miles S.S.W. of London.

BAPAUME, a town of France, in the department of the Straits of Calais, and late province of Artois, twelve miles S.E. of Arras. Long. 2. 35. E. Lat. 50. 8. N.

BARBARIUM (anc. geog.), a promontory of Luſitania, to the ſouth of the mouth of the Tagus; now called *Cabo de Eſpichel*. W. long. 6. N. lat. 37.

BARBARUS (Francis), a noble Venetian, was a man of great fame in the 13th century, not only for learning, but likewiſe for a ſkilful addreſs in the management of public affairs. He is author of a book *De Re Uxoria*, and ſome ſpeeches.

BARBARUS (Hermolaus), grandſon of the preceding, one of the moſt learned men in the 15th century. The public employments he was entruſted with early, did not prevent him from cultivating polite learning with great application. As he was very ſkilful in the Greek, he undertook the moſt difficult tranſlations, and began with a famous paraphraſe upon Ariſtotle. He then attempted Dioſcorides, whoſe text he corrected, gave a tranſlation of him, and added a commentary. But of all his works, there is none which has gained him ſo much reputation as that which he made upon Pliny; he corrected in him above 5000 paſſages, and occaſionally reſtored 300 in Pomponius Mela. Pope Innocent VIII. to whom he was ambaſſador, conferred the patriarchate of Aquileia upon him. He was ſo imprudent as to accept of it without waiting for the conſent of his ſuperiors: though he could not be ignorant that the republic of Venice had made laws to forbid all the miniſters they ſent to the court of Rome to accept any benefice. His ſuperiors were inflexible; and not being able to gain any thing upon them, either by his flattery or his father's intereſt, the father died of grief, and the ſon ſoon followed him.

BARBARUS (Daniel), of the ſame family with the preceding, was patriarch of Aquileia, and famous for his learning. He was ambaſſador from Venice to England; and was one of the fathers of the council of Trent, where he acted with great zeal for the intereſt of the pope. He wrote, 1. A commentary upon Vitruvius. 2. *Catena Græcorum Patrum in quinquaginta Pſalmos Latine verſa.* 3. *La Prattica della Perſpettiva.* He died in 1569, at 41 years of age.

BARBESUL (anc. geog.), a town and river of Bœtica, and a colony in the reſort of the Conventus Gaditanus in Spain: now *Marbella*, in Granada.

BARBEYRAC (John), was born in Beſiers, in Lower Languedoc, in 1674. He was made profeſſor of law and hiſtory at Lauſanne, in 1710; which he enjoyed for ſeven years, and during that time was three times rector: in 1717, he was profeſſor of public and private law at Groningen. He tranſlated into French the two celebrated works of Puffendorf, his *Law of Nature and Nations*, and his *Duties of a Man and a Citizen*; to both which he wrote excellent notes, and to the former an introductory preface. He tranſlated alſo Grotius's treatiſe *De Jure Belli ac Pacis*, with large and excellent notes; and ſeveral of Tillotſon's ſermons. He wrote a work entitled *Traité de Jeu*, two vols. 8vo.

BARBOUR (John), archdeacon of Aberdeen, was eſteemed an elegant poet in the reign of David I. He wrote the hiſtory of Robert de Bruce, in an heroic poem, which is ſtill extant, and which contains many facts and anecdotes omitted by other hiſtorians. The lateſt edition of this book is that of Glaſgow, 8vo. printed in the year 1672. It is entitled, The Acts and Life of the moſt victorious conqueror Robert Bruce, King of Scotland; wherein alſo are contained the martial Deeds of the valiant Princes Edward Bruce, Sir James Dowglaſs, Earl Thomas Randal, Walter Steward, and ſundry others. In one paſſage, he calls it a *romance*; but that word was then of good reputation: every body knows that the 'Romaunt of Romaunts' has been innocently applied to true hiſtory; as well as the 'Ballad of Ballads' to a ſacred ſong.

BARCINO (anc. geog.), a town of the Terraconenſis, in Spain, and capital of the Laletani. Now *Barcelona*. See that article.

BARCLAY (Alexander), a learned monk in the reign of Henry VIII. Where he was born, though of no great importance, was nevertheleſs a matter of virulent contention among his former biographers. Bale, who was his contemporary, is of opinion he was born in Somerſetſhire. There is indeed a village of his name, and a numerous family, in that county. Pits thinks he was born in Devonſhire.—Mackenzie is poſitive he was a Scotchman; but, without proof, unleſs we admit as ſuch his name, *Alexander*. He was, however, educated in Oriel College, Oxford. After leaving the univerſity, he went abroad, and continued ſome time in France, Italy, and Germany, where he acquired a competent knowledge of the languages of thoſe countries, as appears from ſeveral tranſlations of books, which he afterwards publiſhed. On his return to England, he was made chaplain to his patron the biſhop of Tyne, who likewiſe appointed him a prieſt of St. Mary, at the college of Ottery, in Devonſhire, founded by Grandiſon biſhop of Exeter. After the death of his patron, he became a Benedictine monk of Ely. On the diſſolution of that monaſtery, he firſt obtained the vicarage of St. Matthew, at Wokey in Somerſetſhire; and, in 1549,

being then doctor of divinity, was preſented to the vicarage of Much Badew in Eſſex. In 1552 he was appointed rector of Allhallows, Lombard-ſtreet, which he lived to enjoy but a very ſhort time. He died at Croydon in Surrey, in June 1552. He is generally allowed to have improved the Engliſh language, and to have been one of the politeſt writers of his time. He compoſed ſeveral original works; but was chiefly remarkable for his tranſlations from the Latin, Italian, French, and German languages. His verſion from Salluſt of the war of Jugurtha is accurate, and not without elegance. His lives of ſeveral ſaints, in heroic verſe, are ſtill unpubliſhed. His *Stultifera Navis*, or *The Ship of Fools*, is the moſt ſingular of his performances. It was printed by Richard Pynſon, at London, 1509, in folio; and contains a variety of wooden plates, which are worthy the inſpection of the curious.

BARCLAY (William), a learned Civilian, was born in Aberdeenſhire, in the year 1541. He ſpent the early part of his life, and much of his fortune, at the court of Mary queen of Scots, from whoſe favour he had reaſon to expect preferment. In 1573 he went over to France, and at Bourges commenced ſtudent of civil law under the famous Cujacius. He continued ſome years in that ſeminary, where he took a doctor's degree; and was ſoon after appointed profeſſor of civil law in the univerſity of Pont-à-Mouſſon, then firſt founded by the Duke of Lorraine. That prince afterwards made him counſellor of ſtate, and maſter of requeſts. Barclay, in the year 1581, married Ann de Maillaville, a French lady, by whom he had a ſon, who became a celebrated author, and of whom the reader will find an account in the next article. This youth the Jeſuits would gladly have received into their ſociety. His father refuſed his conſent, and for that reaſon theſe diſciples of Jeſus ſoon contrived to ruin him with the duke his patron. Barclay now embarked for Britain, where King James I. offered him conſiderable preferment, provided he would become a member of the church of England: but, not chooſing to comply, he returned to France in 1604; and, ſoon after his arrival, was appointed profeſſor of civil law in the univerſity of Angers, where he died the year following, and was buried in the Franciſcan church. He was eſteemed a learned civilian; and wrote elaborately in defence of the divine right of kings, in anſwer to Buchanan and others. The titles of his works are, 1. *De regno et regali poteſtate*, &c. 2. *Commentarius in tit. pandectarum de rebus creditis, et de jurejurando.* 3. *De poteſtate papæ*, &c. 4. *Præmetia in vitam Agricolæ.*

BARCLAY (John), ſon of the former, was, as we have above mentioned, ſo great a favourite of the Jeſuits, that they uſed all their efforts to engage him in their ſociety. His father would not conſent, and carried his ſon with him into England, who was already an author, for he had publiſhed *A Commentary upon the Thebais of Statius*, and a Latin poem on the coronation of King James, and the firſt part of *Euphormio*, 1603. He returned to France with his father; and after his father's death went to Paris, and ſoon after came back to London: he was there in 1606. He publiſhed *The Hiſtory of the Gunpowder Plot*, a pamphlet of ſix leaves, printed at Amſterdam. He publiſhed at London, in 1610, *An Apology for the Euphormio*, and his father's treatiſe *De poteſtate papæ*. And at Paris, 1612, he publiſhed a book entitled *Pietas*, in anſwer to Cardinal Bellarmin, who had written againſt William Barclay's book concerning the power of the pope. Two years after, he publiſhed *Icon Animorum*. He was invited to Rome by Pope Paul V. and received a great deal of civility from Cardinal Bellarmin, though he had written againſt him. He died at Rome in 1621, while his *Argenis* was printing at Paris. This celebrated work has ſince gone through a great number of editions, and has been tranſlated into moſt languages. M. de Peireſc, who had the care of the firſt edition, cauſed the effigies of the author to be placed before the book; and the following diſtich, written by Grotius, was put under it:

Gente Caledonius, Gallus notalibus, hic eſt,
Romam Romano qui decet ore loqui.

BARDON HILLS, in Leiceſterſhire: theſe hills, which are to the N.W. part of the county, riſe to a conſiderable height.

BAREGES, a village of France, in the department of the Upper Pyrenées and late province of Bigorre. It is much frequented on account of its mineral baths. It is ſeated in a valley of the ſame name (which contains the little town of Luz and 17 villages), twelve miles S. of Bagneres.

BARIUM (anc. geog.), a town of Apulia on the Adriatic; ſo called from the founders, who being expelled from the iſland Bora, built this town. It is now called BARI; ſee that article.

BARK (*Encycl.*). The bark of the oak has been long uſed in tanning leather, and even thought eſſential to that operation (ſee TANNING): but a different ſubſtance has been diſcovered, which anſwers the purpoſe full as well, and may be procured at a much cheaper rate; we mean oak ſaw-duſt, or the chips of oak reduced to powder. This valuable ſecret was purchaſed by the Society for the Encouragement of Arts, &c. Much facility in the preparation of bark for the purpoſes of tanning has lately been occaſioned by different patent inventions, of which we ſhall here give an account, in the words of the ſeveral ſpecifications.

Mr. Weldon, of Lichfield, ſtates his improvements on a machine or mill for grinding bark, and various other articles, for which he obtained a former patent, in the following way: "My former method of conſtructing mills for grinding bark (ſays he), is chiefly of caſt-iron, the teeth or cutters thereof caſt with them; and the method of keeping them ſharp, or renewing their teeth, is to chip or cut them with a hammer and chiſſel; and the method of making and conſtructing what are commonly called ſteel-mills, for the purpoſe of grinding malt, &c. are chiefly made of malleable iron caſe-hardened, the teeth of which are cut or raiſed out of the ſolid by means chiſſels and files, and are kept ſharp by the ſame method. But in order to avoid theſe difficulties, and make them (the teeth) more durable and laſting, and that the uſer of ſuch mills or machines may be able to ſharpen his own mill or machine, and keep the ſame in repair without ſending them to the maker, I have conſtructed them with looſe or moveable teeth, which may be taken out at any time, and by grinding them on a common grinding-ſtone, may be ſharpened and kept in order, or by replacing the teeth ſhould they wear out, the machine will then be as good as new; and to ſhew the nature of my invention, I have added drawings on the oppoſite ſide thereof; but as the principle of the machine or mill for grinding bark is the ſame as that of my former patent, it is not neceſſary to deſcribe any more of it than the manner in which the looſe teeth are to be fixed, which may be the ſame as that deſcribed in the drawing for a corn mill, or by any other method I may think moſt proper. Fig. 1. (Plate 15) repreſents the different parts of a mill for grinding bark, corn, &c. and the manner in which it is conſtructed. A, is a hopper made of wood, tin, or ſheet-iron, which receives the corn or any thing that is to be ground. B, is the axis of the ball or inner part of the mill, which may be made of wrought or caſt iron. C, is a conical covering, which prevents the materials, to be ground, from lodging on the cap, which may be made of wood, tin, or ſheet-iron. D D, is a looſe cap, which faſtens and ſecures the looſe teeth of the ball or inner part of the mill, by means of four ſcrews repreſented by *b*.

E, repreſents one ſide of the ball or inner part of the mill filled with teeth. G, ſhews one half of the inner part of the mill without teeth, wherein may be ſeen the manner in which the teeth are kept in their places. *d d*, ſhews the ſubſtance of the metal, which is of caſt-iron. HH, ſhews the bottom flanch that holds the teeth, and is caſt with the body part of the cone. *a a a*, ſhews the outer cylinder, which is caſt altogether, and ſhews in what manner the looſe teeth F,F, are fixed in it. II, is a flanch which faſtens or holds the looſe teeth of the outer part of the mill by means of ſix ſcrews, as ſhewn by fig. 3. KK, is the bridge which carries the inner part of the mill, and is faſtened to the outer cylinder by means of two ſcrews, *c, c*. L, is the lower part of an axis. M, the braſs ſtep on which the axis works. N, is a plate in which the regulating ſcrew works, and is made of wrought iron. O, the regulating ſcrew. Fig. 2. repreſents the under ſide of the outer cylinder, with the bridge K, and the box which contains the braſs ſtep M. Fig. 4. repreſents one of the looſe teeth on the outer part of the mill. Fig. 5. repreſents one of the teeth on the inner part of the mill: theſe teeth may be made of caſt-iron, wrought-iron, or ſteel, or any metal or materials that may be thought moſt proper. Theſe mills or machines are not confined to any preciſe form or ſhape, and may be made of any metal or materials I may think moſt ſuitable. They may be worked either as hand-mills or horſe-mills, or by any other power that can be applied to them."

Mr. Bagnall, of Worſley in Lancaſhire, has invented a mill or machine to chop bark, and grind, and riddle, and pound it; to beam or work green hides and ſkins out of the maſtering or drench, and make them ready and fitting for the ouſe or bark liquor; to beam ſheep ſkins, and other ſkins, for the ſkinner's uſe; and for ſcouring and taking the bloom off or from tanned leather when in the currying ſtate. See Plate 15.

Fig. 1. is a horizontal plan of the mill. Fig. 2. longitudinal ſection of it. Fig. 3. tranſverſe ſection of it.

A, The water-wheel, by which the whole machinery is worked.

B, The ſhafts.

C, The pit-wheel, which is fixed on the water-wheel ſhaft B, and turns the upright ſhaft E, by the wheel F, and works the cutters and hammer by tapets.

D, The ſpur and bevil-wheel at the top of upright ſhafts.

E, The upright ſhaft.

F, The crown-wheel, which works in the pit-wheel C.

G, The ſpur-nut to turn the ſtones I.

P, The beam, with knives or cutters fixed at the end to chop or cut the bark, which ſaid bark is to be put upon the cutters or grating *i*, on which ſaid beam is to fall.

Q, The tryal that receives the bark from the cutters *i*, and conveys it into the hopper H, by which it deſcends through the ſhoe J to the ſtones I, where it is ground.

K, The ſpout, which receives the bark from the ſtones, and conveys it into the tryal L, which tryal is wired to ſift or dreſs the bark, as it deſcends from the ſtones I.

M, The trough to receive the bark that paſſes through the tryal L.

R, The hammer, to cruſh or bruiſe the bark that falls into the diſh S, which ſaid diſh is on the incline, ſo that the hammer keeps forcing it out of the lower ſide of the ſaid diſh, when bruiſed.

k, A trough to receive the duſt and moſs that paſſes through the tryal Q.

T, The bevil-wheel, that works in the wheel D, which works the beam-knife by a crank V at the end of the ſhaft *u*.

W, The penetrating rod, which leads from the crank V to the ſtart *x*.

x, The ſtart, which has ſeveral holes in it to lengthen or ſhorten the ſtroke of the beam-knife.

y, The ſhaft, to which the ſlide rods *h, h*, are fixed by the ſtarts *n, n*.

h, The ſlide rod, on which the knife *f* is fixed; which ſaid knife is to work the hides, &c. On the knife are two ſprings *a, a*, to let it have a little play as it makes its ſtroke backwards and forwards, ſo that it may not ſcratch or damage the hides, &c.

z, Is a catch in ſlide-rod *h*, which catches on the arch-head *e*; and the ſaid arch-head conveys the knife back without touching the hide, and then falls back to receive the catch again.

l, The roller to take up the ſlide-rod *h*, while the hides are ſhifting on the beam *b* by pulling at the handle *m*.

b, The beam to work the hides, &c. on. Each beam has four wheels *p, p*, working in a trough road *g, g*, and removed by the levers *c, c*. When the knife has worked the hide, &c. ſufficiently in one part, the beam is then ſhifted by the lever *c* as far as is wanted.

d, A preſs, at the upper end of the beam, to hold the hide faſt on the beam while working.

e, An arch-head, on which the ſlide-rod *h* catches.

f, The knife fixed on the ſlide-rod *h*, to work the hides, &c.

i, Cutters or grating to receive the bark for chopping.

The beam P, with knives or cutters, may either be worked by tapers, as deſcribed, or by the bevil-wheel T, with a crank, as V, to cut the ſame as ſhears.

The knife *f* is fixed at the bottom of the ſtart, which is fixed on the ſlide rod *h*; the bottom of the ſtart is ſplit open to admit the knife, the width of one foot; the knife ſhould have a gudgeon at each end, to fix in the open part of the ſtart; and the two ſprings *a, a*, prevent the knife from giving too much way when working; the knife ſhould be one foot long and four or five inches broad.

The arch-head *e* will ſhift nearer to, or farther from, the beam *b*, and will be fixed ſo as to carry the knife back as far as is wanted, or it may be taken away till wanted.

The roller *l* is taken up by pulling at the handle *m*, which takes up the ſlide-rod ſo high as to give head-room under the beam-knife. The handle may be hung upon a hook for that purpoſe. The ſlide-rod will keep running upon the roller all the time the hide is ſhifting; and when the hide is fixed the knife is put on the beam again by letting it down by the handle *m*. There may be two or more knives at work on one beam at the ſame time, by having different ſlide-rods. There ſhould be two beams, ſo that the workman could be ſhifting one hide, &c. while the other was working. The beam muſt be flat, and a little on the incline. As to the breadth it does not matter, the broader it is the leſs ſhifting of the hides will be wanted, as the lever *c* will ſhift them as far as the width of the hide, if required. Mr. Bagnall has formed a kind of preſs *d*, to let down, by a lever, to hold the hide faſt on each ſide of the knife if required, ſo that it will ſuffer the knife to make its back ſtroke without pulling the hide up as it comes back. The ſlide-rod may be weighted, to cauſe the knife to lay ſtreſs on the hide, &c. according to the kind and condition of the goods to be worked.

Hides and ſkins for the ſkinner's uſe are worked in the ſame way as for the tanners.

Scouring of tanned leather for the currier's uſe will be done on the beam the ſame as working green hides. It is only taking the knife away, and fixing a ſtone in the ſame manner as the knife by the ſaid joint, and to have a bruſh fixed to go either before or after the ſtone. The leather will be better ſecured this way than by hand, and much ſooner.

The whole machinery may be worked by water, wind, ſteam, or any other power. And that part of the machinery

which relates to the beaming part of the hides, may be fixed to any horſe bark-mill, or may be worked by a horſe or other power ſeparately.

The intention of working hides and ſkins upon the beam is to clean, and get out of them all the lime and dirt that can be got out, which is the principal part of the buſineſs for making good leather; the dirt will be got out much better, and the hides be made cleaner, this way than they can by hand, and at much leſs expence.

BARKHAM (Dr. John), a learned divine and antiquary, born at Exeter about 1572, bred at Oxford, poſſeſſed ſucceſſively of ſeveral preferments, and dying at Bocking in Eſſex, of which he was rector and dean, 1642. Though not very diſtinguiſhed, he was yet a very accompliſhed man; an exact hiſtorian, a good herald, a great antiquary, and had an excellent collection of coins and medals, which he gave to Archbiſhop Laud, and which Laud gave to the univerſity of Oxford. He was concerned in ſeveral works, though he never publiſhed his name. The hiſtorian Speed, at the concluſion of his work, makes his acknowledgments for the aſſiſtance he had from Barkham; whom he ſtyles "a gentleman, compoſed of learning, virtue, and courteſy." The reigns of John and Henry II. are reckoned to be chiefly of his writing. He had alſo the chief hand in "Guillam's Diſplay of Heraldry," publiſhed in 1610, folio.

BARLÆUS (Gaſper), profeſſor of philoſophy at Amſterdam, and one of the beſt Latin poets of the 17th century. There was ſcarce any thing great that happened in the world while he lived, but he made a pompous elegy upon it, when reaſons of ſtate were no obſtacle to it. He was a great defender of Arminius; and ſhewed his abilities in hiſtory by his relation of what paſſed in Braſil during the government of Count Maurice of Naſſau, publiſhed 1647. He died the year after.

BARLOW (William), biſhop of Chicheſter, deſcended of an ancient family in Wales, was born in the county of Eſſex. In his youth he favoured the reformation; and travelled to Germany to be inſtructed by Luther, and other preachers of the new doctrine. How long he continued a Proteſtant is uncertain: but from his letter to King Henry VIII. quoted below, it appears that he wrote ſeveral books againſt the church of Rome. However, he was a regular canon in the Auguſtine monaſtery of St. Oſith in the county of Eſſex, and ſtudied ſome time at Oxford with the brothers of that order, where he took the degree of doctor in divinity. He was then made prior of the convent of Biſham in Berkſhire; and afterwards ſucceeded to the ſeveral priories of Blackmore, Typtree, Lega, Bromhole, and Haverford-weſt. On the diſſolution of abbeys, he reſigned not only with a good grace, but perſuaded ſeveral other abbots to follow his example. King Henry was ſo pleaſed with his ready obedience on this occaſion, that he ſent him, in 1535, on an embaſſy to Scotland; in the ſame year, made him biſhop of St. Aſaph; in two months after, tranſlated him to the ſee of St. David's, and in 1547 to that of Bath and Wells. During this time, our good biſhop, as appears from a letter of his to the king, was, or pretended to be, a ſtaunch Papiſt: it was written in 1533. However, when Edward VI. came to the crown, he was again a Proteſtant, and for that reaſon, on Queen Mary's acceſſion, was deprived of his biſhopric, and ſent priſoner to the Fleet, where he continued ſome time. At length he found means to eſcape, and immediately joined the other Engliſh Proteſtants in Germany. When Queen Elizabeth aſcended the throne, our prelate was raiſed to the ſee of Chicheſter, and ſoon after made firſt prebendary of the collegiate church of Weſtminſter. He died in 1568, and was buried in the cathedral at Chicheſter. He had five daughters, each of whom married a biſhop. He wrote, 1. *The Buryal of the Maſſe.* 2. *The climbing up of Fryers and religious Perſons portred with Figures.* 3. *Chriſtian Homilies.* 4. *A book upon Coſmography.* 5. *The godly and pious Inſtitution of a Chriſtian Man, commonly called the Biſhop's Book:* and ſeveral other works. He is ſaid to be the tranſlator of the apocrypha as far as the book of Wiſdom. His letters to M. Parker are in manuſcript in Corpus Chriſti College, Cambridge, Miſc. i. 445

BARLOW (William), a mathematician and divine, the ſon of the biſhop of Chicheſter, was born in Pembrokeſhire whilſt his father was biſhop of St. David's. In 1560 he was entered commoner of Baliol College in Oxford; and in 1564, took a degree in arts, which having completed by determination, he left the univerſity and went to ſea; but in what capacity is uncertain: however, he acquired conſiderable knowledge in the art of navigation. About the year 1573 he entered into orders; and became prebendary of Wincheſter and rector of Eaſton near that city. In 1588 he was made prebendary of Lichfield, which he exchanged for the place of treaſurer of that church. Some years after he was made chaplain to Prince Henry, the ſon of King James I.; and in 1614, archdeacon of Saliſbury. He was the firſt writer on the nature and properties of the magnet. Barlow died in the year 1625, and was buried in the church at Eaſton His works are, 1. *The Navigator's Supply, containing many Things of principal Importance belonging to Navigation, and Uſe of divers Inſtruments framed chiefly for that Purpoſe.* 1597, 4to. Dedicated to Robert earl of Eſſex. 2. *Magnetical Advertiſements, or diverſe pertinent Obſervations and approved Experiments concerning the Nature and Properties of the Loadſtone.* Lond. 1616, 4to. 3. *A brief Diſcovery of the idle Animadverſions of Mark Ridley, M. D. upon a Treatiſe entitled Magnetical Advertiſements.* 1618, 4to.

BARLOW (Thomas), born in 1607, was appointed fellow of Queen's College in Oxford in 1633; and two years after was choſen reader of metaphyſics to the univerſity. He was keeper of the Bodleian library, and in 1657 was choſen provoſt of Queen's College. After the reſtoration of King Charles II. he was nominated one of the commiſſioners for reſtoring the members unjuſtly expelled in 1648. He wrote at that time *The Caſe of Toleration in Matters of Religion*, to Mr. R. Boyle. In 1675, he was made biſhop of Lincoln. After the popiſh plot, he publiſhed ſeveral tracts againſt the Roman-catholic religion; in which he ſhews an uncommon extent of learning, and ſkill in polemical divinity. Nevertheleſs, when the Duke of York was proclaimed king, he took all opportunities of expreſſing his affection toward him; but after the revolution he as readily voted that the king had abdicated his kingdom; and was very vigorous in excluding thoſe of the clergy who refuſed the oaths from their benefices.

Mr. Granger obſerves, that "this learned prelate, whom nature deſigned for a ſcholar, and who acted in conformity with the bent of nature, was perhaps as great a maſter of the learned languages, and of the works of the celebrated authors who have written in thoſe languages, as any man of his age. The greateſt part of his writings, of which Mr. Wood has given us a catalogue, are againſt Popery; and his conduct for ſome time, like that of other Calviniſts, appeared to be in direct oppoſition to the church of Rome. But after James aſcended the throne, he ſeemed to approach much nearer to Popery than he ever did before. He ſent the king an addreſs of thanks for his declaration for liberty of conſcience, and is ſaid to have written reaſons for reading that declaration. His compliances were much the ſame after the revolution. His moderation, to call it by the ſofteſt name, was very great;

indeed ſo great, as to bring the firmneſs of his character in queſtion. But caſuiſtry, which was his moſt diſtinguiſhed talent, not only reconciles ſeeming contradictions, but has alſo been known to admit contradictions themſelves. He was, abſtracted from this laxity of principles, a very great and worthy man." He died at Buckden in Huntingdonſhire, in the 85th year of his age.

BARLOW (Francis), an eminent Engliſh painter, was born in Lincolnſhire. On his coming to London he was placed with one Shepherd, a limner; but his genius led him chiefly to drawing of birds, fiſh, and other animals. There are ſix books of animals from his drawings, and he painted ſome ceilings with birds for noblemen and gentlemen in the country. His etchings are numerous; his illuſtration of Eſop is his greateſt work. He died in 1702.—There is ſomething pleaſing in the compoſition and manner of this maſter, though neither is excellent. His drawing too is very indifferent; nor does he characteriſe any animal juſtly. His birds in general are better than his beaſts.

BARNARD (Sir John). His firſt appearance on the public ſtage, on which he afterwards made ſuch a diſtinguiſhed figure, was in the year 1722, when he was choſen one of the repreſentatives in parliament for the city of London; a truſt which he continued to enjoy during ſix ſucceeding parliaments, and which he always diſcharged with equal integrity and ability. In 1725 he received the thanks of the common-council, for oppoſing a bill introducing a change in the method of conducting elections in the city of London. In 1727 he was choſen alderman of Dowgate-ward; and the next year prepared and preſented to the Commons a bill for the better regulation and government of ſeamen in the merchant ſervice.

In 1730 the court of Vienna having begun a negociation in England for a loan of 400,000 pounds, a bill was propoſed and enacted, prohibiting all his majeſty's ſubjects from lending any ſum of money to any foreign prince whatever, without licence obtained from his majeſty, under his privy ſeal, or ſome greater authority. Violent oppoſition was made to this bill by a great number of members; among whom Mr. John Barnard (for the dignity of knighthood he obtained afterwards by his own merit) made no inconſiderable figure. He obſerved, that if the bill ſhould paſs in its preſent form, it would, in his opinion, open a channel for the Dutch to carry on a very lucrative branch of buſineſs to the prejudice of England: that the bill ought abſolutely to name the emperor as the power prohibited to borrow; for that otherwiſe, all the other ſtates of Europe would think themſelves equally affected by this act, which would give it the air as if England was at war with all the world: that he was by no means for making the Exchequer a court of inquiſition: he conceived it to be equally odious and unconſtitutional, that ſubjects ſhould be obliged to accuſe themſelves, and thereby incur the moſt ſevere penalties.

In the debate upon the famous exciſe ſcheme, projected by Sir Robert Walpole in 1733, Sir John ſhewed himſelf not more zealous for the trade of his country, than for the honour of thoſe by whom it was principally conducted. While this affair was depending in parliament, the merchants of London, having been convened by circular letters, repaired to the lobby of the Houſe of Commons, in order to ſolicit their friends to vote againſt the bill. Sir Robert Walpole, piqued at the importunity of theſe gentlemen, threw out ſome reflections againſt the conduct of thoſe whom he ſuppoſed to have been the means of bringing them thither; and at the ſame time inſinuated, that the merchants themſelves could be conſidered in no other light than that of STURDY BEGGARS. This expreſſion was highly reſented by all thoſe in the oppoſition, and particularly by Sir John Barnard. In a word, he made ſo ſtrenuous an oppoſition to this unpopular and unconſtitutional ſcheme, that, in conjunction with other members, he obliged the miniſtry entirely to lay it aſide.

In 1735 he moved for leave to bring in a bill to limit the number of play-houſes, and reſtrain the licentiouſneſs of players, which was now increaſed to an amazing degree: and though the bill miſcarried at that time, it was yet, about two years after, enacted into a law, which ſtill continues in force. In 1736 he ſerved with his brother-in-law, Sir Robert Godſchall, knight, alderman of Biſhopſgate-ward, the office of ſheriff of the city of London and county of Middleſex. In 1737 he formed a ſcheme for reducing the intereſt on the national debt; a project which, though it did not at that time ſucceed, was nevertheleſs afterwards carried into execution, to the great emolument of the trading part of the nation. In 1738 he ſerved the high office of lord-mayor of London; and during his mayoralty had the misfortune to loſe his lady, who was buried in a very grand manner at Clapham church. Upon the death of Sir John Thompſon, knt. in 1749, he removed purſuant to an act of common-council, and took upon him the office of alderman of Bridgeward-without, and then became in name, as he might already be conſidered in reality, the father of the city; and in July 1758, to the inexpreſſible regret of his brother aldermen, and of all his fellow-citizens, he reſigned his gown.

The ſame year, upon the motion of Sir Robert Ladbroke, then father of the city, the thanks of the court of aldermen were given to Sir John Barnard.

Upon his reſigning the office of alderman, he retired in a great meaſure from public buſineſs, and having again received the thanks of the court of aldermen, continued to live chiefly in a private manner at Clapham; where, after having attained near the age of eighty, he died the 29th of Auguſt, 1766.

BARNAVELDT, an iſland of America, to the S. of Tierra del Fuego. Long 66. 58. W. Lat. 55. 49. S.

BARNES (Joſhua), profeſſor of the Greek language at Cambridge in the beginning of the 18th century. He was choſen queen's profeſſor of Greek in 1695, a language he wrote and ſpoke with the utmoſt facility. His firſt publication was a whimſical tract, entitled *Gerania, or a new Diſcovery of the little Sort of People called Pygmies.* After that appeared his *Life of Edward* III. in which he introduces his hero making long and elaborate ſpeeches.—In the year 1700, when he publiſhed many of his works, Mrs. Maſon, of Hemmingford in Huntingdonſhire, a widow lady of between 40 and 50, with a jointure of 200l. *per annum,* who had been for ſome time a great admirer of him, came to Cambridge, and deſired leave to ſettle 100l. a-year upon him after her death; which he politely refuſed, unleſs ſhe would likewiſe condeſcend to make him happy with her perſon, which was not very engaging. The lady was too obliging to refuſe any thing to Joſhua, for whom, ſhe ſaid, "the ſun ſtood ſtill;" and they were accordingly married. Mr. Barnes wrote ſeveral other books beſides thoſe above mentioned, particularly, *Sacred Poems; The Life of Oliver Cromwell, the Tyrant; ſeveral dramatic pieces; A poetical Paraphraſe on the Hiſtory of Eſther, in Greek Verſe,* with a Latin tranſlation, &c.: and he publiſhed editions of *Euripides, Anacreon,* and *Homer's Iliad and Odyſſey,* with notes, and a Latin tranſlation. He wrote with greater eaſe in Greek than even in Engliſh, and yet is generally allowed not to have underſtood the delicacies of that language. He was of ſuch a humane diſpoſition, and ſo unacquainted with the world, that he gave his only coat to a vagrant begging at his door. This excellent man died on the 3d of Auguſt, 1712, in the 58th year of his age.

BARNEVELDT (John d' Olden), the celebrated Dutch ſtateſman, and one of the founders of the civil liberty of Holland. His patriotic zeal induced him to limit the autho-

rity of Maurice prince of Orange the ſecond ſtadtholder of Holland, the partiſans of that prince falſely accuſed him of a deſign to deliver his country into the hands of the Spaniſh monarch. On this abſurd charge he was tried by 26 commiſſaries deputed from the ſeven provinces, condemned, and beheaded in 1619. His ſons William and Réné, with a view of revenging their father's death, formed a conſpiracy againſt the ſtadtholder, which was diſcovered. William fled: but Réné was taken and condemned to die; which fatal circumſtance has immortalized the memory of his mother, of whom the following anecdote is recorded. She ſolicited a pardon for Réné; upon which Maurice expreſſed his ſurpriſe that ſhe ſhould do that for her ſon, which ſhe had refuſed for her huſband. To this remark, ſhe replied with indignation, "I would not aſk a pardon for my huſband, becauſe he was innocent. I ſolicit it for my ſon, becauſe he is guilty."

BARNSLEY, a village of Glouceſterſhire noted for large quarries of excellent free ſtone. It is four miles from Cirenceſter.

BARO, or BARON (Peter), profeſſor of divinity in the univerſity of Cambridge, in the 16th century, was born at Eſtampes in France, and educated in the univerſity of Bourges, where he was admitted a licentiate in the law: but being of the Proteſtant religion, he was obliged to leave his native country to avoid proſecution; and, withdrawing into England, was kindly entertained by Lord Burleigh. He afterwards ſettled at Cambridge; and, by the recommendation of his noble patron, was, in 1574, choſen Lady Margaret's profeſſor there. For ſome years he quietly enjoyed his profeſſorſhip: but there was at laſt raiſed a reſtleſs faction againſt him, by his oppoſing the doctrine of abſolute predeſtination; which rendered his place ſo uneaſy to him, that he choſe to leave the univerſity and to ſettle in London. He wrote, 1. *In Jonam Prophetam Prælectiones* xxxix. 2. *De Præſtantia & Dignitate Divinæ Legis:* and other pieces. He died in London, about the year 1600.

BAROACH, a town in Hindooſtan, in the N. W. of the Deccan, and on the S. bank of the river Nerbudda, 40 miles N. of Surat. Long. 72. 55 E. Lat. 21. 25. N.

BARON (Robert), a dramatic author, who lived during the reign of Charles I. and the protectorſhip of Oliver Cromwell. He received the earlier parts of his education at Cambridge, after which he became a member of the honourable ſociety of Gray's-Inn. During his reſidence at the univerſity, he wrote a novel called the *Cyprian Academy*, in which he introduced the two firſt of the dramatic pieces mentioned below. The third of them is a much more regular and perfect play, and was probably written when the author had attained a riper age. The names of them are, 1. *Deorum Dona*, a maſque. 2. *Gripus and Hegio*, a paſtoral. 3. *Mirza*, a tragedy. Mr. Baron had a great intimacy with the celebrated Mr. James Howell, the great traveller, in whoſe collections of letters there is one to this gentleman, who was at that time at Paris. To Mr. Howell, in particular, and to all the ladies and gentlewomen in England in general, he has dedicated his romance.

BARON (Michael), an excellent comedian of Paris, was the ſon of Michael Baron, another comedian, who was a native of Iſſoudun. He wrote ſome poems, and ſeveral theatrical pieces, which are printed together in two vols. 12mo. He died at Paris in 1729, aged 77.

BARON (Bonaventure) whoſe true name was Fitz-Gerald; was deſcended from a branch of the Fitz-Geralds, of Burnchurch, in the county of Kilkenny. He has been more remarkable in the learned world for his maternal genealogy, being the ſon of a ſiſter of Luke Wadding, that eminent Franciſcan friar, who, in the laſt century, demonſtrated his great abilities and induſtry, by many voluminous treatiſes of genius and labour. His uncle Wadding took great care of his education in his youth, which he ſaw rewarded by an uncommon diligence; and when he was of a proper age procured his admiſſion into the Franciſcan order, and ſent for him to Rome; where he lived under his own eye, in the college of St. Iſidore, a ſociety of that order founded by himſelf in 1625, for the education of Iriſh ſtudents in the ſtudy of the liberal arts, divinity, and controverſy, to ſerve as a ſeminary, out of which the miſſion into England, Scotland, and Ireland, might be ſupplied. Baron, after ſome time, grew into high reputation, and became eſpecially remarkable for the purity of his Latin ſtyle, which firſt fell under the notice of the public, by means of the ignorance of a Roman cardinal; from which time his fame increaſed, and he became the author of many books both in proſe and verſe. He was for a conſiderable time prælector of divinity in the college aforeſaid, and in all reſided at Rome about ſixty years, where he died on the 18th of March, 1696.

BARONI (Leonora), a celebrated ſinger and compoſer, was born at Naples, but ſpent the greateſt part of her life at Rome. She was daughter of Adriana Baroni, of Mantua, baroneſs of Pian-caretta; a lady alſo diſtinguiſhed for her muſical talents, and for her beauty ſurnamed *the fair*.—Leonora had leſs beauty than her mother; but excelled her in her profound ſkill in muſic, the fineneſs of her voice, and the charmingneſs of her manner. She is ſaid by Mr. Bayle to have been one of the fineſt ſingers in the world. She was, as well as her mother, celebrated by the wits, who ſtrove to excel each other in recording her praiſes; and in 1639, there was publiſhed, at Bracciano, a collection of Latin, Greek, Italian, Spaniſh, and French poems, made upon her, under this title, *Applauſi Poetici alle Glorie della Signora Leonora Baroni*. Among the Latin poems of Milton are no fewer than three entitled 'Ad Leonoram Romæ canentum,' wherein this lady is celebrated for her ſinging, with an alluſion to her mother's exquiſite performance on the lute. A fine eulogium on this accompliſhed woman is contained in a diſcourſe on the Muſic of the Italians, printed with the life of Malherbe, and ſome other treatiſes, at Paris, 1672, in 12mo. This diſcourſe was compoſed by Mr. Maugars, prior of St. Peter de Mac, the king's interpreter of the Engliſh language, and beſides ſo famous a performer on the viol, that the king of Spain and ſeveral other ſovereign princes of Europe deſired to hear him. The character given by this perſon of Leonora Baroni is as follows: "She is endowed with fine parts; ſhe has a very good judgment to diſtinguiſh good from bad muſic; ſhe underſtands it perfectly well; and even compoſes, which makes her abſolute miſtreſs of what ſhe ſings, and gives her the moſt exact pronunciation and expreſſion of the ſenſe of her words. She does not pretend to beauty, neither is ſhe diſagreeable, or a coquet. She ſings with a bold and generous modeſty, and an agreeable gravity; her voice reaches a large compaſs of notes, and is exact, loud, and harmonious; ſhe ſoftens and raiſes it without ſtraining or making grimaces. Her raptures and ſighs are not laſcivious; her looks have nothing impudent, nor does ſhe tranſgreſs a virgin modeſty in her geſtures. In paſſing from one key to another, ſhe ſhews ſometimes the diviſions of the enharmonic and chromatic kind with ſo much art and ſweetneſs, that every body is raviſhed with that fine and difficult method of ſinging. She has no need of any perſon to aſſiſt her with a theorbo or viol, one of which is neceſſary to make her ſinging complete; for ſhe plays perfectly well herſelf on both theſe inſtruments. In ſhort, I have had the good fortune to hear her ſing ſeveral times above thirty different airs, with ſecond and third ſtanzas compoſed by

herſelf. I muſt not forget to tell you, that one day ſhe did me the particular favour to ſing with her mother and her ſiſter. Her mother played upon the lute, her ſiſter upon the harp, and herſelf upon the theorbo. This concert, compoſed of three fine voices, and of three different inſtruments, ſo powerfully tranſported my ſenſes, and threw me into ſuch raptures, that I forgot my mortality, and thought myſelf already among the angels enjoying the felicity of the bleſſed."

BARONIUS (Cæſar), a pious and learned cardinal, was born at Sore in 1538. He ſtudied at Rome, and put himſelf under the diſcipline of St. Philip de Neri. In 1593 he was made general of the congregation of the Oratory by the reſignation of the founder Philip de Neri. Pope Clement VIII. made him his confeſſor, and created him a cardinal in 1596. He was afterwards made librarian to the Vatican; and died in 1605, at 68 years of age. He wrote ſeveral works, the principal of which is his *Annales Eccleſiaſtici*, from A.D. 1 to 1198, in twelve vols. folio; which has been abridged by ſeveral perſons, particularly by Henry Spondæus, Bzovius, and Ludovico Aurelio.

BARRATIERE (Philip), a moſt extraordinary inſtance of the early and rapid exertion of mental faculties. This ſurpriſing genius was the ſon of Francis Barratiere, miniſter of the French church at Schwobach, near Nuremberg, where he was born January 10, 1721. The French was his mother tongue, together with ſome words of High Dutch; but by means of his father inſenſibly talking Latin to him, it became as familiar to him as the reſt; ſo that, without knowing the rules of grammar, he, at four years of age, talked French to his mother, Latin to his father, High Dutch to the maid or neighbouring children; and all this without mixing or confounding the reſpective languages. About the middle of his fifth year he acquired Greek in like manner; ſo that in fifteen months he perfectly underſtood all the Greek books in the Old and New Teſtament, which he readily tranſlated into Latin. When he was five years and eight month old, he entered upon Hebrew; and in three years' time was ſo expert in the Hebrew text, that from a Bible without points, he could give the ſenſe of the original in Latin or Freneh; or tranſlate extempore the Latin or French verſions into Hebrew, almoſt word for word; and had all the Hebrew pſalms by heart. He compoſed at this time a dictionary of rare and difficult Hebrew words, with critical remarks and philological obſervations, in about 400 pages, in 4to; and, about his tenth year, amuſed himſelf for twelve months with the rabinical writers. With theſe he intermixed a knowledge of the Chaldaie, Syriae, and Arabic; and acquired a taſte for divinity and eccleſiaſtical antiquity, by ſtudying the Greek fathers, and councils of the firſt four ages of the church. In the midſt of theſe occupations, a pair of globes coming into his poſſeſſion, he could in eight or ten days' time reſolve all the problems on them; and in about three months, in Jan. 1735, deviſed his project for the diſcovery of the longitude, which he communicated to the Royal Society at London and the Royal Academy of Sciences at Berlin. In June 1731 he was matrieulated in the univerſity of Altorf; and at the cloſe of the year 1732 he was preſented by his father at the meeting of the reformed ehurches of the circle of Franconia; who, aſtoniſhed at his wonderful talents, admitted him to aſſiſt in the deliberations of the ſynod: and to preſerve the memory of ſo ſingular an event, it was ordered to be regiſtered in their acts. In 1734 the Margrave of Brandenburgh Anſpach granted this young ſcholar the uſe of whatever books he wanted from the Anſpach library, together with a penſion of fifty florins, which he enjoyed three years; and his father receiving a call to the French church at Stetin in Pomerania, young Barratiere was, on the journey, admitted maſter of arts, with univerſal applauſe, at the univerſity of Hall: at Berlin, he was honoured with ſeveral eonverſations with the King of Pruſſia, and was received into the royal academy. Towards the cloſe of his life he acquired a taſte for medals, inſcriptions, and antiquities; metaphyſical enquiries, and experimental philoſophy, intervening occaſionally between theſe ſtudies. He wrote ſeveral eſſays and diſſertations; made aſtronomical remarks, and laborious calculations; took great pains toward a hiſtory of the hereſies of the anti-trinitarians, and of the thirty-years' war in Germany: his laſt publication, which appeared in 1740, was on the ſucceſſion of the biſhops of Rome. The final work he engaged in, for which he had gathered large materials, was *Enquiries concerning the Egyptian Antiquities*. But the ſubſtance of this blazing meteor was now almoſt exhauſted: he was always weak and ſickly; and died October 5, 1740, aged nineteen years eight months and ſixteen days. He publiſhed eleven different pieces, and left twenty-ſix MSS. on various ſubjects, the contents of which may be ſeen in his life written by M. Formey, profeſſor of philoſophy at Berlin.

BARRE (Louis François Joſeph de la), of Tournay, author of ſeveral works printed at Paris. Amongſt others, *Imper. Orientale, Recueil des Medailles des Empereurs*, Memoirs for the hiſtory of France, &c. He died in 1738.

BARRINGTON (John Shute), lord viſcount, a nobleman of conſiderable learning, and author of ſeveral books, was the youngeſt ſon of Benjamin Shute, merchant, youngeſt ſon of Francis Shute, of Upton, in the county of Leiceſter, eſq. He was born at Theobalds in Hertfordſhire, in 1678, and received part of his education at Utrecht, as appears from a Latin oration which he delivered at that univerſity, and publiſhed there in 1698, in 4to. After his return to England, he applied himſelf to the ſtudy of the law in the Inner Temple. In 1701 he publiſhed, but without his name, An Eſſay upon the Intereſt of England, in Reſpect to Proteſtants diſſenting from the eſtabliſhed Chureh, 4to. This was reprinted two years after, with conſiderable alterations and enlargements. Some time after this he publiſhed another piece, in 4to. entitled The Rights of Proteſtant Diſſenters, in two parts. During the proſecution of his ſtudies in the law, he was applied to by Queen Anne's whig miniſtry, at the inſtigation of Lord Somers, to engage the Preſbyterians in Scotland to favour the important meaſure, then in agitation, of an union of the two kingdoms. Flattered, at the age of twenty four, by an application which ſhewed the opinion entertained of his abilities and influence by the greateſt lawyer and ſtateſman of the age, he readily ſacrificed the opening proſpects of his profeſſion, and undertook the arduous employment. The happy exeeution of it was rewarded, in 1708, by the plaee of eommiſſioner of the euſtoms; from which he was removed by the Tory adminiſtration, in 1711, for his avowed oppoſition to their principles and conduct. How high Mr. Shute's character ſtood in the eſtimation even of thoſe who differed moſt widely from him in religious and political ſentiments, appears from the teſtimony borne to it by Dr. Swift. In the reign of Queen Anne, John Wildman, of Beeket, in the eounty of Berks, eſq. adopted him for his ſon, after the Roman euſtom, and ſettled his large eſtate upon him, though he was no relation, and is ſaid to have been but ſlightly aequainted with him. Some years after he had another conſiderable eſtate left him by Francis Barrington, of Toſts, eſq. who had married his firſt eouſin, and died without iſſue. This occaſioned him to procure an act of parliament, purſuant to the deed of ſettlement, to aſſume the name and bear the arms of Barrington. On the acceſſion of King George, he was choſen member of

parliament for the town of Berwick-upon-Tweed. July 5, 1717, he had a reverſionary grant of the office of maſter of the rolls, in Ireland, which he ſurrendered December 10, 1731. King George was alſo pleaſed, by privy ſeal, dated at St. James's, June 10, and by patent at Dublin, July 1, 1720, to create him Baron Barrington, of Newcaſtle, and Viſcount Barrington, of Ardglaſs. In 1722 he was again returned to parliament as member for the town of Berwick; but in 1723, the Houſe of Commons taking into conſideration the affair of the Harburgh lottery, a very ſevere and unmerited cenſure of expulſion was paſſed upon his lordſhip, as ſub-governor of the Harburgh company, under the Prince of Wales. In 1725 he publiſhed, in two volumes 8vo. his Miſcellanea Sacra; or a new method of conſidering ſo much of the hiſtory of the Apoſtles, as is contained in Scripture; in an abſtract of their hiſtory, an abſtract of that abſtract, and four critical eſſays. In 1725 he publiſhed, in 8vo. An Eſſay on the ſeveral Diſpenſations of God to Mankind. He ſometimes ſpoke in parliament, but appears not to have been a frequent ſpeaker. He died at his ſeat in Berkſhire, after a ſhort illneſs, December 4, 1734, in the 66th year of his age.

He married Anne, eldeſt daughter of Sir William Daines, by whom he left ſix ſons and three daughters. William, his eldeſt ſon, ſucceeded to his father's honours; was elected, ſoon after he came of age, member for the town of Berwick, and afterwards for Plymouth; and, in the late and preſent reigns, has paſſed through the ſucceſſive offices of lord of the admiralty, maſter of the wardrobe, chancellor of the exchequer, treaſurer of the navy, and ſecretary at war. Francis, the ſecond, died young. John, the third, was a major-general in the army, commanded the land forces at the reduction of the iſland of Guadaloupe, in 1758, and died in 1764. Daines, the fourth, king's counſel, and one of the juſtices of the grand ſeſſion for the counties of Cheſter, &c. is author of, 1. Obſervations upon the Ancient Statutes, 1766; a valuable work, reprinted in the ſame year, and again in 1769 and 1775. 2. The Naturaliſt's Journal, 1767, 4to. 3. Directions for collecting Specimens of Natural Hiſtory, 1772, 4to. 4. The Anglo-Saxon Verſion of Oroſius, with an Engliſh Tranſlation and Notes, 1773, 8vo. 5. Several Tracts relative to the Probability of reaching the North Pole, 4to. 1775, &c. which are collected and enlarged in a volume of Miſcellanies, 1780, 4to. 6. Propoſed Forms of Regiſters for Baptiſms and Burials, 1781, 4to. He is alſo author of many curious papers in the philoſophical tranſactions, and Archæologia; ſome of which are likewiſe incorporated in the volume of Miſcellanies.—Samuel, the fifth, was vice admiral of the white, and greatly diſtinguiſhed himſelf in the three laſt wars. Shute, the ſixth, had his education at Eton ſchool, and the univerſity of Oxford; took orders in 1756, the degree of LL.D. in 1762, was promoted to the biſhopric of Llandaff in 1769, and tranſlated to Saliſbury in 1782.

BARRINGTON (Samuel), a Britiſh admiral, was fifth ſon of John the firſt Lord Viſcount Barrington, by Anne, daughter and coheireſs of Sir William Daines. The family was originally Norman, and of great antiquity and reſpect; their name was Shute, and many honourable memorials of their eminence, both in arms and letters, are preſerved in Normandy, as well as in England: one of the anceſtors of Admiral Barrington was a judge in the reign of Queen Elizabeth. The admiral's father, being adopted by Francis Barrington, eſq. of Tofts in the county of Eſſex, who married his couſin, on ſucceeding to the eſtate, aſſumed, in compliance with the terms of the ſettlement, the name and arms of Barrington: this too was a family of great honour and diſtinction, united in blood with the Plantagenets, by a marriage with the great grand-daughter of the Duke of Clarence, brother to Edward IV. Beſides the Barrington eſtate, he inherited the property of John Wildman, eſq. of Beckett in the county of Berks, and was raiſed to the peerage in 1720. The Honourable Samuel Barrington was born in the year 1729; electing the naval profeſſion, he was in 1747 appointed a poſt captain, and colonel of the Chatham diviſion of marines in 1770, in the room of Lord Howe, who was then made an admiral. On the 23d of January, 1778, he was created rear-admiral of the white, and on the 29th of the ſame month, rear-admiral of the red. He was immediately ſent to the Weſt Indies, where his valour, prudence, and good conduct, gained him the higheſt reputation: he diſtinguiſhed himſelf particularly in the arduous and important exploit of taking St. Lucia in 1778, an enterpriſe ſo difficult, and expoſed to ſuch oppoſition, as would have rendered a failure perfectly excuſable. While on this ſtation he was, in the month of February, 1779, appointed vice-admiral of the blue, and in September, 1780, vice-admiral of the white. The ferment of parties during the laſt war occaſioned many unexpected refuſals of promotion, and as Admiral Barrington was intimately connected with Lord Shelburne, Colonel Barry, and ſeveral other leading men in oppoſition, it may poſſibly be attributed to this circumſtance that he refuſed the command of the Channel fleet, which was offered to him after the reſignation of Admiral Geary in Auguſt, 1780, and on his declining to accept it, conferred on Admiral Darby. In 1782 he ſerved under Lord Howe, and diſtinguiſhed himſelf in the memorable relief of Gibraltar. The termination of the war put a period to Admiral Barrington's active ſervices. In February, 1786, he was made lieutenant-general of marines; and on the 24th of September, 1787, admiral of the blue. During the laſt ten years, his ill ſtate of health obliged him to decline all naval command; but as he was in the ſtricteſt habits of intimacy with the then illuſtrious commander of the Channel fleet, it is to be ſuppoſed that the benefit of his talents and experience was not entirely loſt to the country. Admiral Barrington was never married: he died the 16th of Auguſt, 1801. Few families have diſplayed ſo much of talent and ſucceſs as that of Barrington, during the laſt generation. John, the firſt viſcount, was a man of great abilities, and an elegant writer: his ſecond ſon died young; his third attained the rank of major-general, and was lieutenant-governor of Berwick; his fourth, Daines, was an author of great eminence, king's counſel, a Welſh judge, and judge of Cheſter; his ſixth ſon, Shute, was ſucceſſively biſhop of Llandaff, Saliſbury, and Durham, which ſee he now fills.

BARROW (Iſaac), biſhop of St. Aſaph, in the reign of Charles II. was ſon of Iſaac Barrow, of Spiney-abbey in Cambridgeſhire, and uncle of the famous Dr. Iſaac Barrow, maſter of Trinity College, in Cambridge. He had his education in Peter-houſe, in Cambridge, and became fellow of that college; but was ejected by the Preſbyterians, about the year 1643; whereupon going to Oxford, he was appointed one of the chaplains of New College, by the Warden Dr. Pink. It is ſaid he was created bachelor of divinity in that univerſity, the 23d of June, 1646; but his name is not to be found in the regiſter. He continued at Oxford till the garriſon of that place ſurrendered to the parliament, after which time he ſhifted from place to place, and ſuffered with the reſt of the royal and orthodox clergy till the reſtoration of King Charles II. when he was not only reſtored to his fellowſhip in Peter-houſe, but elected likewiſe one of the fellows of Eton College, near Windſor. July the 5th, 1663, he was conſecrated biſhop of the Iſle of Man, in Henry VIIth's chapel,

at Weſtminſter; and the year following he was appointed, by Charles earl of Derby, governor of the Iſle of Man; which office he diſcharged with great reputation all the time he held that ſee, and ſome time after his tranſlation to that of St. Aſaph. He held his fellowſhip of Eton in commendam with the biſhopric of Man, and was a conſiderable benefactor to that iſland, and eſpecially the clergy thereof. Afterwards going into England for the ſake of his health, and lodging in a houſe belonging to the Counteſs of Derby, in Lancaſhire, called Croſs-hall, he there received the news of his majeſty's conferring on him the biſhopric of St. Aſaph, to which he was tranſlated March 21ſt, 1669, and to which dioceſe he was no inconſiderable benefactor. This worthy prelate died in the 67th year of his age, at Shrewſbury, the 24th of June, 1680.

BARRY (Girald), commonly called *Giraldus Cambrenſis*, i. e. *Girald of Wales*, an hiſtorian and eccleſiaſtic in the reigns of Henry II. and Richard I. was born at the caſtle of Mainarper, near Pembroke, A. D. 1146. By his mother he was deſcended from the princes of South Wales; and his father, William Barry, was one of the chief men of that principality. Being a younger brother, and intended for the church, he was ſent to St. David's, and educated in the family of his uncle, who was biſhop of that ſee. He acknowledges, in his hiſtory of his own life and actions, that in his early youth he was too playful; but being ſeverely reproached for it by his preceptors, he became a very hard ſtudent, and greatly excelled all his ſchool-fellows in learning. When he was about 20 years of age, he was ſent, A. D. 1166, for his further improvement, to the univerſity of Paris; where he continued three years, and became, according to his own account, a moſt excellent rhetorician; which rendered him very famous. On his return into Britain, he entered into holy orders, and obtained ſeveral benefices both in England and Wales. Obſerving, with much concern, that his countrymen, the Welſh, were very backward in paying the tythes of wool and cheeſe, which he was afraid would involve them in eternal damnation, he applied to Richard archbiſhop of Canterbury, and was appointed his legate in Wales for rectifying that diſorder, and for other purpoſes. He executed this commiſſion with great ſpirit; excommunicating all, without diſtinction, who refuſed to ſave their ſouls by ſurrendering the tythes of their cheeſe and wool. Not ſatisfied with enriching, he alſo attempted to reform the clergy; and dilated the Archdeacon of Brechin to the archbiſhop, for the unpardonable crime of matrimony; and the poor old man, refuſing to put away his wife, was deprived of his arch-deaconry; which was beſtowed upon our zealous legate. In diſcharging the duties of this new office, he acted with great vigour, which involved him in many quarrels; but, if we may believe himſelf, he was always in the right, and always victorious. His uncle, the biſhop of St. David's, dying, A.D. 1176, he was elected his ſucceſſor by the chapter; but this election having been made without the permiſſion, and contrary to the inclination of Henry II. our author prudently declined to inſiſt upon it, and went again to Paris to proſecute his ſtudies, particularly in the civil and canon law, and theology. He ſpeaks with great raptures of the prodigious fame he acquired by his eloquent declamations in the ſchools, and of the crowded audiences who attended them, who were at a loſs to know whether the ſweetneſs of his voice, the beauty of his language, or the irreſiſtible force of his arguments, were moſt to be admired. Having ſpent about four years at Paris, he returned to St. David's; where he found every thing in confuſion; and the biſhop, being expelled by the people, he was appointed adminiſtrator by the Archbiſhop of Canterbury, and governed the dioceſe in that capacity to A. D. 1184, when the biſhop was reſtored. About the ſame time he was called to court by Henry II. appointed one of his chaplains, and ſent into Ireland, A. D. 1185, with Prince John. By this prince he was offered the united biſhoprics of Ferns and Leighlin; but declined them, and employed his time in collecting materials for his Topography of Ireland, and his Hiſtory of the conqueſt of that iſland. Having finiſhed his Topography, which conſiſted of three books, he publiſhed it at Oxford, A. D. 1187, in the following manner, in three days. On the firſt day he read the firſt book to a great concourſe of people, and afterwards entertained all the poor of the town; on the ſecond day he read the ſecond book, and entertained all the doctors and chief ſcholars; and, on the third day, he read the third book, and entertained the younger ſcholars, ſoldiers, and burgeſſes. "A moſt glorious ſpectacle! (ſays he), which revived the ancient times of the poets, and of which no example had been ſeen in England." He attended Baldwin archbiſhop of Canterbury in his progreſs through Wales, A. D. 1186, in preaching a croiſade for the recovery of the Holy Land; in which, he tells us, he was far more ſucceſsful than the primate; and particularly, that the people were prodigiouſly affected with his Latin ſermons, which they did not underſtand, melting into tears, and coming in crowds to take the croſs. Although Henry II. as our author aſſures us, entertained the higheſt opinion of his virtues and abilities, yet he never would advance him to any higher dignity in the church, on account of his relation to the princes and great men of Wales. But on the acceſſion of Richard I. A.D. 1189, his proſpects of preferment became better; for he was ſent for by that prince into Wales to preſerve the peace of that country, and was even joined in commiſſion with William Longchamp, biſhop of Ely, as one of the regents of the kingdom. He did not, however, improve this favourable opportunity; refuſing the biſhopric of Bangor in A. D. 1190, and that of Landaff the year after, having fixed his heart on the ſee of St. David's, the biſhop of which was very old and infirm. In A. D. 1192, the ſtate of public affairs, and the courſe of intereſt at court, became ſo unfavourable to our author's views, that he determined to retire. At firſt he reſolved to return to Paris to proſecute his ſtudies; but meeting with ſome difficulties in this, he went to Lincoln, where William de Monte read lectures in theology with great applauſe. Here he ſpent about ſix years in the ſtudy of divinity, and in compoſing ſeveral works. The ſee of St. David's, which had long been the great object of his ambition, became vacant, A.D. 1198, and brought him again upon the ſtage. He was unanimouſly elected by the chapter; but met with ſo powerful an adverſary in Hubert archbiſhop of Canterbury (who oppoſed his promotion with great violence), that it involved him in a litigation, which laſted five years, coſt him three journeys to Rome, at a great expence, and in which he was at laſt defeated, A.D. 1203. Soon after this he retired from the world, and ſpent the laſt 17 years of his life in a ſtudious privacy, compoſing many books, of which we have a very correct catalogue in the Biographia Britannica. That Girald of Wales was a man of uncommon activity, genius, and learning, is undeniable; but theſe and his other good qualities were much tarniſhed by his inſufferable vanity, which muſt have been very offenſive to his contemporaries, as it is highly diſguſting to his readers.

BARSANTI (Franciſco), an eminent muſical performer and compoſer, was born at Lucca about the year 1690. He ſtudied the civil law in the univerſity of Padua; but, after a ſhort ſtay there, choſe muſic for his profeſſion. Accordingly he put himſelf under the tuition of ſome of the ableſt maſters in Italy; and having attained to a conſiderable degree of proficiency in the ſcience of practical compoſition, took a reſolution to ſettle in England, and came thither with Geminiani, who was alſo a Luceſe, in the year 1714. He was a good

performer on the hautboy, and alſo on the flute; in the former capacity he found employment in the opera band, and in the latter derived conſiderable advantages by teaching. He publiſhed, with a dedication to the Earl of Burlington, ſix ſolos for a flute with a thorough-baſs, and afterwards ſix ſolos for a German flute and a baſs. He alſo made into ſonatas, for two violins and a baſs, the firſt ſix ſolos of Geminiani. He continued many years a performer at the opera-houſe; at length, reflecting that there was a proſpect of advantage for one of his profeſſion in Scotland, he went thither; and, with greater truth than the fame is aſſerted of David Rizzio, may be ſaid to have meliorated the muſic of this country, by collecting and making baſſes to a great number of the moſt popular Scots tunes. About the year 1750 Barſanti returned to England; but, being advanced in years, he was glad to be taken into the opera band as a performer on the tenor violin; and in the ſummer ſeaſon into that of Vauxhall. At this time he publiſhed twelve concertos for violins; and ſhortly after, Sei Antifone, in which he endeavoured to imitate the ſtyle of Paleſtrina, and the old compoſers of motets; but from theſe publications ſo little profit reſulted, that, towards the end of his life, the induſtry and economy of an excellent wife, whom he had married in Scotland, and the ſtudies and labours of a daughter, whom he had qualified for the profeſſion of a ſinger, but who became an actreſs at Covent-Garden, were his chief ſupport.

BARTAS (William de Saluſte du), a French poet, who lived in the 16th century. He was employed by Henry IV. of France in England, Denmark, and Scotland; and commanded a troop of horſe in Gaſcony, under the Marechal de Martignan. He was a Calviniſt; and died in 1590, aged 46. He wrote a great number of poems; the moſt famous of which are, 1. The Week, or the Creation of the World, in ſeven books. 2. The Poem of Judith; and, 3. The Battle of Ivry, gained by Henry IV. in 1590. Du Bartas wrote in a bombaſt ſtyle.

BARTH, or Bart (John), a brave fiſherman of Dunkirk, who roſe to the rank of an admiral; and is celebrated for his ſignal valour and naval exploits, in the annals of France. He died in 1702, aged 51.

BARTHIUS (Gaſper), a very learned and copious writer, born at Cuſtrin in Brandenburg, the 22d of June, 1576. Mr. Baillet has inſerted him in his *Enfans Célébrés*; where he tells us, that at 12 years of age he tranſlated David's Pſalms into Latin verſe of every meaſure, and publiſhed ſeveral Latin poems. Upon the death of his father (who was profeſſor of civil law at Francfort, counſellor to the Elector of Brandenburg, and his chancellor at Cuſtrin) he was ſent to Gotha, then to Eiſenach, and afterwards, according to cuſtom, went through all the different univerſities in Germany. When he had finiſhed his ſtudies, he began his travels; he viſited Italy, France, Spain, England, and Holland, improving himſelf by the converſation and works of the learned in every country. He ſtudied the modern as well as ancient languages, and his tranſlations from the Spaniſh and French ſhew that he was not content with a ſuperficial knowledge. Upon his return to Germany, he took up his reſidence at Leipſic, where he led a retired life, his paſſion for ſtudy having made him renounce all ſort of employment. He wrote a vaſt number of books; the principal of which are, 1. His *Adverſaria*, a large volume in folio; the ſecond and third volumes of which he left in manuſcript. 2. A Tranſlation of Æneas Gazæus. 3. A large volume of Notes upon Claudian, in 4to. 4. Three large volumes upon Statius, &c. He died at Leipſic in 1658, aged 71.

BARTHOLINUS (Caſpar), a learned phyſician and anatomiſt in the 17th century, was born at Malmoe, a town in the province of Schonen, which then belonged to Denmark. At three years of age he had ſuch a quick capacity, that in 14 days he learned to read; and in his 13th year he compoſed Greek and Latin orations, and pronounced them in public. When he was about 18, he went to the univerſity of Copenhagen, and afterwards ſtudied at Roſtock and Wirtemberg. He next ſet out upon his travels; during which he neglected no opportunity of improving himſelf at the different univerſities to which he came, and every-where receiving marks of reſpect. He was in 1613 choſen profeſſor of phyſic in that univerſity, which he enjoyed 11 years; when, falling into a dangerous illneſs, he made a vow, that if it ſhould pleaſe God to reſtore him, he would ſolely apply himſelf to the ſtudy of divinity. He recovered, and kept his word; and ſoon after obtained the profeſſorſhip of divinity, and the canonry of Roſchild. He died July 13, 1629, after having written ſeveral ſmall works, chiefly on metaphyſics, logic, and rhetoric.

Bartholinus (Thomas), a celebrated phyſician, ſon of the former, was born at Copenhagen in 1616. After ſtudying ſome years in his own country, he in 1637 went to Leyden, where he ſtudied phyſic during three years. He then travelled into France; and reſided two years at Paris and Montpelier, in order to improve himſelf under the famous phyſicians of thoſe univerſities. Afterwards going to Italy, he continued three years at Padua; and at length went to Baſil, where he obtained the degree of doctor of philoſophy. Soon after he returned to Copenhagen; where, in 1647, he was appointed profeſſor of the mathematics; and next year was nominated to the anatomical chair, an employment better ſuited to his genius and inclination; which he diſcharged with great aſſiduity for 13 years, and diſtinguiſhed himſelf by making ſeveral diſcoveries with reſpect to the lacteal veins and lymphatic veſſels. His cloſe application, however, having rendered his conſtitution very infirm, he, in 1661, reſigned his chair; but the king of Denmark allowed him the title of *honorary profeſſor*. He now retired to a little eſtate he had purchaſed at Hageſted, near Copenhagen, where he hoped to have ſpent the remainder of his days in peace and tranquillity; but his houſe being burnt in 1650, his library, with all his books and manuſcripts, was deſtroyed. In conſideration of this loſs, the king appointed him his phyſician, with a handſome ſalary, and exempted his land from all taxes; the univerſity of Copenhagen alſo appointed him their librarian; and in 1675 the king did him the honour to give him a ſeat in the grand council of Denmark. He wrote, 1. *Anatomia Caſpari Bartholini Parentis novis Obſervationibus primum locupletata*, 8vo. 2. *De Monſtris in Natura et Medicina*, 4to. 3. *De Armillis Veterum, præſertim Danorum Schedion*, 8vo.: and ſeveral other works. This great man died on the 4th of December, 1680.

BARTHOLOMEW ISLE, a ſmall iſland, one of the New Hebrides, lying in Bougainville's Paſſage, between Mallicola and the Tierra del Eſpiritu Sancto of Quiros. Long. 167. 24. E. Lat. 15. 42. S.

BARTOLOCCI (Julius), a learned monk, and profeſſor of Hebrew at Rome, was born at Celeno in 1613; and diſtinguiſhed himſelf by writing an excellent Hebrew and Latin catalogue of the Hebrew writers and writings, in four volumes, a continuation of which was performed by Imbonati his diſciple. He died in 1687.

BARTON (Elizabeth), commonly called The Holy Maid of Kent, was a religious impoſtor in the reign of Henry VIII. whoſe hiſtory may be very edifying. She was a ſervant at Aldington in Kent, and had long been troubled with convulſions, which diſtorted her limbs and countenance in the ſtrangeſt manner, and threw her body into the moſt violent agitations; and the effect of the diſorder was ſuch, that even after ſhe recovered ſhe counterfeited the ſame appearance.

Maſters, the miniſter of Aldington, with other eccleſiaſtics, thinking her a proper inſtrument for their purpoſe, perſuaded her to pretend that what ſhe ſaid and did was by a ſupernatural impulſe, and taught her to act her part in the moſt perfect manner. Thus ſhe would lie as it were in a trance for ſome time; then, coming to herſelf, after many ſtrange contortions, would break out into pious ejaculations, hymns, and prayers; ſometimes delivering herſelf in ſet ſpeeches, ſometimes in uncouth monkiſh rhymes. She pretended to be honoured with viſions and revelations, to hear heavenly voices, and the moſt raviſhing melody. She declaimed againſt the wickedneſs of the times, againſt hereſy and innovations; exhorting the people to frequent the church, to hear maſſes, to uſe frequent confeſſions, and to pray to our lady, and all the ſaints. All this artful management, together with great exterior piety, virtue, and auſterity of life, not only deceived the vulgar, but many far above the vulgar, ſuch as Sir Thomas More, Biſhop Fiſher, Archbiſhop Warkam; the laſt of whom appointed commiſſioners to examine her. She was now inſtructed to ſay, in her counterfeit trances, that the bleſſed Virgin had appeared to her, and aſſured her that ſhe ſhould never recover till ſhe went to viſit her image, in a chapel dedicated to her in the pariſh of Aldington. Thither ſhe accordingly repaired, proceſſionally, and in pilgrimage, as it were, attended by above three thouſand people, and many perſons of quality of both ſexes. There ſhe fell into one of her trances, and uttered many things in honour of the ſaints, and the Popiſh religion: for herſelf ſhe ſaid, that, by the inſpiration of God, ſhe was called to be a nun, and that Dr. Bocking was to be her ghoſtly father. Dr. Bocking was a canon of Chriſt-church, in Canterbury, and an aſſociate in carrying on the impoſture. Meanwhile, the archbiſhop was ſo ſatisfied with the reports made to him about her, as to order her to be put into the nunnery of St. Sepulchre, Canterbury; where ſhe pretended to have frequent inſpirations and viſions, and alſo to work miracles for all ſuch as would make a profitable vow to our Lady, at the aforeſaid chapel, in the pariſh of Aldington.

The prieſts, her managers, having thus ſucceeded in the impoſture, now proceeded to the great object of it; and Elizabeth Barton was directed publicly to announce, how God had revealed to her, that, "in caſe the king ſhould divorce Queen Catherine of Arragon, and take another wife during her life, his royalty would not be of a month's duration, but he ſhould die the death of a villain." Biſhop Fiſher, and others, in the intereſt of the queen, and of the Romiſh religion, hearing of this, held frequent meetings with the nun and her accomplices, and at the ſame time ſeduced many perſons from their allegiance, particularly the fathers and nuns of Sion, the Charter-houſe, and Sheen, and ſome of the obſervants at Richmond, Greenwich, and Canterbury. One Peto, preaching before the king at Greenwich, denounced heavy judgments againſt him to his face; telling him, that "he had been deceived by many lying prophets, while himſelf, as a true Micaiah, warned him, that the dogs ſhould lick his blood, as they had licked the blood of Ahab." Henry bore this outrageous inſult with a moderation very remarkable for him: but, to undeceive the people, he appointed Dr. Curwin to preach before him the Sunday following, who juſtified the king's proceedings, and branded Peto with the epithets of "rebel, ſlanderer, dog, and traitor." Curwin, however, was interrupted by a friar, and called "a lying prophet, who ſought to eſtabliſh the ſucceſſion to the crown upon adultery;" and he proceeded with ſuch virulence, that the king was obliged to interpoſe, and command him to be ſilent: yet, though Peto and the friar were afterwards ſummoned before the council, they were only reprimanded for their inſolence.

Encouraged by this lenity of the government, the eccleſiaſtics in this conſpiracy reſolved to publiſh the revelations of the nun, in their ſermons, throughout the kingdom: they had communicated them to the pope's ambaſſadors, to whom alſo they introduced the maid of Kent; and they exhorted Queen Catharine to perſiſt in her reſolutions. At length this confederacy began to be a very ſerious affair, and Henry ordered the maid and her accomplices to be examined in the ſtar-chamber. Here they confeſſed all the particulars of the impoſture, and afterwards appeared upon a ſcaffold erected at St. Paul's Croſs, where the articles of their confeſſion were publicly read in their hearing. Thence they were conveyed to the Tower, until the meeting of parliament; who, having conſidered the affair, pronounced it a conſpiracy againſt the king's life and crown. The nun, with her confederates, Maſters, Bocking, Deering, &c. were attainted of high treaſon, and executed at Tyburn, April 20, 1534; where ſhe confeſſed the impoſture, laying the blame on her accomplices the prieſts, and craving pardon of God and the king.

BARWICK (John), an eminent Engliſh divine in the ſeventeenth century, and dean of St. Paul's, was born at Wetherſlack, a little village in Weſtmoreland, the 20th of April, 1612. He was ſent to Sedberg ſchool in Yorkſhire, where, under the care of a tolerable maſter, he gave early marks both of genius and piety. In the year 1631, and the eighteenth of his own age, he was admitted of St. John's College at Cambridge, under the tuition of Mr. Thomas Fothergill, who proved at once a guardian and a preceptor, ſupplying his neceſſities as well as inſtructing him in learning. In 1635 he became bachelor of arts, and April the 5th, 1636, he was created fellow. In 1638 he took the degree of maſter of arts. When the civil war broke out, and the king wrote a letter to the univerſity, acquainting them that he was in extreme want, Mr. Barwick concurred with thoſe loyal perſons who firſt ſent him a ſmall ſupply in money, and afterwards their college plate; and upon information had, that Mr. Cromwell, afterwards the Protector, lay with a party of foot at a place called Lower Hedges, between Cambridge and Huntington, in order to make himſelf maſter of this ſmall treaſure, Mr. Barwick made one of the party of horſe which conveyed it through by-roads ſafely to Nottingham, where his majeſty had ſet up his ſtandard. By this act of loyalty, the parliament was ſo provoked, that they ſent Cromwell with a body of troops to quarter in the univerſity, where they committed ſuch outrages, as would ſcarcely have been credible in ſucceeding times, if Mr. Barwick, in conjunction with many other learned members of that celebrated ſociety, had not tranſmitted an authentic account of them to poſterity. Mr. Barwick alſo publiſhed a piece againſt the Covenant, and having thereby provoked ſuch as were then in power, he thought proper to retire to London, there to render all the ſervice that he was able to the royal cauſe. Soon after he ſettled there, he was intruſted with the management of the king's moſt private concerns, and carried on with great ſecrecy a conſtant correſpondence between London and Oxford, where the king's head-quarters then were: a nice and arduous employment, and for which there never was a man better fitted than he. When his majeſty came to be confined in Cariſbrook caſtle, in the iſle of Wight, ſo cloſely, that guards were poſted at all the avenues to his chamber, and even at his windows, to prevent his having any correſpondence, Mr. Creſſet, who was placed about him, through the dexterous management of Mr. Barwick, defeated all their diligence, and preſerved his majeſty a free intercourſe with his friends: for this purpoſe he firſt depoſited with Mr. Barwick a cypher, and then hid a copy of it in a crack of the wall in the king's chamber. By the help of this cypher, the king both wrote and read many letters every week, all of which paſſed through the hands of Mr. Barwick. He like-

wife was concerned in a very well-laid defign for procuring the king's efcape, which however was unluckily difappointed.

When the king was murdered, and the royal caufe feemed to be defperate, Mr. Barwick ftill kept up his fpirits, and though haraffed with a continual cough, followed by a fpitting of blood, and afterwards by a confumption of his lungs, yet would not interrupt the daily correfpondence he maintained with the miniflers of King Charles II. He was afterwards committed to the Tower, and put in a dungeon, where he was not only kept from pen, ink, and paper, and all books but the bible, with reftraint from feeing any perfon except his keepers, but, as an additional punifhment, had boards nailed before his window to prevent the coming in of the frefh air. In this melancholy fituation he remained many months, during which time the diet he ufed was herbs or fruit, or thin water-gruel made of oat-meal or barley, with currants boiled in it, and fweetened with a little fugar, by which he recovered beyond all expectation, and grew plump and fat. A cure fo perfect, and withal fo ftrange, that many phyficians have taken notice of it in their writings, as a moft pregnant inftance of the power of temperance, even in the moft inveterate difeafes. While he was thus fhut up, his friends laboured inceffantly for his fervice and relief, and his majefty King Charles II. for whom he thus fuffered, gave the higheft teftimonies of his royal concern for fo faithful a fubject. After fifteen months paffed in this ftrict confinement, Mr. Otway, and fome other friends, procured a warrant from Prefident Bradfhaw to vifit him, who were not a little furprifed to find him fo lufty, and in fo good health, whom they had feen brought fo low, as to engage this very Mr. Otway to take care of his burial. Through the friendly interceffion of Mr. Weft, the lieutenant of the Tower, he was difcharged on the 7th of Auguft, 1652. When the church of England was reftored in all its beauty by King Charles II. the deans and chapters revived, Dr. Barwick, according to his ufual modefty, contented himfelf with recommending his tutor, old Mr. Fothergill, to a prebend in the cathedral church of York: but as to himfelf, he would have refted content with the provifion made for him by his late patron the Bifhop of Durham, who had given him the fourth ftall in his cathedral, and the rectories of Wolfingham and Houghton in le Spring. Being made dean of St. Paul's, he took poffeffion of the deanery about the middle of October, 1661, and found, as he expected, all in very great diforder with refpect to the church itfelf, and every thing that concerned it. He fet about reforming thefe abufes with a truly primitive fpirit, and profecuted with great vigour the recovery of fuch revenues, as in the late times of diftraction had been alienated from the church; though with refpect to his own particular concerns, he was never rigid to any body, but frequently gave up things to which he had a clear title. He was appointed one of the nine affiftants to the twelve bifhops, commiffioned to hold a conference with the like number of prefbyterian miniflers upon the review of the liturgy; which conference was held at the Bifhop of London's lodgings in the Savoy. He was alfo by the unanimous fuffrage of all the clergy of the province of Canterbury, aflembled in convocation, chofen prolocutor on the 18th of February, 1661: in which high office he behaved himfelf in fuch a manner, as added even to the great reputation he had before acquired. His application, however, to the difcharge of fo many and fo great duties, brought upon him his old diftemper, fo that in November, 1662, he was confined to his chamber: he heightened his difeafe by officiating at the facrament the Chriftmas-day following, after which he was feized with fuch a violent vomiting of blood, that he brought up whole bafins full. Upon this he was adviled to a change of air, for the enjoyment of which he retired to Therfield in Hertfordfhire, of which he was rector, but finding himfelf there too far from London, he returned to Chifwick, where he in fome meafure recovered his health. As foon as he found he had a little ftrength, he applied himfelf there to the putting in order the archives of St. Paul's church, and fo threw himfelf down again. This was followed by an extraordinary flux of blood, which rendered him very weak, and defeated his favourite defign of retiring to Therfield. When he firft found his health declining, he made choice of and procured this living, intending to have refigned his deanery and office of prolocutor, to thofe who had vigour enough to difcharge them, and to fpend the remainder of his days in the difcharge of his paftoral office, to which he thought himfelf bound by his taking orders. But Providence prepared for him a ftill more quiet manfion; for coming upon fome extraordinary occafion to London, he was feized with a pleurify, which carried him off in three days. He was attended in his laft moments by Dr. Peter Gunning, afterwards bifhop of Ely, and as he lived, fo he died, with all the marks of an exemplary piety, on the 22d of October, 1664.

Barwick (Peter), phyfician in ordinary to King Charles the Second. He was brother to John before mentioned, and was born fome time in the year 1619, at Wetherflack in Weftmoreland. He went to the fame grammar fchool with his elder brother, till fuch time as he was fitted for the univerfity, when he removed to St. John's College in Cambridge. This was about the year 1637, and he continued there about fix years, being much farthered in his ftudies by the care taken of him by his brother. In 1642, being then in the twenty-fourth of his age, he took his degree of bachelor of arts. In 1644 he was nominated by the Bifhop of Ely to a fellowfhip of St. John's, in his gift. In 1647 he took his degree of mafter of arts, applying himfelf then aflduoufly to the ftudy of phyfic. In 1655 he was created doctor of phyfic, and two years afterwards, being then near forty, he took a houfe in St. Paul's Church-yard, and much about the fame time married the widow of an eminent merchant, who was a near relation of Archbifhop Laud's. Being thus fettled, he foon gained a very great repute in the city, for his fkill in his profeffion, as amongft the learned, by his judicious Defence of Dr. Harvey's Difcovery of the Circulation of the Blood, which was then, and is ftill, admired as one of the beft pieces written upon that fubject. After the Reftoration, in 1660, he was made one of the king's phyficians in ordinary, and in the year following received a ftill ftronger proof of his majefty's kind fenfe of his own and his brother's fervices. On the eighth of May, 1661, Dr. Gilbert Sheldon, then bifhop of London, with feveral other bifhops, deans, archdeacons, &c. met in the morning at our author's houfe, and proceeded thence to the cathedral of St. Paul's, in order to open the convocation. In 1666, being compelled by the dreadful fire to remove from St. Paul's Church-yard, where he had remained all the time of the plague, and been very active and ferviceable in his profeffion, he thought proper to take another houfe near Weftminfter-abbey, for the fake of being near that cathedral, to which he conftantly reforted every morning at fix o'clock prayers. He was a very diligent phyfician, and remarkably fucceisful in the fmall-pox, and in moft kinds of fevers. Yet he was far from making money the main object of his care; for during the many years that he practifed, he not only gave advice and medicines gratis to the poor, but likewife charitably adminiftered to their wants in other refpects. He was very kind to all who had fuffered for the royal caufe, to which he was a conftant votary all his life; and with a view to its fervice, in 1671 he drew up in Latin, which he wrote with unufual elegance and purity, the Life of the Dean his brother, and took care to depofit it, and the original papers ferving to fupport the facts therein mentioned, in the library in St. John's College at Cambridge.

Twenty years after this, when our author was in the seventy-fourth year of his age, and his eye-sight so much decayed, that he was forced to make use of the hand of a friend, he added an appendix in defence of the *Eikon Basilike*, against Dr. Walker, who was very well known to him, and of whom in that treatise he has given a very copious account. This piece of his is written with a good deal of asperity, occasioned chiefly by the frequency of scurrilous libels against the memory of Charles I. To this appendix, our author, as well as he could, subscribed his name. In 1694, growing quite dark, and being besides frequently afflicted with fits of the stone, he gave over practice, and dedicated the remainder of his life to the service of God, and the conversation of a few intimate friends, amongst whom Dr. Busby, the ever-famous master of Westminster school, was one. From this sedentary course of life, his old distemper, the stone, grew very much upon him, and toward the end of August, 1705, being seized with a vomiting and looseness, followed with an intermitting fever, and in a few days, with a great and sudden evacuation of blood, he exchanged this life for a better, the fourth of September, the same year, in the eighty-sixth year of his age.

BASAN (anc. geog.), a territory beyond Jordan, mentioned in scripture. By Josephus, Eusebius, and Jerom, it is called *Batanæa*. On the entering of the Israelites into the land of Canaan, the whole of the country beyond Jordan, from that of the Moabites, or Arabia, as far as mount Hermon and Lebanon, was divided into two kingdoms, viz. that of Sihon king of the Amorites, and of Og king of Basan or *Bashan*; the former to the south, and the latter to the north. The kingdom of Sihon extended from the river Arnon and the country of Moab, to the river Jabbok; which, running in an oblique course from the east, was at the same time the boundary of the Ammonites, as appears from Numb. xxi. 24. and Deuteron. ii. 37. and iii. 16. The kingdom of Sihon fell to the lot of the Reubenites and Gadites, and Basan to the half-tribe of Manasseh. To this was annexed a part of the hilly country of Gilead, and the district of Argob; yet so that Basan continued to be the principal and greatest part: but, after the Babylonish captivity, Basan was subdivided; so that only a part was called *Batanea*, or *Basan*, another *Trachonitis*, a third *Aurunitis*, or *Ituræa*, and some part also *Gaulonitis*; but to settle the limits of each of these parts is a thing now impossible.—Bashan was a country famous for its pastures and breed of large cattle.

BASIER, or BASIRE (Isaac), a learned and active divine in the seventeenth century, was born in the isle of Jersey in the year 1607. For some time he was master of the college or free-school at Guernsey; but, at length, became chaplain to Thomas Morton, bishop of Durham, who gave him the rectory of Stanhope, and the vicarage of Egglescliff, both in the county of Durham. In July 1640 he had the degree of doctor of divinity conferred upon him at Cambridge, by mandate; and was incorporated in the same at Oxford the November following. About that time he was made chaplain in ordinary to King Charles I. On the 12th of December, 1643, he was installed into the seventh prebend in the church of Durham, to which he was collated by his generous patron Bishop Morton. The next year, on the 24th of August, he was also collated to the archdeaconry of Northumberland, with the rectory of Howick annexed. But he did not long enjoy these great preferments: for, in the beginning of the civil wars, being sequestered, pursevanted, plundered, and forced to fly, he repaired to King Charles at Oxford, before whom, and his parliament, he frequently preached. In 1646 he had a licence granted him under the public seal of the university, to preach the word of God throughout England. Upon the surrender of the Oxford garrison to parliament, not caring to stay any longer within the British dominions, he resolved to make a virtue of necessity, and to go and propagate the doctrine of the English church in the East, among the Greeks, Arabians, &c. Leaving therefore his family in England, he went first to Zante, an island near the Morea, where he made some stay; and had good success in spreading among the Greek inhabitants the doctrine of the English church, the sum whereof he imparted to several of them, in a vulgar Greek translation of our Church Catechism. The effect of it was so remarkable, that it drew envy, and consequently persecution, upon him from the Latins. This occasioned his voluntary recess into the Morea, where the Metropolitan of Achaia prevailed upon him to preach twice in Greek, at a meeting of some of his bishops and clergy, which was well taken. At his departure he left him a copy of the catechism above mentioned. From thence, after he had passed through Apulia, Naples, and Sicily again (in which last, at Messina, he officiated for some weeks aboard a ship), he embarked for Syria; and after some months' stay at Aleppo, where he had frequent conversation with the patriarch of Antioch, then resident there, he left a copy of our Church Catechism, translated into Arabic, the native language of that place. From Aleppo he went in 1652 to Jerusalem, and so travelled over all Palestine. At Jerusalem he received much honour, both from the Greeks and Latins. Returning to Aleppo, he passed over the Euphrates, and went into Mesopotamia, Abraham's country, where he intended to send the Church Catechism in Turkish, to some of their bishops, who were mostly Armenians. This Turkish translation was procured by the care of Sir Thomas Bendyshe, the English ambassador at Constantinople. After his return from Mesopotamia, he wintered at Aleppo, where he received several courtesies from the consul, Mr. Henry Riley. In the beginning of 1653 he departed from Aleppo, and came to Constantinople by land, being six hundred miles, without either servant or christian, or any man with him, that could so much as speak the Frank language: yet, by the help of some Arabic he had picked up at Aleppo, he performed that journey in the company of 20 Turks, who used him courteously; the rather, because he was by the way physician to them and their friends. After his arrival at Constantinople, the French Protestants there desired him to be their minister. And, though he declared to them his resolution to officiate according to the English liturgy, yet they orderly submitted to it, and promised to settle on him, in three responsible men's hands, a competent stipend. Upon the restoration of King Charles II. Dr. Basier was recalled by his majesty to England, in a letter written to Prince Ragotzi. But this unfortunate prince dying soon after, of the wounds he received in a battle with the Turks at Gyala, the care of his solemn obsequies was committed to the doctor by his relict, Princess Sophia, whereby he was kept a year longer out of England. At length, returning in the year 1661, he was restored to his preferments and dignities; and made chaplain in ordinary to King Charles II. He wrote several books on divinity. Having for many years after the Restoration quietly enjoyed his large revenues, he died on the 12th of October, in the year 1676, and in the sixty-ninth year of his age.

BASILIPOTAMO, a river of Turkey in Europe, in the Morea, which falls into the gulf of Calochina. It was called Eurotes by the ancients.

BASILISCUS (*Encycl.*), in zoology, the trivial name of a species of lacerta: erroneously spelt BASILICUS in our original article.

BASILUZZO, one of the Lipari islands, in the Mediterranean, two miles in circumference, and uninhabited.

BASINGE (John), more commonly known by the name of Basingstochius, or de Basingstoke, was born at Basingstoke, a

ſown in the north part of Hampſhire, and from thence took his ſurname. He was a perſon highly eminent for virtue and learning. For having very good natural parts, he ſo improved them by ſtudy, that he became a perfect maſter of the Latin and Greek languages, and alſo an eminent orator, a complete mathematician, a ſubtil philoſopher, and a ſound divine. The foundation of his great learning he laid in the univerſity of Oxford, and, for his farther improvement, went to Paris, where he reſided ſome years. Not ſatisfied with that, he travelled to Athens, that agreeable ſeat of the muſes, and the mother of all polite literature, where he made many curious obſervations, and perfected himſelf in his ſtudies, particularly in the knowledge of the Greek tongue. At his return from thence to England he brought over with him ſeveral curious Greek manuſcripts, and introduced the uſe of the Greek numeral figures into this kingdom. He became alſo a very great promoter and encourager of the ſtudy of that language, which was much neglected in theſe weſtern parts of the world: and to facilitate it, he tranſlated from Greek into Latin a grammar, which he entitled, The Donatus of the Greeks. He died in the year 1252.

BASKERVILLE (Sir Simon), knight (of the ancient family of the Baſkervilles in Herefordſhire), an excellent ſcholar and eminent phyſician, famous for his ſkill in anatomy, and happy practice in the time of King James the Firſt and King Charles the Firſt, born at Exeter, 1573, was the ſon of Thomas Baſkerville, an apothecary in that city, who obſerving an early love of knowledge and thirſt after learning in his ſon, gave him a proper education for the univerſity, to which he was ſent at about eighteen years old, entering him in Exeter College in Oxford, on the 10th of March, 1591, putting him under the care of Mr. William Helm, a man no leſs famous for his piety than learning, under whoſe tutorſhip he gave ſuch early proofs of his love of virtue and knowledge, that he was on the firſt vacancy elected fellow of that houſe, before he had taken his bachelor's degree in arts which delayed his taking it till July the 8th, 1596, to which he ſoon after added that of arts-maſter; and when he was admitted had particular notice taken of him (according to our author's own words) for his admirable knowledge in humanity and philoſophy. After this, viz 1606, he was choſen ſenior proctor of the univerſity; when he bent his ſtudy wholly to phyſic, in the knowledge of which uſeful faculty he became a moſt eminent proficient; and was then in as great eſteem at the univerſity for his admirable knowledge in medicine, as he had been before for other parts of learning, taking at once by accumulation (on the 20th of June, 1611) both his degrees therein, viz. that of bachelor and doctor. After many years' ſtudy and induſtry, leaving the univerſity, he came to London, where he became of great eminency in his profeſſion; being a member of the College of Phyſicians, and for ſome time alſo preſident thereof. His high reputation for learning, great ſkill and good ſucceſs in phyſic, ſoon brought him in vogue at court, where he was ſworn phyſician to King James the Firſt, and afterwards to King Charles the Firſt; with whom he was in ſuch eſteem for his learning and accompliſhments, that he conferred the honour of knighthood upon him. He died July the 5th, 1641, aged ſixty-eight years.

BASNAGE (James), a learned and accompliſhed author, and paſtor of the Walloon church at the Hague, was born at Rouen in Normandy, Auguſt 8, 1653. He was the ſon of Henry Baſnage, one of the ableſt advocates in the parliament of Normandy. At 17 years of age, after he had made himſelf maſter of the Greek and Latin authors, as well as the Engliſh, Spaniſh, and Italian languages, he went to Geneva, where he began his divinity ſtudies under Meſtrezat, Turretin, and Tronchin; and finiſhed them at Sedan, under the profeſſors Jurieu and Le Blanc de Beaulieu. He then returned to Roan, where he was received as miniſter, September 1676; in which capacity he remained till the year 1685, when the exerciſe of the Proteſtant religion being ſuppreſſed at Rouen, he obtained leave of the king to retire to Holland. He ſettled at Rotterdam; and was a miniſter penſionary there till 1691, when he was choſen paſtor of the Walloon church of that city. In 1709 penſionary Heinſius got him choſen one of the paſtors of the Walloon church at the Hague, intending not only to employ him in religious but in ſtate affairs. He was employed in a ſecret negociation with marſhal d'Uxelles, plenipotentiary of France at the congreſs of Utrecht; and he executed it with ſo much ſucceſs, that he was afterwards entruſted with ſeveral important commiſſions, all which he diſcharged in ſuch a manner as to gain a great character for his abilities and addreſs; a celebrated modern writer has therefore ſaid of him, that he was fitter to be miniſter of ſtate than of a pariſh. The abbé du Bois, who was at the Hague in 1716, as ambaſſador plenipotentiary from his moſt Chriſtian majeſty, to negociate a defenſive alliance between France, England, and the States General, was ordered by the duke of Orleans, regent of France, to apply himſelf to M. Baſnage, and to follow his advice: they accordingly acted in concert, and the alliance was concluded in January 1717. He kept an epiſtolary correſpondence with ſeveral princes, noblemen of high rank, and miniſters of ſtate, both Catholic and Proteſtant, and with a great many learned men in France, Italy, Germany, and England. The Catholics eſteemed him no leſs than the Proteſtants; and the works he wrote, which are moſtly in French, ſpread his reputation almoſt all over Europe: among theſe are, 1. The Hiſtory of the Religion of the Reformed Churches; 2. Jewiſh Antiquities; 3. The Hiſtory of the Old and New Teſtament; and many others. He died Sept. 22, 1723.

BASNAGE (Henry), ſieur de Beauval, ſecond ſon to Henry Baſnage, and brother to James mentioned in the laſt article. He applied himſelf to the ſtudy of the law, and was admitted advocate in the parliament of Rouen in the year 1679. He did not follow the bar immediately upon his admiſſion; but went to Valencia, where he ſtudied under M. de Marville. Upon his return from thence he practiſed with great reputation till the year 1687, when the revocation of the edict of Nantz obliged him to fly to Holland, where he compoſed the greateſt part of his works, and died there the 29th of March, 1710. His chief work is *Hiſtoire des Ouvrages des Savans.* Rotterd. 24 vols. in duodecimo. This work was begun in the month of September 1687, and continued till June 1709. When he arrived in Holland, Mr. Bayle, through indiſpoſition, had been obliged to drop his Nouvelles de la République des Lettres, which induced Mr. Baſnage to undertake a work of the ſame kind under a different title.

BASNET (Edward), dean of St. Patrick's, Dublin, was an active man at the time of the Reformation, and a privy-councellor to King Henry VIII. and King Edward VI. He was deſcended of an eſquire's family, long ſeated at Eaton, in the county of Denbigh, in Wales, and had ſome relations in Ireland, who probably came over with him; for we find no ſuch names in hiſtory or records planted in Ireland before his time. He was preſented by King Henry VIII. to the vicarage of Swords, in the dioceſe of Dublin, on the 11th of May, 1535, during the vacancy of that ſee, by the murder of Archbiſhop Allen, and this is the firſt promotion we find he had in Ireland; ſo that in all probability he came over the year before, in the retinue and under the countenance of Sir William Skeffington, lord deputy. About the latter end of April 1537, he was elected by the chapter dean of the cathedral of St. Patrick's, Dublin, that dignity being void on the 8th of the ſame month by the death of Geoffry Fitche, his predeceſſor;

and this promotion gave him a rank almoſt equal to the epiſcopal. He was ſtyled Sir Edward Baſnet, and is ſo named in an act of parliament of that time; not that he had been created a knight, but was called ſo in the ſame ſenſe as thoſe that are called Sirs, who have taken the firſt degree in an univerſity. In 1544 a report was made by the lord deputy about the ſingular merit of Dean Baſnet from the crown. For this the king was pleaſed to reward him with a grant, to him and his heirs, of the caſtle, town, lands, and rectory of Kilterman, in the marches of the county of Dublin, to hold in capite by the ſervice of one knight's fee for ever, and three ſhillings, Iriſh money, per annum, rent. In 1545, Auguſt the 20th, the king, as a mark of his royal indulgence, granted the dean a particular favour, in which his chapter, under his countenance, was concerned, which is regiſtered among the records of the deanery. He died in the firſt year of Queen Mary's reign.

BASSANO, a town of Italy, in the territory of Venice, on the river Brante, in a country productive of excellent wine. Long. 11. 24. E. Lat. 45. 51. N.

BASSANTIN (James), a Scotch aſtronomer, ſon of the laird of Baſſantin in Mers, was born in the reign of James IV. He was educated at the univerſity of Glaſgow, travelled through Germany and Italy, and then fixed his abode in the univerſity of Paris, where he taught mathematics with great applauſe. Having acquired ſome fortune in this occupation in 1562, he returned to Scotland, where he died in the year 1568. From his writings, he appears to have been no contemptible aſtronomer, conſidering the times; but, like moſt of the mathematicians of that age, he was not a little addicted to judicial aſtronomy. Sir James Melvil, in his Memoirs, ſays that his brother Sir Robert, when he was exerting his abilities to reconcile the two queens, Elizabeth and Mary, met with one Baſſantin, a man learned in the high ſciences, who told him, "that all his travel would be in vain; for, ſaid he, they will never meet together; and next there will never be any thing but diſſembling and ſecret hatred for a while, and at length captivity and utter wreck to our queen from England." He added, "that the kingdom of England at length ſhall fall, of right, to the crown of Scotland; but it will coſt many bloody battles; and the Spaniards ſhall be helpers, and take a part to themſelves for their labour." Sir James Melvil is an author of credit; therefore it is probable that our aſtrologer ventured to utter his prediction: but, as it proved true only in part, either he miſunderſtood the ſtars, or they deceived the aſtrologer.—His works are, 1. *Aſtronomia Jacobi Baſſantini Scoti, opus alſolutiſſimum, &c. ter editum Latine et Gallice.* Genev. 1599, fol. This is the title given it by Tornæſius, who tranſlated it into Latin from the French, in which language it was firſt publiſhed. 2. *Paraphraſe de l'Aſtrolabe, avec un Amplification de l'Uſage de l'Aſtrolabe.* Lyons, 1555. Paris, 16.7, 8vo. 3. *Mathematic. Genethliaca.* 4. *Arithmetica.* 5. *Muſica ſecundum Platonem.* 6. *De Matheſi in genere.*

BASSENTHWAITE WATER, a fine lake in Cumberland, 3 miles N.W. of Keſwick. It is 4 miles long, bounded on one ſide by high hills, wooded, in many places, to their baſes; on the other by the fields, and the ſkirts of Skiddaw.

BASSETERRE, the capital of St. Chriſtopher, a fine town, built by the French when this part of the iſland was in their poſſeſſion, before it was ceded to the Engliſh in 1713. The houſes are of brick, freeſtone, and timber; and among other buildings are a townhouſe, an hoſpital, and a large church.

BASSETERRE, the principal town of Guadaloupe, in a diſtrict of the ſame name, in the W. part of the iſland. It is defended by a citadel and other fortifications.

BASSET (Peter), a gentleman of a good family, was chamberlain, or gentleman of the privy-chamber, to King Henry V. a conſtant attendant on that brave prince, and an eye-witneſs of his moſt glorious actions both at home and abroad; all which he particularly deſcribed in a volume entitled, *The Acts of King Henry* V. which remains in MS. in the college of heralds.

BASSET (Fulk), biſhop of London in the reign of Henry III. was brother of Gilbert Baſſet, one of the barons, who died by a fall from his horſe, leaving behind him only one ſon, an infant, by whoſe death ſoon after the inheritance devolved to Fulk. In the year 1225 he was made provoſt of the collegiate church of St. John of Beverly, and in 1230 dean of York. In December 1241 he was elected by the chapter of London biſhop of that ſee, in the room of Roger Niger, both in regard of his family and his great virtues, and notwithſtanding the king's recommendation of Peter de Egueblanche, biſhop of Hereford. The ſee of Canterbury being vacant at the time of this prelate's election, he was not conſecrated till the 9th of October, 1244, at which time the ſolemnity was performed at London, in the church of the Holy Trinity. In the year 1250 Biſhop Baſſet began to have a warm diſpute with Archbiſhop Boniface, concerning the right of metropolitan viſitation; in the courſe of which he met with very rough treatment from the archbiſhop, and at laſt, after a long conteſt, thought it beſt to ſubmit, and acknowledge his juriſdiction; but he ſucceeded better in the oppoſition he made to Ruſtand, the pope's legate, in 1255. In 1256 this prelate began to build the church of St. Faith, near that of St. Paul, on the ſpot which King John had formerly given to the biſhops and chapter of London for a market. In the latter part of his life he is ſaid to have inclined to the cauſe of the barons. He died of the plague in 1259, having ſat near fifteen years from the time of his conſecration.

BASTARD (Thomas), was born at Blandford in Dorſetſhire, and educated at Wincheſter ſchool, from whence he removed to New College, in Oxford, where he was choſen perpetual fellow in the year 1588, and two years after took the degree of bachelor of arts: but indulging too much his talent for ſatire, he was expelled the college for a libel. Not long after, being then in holy orders, he was made chaplain to Thomas earl of Suffolk, lord treaſurer of England; through whoſe favour and intereſt he became vicar of Bere Regis, and rector of Amour, or Hamer, in his native county, having ſome time before taken the degree of maſter of arts. He was a perſon of great natural endowments, well ſkilled in the learned languages, a celebrated poet, and in his later years an excellent preacher. His converſation was witty and facetious, which made his company courted by all ingenious men. Towards the latter end of his life, being diſordered in his ſenſes, and thereby brought into debt, he was confined in the priſon of All-Hallows pariſh, in Dorcheſter, where he died in April, 1618.

BASTERIA, ALL-SPICE; a genus of plants not deſcribed by Linnæus, but to which Mr. Miller has given the name of *Baſteria* from Dr. Job Baſter, F.R.S. a learned botaniſt of Holland. Of this there is only one ſpecies known, viz. with oval leaves placed oppoſite, flowers coming from the ſides of the ſtalks, and a branched ſhrubby ſtalk. It is a native of Carolina in America. The flowers appear in May, are of a dull purple colour, and have a diſagreeable ſcent. The bark is brown; and has a very ſtrong aromatic flavour, from whence the plant takes its name of *All-ſpice.*

BASTIOGNE, a ſmall town of the duchy of Luxemburg, 25 miles N.W. of Luxemburg, ſubject to the houſe of Auſtria. Long 6. 0. E. Lat. 50. 0. N.

BASTITANI (anc. geog.), a people of the province of Bætica in Spain. See BÆTICA.

BASTON (Robert), a Carmelite monk, afterwards prior of the convent of that order at Scarborough, and alſo poet laureat and public orator at Oxford, flouriſhed in the fourteenth

century. King Edward I. in his expedition into Scotland in 1304, took Robert Baston with him, in order to celebrate his victories over the Scots; but our poet being taken prisoner, was obliged to change his note, and sing the successes of Robert Bruce. He wrote several books in Latin, on the Wars of Scotland, the Luxury of Priests, Synodical Sermons, &c.; and also a volume of tragedies and comedies, in English. He died about the year 1310.

BASTWICK (Dr. John), born at Writtle in Essex, in 1593, practised physic at Colchester; but being a man of warm imagination, and a good Latin scholar, applied himself to writing books against popery. About the year 1633 he printed in Holland a Latin treatise entitled *Elenchus Religionis Papisticæ*, with *Flagellum Pontificis et episcoporum Latialium*, in which the English prelates thinking themselves also aimed at, he was fined 10 ol. in the high commission court, excommunicated, prohibited practising physic, his books ordered to be burnt, and himself to remain in prison until he made a recantation. Instead of recanting, he wrote in prison, *Apologeticus ad præsules Anglicanos*; and another book called, *The Litany*; wherein he severely exclaimed against the proceedings of that court, and taxed the bishops with an inclination towards popery. Prynne and Burton coming under the lash of the star chamber-court at the same time, they were all censured as scandalous seditious persons, condemned to a fine of 5000l. each, to be pillored, to lose their ears, and to perpetual imprisonment in three remote parts of the kingdom. The parliament in 1640 reversed these proceedings; and ordered Dr. Bastwick a reparation of 5000l. out of the estates of the commissioners and lords who had prosecuted him, which the ensuing confusions prevented his receiving: however, his wife had, in 1644, an allowance ordered for her and her husband's maintenance. What became of him afterward is not known.

BATACOLA, a sea-port on the coast of Malabar, between Onore and Barcelore. Here are the remains of a once considerable city, on the banks of a small river, four miles from the sea. The country round it produces a great quantity of pepper; and the English had a factory here till 1670, when a bull-dog belonging to the factory having unfortunately seized and killed a sacred cow, the natives rose and massacred them all.

BATAVORUM INSULA, the island of the Batavians (anc. geog.). Of this island Tacitus gives the following description. "The Rhine flowing in one channel, or only broken by small islands, is divided at its entering Batavia, as it were, into two rivers. One continues its course through Germany, retaining the same name, and violent current, till it falls into the ocean. The other washing the coast of Gaul, with a broader and more gentle stream, is called by the inhabitants *Vahalis*; which name it soon changes for that of *Mosa*, by the immense mouth of which river it discharges itself into the same ocean." According to Tacitus, therefore, the island of the Batavians was bounded by the ocean, the Rhine, and the Vahalis, now the *Wale*. Cæsar extends it to the Mosa, or *Meuse*; but Pliny agrees with Tacitus. However, this island was of greater extent in Tacitus's time than in Cæsar's; Drusus, the father of Germanicus, having by a new canal conveyed the waters of the Rhine into the ocean a considerable way north of the former mouth of that river. The Batavi were a branch of the Catti, who, in a domestic sedition, being expelled their country, occupied the extremity of the coast of Gaul, at that time uninhabited, together with this island situated among shoals. Their name *Batavi* they carried with them from Germany; there being some towns in the territory of the Catti called *Battenberg*, and *Battenhausen*. The bravery of the Batavi, especially the horse, procured them not only great honour from the Romans, being called their *brothers* and *friends*; but an exemption from taxes, being obliged only to furnish men and arms. The modern name of this island is *Betu*, or *Betaw*. See BETUE and BATTÆ.

BATE (George), an eminent physician, born at Maid's Morton, near Buckingham, in the year 1608. In 1629 he obtained a licence, and for some years practised in and about Oxford: his practice was chiefly amongst the puritans, who at that time considered him as one of their party. In 1637 he took his degree of doctor in physic, and became very eminent in his profession, so that when King Charles kept his court at Oxford, he was his principal physician. When the king's affairs declined, Dr. Bate removed to London, where he accommodated himself so well to the times, that he became physician to the Charter-house, fellow of the college of physicians, and afterwards principal physician to Oliver Cromwell. Upon the restoration, he got into favour with the royal party, was made principal physician to the king, and fellow of the Royal Society; and this, we are told, was owing to a report raised on purpose by his friends, according to Mr. Wood, that he gave the protector a dose which hastened his death. Dr. Bate wrote in Latin an account of the late commotions in England, and some other pieces. He died at his house in Hatton-garden, and was buried at Kingston-upon-Thames in Surrey.—There was another George BATE, who wrote a work entitled The Lives, Actions, and Execution, of the prime Actors and principal Contrivers of that horrid Murther of our late pious and sacred King Charles I.

BATE (John), prior of the monastery of Carmelites, at York, in the 15th century, was born in Northumberland, and educated at York in the study of the liberal arts; in which he was greatly encouraged by the favour of some persons, his patrons, who were at the expence of sending him to Oxford, to finish his studies in that university. Bate abundantly answered the hopes conceived of him, and became an eminent philosopher and divine, and particularly remarkable for his skill in the Greek tongue. He took the degree of doctor in divinity at Oxford, and afterwards distinguished himself as an author. The Carmelites of York were so sensible of his merit, that upon a vacancy they offered him the government of their house; which he accepted, and discharged that office with great prudence and success. He died the 26th of January, 1429, in the beginning of the reign of Henry VI.

BATECUMBE, or BADECOMBE (William), an eminent mathematician, is supposed to have flourished about the year 1420, in the reign of Henry V. He studied at Oxford, where he applied himself to natural philosophy in general, but chiefly to the mathematics, in which he made a very great proficiency, as is evident by his writings in that science, which introduced him to the acquaintance and intimacy of the greatest men of those times. His mathematical writings consist of, 1. Of the Formation and Use of the Concave Sphere. 2. Of the Solid Sphere. 3. Of the Use of the Astrolabe. 4 Philosophical Conclusions.

BATEMAN (William), bishop of Norwich in the fourteenth century, and founder of Trinity-hall in Cambridge, was born at Norwich, being the son of a citizen of good repute in that place. He was from his tenderest years of a docile and ingenious disposition: having therefore made a good proficiency in learning, wherein he surpassed all his equals, he was sent to the university of Cambridge. After having gone through the usual circle of the sciences, he applied himself to the study of the civil law, in which he took the degree of doctor, before he was thirty years of age, a thing then uncommon. On the 8th of December, 13[illegible]8, he was collated to the archdeaconry of Norwich: soon after this he went and studied at Rome, for his farther improvement; and so distinguished himself by his knowledge and exemplary behaviour, that he was promoted by the pope to the place of auditor of his palace. He was likewise advanced by him to

the deanery of Lincoln; and ſo great an opinion had he of his prudence and capacity, that he ſent him twice as his nuncio, to endeavour to procure a peace between Edward III. king of England, and the king of France. Upon the death of Anthony de Beck, biſhop of Norwich, the pope did, by his uſurped proviſional authority, confer that biſhopric upon our William Bateman, on the 23d of January, 1343, and conſecrated him with his own hands. He was confirmed the 23d of June, 1344. Being inveſted with that great dignity, he returned into his native country after many years' abſence, and lived in a regular, and withal in a generous and hoſpitable manner. Of Pope Clement VI. he obtained for himſelf and ſucceſſors the firſt fruits of all vacant livings within his dioceſe; which occaſioned frequent diſputes between himſelf and his clergy. In the year 1347 he founded Trinity-hall in Cambridge, for the ſtudy of the civil and canon laws; and another hall dedicated to the Annunciation of the Virgin Mary, for the ſtudy of philoſophy and divinity.

Being a perſon of great wiſdom, eloquent, and of a fine addreſs, he was often employed by the king and parliament in affairs of the higheſt importance; and particularly was at the head of ſeveral embaſſies, ſent on purpoſe to determine the great differences between the crowns of England and France. In 1354 he was by order of parliament diſpatched to the court of Rome, with Henry duke of Lancaſter, and others; to treat (in the pope's preſence) of a peace, then in agitation between the two crowns above mentioned. This journey proved fatal to him; for he died at Avignon, where the pope then reſided, on the 6th of January, 1354-5, and was buried with great ſolemnity in the cathedral church of that city. With regard to his perſon, he was of an agreeable countenance, tall, handſome, and well made. He was likewiſe a man of ſtrict juſtice and piety, punctual in the diſcharge of his duty, and of a friendly and compaſſionate diſpoſition.

BATES (William), D. D. an eminent Preſbyterian divine, born in November 1625. He was admitted in Emanuel College, Cambridge, and from thence removed to King's College in 1644. He was one of the commiſſioners, at the conference in the Savoy, for reviewing the public liturgy, and was concerned in drawing up the exceptions againſt the Common Prayer: however, ſoon after the reſtoration, he was appointed chaplain to King Charles II. and became miniſter of St. Dunſtan's in the Weſt, but was deprived of that benefice for nonconformity. Dr. Bates bore a good and amiable character; and was honoured with the friendſhip of the lord keeper Bridgman, the lord chancellor Finch, the Earl of Nottingham, and Archbiſhop Tillotſon. He was offered, at the reſtoration, the deanery of Litchfield; which he refuſed. He publiſhed Select Lives of illuſtrious and pious perſons, in Latin; and ſince his death all his works, except his Select Lives, have been printed in one volume in folio. He died on July 14, 1699, in the 74th year of his age.

BATHE (Henry de), a learned knight, an eminent and ſkilful juſticiary of the 13th century, was born at that ancient ſeat of this family, called Bathe-houſe, in the county of Devon. Being a younger brother, it is not unnatural to imagine he might, upon that account, apply himſelf to the ſtudy and profeſſion of the laws of his country, in the knowledge of which he grew ſo eminent, that he was advanced by King Henry III. in 1238, to be one of the juſtices of the Common Pleas, and in 1246 was conſtituted one of the juſtices itinerant (as they were then called) for the county of Hertford, and in 1248 he was appointed the ſame for Eſſex and Surrey, in 1249 for Kent, Berks, Southampton, and Middleſex, and in 1250 for Lincolnſhire; at which time he had allowed him out of the Exchequer, by a peculiar favour, an hundred pounds a-year for his ſuſtentation in the diſcharge of his office. But the year following he fell from the king's grace and favour, the occaſion of which were certain crimes laid to his charge: viz. that he had not exerciſed his office uprightly, but to his own private gain, having perverted juſtice through bribes, upon an occaſion of a ſuit betwixt him and one Everard Trumpington, which was chiefly ſupported againſt him by one Philip d'Arcis, Knight, who alſo added treaſon to that of infidelity in his office. The accuſed was attached in the king's court; but one Manſel, who was now become a great favourite at court, offered bail for his appearance. King Henry refuſed this; the caſe, as he alleged, not being bailable, he terming him guilty of high treaſon. Fulk Baſſet, however, then biſhop of London, and a great many of De Bathe's friends, interceding, the king at laſt gave orders that he ſhould be bailed, twenty-four knights becoming ſureties for his appearing, and ſtanding to the judgment of the court. But De Bathe ſeems to have been conſcious of his own demerits, or the prepoſſeſſion of his judges againſt him; for he was no ſooner ſet at liberty, than he wrote to all his relations either by blood or marriage, deſiring that they would apply to the king in his favour, at firſt by fair ſpeeches and preſents, and that if theſe did not prevail, they ſhould appear in a more warlike manner, thereby to intimidate the court. This they faithfully and unanimouſly promiſed to do, upon the encouragement given them by a bold knight, one Nicholas de Sandford: but the king, imagining that his own power, and the intereſt of De Bathe's accuſers, infinitely outweighed all the preparations of the others, appeared the more inexorable upon the intimation of theſe proceedings; he rejected all preſents from the friends of the accuſed, and put on an air as if nothing but his puniſhment ſhould ſatisfy his and the nation's juſtice. De Bathe knew well to what all this outward inflexibility tended; but was certain, that if Henry perſiſted in his reſolution, he himſelf muſt periſh. He therefore had recourſe to a more prudent meaſure; he applied himſelf to the Biſhop of London, and other his ſpecial friends, and with a great poſſe of theſe goes to Richard earl of Cornwall (afterwards king of the Romans), whom by prayer and fine promiſes he won over to his intereſt. The king continued deaf to all his remonſtrances, and about the end of February, De Bathe was ſummoned, and obliged to appear to anſwer what ſhould be laid to his charge. This he accordingly did, but ſtrongly defended by a great retinue of armed knights, gentlemen, and others, viz. his own and his wife's friends and relations; among whom was the family of the Baſſets and Sandfords, a band as undaunted as his perſecutors were violent. We may, from what our hiſtorian has delivered upon this occaſion, conclude that the aſſembly was divided between thoſe who depended upon the king for their poſts and preferments, and thoſe who, though a great majority, were ſo thoroughly exaſperated at the meaſures of the court, that they were reſolved not to find De Bathe guilty. It was not long before the king perceived this, and upon that occaſion he made an unjuſt and impolitic ſtretch of his prerogative, in an unheard-of proclamation. A new charge was now brought againſt De Bathe, and perhaps the chief and only one, at leaſt that had exaſperated King Henry, viz. he was impeached not only on the former articles, but particularly for alienating the affections of the barons from his majeſty, and creating ſuch a ferment all over the kingdom, that a general ſedition was now on the point of breaking out. This ſpeech was enforced from Bathe's brother juſticiary, who declared to the aſſembly, that he knew the accuſed to have diſmiſſed without any cenſure, for the ſake of lucre, a convicted criminal. Many other complaints were urged againſt De Bathe; but they ſeem to have been diſregarded by all but the king and his party, who was ſo much exaſperated to ſee De Bathe likely to be acquitted, that he mounted his throne, and with his own mouth made proclamation, That whoſoever ſhould kill Henry de Bathe, ſhould have the royal pardon for

him and his heirs; after which ſpeech he flung out of the room in a great paſſion. Many of the royal party, who were exceedingly keen upon this occaſion, would readily have executed the king's terrible doom, and were for diſpatching De Bathe in court; but his friend Manſel, one of the king's council, and Fulco Baſſet, biſhop of London, interpoſed ſo effectually, that he was ſaved; and afterwards, by the powerful mediation of his friends (among whom was the Earl of Cornwall, the king's brother, and the Biſhop of London), and the application of a ſum of money, viz. two thouſand marks to the king, he obtained not only a pardon, but all his former places and favour with the king, who re-eſtabliſhed him in the ſame ſeat of judicature as he was in before, and rather advanced him higher, for he was made chief-juſtice of the King's-Bench, after about three years' diſcontinuance from his office of a judge, in which honourable poſt he continued for eight years after, till the time of his death, which happened in 1261.

Bathe (William), was born in Dublin, in 1564. We have it by tradition, that he was of a ſullen, ſaturnine temper, and diſturbed in his mind that his family was reduced from its ancient ſplendour. His parents, who were Proteſtants, had a greater regard to the learning of their child, than his religion; and therefore put him, in his green years, under the tuition of an eminent Popiſh ſchoolmaſter, who thoroughly corrupted his principles, and fitted him for that ſtation of life which he afterwards embraced. He removed to Oxford, where he ſtudied ſeveral years with indefatigable induſtry; but the inquiſitive Anthony Wood could not diſcover in what college or hall he ſojourned, or whether he took any univerſity degree. The ſame writer alleges, that growing weary of the hereſy profeſſed in England (as he uſually called the Proteſtant faith), he quitted the nation and his religion together, and in the year 1596 was initiated among the Jeſuits, being then between thirty and forty years of age; though one of his own order ſays he was but twenty-five, which certainly is erroneous. Having ſpent ſome time among the Jeſuits in Flanders, he travelled into Italy, and completed his ſtudies at Padua; from whence he paſſed into Spain, being appointed to govern the Iriſh ſeminary at Salamanca. He is ſaid to have had a moſt ardent zeal for the gaining of ſouls, and was much eſteemed among the people of his perſuaſion for his extraordinary virtues and good qualities, though he was of a temper not very ſociable. At length, taking a journey to Madrid to tranſact ſome buſineſs of his order, he died there June 17, 1614.

BATHURST (Ralph), M.D. an eminent phyſician, poet, and divine, born in the year 1620. He ſtudied divinity in Trinity College, Oxford; but the times of confuſion coming on, he changed the courſe of his ſtudies, and applied himſelf to phyſic. He took a doctor's degree in that faculty; in which he roſe to ſuch eminence, that he was, in the time of the uſurpation, appointed phyſician to the ſtate. Upon the reſtoration, he quitted his profeſſion of phyſic; was elected a fellow of the Royal Society, and preſident of his college; and having entered into holy orders, he was made chaplain to the king, and afterwards dean of Wells. Soon after, he ſerved the office of vice-chancellor of Oxford, and was nominated by King William and Queen Mary to the ſee of Briſtol; which he refuſed to accept. His learning and talents were various. He was an orator, a philoſopher, and a poet: he poſſeſſed an inexhauſtible fund of wit, and was a facetious companion at 80 years of age. Ridicule was the weapon with which he uſed to correct the delinquents of his college; and he was ſo abſolute a maſter of it, that he had it always at hand. His poetical pieces in the *Muſæ Anglicanæ* are excellent in their kind. He wrote ſeveral poems, both in Engliſh and Latin; and died June 14, 1704, in the 84th year of his age.

BATSFORD, a village of Glouceſterſhire, through which paſſes the great Roman road from the north in its way to Cirenceſter, and there is a ſmall entrenchment almoſt entire, ſuppoſed to have been thrown up by the Romans. It is four miles from Campden.

BATTECOLA, a fortified town on the eaſt coaſt of Ceylon, ſubject to the Dutch. Long. 81. 3. E. Lat. 5. 55. N.

BATTIE (Dr. William), an Engliſh phyſician, was born in Devonſhire, 1704. He received his education at Eton; and, in 1722, was ſent to King's College, Cambridge. His own inclination prompted him to the profeſſion of the law; but his finances would not ſupport him at one of the inns of court. He had two couſins of the name of Coleman, old bachelors and wealthy citizens, to whom, upon this occaſion, he applied for aſſiſtance; but they declined interfering in his concerns. Upon this he turned to phyſic, and firſt entered upon the practice of it at Cambridge; where, in 1729, he gave a ſpecimen of an edition of Iſocrates, which he afterwards, 1749, completed in two vols. 8vo.

He afterwards removed to Uxbridge, and then to London; where, meeting with ſucceſs and flouriſhing, his relations the Colemans, who had now left off buſineſs and retired, grew fond, or rather proud of him, and behaved to him with cordiality and friendſhip. In 1738, or 1739, he fulfilled by marriage a long engagement to a daughter of Barnham Goode, the under-maſter of Eton ſchool, who is honoured with a place in the Dunciad, for having abuſed Pope in a piece called The Mock Æſop. Againſt Goode, it ſeems, the Colemans had a political antipathy: however, they behaved well to Mrs. Battie, and the ſurvivor of them left the doctor 30,000*l.* In the diſpute which the college of phyſicians had with Dr. Schomberg, about 1750, Dr. Battie, who was at that time one of the cenſors, took a very active part againſt that gentleman. In 1751 he publiſhed De Principiis Animalibus Exercitationes in Coll. Reg. Medicorum, in three parts; which were followed, the year after, by a fourth. In 1757, being then phyſician to St. Luke's Hoſpital, and maſter of a private mad-houſe near Wood's-cloſe in the road to Iſlington, he publiſhed, in 4to. A Treatiſe on Madneſs; in which, having thrown out ſome cenſures on the medical practice formerly uſed in Bethlem Hoſpital, he was replied to, and ſeverely animadverted on, by Dr. John Monro, whoſe father had been lightly ſpoken of in the fore-mentioned treatiſe. In 1762 he publiſhed Aphoriſmi de cognoſcendis et curandis morbis nonnullis ad principia accommodati. February 1763 he was examined before a committee of the Houſe of Commons, on the ſtate of the private mad-houſes in this kingdom; and received in their printed report a teſtimony very honourable to his abilities.

In 1776 Dr. Battie was ſeized with a paralytic ſtroke, of which he died, June the 13th, in his ſeventy-fifth year.

BATTING Machine, a machine for batting or beating and cleaning cotton from the huſks and foulneſſes contained in it. In Pl. 16. we have given a view of this curious engine, the invention of Mr. Bowden of Mellor in Derbyſhire. Fig. 1. is a perſpective view of the whole machine. A A A A, the frame of the machine. B, the flake, made of cords, upon which the cotton is batted, moving perpetually over the rollers *c*, C, which are moved by a pinion on the end of the axle of the cranks D, which drives a large bevel-wheel, fixed on the bottom of the upright ſhaft E, upon the top of which is a bevel pinion, which drives a large bevel-wheel upon the end of the axle of the roller C. F F, two boards fixed to the croſs-frames, on each ſide of the flake B, to prevent the cotton from falling off, [the which are notched, in order that the batting-ſticks may ſtrike the cotton upon the flake B. G, a looſe rod, croſſing the flake cloſe to the cords under the cotton, which, by the vibration of the cords, looſens the cotton therefrom before it falls over the roller C. Fig. 2. the ground-plan of the

machine, drawn by the ſcale T. D, an axle, having ten cranks, ſtanding upon ten different ſquares or ſides of ditto; the firſt and ſecond of which are oppoſite, as are all the reſt, upon different ſquares, alternately to the end, with a ſupport in the middle, with a braſs ſtep for the axle to move in, to keep the ſame from vibrating. Fig. 3. a plan of four of the arms, ſhewing their different movements, drawn by the ſcale U. H, H, H, H, the arms, fixed to the bottom croſs frame by an axle working in iron ſlides, which are moveable, if neceſſary, at *a a*. I, I, rails, worked by two oppoſite cranks at *c*, *c*, and fixed to the lower ends of the arms by ſwivel pins at *i*, *i*. J, J, iron ſlides, fixed by ſcrews to the ends of the rails I, I, in order to lengthen or contract them, as may be found neceſſary. K, K, rails fixed to the upper parts of the arms at *b*, *b*, by ſwivel pins, which work the oppoſite arms at *d*, *d*. L, L, L, L, wood rollers upon the tops of the arms, moving an axle in iron frames, to which axles are fixed the ſockets *e*, *e*, *e*, *e*, which hold the batting ſticks faſtened therein by hoops and ſcrews. M, M, M, M, leather ſtraps fixed to the rollers L, L, L, L, and to the upper croſs frame at *k k k*, as in Fig. 1. which ſtraps, when drawn tight by the arms moving forwards towards the ſlake B, as in fig. 1. ſtrike the blows upon the cotton. N, N, two catches or hooks, which are drawn by the ſprings *l*, *l*, that fall into ſquare holes, made for the purpoſe into iron hoops, on the ends of the rollers L, L, to prevent the ſticks from riſing after the blow is ſtruck before the ſticks are clearly drawn out of the cotton by the return of the arms. O, O, iron ſlides, faſtened by ſcrews to one ſide of the ends of the rails K, K, with ſtuds fixed thereto, on which the bottom part of the catches move; which ſtuds, when placed at a proper diſtance from the ſwivel pins, draw down the catches gradually as the arms move backwards, and prevent the ſticks from riſing, which they would naturally do, notwithſtanding the catches, owing to the circular motions of the arms. P, a long ſpring, with a ſmall leather ſtrap faſtened to the top part of the roller L, on the top of the arm, which throws back the ſtick to a bolſter put on the upper croſs-frame, as at *f*, in fig. 1. Q, a ſneck or catch faſtened on the end of the upper rail K, which frees the catch g from the roller when the arm returns to the back croſs-frame, as at L, fig. 3. R, R, two ſticks, which ſtrike upon the cotton at the ſame time, as do all the reſt in their turns, as the cranks move round. W, a ſmall ſcrew, in the bottom of the ſheck or catch Q, which binds on the top of the ſlide O, to be altered as may be neceſſary, to keep ſuch ſlide in its proper place. X, X, two ſcrews, moveable in two nuts, fixed in the ends of the croſs-frames on each ſide the ſlake B, as in fig. 2. by means of which the cords of the ſlake may be ſtraightened or ſlackened, as may be neceſſary. S, a pulley, fixed upon the end of the axle of the cranks at *h*, in fig. 2. by which the whole of the machine is moved.

The following are obſervations made by the Patentee.

"Though many attempts," ſays he, "have been made, no operation has been found out to clear the cotton, to expand its fibres, and bring it into that open and pulpy ſtate eſſential to good carding, ſave batting, which is a laborious employment, and having been chiefly confined to females, who are inadequate to the taſk, the work has been very imperfectly performed; beſides the diſagreeable neceſſity of either confining a great number of them in a room for that purpoſe, or of ſending the cotton out to as many different houſes—circumſtances which have long occaſioned the trade to lament the want of ſome invention to remove them, and which I flatter myſelf is accompliſhed by the above-deſcribed batting machine.

"In a department, hitherto confeſſedly the moſt perplexing of any attending the buſineſs of cotton ſpinning, a very conſiderable abridgment of labour is effected, inſomuch that, at moſt, two-thirds of the number of *girls* will now do the ſame quantity of work, and much better, than was done before by the ſtrongeſt women."

BATTLEFIELD, a large village in Shropſhire, five miles N. of Shrewſbury, where a victory was gained by Henry IV. over Henry Percy, ſurnamed Hotſpur. It has a large church, and one long broad ſtreet paved. Long. 2. 42. W. Lat. 52. 22. N.

BAUCONICA (anc. geog.), a town of the Vangiones in Gallia Belgica; nine miles from Mongontiacum, and eleven from Borbitomagum; and therefore ſuppoſed to be *Oppenheim*, a town in the Palatinate of the Rhine, and ſituated on that river.

BAUDELOT (Charles Cæſar), a learned advocate in the parliament of Paris, diſtinguiſhed himſelf by his ſkill in ancient monuments, and was received into the academy of Belles-Lettres in 1705. He wrote a Treatiſe on the Advantages of Travelling; many Letters and Diſſertations on Medals, &c.; and died in 1722, aged ſeventy-four.

BAUDIER (Michael), a gentleman of Languedoc, lived in the reign of Lewis XIII. and publiſhed ſeveral books, which procured him the character of a copious and laborious author; among which are, 1. An Inventory of the General Hiſtory of the Turks. 2. The Hiſtory of the Seraglio. 3. That of the Religion of the Turks. 4. That of the Court of the King of China. 5. The Life of Cardinal Ximenes, &c.

BAUDOBRIGA (anc. geog.), a town of the Treviri in Germany; now *Boppart*, in the electorate of Triers. See BOPPART.

BAUDRAND (Michael Anthony), a celebrated geographer, born at Paris, July 18, 1633. He travelled into ſeveral countries; and then applied himſelf to the reviſal of Ferrarius's Geographical Dictionary, which he enlarged by one-half. He wrote, 1. Notes to Papirius Maſſo's Deſcription of the Rivers of France. 2. A Geographical and Hiſtorical Dictionary. 3. Chriſtian Geography, or an Account of the Archbiſhoprics and Biſhoprics of the whole World: and made ſeveral maps. He died at Paris, May 29th, 1700.

BAUHIN (John), a great botaniſt, was born about the middle of the 16th century. He took his doctor's degree in phyſic, in 1562; and afterwards became principal phyſician to Frederick duke of Wirtemberg. The moſt conſiderable of his works is his Univerſal Hiſtory of Plants.

BAUHIN (Caſpar, or Gaſpar), younger brother to the preceding, was born at Baſil, 1550; and diſtinguiſhed himſelf by his ſkill in anatomy and botany. In 1580 he was choſen firſt profeſſor of theſe ſciences at Baſil; and in 1614 was made firſt profeſſor of phyſic, and firſt phyſician of that city, which he held till his death, which happened in 1623, at the age of ſixty-three. He wrote, 1. Anatomical Inſtitutions; 2. Prodromus Theatri Botanici; and other works.

BAUTRU, a celebrated wit, and one of the firſt members of the French academy, was born at Paris in 1588, and died there in 1665. He was the delight of all the miniſters at court, of all the favourites, and of all the great in general. He was indeed a kind of a fool among them; who, while he played the buffoon, took the uſual privilege of ſaying what he pleaſed. Many of his bons mots are preſerved. Once, when he was in Spain, having been to ſee the famous library of the Eſcurial, where he found a very ignorant librarian, the king of Spain aſked him what he had remarked? To whom Bautru replied, that "the library was a very fine one; but your majeſty," adds he, "ſhould make your librarian treaſurer of your finances." "Why ſo?" "Becauſe," ſays Bautru, "he never touches what he is entruſted with."

BAXTER (William), nephew and heir to Richard (ſee *Encycl.*), was an eminent ſchoolmaſter and critic He was born at Lanlugany in Shropſhire, in the year 1650; and it is

remarkable, that at the age of eighteen, when he firſt went to ſchool, he knew not one letter nor underſtood one word of any language but Welſh; but he ſo well improved his time, that he became a perſon of great and extenſive knowledge. His genius led him chiefly to the ſtudy of antiquities and philology, in which he compoſed ſeveral books. The firſt he publiſhed was a Grammar, in 1679, entitled *De Analogia ſeu Arte Latinæ Linguæ Commentariolus*. He alſo publiſhed a new and correct edition of Anacreon, with notes; an edition of Horace; a Dictionary of the Britiſh Antiquities, in Latin; and ſeveral other books. He was a great maſter of the ancient Britiſh and Iriſh tongues, was particularly ſkilled in the Latin and Greek, and in the northern and eaſtern languages. He died May 31ſt, 1723, after being above twenty years maſter of Mercers' School in London.

BAXTER (Andrew), a very ingenious writer of Scotland, was born in 1686, or 1687, at Old Aberdeen, of which city his father was a merchant, and educated in King's College there. His principal employment was that of a private tutor to young gentlemen; and among others of his pupils were Lord Grey, Lord Blantyre, and Mr. Hay of Drummelzier. About 1724 he married the daughter of a clergyman in the ſhire of Berwick. A few years after he publiſhed in 4to. An Enquiry into the Nature of the Human Soul, wherein its Immateriality is evinced from the Principles of Reaſon and Philoſophy; without date. In 1741 he went abroad with Mr. Hay, and reſided ſome years at Utrecht; having there alſo Lord Blantyre under his care. He made excurſions from thence into Flanders, France, and Germany; his wife and family reſiding, in the mean time, chiefly at Berwick-upon-Tweed. He returned to Scotland in 1747, and reſided till his death at Whittingham, in the ſhire of Eaſt Lothian. He drew up, for the uſe of his pupils and his ſon, a piece, entitled, Matho; ſive, Coſmotheoria puerilis, Dialogus. This was afterwards greatly enlarged, and publiſhed in Engliſh, in two volumes 8vo. In 1750 was publiſhed, An Appendix to his Enquiry into the Nature of the Human Soul;" wherein he endeavours to remove ſome difficulties which had been ſtarted againſt his notions of the vis inertiæ of matter, by Maclaurin, in his Account of Sir Iſaac Newton's Philoſophical Diſcoveries. To this piece Mr. Baxter prefixed a dedication to Mr. John Wilkes, with whom he had commenced an acquaintance abroad. He died this year, April the 23d, after ſuffering for ſome months under a complication of diſorders. He was a very ingenious and knowing man: the French, German, and Dutch languages were ſpoken by him with much eaſe, the Italian tolerably; and he wrote and read them all, together with the Spaniſh. He was a man alſo of great integrity, humanity, and candour.

BAYLY (Lewis), author of that moſt memorable book entitled The Practice of Piety, was born at Caermarthen in Wales, educated at Oxford, made miniſter of Eveſham in Worceſterſhire about 1611, became chaplain to King James, and promoted to the ſee of Bangor in 1616. His book is dedicated "to the high and mighty prince, Charles Prince of Wales;" and the author tells his highneſs, that "he had endeavoured to extract out of the chaos of endleſs controverſies the old practice of true piety, which flouriſhed before theſe controverſies were hatched." The deſign was good; and the reception this book has met with may be known from the number of its editions, that in 8vo. 1734, being the ſifty-ninth. This prelate died in 1634.

BAYLY (Thomas), ſon of the preceding, was educated at Cambridge, and having commenced bachelor of arts, was preſented to the ſubdeanery of Wells by Charles I. in 1638. In 1644 he retired, with other loyaliſts, to Oxford; and two years after we find him, with the Marquis of Worceſter, in Ragland caſtle. When this was ſurrendered to the parliament army, he travelled into France and other countries; but returned the year after the king's death, and publiſhed at London, in 8vo. a book, entitled Certamen Religioſum; or, a Conference between King Charles I. and Henry late Marquis of Worceſter, concerning Religion, in Ragland Caſile, Anno 1646. But this conference was believed to have no real foundation; and conſidered as nothing elſe than a prologue to the declaring of himſelf a Papiſt. The ſame year, 1649, he publiſhed The Royal Charter granted unto Kings by God himſelf, &c. to which he added, A Treatiſe, wherein is proved that Epiſcopacy is Jure divino, 8vo. Theſe writings giving offence, occaſioned him to be ſearched out, and committed to Newgate; whence eſcaping, he retired into Holland, and became a flaming Roman-catholic. During his confinement in Newgate, he wrote a piece entitled Herba Parietis; or, the Wall-Flower, as it grows out of the Stone Chamber belonging to the Metropolitan Priſon. Some time after he left Holland, and ſettled at Douay; where he publiſhed another book, entitled, The End to Controverſy between the Roman-catholic and Proteſtant Religions. At laſt this ſingular perſon went to Italy, where he lived and died extremely poor.

BAYNES (Sir Thomas), an eminent phyſician, and profeſſor of muſic at Greſham College, in London, was born about the year 1622, and educated at Chriſt's College, in Cambridge, under the tuition of the learned Dr. Henry More, where he took the degree of bachelor of arts about the year 1642. In 1649 he took the degree of maſter of arts, after which time he applied himſelf to the ſtudy of phyſic. He went into Italy in company with Mr. Finch (afterwards Sir John), with whom he had contracted the greateſt friendſhip; and at Padua they were both created doctors of phyſic. Upon the reſtoration of King Charles II. in 1660, Mr. Baynes and Mr. Finch returned into England, and the ſame year their grace was paſſed at Cambridge, for creating them doctors of phyſic in that univerſity. On the 26th of February following, Mr. Baynes, together with Sir John Finch, was admitted a fellow-extraordinary of the College of Phyſicians of London. Dr. Petty having reſigned his profeſſorſhip of muſic in Greſham College, Dr. Baynes was choſen to ſucceed him, the 8th of March, 1660; and the 26th of June following, he and his friend Sir John Finch were admitted graduates in phyſic at Cambridge, in purſuance of the grace paſſed in their favour the year before. The winter following, this inſeparable pair of friends deſigned to have made a ſecond tour into Italy, but did not execute their deſign. The 20th of March, 1663, they were elected fellows of the Royal Society, upon the firſt choice made by the council, after the grant of their charter, of which they had been members before; and May 15, 1661, had, with ſeveral others, been nominated a committee for a library (at Greſham College), and for examining of the generation of inſects. In March, 1664, Dr. Baynes accompanied Sir John Finch to Florence, where that gentleman was appointed his majeſty's reſident, and returned back with him into England in 1670. Towards the end of the year 1672, Sir John being appointed the king's ambaſſador to the grand-ſeignior, Dr. Baynes was ordered to attend him as his phyſician, and before he left England received from his majeſty the honour of knighthood. Nine years after, Sir Thomas ſtill continuing in Turkey, the Greſham committee, taking into conſideration his long abſence without ſupplying the duty of his place, thought fit to diſmiſs him from his profeſſorſhip, and on the 9th of Auguſt, 1681, choſe Mr. William Perry in his room. The news of this diſmiſſion could not reach Sir Thomas Baynes; for he died at Conſtantinople the 5th of the following month.

BEAVER (John), a Benedictine monk in Weſtminſter

abbey, flouriſhed about the beginning of the fourteenth century. He was a man of quick parts, and of great diligence and ingenuity; but he applied himſelf particularly to the ſtudy of the hiſtory and antiquities of England, and became a great maſter of both. Among other things, he wrote, A Chronicle of the Britiſh and Engliſh Affairs, from the coming in of Bruce to his own Time. He alſo wrote a book, De Rebus Cœnobii Weſtmonarienſis;—Of Weſtminſter-abbey, and the ſeveral Tranſactions relating thereto. Leland commends him as an hiſtorian of good credit; and he is alſo cited with reſpect by J. Stow, in his Survey of London and Weſtminſter.

BEAUCHAMP (Richard de), earl of Warwick, and one of the moſt conſiderable perſons in this kingdom in the fifteenth century, was born January 28, 1381, at the manor-houſe Salwarpe in the county of Worceſter, and had for his god-fathers, King Richard II. and Richard Scroope, then biſhop of Coventry and Lichfield, and afterwards archbiſhop of York. He was made Knight of the Bath at the coronation of King Henry IV. in the year 1399, and in the fourth year of the ſame reign he had livery of his lands, and was retained to ſerve the king one whole year, with one hundred men at arms, and three hundred archers. The next year, which was 1404, on the coronation of the queen, he kept, according to the cuſtom of thoſe times, juſts, in which he behaved himſelf very gallantly. He was called the ſame year to do the crown more ſerious ſervice, in that dangerous rebellion raiſed by Owen Glendower, againſt whom he behaved bravely, and took his ſtandard in open battle. He was, likewiſe, in the famous battle at Shrewſbury, againſt the Percies, where he gained great honour, and was, not long after, made Knight of the Garter. In 1408 he obtained a licence from King Henry IV. to viſit the holy ſepulchre at Jeruſalem, in purſuance of a vow he had made. From Jeruſalem he came back to Venice, and was there nobly received. Thence he travelled into Ruſſia, into Lithuania, Poland, Weſtphalia, and ſome countries of Germany, ſhewing great valour in divers tournaments whilſt he was in thoſe parts. No ſooner was he returned into England, than he was, by indenture, dated 2d October, 12 Henry IV. retained with Henry prince of Wales, afterwards king by the name of Henry V. to ſerve him as well in times of peace as war, both in this realm, upon, and beyond the ſeas. At the ceremony of the new king's coronation, he was conſtituted lord high-ſteward. In the ſame year, 1413, we find him one of the king's commiſſioners into France, to treat of a ſolid peace between the two kingdoms, to be ſtrengthened and cemented by a marriage between the king his maſter and the Princeſs Catherine, daughter to the king of France. In the year 1415 he was declared captain of Calais, an office of great truſt and honour in thoſe days, and never conferred but upon a man of known abilities as a ſoldier, and of a clear unqueſtionable character in point of fidelity. In May 1417, King Henry ſent him to the king of France, attended by a thouſand men at arms, to treat of a marriage between him and that king's daughter, the Lady Catherine: but the dauphin knowing that this marriage was intended to defeat his ſucceſſion, he ſent a body of five thouſand men, under the command of the earls of Vendoſme and Lymoſin, to obſtruct his paſſage, to whom the earl gave battle, in which both thoſe noblemen were killed, and one of them fell by the earl of Warwick's own hand, and about two thouſand of their troops were either ſlain or taken. He then proceeded on his embaſſy, in which, notwithſtanding the difficulties he had to ſtruggle with, he very happily ſucceeded, to the king's great ſatisfaction. In the firſt of Henry VI. he was by indenture retained to be captain of Calais for two years; which fortreſs being beſieged by Philip duke of Burgundy, now reconciled to the French, this noble earl, aſſiſted by Humphrey duke of Glouceſter, and Humphrey earl of Stafford, ſo gallantly defended it, that, after a long ſiege and great loſs, the Duke of Burgundy was forced to riſe from before it. Upon the death of the Duke of Bedford, who was regent of France for King Henry, the Earl of Warwick was conſtituted lieutenant-general of the realm of France and duchy of Normandy, the higheſt honour a ſubject of England could receive. He executed this great and difficult employment with his uſual wiſdom and diligence, for the four laſt years of his life, and died in poſſeſſion thereof in the caſtle of Rouen, April the 30th, 1439.

BEAUCHAMP (Henry de), ſon to Richard earl of Warwick, was born at Hanley caſtle in Worceſterſhire, on the 22d of March, 1424. Being a young nobleman of great ſpirit and courage, he offered his ſervice before he was full nineteen for the defence of Normandy, with which the king was ſo well pleaſed, that, by his charter, bearing date the ſecond of April, in the twenty-ſecond year of his reign, he created him Premier Earl of England, and for a diſtinction between him and all other earls, he farther granted him, and the heirs male of his body, leave to wear a gold coronet upon his head, as well in his own preſence as elſewhere, in all ſuch aſſemblies, and upon all feaſts in which the like ornaments were worn. Within three days after this he advanced him to the rank of Duke of Warwick, in conſideration of the many virtues and great ſervices of his father, granting him place in parliament and at all other meetings, next after the Duke of Norfolk, before the Duke of Buckingham; beſtowing likewiſe a penſion of forty pounds per annum, to be paid by the ſheriffs of Warwickſhire and Leiceſterſhire out of the revenues of thoſe counties, towards the better ſupport of that honour. But this extraordinary mark of the royal favour was not more kindly and gratefully received by the young Duke of Warwick, than it was hatefully and enviouſly looked upon by the Duke of Buckingham, who thought himſelf extremely injured thereby. In that reign every thing was apprehended from the feuds and diſputes of the nobility; and therefore, to prevent any ill conſequences that might ariſe from the differences between theſe two noblemen, this point was ſettled by an act of parliament; which declared, that from the ſecond of December then next enſuing, they ſhould take place of each other by turns, one that year, and the other the next, and ſo on as long as they ſhould live together; the Duke of Warwick to have the firſt year's precedency, and he which ſhould ſurvive, to take place of the other's heir male as long as he lived; and from that time the heir male of each was to take place of the other, according as it ſhould happen, that he had livery of his lands before him. Beſides theſe additional titles and marks of honour, the king gave Henry duke of Warwick more ſubſtantial proofs of his affection and gratitude, by granting him the reverſion after the death of the Duke of Glouceſter, of the iſlands of Guernſey, Jerſey, Sark, Erm, and Alderney, for the yearly tribute of a roſe, to be paid at the feaſt of St. John the Baptiſt, as alſo of the manor and hundred of Briſtol in Glouceſterſhire, for the yearly farm of ſixty pounds, as alſo the caſtles and manors of the king within the foreſt of Dean, yielding and paying the yearly rent of one hundred pounds. But, as if all theſe honours and grants had been ſtill inſufficient to expreſs the king's affection for this young nobleman, and his remembrance and reſpect for his father's ſervices, Henry VI. went ſtill farther, even to the utmoſt verge and extent of his prerogative, by declaring the ſaid Henry duke of Warwick king of the iſland of Wight, and placing the crown upon his head with his own hands. As this was the higheſt honour the king could beſtow, ſo it proved the laſt favour the

duke could receive; ſince he was taken off in the flower of his age, at the caſtle of Hanley, where he was born, on the 11th of June, 1445, in the twenty-ſecond year of his age.

Beauchamp (John de), baron of Kidderminſter, in the reign of Richard II. and the firſt baron created by patent in this kingdom. He was the ſon of Sir Richard Beauchamp of Holt, who was the grandſon of William de Beauchamp of Elmeley, and brother to William de Beauchamp, the firſt earl of Warwick of that family. He was born in the year 1320, and by the death of his father inherited the lands of Holt in Worceſterſhire, 1 Edward III. He was early in the ſervice of his prince; for 12 Edward III. when he was not more than twenty, he was in the expedition to Flanders, and in 20 Edward III. in France, and acquired reputation in both. In 1353, he was in Gaſcoigne, in the retinue of Thomas earl of Warwick, and continued there all the next year. In the thirty-third of the ſame reign he ſerved again in France with much honour. In the forty-ſecond of that king, he went over into that realm on the ſame account; and in 46 Edward III. he attended the king's ſon, John duke of Lancaſter, in his expedition into Spain. By theſe long and faithful ſervices to the crown, he ſo raiſed his credit at court, that in the ſixth of Richard II. being then one of the eſquires of the king's chamber, he had a grant of twenty marks per annum, out of the manor of Sutton, in the foreſt of Macclesfield in Cheſhire. But growing more and more into the king's favour, he, in the ninth of the ſame reign, from the like conſiderations, and becauſe he had received the honour of knighthood, under the king's banner diſplayed againſt Scotland, had an annuity granted him of one hundred marks, out of the king's rents and revenue in North Wales. But ſoon after he made a ſurrender of this annuity, and, inſtead thereof, had a conſiderable grant made him in Caermarthenſhire, and was alſo appointed chief-juſtice of North Wales, both for term of his life. He had alſo a ſpecial charter of divers liberties and privileges, as well in vert and veniſon, as other things, in his lordſhip of Kidderminſter, in the county of Worceſter, granted him much about the ſame time. By theſe repeated teſtimonies of royal kindneſs, Sir John Beauchamp, who was now advanced to be ſteward of the king's houſhold, and one of his chief favourites, was encouraged to procure new gifts from the crown; and, therefore, in the eleventh year of King Richard, laying hold of the breaking out of a French war, Sir John Beauchamp obtained for himſelf a grant of all the manors and lands belonging to the priory of Deerhurſt in the county of Glouceſter, then ſeized into the king's hands; as all other priories-alien were. By ſuch grants he acquired a good eſtate; and to add an augmentation of honour to thoſe of fortune, he procured himſelf to be created Baron Kidderminſter by patent, limiting that honour to his heirs male; which became the precedent for future creations. It was thought that the king intended him farther honours, had not a ſudden reverſe of fortune put a ſtop to his maſter's power, and to his proſperity. This happened in the year 1388, when the Duke of Glouceſter, and other powerful lords, having firſt defeated the army raiſed by the king's favourite, whom he had created Duke of Ireland, marched on to London, and forced him to call a parliament. Amongſt other noble perſons then called to account for their paſt behaviour, our Lord Beauchamp was one, who was firſt removed from his office of treaſurer of the king's houſhold, then ſent priſoner to Dover-caſtle, and laſtly condemned and executed for high treaſon upon Tower-hill.

Beauchamp (John de), ſon to Sir William de Beauchamp, conſtable of the caſtle of Glouceſter, was, on the death of Richard de Beauchamp, earl of Warwick, conſtituted one of the guardians of his ſon Henry. He purchaſed from Thomas de Botreax the moiety of the manor of Alceſter, and obtained from King Henry VI. a charter for various privileges and immunities to that place, as alſo the grant of another fair to be held there on the eve of St. Dunſtan, and to continue for two days following. He was in ſo great credit with that monarch, that in the twenty-fifth year of his reign, he was advanced by him to the dignity of Lord Beauchamp of Powyke, and had an annuity of ſixty pounds out of the fee-farm of the city of Glouceſter. He was alſo conſtituted juſtice of South Wales, with power to execute that office by himſelf, or his ſufficient deputy. About three years after this, by the kindneſs of the ſame prince, he was promoted to the office of lord high-treaſurer of England, which he did not hold full two years, but retiring to a private life, died at a good old age, in the year 1475.

Beauchamp (William de), Lord Bergavenny, was the younger ſon of Thomas de Beauchamp, earl of Warwick. He ſeems to have made his firſt campaign in 1366, under the famous John of Gaunt, duke of Lancaſter, in his expedition into Caſtile. He ſerved continually after this through that whole reign, ſometimes in Spain, ſometimes in France, by land ſometimes, and ſometimes by ſea. For theſe great ſervices and others expected from him, we find that in the firſt of Richard II. he was appointed governor of the caſtle and county of Pembroke, and in the fourth of the ſame king, lord chamberlain, with an annual penſion of two hundred pounds for life. The ſame year he was retained to ſerve by indenture with two hundred men at arms, and two hundred archers, under Edmund de Langley, earl of Cambridge, in Spain. In the ninth of King Richard, he attended the Duke of Lancaſter into Spain, to ſupport his pretenſions to the crown of Caſtile. He was the next year conſtituted captain of the caſtles of Pembroke and Kilgaran in Wales, and holding ſtill his command of Calais, was appointed the king's commiſſioner to treat with the Earl of Flanders. It was at this juncture he diſtinguiſhed himſelf in a manner ſo particular, that it deſerves to be for ever remembered. Amongſt other baſe ſchemes put into the head of King Richard II. by his favourites, one was, to retire, when the Duke of Glouceſter and the other lords were near London with an army, to France, and there purchaſe the aſſiſtance of that monarch, by giving up to him moſt of the fortreſſes he then held in that realm. If it be ſome ſcandal to our country, that it produced men baſe enough to betray a young and inconſiderate prince into ſo foul a contrivance; we muſt allow that it is no leſs honourable for us, that this gallant Lord Bergavenny had the courage to ſtand in the gap to ſecure our poſſeſſions from being ſo ſhamefully given up, and at the hazard of his life, to ſerve the king againſt his will, and merit his confidence by a noble act of diſobedience. For when all things were ready at home for carrying this dark deſign into execution, and the king ſent orders to this lord to quit his command, and tranſmit certain letters to the court of France, he ſtoutly refuſed both. He declared with reſpect to the former, that he was intruſted with this important fortreſs with the advice and conſent of the nobility, and without their conſent he would not render up his command. As for the letters (gueſſing at their tenor), inſtead of ſending them to Paris, he tranſmitted them to the Duke of Glouceſter in England. He went ſtill farther than this: for when John de la Pole, brother to the great favourite Suffolk, came with the king's orders to take from him the command of Calais, he not only refuſed to yield it into his hands, but ſeized him and carried him over priſoner to England, which at that time incenſed the king to ſuch a degree, as it entirely ruined the ſcheme of his miniſters, that he cauſed the Lord Bergavenny, immediately after his arrival, to be arreſted and committed to cloſe cuſtody; but ſoon after, either through fear or choice, cauſed him to be ſet at liberty again. In the firſt of Henry IV.

we find him conſtituted juſtice of South Wales for life, and reſtored to the government of the town and caſtle of Pembroke and lordſhip of Tineby, with the addition of the caſtle and lordſhip of Kilgaran, and county of Oſterlowe alſo for life, paying into the Exchequer ſeventy marks per annum. He died about the year 1411.

BEAUFORT (John), eldeſt ſon of John of Gaunt, duke of Lancaſter, was born in Beaufort-caſtle in Anjou. In 1394, being then a knight, he accompanied his father into Gaſcoigne. He was advanced to the honour of Earl of Somerſet, in a parliament held at Weſtminſter, by creation, bearing date 1396-7; and on September 29th, in a parliament held at the ſame place, was created marquis of Dorſet; but this laſt honour being vacated, he was created the ſame day, September 29th, Marquis of Somerſet: notwithſtanding which, he was ſummoned to parliament by the title only of Marquis of Dorſet; and by that denomination was made conſtable of Wallingford-caſtle, and ſteward of the honour of Wallingford, November 22, 1397; as alſo conſtable of Dover-caſtle, and warden of the Cinque-ports, on the 5th of February following; and not long after, King Richard the Second's lieutenant in Aquitain. He was likewiſe, on the 2d of February the ſame year, conſtituted admiral of all the king's fleet, both to the north and weſt. In 1397 he was one of thoſe lords who, at the great council at Nottingham, impeached Thomas duke of Glouceſter, &c. of treaſon; for which he and the reſt of them were adjudged, in the firſt parliament of King Henry IV. to loſe their titles, and the eſtates that had been given them, at or ſince the laſt parliament; belonging to any of thoſe perſons they had impeached, or ſuch as they enjoyed at the time of the Duke of Glouceſter's impriſonment. By this means, John Beaufort loſt the title of Marquis of Dorſet, and retained only that of Earl of Somerſet; but ſoon ingratiating himſelf with the new king, who was his brother by the father's ſide, he was conſtituted by him chamberlain of England for life, February 9, 1399-1400. In 1401 he was retained by indenture to ſerve the king as governor of the town of Caermardhyn, and had his eſtate reſtored to him. He was alſo made captain of Calais, with its marches. In 1401, or 1402, he was commiſſioned with others, to treat of a league of amity between the king of England and the Duke of Gueldres. In 1402 the commons in parliament petitioned for his reſtitution to the dignity of marquis; which he ſeemed unwilling to reſume, becauſe that title was new in this kingdom, he being the ſecond on whom it was conferred: however, he accepted of it at laſt. In the year 1404 he had an aſſignation of the iſle of Thanet, for the ſupport of himſelf, and the garriſon of Calais, which conſiſted of his ſoldiers; and was appointed ambaſſador to treat of a peace with the French. He alſo was one of the commiſſioners empowered to receive ſuch ſums of money as then remained unpaid for the ranſom of John king of France, taken priſoner at the battle of Creſſy. And finally, in the eighth year of King Henry IV. was conſtituted admiral of the king's whole fleet, as well for the north as weſt. Having thus paſſed through many honourable employments, he departed this life on the 21ſt of April, 1410.

BEAUFORT (Henry), biſhop of Wincheſter, and cardinal prieſt of the Roman church, was the ſon of John of Gaunt, duke of Lancaſter, by his third wife, Catherine Swinford. He ſtudied for ſome years at Oxford, but had his education chiefly at Aix la Chapelle, where he applied himſelf to the civil and common law. Being of royal extraction, he was advanced very young to the prelacy, and was elected biſhop of Lincoln in 1397, in the room of John Buckingham, who reſigned. In 1399 he was chancellor of the univerſity of Oxford, and at the ſame time dean of Wells. He was lord-high-chancellor of England in 1404, the fifth of his brother Henry IV. The next year he ſucceeded William of Wickham, by papal proviſion, in the ſee of Wincheſter, and received the ſpiritualities from the Archbiſhop of Canterbury, in the Biſhop of London's palace, the 18th of March. He was again lord chancellor in 1414, the ſecond of his nephew King Henry V. This prelate was one of King Henry the Sixth's guardians during his minority; and in 1424, the third of the young king's reign, he was a fourth time lord chancellor of England. There were perpetual jealouſies and quarrels between the Biſhop of Wincheſter and the protector, Humphrey duke of Glouceſter, which ended in the ruin and death of the latter. About two years after, the Biſhop of Wincheſter received with great ſolemnity, in the church of Our Lady at Calais, a cardinal's hat, with the title of St. Euſebius, ſent him by Pope Martin V. In September 1428 the new cardinal returned into England, with the character of the Pope's Legate lately conferred on him; and in his way to London, he was met by the lord mayor, aldermen, and the principal citizens on horſeback, who conducted him with great honour to his lodgings in Southwark. He died June 11, 1447.

BEAUFORT (Joan), queen of Scotland, was the eldeſt daughter of John Beaufort, earl of Somerſet, ſon of John of Gaunt, by Margaret, daughter of Thomas Holland, earl of Kent, and niece to the famous Henry Beaufort, cardinal of St. Euſebius, and Biſhop of Wincheſter. In February 1423 ſhe was married, with great ſolemnity, in the church of St. Mary Overrey in Southwark, to James the Firſt, king of Scotland, who had been priſoner in England ever ſince the 30th of March, 1404. Her portion was forty thouſand marks. This match was procured by her uncle, the Biſhop of Wincheſter above mentioned, in order to ſtrengthen and ſupport his family by an alliance with the kingdom of Scotland. She ſet out, with the king her huſband, for Scotland, in March 1423, being attended as far as Berwick by her father, and her uncle the cardinal; and on the 20th of that month arrived at Edinburgh. She was crowned with him the 22d of May, 1424. Through her merciful interceſſion with the king in 1427, ſhe ſaved the life of Alexander lord of the iſles, who had committed ſome acts of hoſtility; and in 1431 that of Archibald earl of Douglas, who was ſuſpected of treaſon. The 16th of October, 1430, ſhe was delivered at Stirling of two ſons at one birth, which were baptized by the names of Alexander and James. Alexander died young, but James lived to ſucceed his father. In the year 1437 ſhe received an informatien of a conſpiracy forming againſt the king her huſband's life; upon which ſhe went poſt to him to Roxburgh, and informed him thereof: but notwithſtanding her precaution, the king was moſt cruelly murdered in the Dominicans abbey at Perth, by the faction of Walter earl of Athol, his uncle, on the 21ſt of February, 1436-7, in the thirteenth year of his reign. When the ruffians entered the room, the queen, to her everlaſting honour, ſo long ſhrouded the king from the aſſaſſins with her own body, that ſhe received two wounds before ſhe could be drawn off him. She married to her ſecond huſband, James Stewart, called the Black Knight, ſon to the lord of Lorne; and dying in the year 1446, was buried at Perth, near the king her firſt huſband.

BEBRYCIA (anc. geog.), an ancient name of Bithynia, ſo called from the Bebryces its inhabitants. The Bebryces were afterwards driven out by the Thracians, *viz.* the Bithyni and Thyni; from whom, in proceſs of time, the country took the name of *Bithynia*. See BITHYNIA.

BEDDINGTON, a village near Croydon in Surrey. Here is Beddington Park, the ancient ſeat of the Carews, one of the many ſaid to have been the reſidence of Queen Elizabeth. In the park, which is famous for walnuts, is an avenue of trees, called Queen Elizabeth's Walk. The church

is a Gothic pile, with ſtalls in the aiſles, after the manner of cathedrals.

BEDEN, or BEDING, a village in Suſſex, thirteen miles from Lewes, near a river of its own name, which runs into the Engliſh Channel at New Shoreham, and produces very good mullets, pikes, eels, &c.

BEDERICK (Henry), a celebrated preacher in the fourteenth century, was a monk of the order of St. Auguſtin at Clare; and ſurnamed de Bury, becauſe he was born at St. Edmund's Bury in Suffolk. Having from his youth ſhewn a quick wit, and a great inclination to learning, his ſuperiors took care to improve theſe excellent faculties, by ſending him not only to our Engliſh, but alſo to foreign univerſities: where cloſely applying himſelf to his ſtudies, and being a conſtant diſputant, he arrived to ſuch fame, that at Paris he became a doctor of the Sorbonne. Not long after he returned to England, where he was much followed, and extremely admired for his eloquent way of preaching. This eminent qualification, joined to his remarkable integrity, uprightneſs, decent behaviour, prudence, and dexterity in the management of affairs, ſo recommended him to the eſteem of the world, that he was choſen provincial of his order throughout England; in which ſtation he behaved in a very commendable manner. He flouriſhed about the year 1380, in the reign of King Richard II. He wrote ſeveral things, namely, 1. Lectures upon the Maſter of the Sentences, *i. e.* Peter Lombard, in four books. 2. Theological Queſtions, in one book. 3. Sermons upon the Bleſſed Virgin. 4. A Courſe of Sermons for the whole year.

BEDFORD (Hilkiah), of Sibſey in Lincolnſhire, a quaker, came to London, and ſettled there as a ſtationer, between the years 1600 and 1625. He married a daughter of Mr. William Plat of Highgate, by whom he had a ſon Hilkiah, a mathematical inſtrument-maker in Hoſier-lane, near Weſt Smithfield. In this houſe (which was afterwards burnt in the great fire of London 1666) was born the famous Hilkiah, July 23, 1663; who in 1679 was admitted of St. John's College, Cambridge, the firſt ſcholar on the foundation of his maternal grandfather William Plat. Hilkiah was afterwards elected fellow of his college, and patronized by Heneage Finch earl of Winchelſea, but deprived of his preferment (which was in Lincolnſhire) for refuſing to take the oaths at the revolution, and afterwards kept a boarding-houſe for the Weſtminſter ſcholars. In 1714, being tried in the court of King's-Bench, he was fined 1000 marks, and impriſoned three years for writing, printing, and publiſhing, The Hereditary Right of the Crown of England aſſerted, 1713, folio; the real author of which was George Harbin, a nonjuring clergyman, whom his friendſhip thus ſcreened, and on account of his ſufferings he received 100l. from the late Lord Weymouth, who knew not the real author. His other publications were, a tranſlation of An Anſwer to Fontenelle's Hiſtory of Oracles, and a Latin Life of Dr. Barwick, which he afterwards tranſlated into Engliſh. He died November 26, 1724.

BEDFORD (Thomas), ſecond ſon of Hilkiah, was educated at Weſtminſter ſchool; and was afterwards admitted of St. John's College, Cambridge; became maſter's ſizar, to Dr. Robert Jenkin, the maſter; and was matriculated December 9, 1730. Being a nonjuror, he never took a degree; but going into orders in that party, officiated amongſt the people of that mode of thinking in Derbyſhire, fixing his reſidence at Compton near Aſhbourne, where he became much acquainted with Ellis Farneworth, and was indeed a good ſcholar. Having ſome original fortune, and withal being a very frugal man, and making alſo the moſt of his money for a length of years, Mr. Bedford died rich at Compton, in February 1773, where he was well reſpected. As ſoon as he took orders, he went chaplain into the family of Sir John Cotton, bart. then at Angiers in France. From thence, having a ſiſter married to George Smith, eſq. near Durham (who publiſhed his father Dr. John Smith's fine edition of Bede), Mr. Bedford went into the North, and there prepared his edition of Symeonis monachi Dunhelmenſis libellus de exordio atque proceurſu Dunhelmenſis eccleſiæ; with a continuation to 1154, and an account of the hard uſage Biſhop William received from Rufus; which was printed by ſubſcription in 1732, 8vo. from a very valuable and beautiful MS. in the cathedral library, which he ſuppoſes to be either the original, or copied in the author's life-time. He was living at Aſhbourne, 1742, and about that time publiſhed an Hiſtorical Catechiſm, containing, in brief, the ſacred hiſtory and doctrines of chriſtianity, and an explanation of the feaſts and faſts of the church, the ſecond edition, corrected and enlarged.

BEDNORE, or BIDDANORE, a town in the peninſula of Hindooſtan, and in the dominions of Tippoo Sultan, regent of Myſore. It was taken by General Mathews in January 1783; but it was ſurrendered to Tippoo in May following. The capitulation was perfidiouſly violated, and the general, it is ſuppoſed, was poiſoned. Bednore is 452 miles S.E. of Bombay, and 187 N.W. of Seringapatam. Long. 75. 30. E. Lat. 14. 0. N.

BEDRIACUM (anc. geog.), a village of Italy, ſituated, according to Tacitus, between Verona and Cremona, but nearer the latter than the former. From the account given by that hiſtorian, Cluverius conjectures that the ancient Bedriacum ſtood in the place where the city of Caneto now ſtands. This village was remarkable for the defeat of the emperor Galba by Otho, and afterwards of Otho by Vitellius.

BEDSTEAD, a frame for ſupporting a bed. Among the various materials uſed for bedſteads, iron is not only the moſt durable, but alſo the moſt beneficial, with reſpect to health. Oak is excellent for this purpoſe, being almoſt impervious to worms, if felled in the proper ſeaſon, and allowed to become dry; but cedar, were it not for its ſtrong odour, would be ſtill more efficacious in preventing the inroads of bugs, or other vermin. Hence, the beams and poſts of a bedſtead, made of any hard wood, might be inlaid with cedar.

On this occaſion, we cannot, in juſtice to Mr. Lambert, of Berwick-ſtreet, Soho, omit to give a conciſe deſcription of his newly-invented *bedſtead for the ſick and wounded*, which he terms the *Royal Patent Fracture Bed*, and which is ably calculated to alleviate the painful ſituation of the aged, the infirm, or diſeaſed. This ingenious contrivance, therefore, affords a comfortable accommodation to perſons confined by fractures, gout, palſy, &c.: it is particularly adapted to lying-in women. The bed may be made, and the linen changed, without in the ſlighteſt manner diſturbing the patient, which renders it highly ſerviceable in camps and hoſpitals.

We have given a plate of this uſeful invention, of which the following is an explanation: *A*, Pl. 17. the bedſtead; *B*, the feather-bed; *C*, the ſtraining-frame; *D*, the fracture-frame; *S,S,S,S*, four rings in the fracture-frame; *E*, the ſleeping-deſk; *R,R*, two rings in the ſleeping deſk; *F,F,F,F*, pullies put in motion by the machinery; *G,G,G,G*, receiving-hooks of the fracture-frame; 3333, four rings in the ſtraining-frame; *H,H,H,H*, receiving-hooks to ditto; *I*, the plate of the machinery; *K*, the great wheel; *L*, a pinion, with a winch turning the great wheel; *O*, a pall or ſtop; *M*, a pinion with a fly, to prevent a too ſudden deſcent; *N*, the rollers.

The ſubjoined directions ſhould be attended to in making and uſing the bed. Lay the ſtraining-frame *C*, covered with ticking, on the feather-bed *B*, then the under-blanket and ſheet: above theſe, place the fracture-frame *D* (on which

the patient is ſupported); then the bolſter, pillows, and upper clothes, in the uſual manner. When the feather-bed is to be made, wind up the two frames, *C* and *D*, by the winch, till the patient is ſupported above the bed, which may then be made, or, if neceſſary, another placed in its ſtead, and the two frames let down upon it.

In changing the linen, the two frames *C* and *D* muſt be wound up till they reach the four hooks *G,G,G,G*; ſecure the hooks in the four rings *S,S,S,S*, and wrap the ſheet you intend to remove round the upper clothes, to exclude cold; let down the under-frame *C*; replace the blanket, and put on the clean ſheet; draw away the other, and again wind up the frame to the fracture-frame, and unhook it at the four corners. Thus reſting on the under frame, the patient ſafely deſcends to the comforts of a new-made bed and clean linen.

As in the early ſtages of conſumptive, or aſthmatic diſorders, it is material to avoid the heat of a feather-bed, particularly if the patient be liable to night-ſweats, and if he be able to riſe and have the linen changed, the fracture-frame may not be neceſſary: in this caſe, the lower frame may be wound a little above the feather-bed; at the top of the frame C, there is a ſleeping-deſk, *E*, by which the head and ſhoulders may be raiſed at pleaſure, by fixing the two hooks at the end of the frame to the two rings *R,R*, and freeing thoſe at the feet: after which, by the uſe of the wynch, it may be lowered or raiſed at pleaſure.

The whole apparatus may be attached to any four-poſt bedſtead by a common carpenter.

It is needleſs to expatiate upon the utility of ſuch a bedſtead to families at a diſtance from the metropolis: and as we have no perſonal acquaintance with this ingenious artizan, we cannot be ſuſpected of partiality: indeed, the firſt account of his invention, together with a plate, was communicated to us by means of a foreign journal lately imported.

It deſerves to be noticed, that the prevailing cuſtom of providing the bedſteads of children with *curtains* is liable to ſtrong and ſerious objections: 1. Becauſe they prevent a free acceſs of air for the renewal of that maſs which has been rendered unfit for reſpiration; 2. They endanger the lives of infants by candle-light, from which fatal accidents have frequently happened; and, 3. They are pernicious receptacles for the fineſt particles of duſt, which, as we have already obſerved, are apt to be inhaled by the perſon confined within ſuch curtains on the leaſt motion of the bedſtead: and thence, perhaps, many young and blooming innocents may date the firſt period of their conſumptive attack. We do not, however, mean to inſinuate, that curtains ought to be univerſally abandoned, as there may occur a variety of inſtances in which the laws of propriety and *decorum* might render them uſeful and neceſſary.

BEEMAH, a river of Hindooſtan, in the Decan. It is a principal branch of the Kiſtna, coming from the N.W. and joining it near Edghir. It riſes in the mountains to the N. of Poonah, and paſſes within 30 miles of the E. ſide of that city.

BEGIA, or Beggia, a town of Africa, in the kingdom of Tunis, with a ſtrong caſtle, on the declivity of a mountain, 65 miles W. of Tunis. Long. 11. 30. E. Lat. 36. 42. N.

BEK (David), a famous Dutch portrait painter, and diſciple of Vandyck; whoſe ſkill in his profeſſion, and politeneſs of addreſs, acquired him high eſteem in moſt courts of Europe. He was in great favour with Charles I. king of England, and taught the principles of drawing to his ſons Charles and James. He went afterwards into the ſervice of the kings of France, Denmark, and of Chriſtina queen of Sweden, who made him firſt gentleman of her bedchamber. His manner of painting was ſo quick, that our king Charles told him he believed he could paint if he was riding poſt. It is ſaid, that in travelling through Germany he fell ſick at an inn, and was laid out for dead. His ſervants drinking for conſolation by his bed-ſide, one of them in a drunken freak ſaid, "Our maſter was fond of a glaſs while he was alive, and out of gratitude let us give him a glaſs now when he is dead." The propoſal proving agreeable, he raiſed up his maſter's head, and endeavouring to pour ſome wine into his mouth, Bek opened his eyes; and being compelled, nevertheleſs, to drink the glaſs full, gradually revived. He lived ſome years after, though he died at 35 years old, in 1656.

BEKINSAU (John), author of a book entitled De Supremo et Abſoluto Regis Imperio, was born at Broadchalke in Wiltſhire. He had his education in grammar learning at Wykeham's ſchool, near Wincheſter, from whence he was ſent very early to New College in Oxford; where, having ſerved two years of probation, he was admitted perpetual fellow in the year 1520. In 1526 he took the degree of maſter of arts. In his college he diſtinguiſhed himſelf by his extraordinary ſkill in the Greek language. In 1538 he reſigned his fellowſhip, and married. What preferment or employment he had afterwards is uncertain. He was familiarly acquainted with, and highly eſteemed by, the moſt learned men of the nation, particularly the famous antiquary and hiſtorian John Leland. He was in good eſteem with King Henry VIII. and King Edward VI. When Queen Mary came to the crown, and endeavoured to deſtroy all that her father and brother had done towards the reformation of the church, Bekinſau wheeled about with the times, and became a zealous Roman-catholic. After Queen Elizabeth's acceſſion, when Proteſtantiſm again took place, he retired to an obſcure village in Hampſhire, called Sherbourne, where he ſpent the remainder of his life in great diſcontent, and was buried in the church of that place, the 20th of December, 1559, aged about ſixty-three years.

BELAY (*Encycl.*). For the word "bevel" in that article, read "kevel."

BELCHIER (John), was born in the year 1706, at Kingſton in Surrey. He received his education at Eaton; and, diſcovering an inclination for ſurgery, was bound apprentice to Mr. Cheſelden, by far the moſt eminent man of his profeſſion. Under this great maſter he ſoon became an accurate anatomiſt. His preparations were next eſteemed to Dr. Nicholls's, and allowed to exceed all others of that time.

Thus qualified, his practice ſoon became extenſive; and, in the year 1736 he ſucceeded his fellow-apprentice, Mr. Craddock, as ſurgeon to Guy's hoſpital. In this ſituation, which afforded ſuch ample opportunity of diſplaying his abilities, he, by his remarkably tender and kind attention to his pauper patients, became as eminent for his humanity as his ſuperior ſkill in his profeſſion. Like his maſter Cheſelden, he was very reluctant before an operation, yet quite as ſucceſsful as that great operator. He was particularly expert in the reduction of the humerus, which, though a very ſimple operation, is frequently productive of great trouble to the ſurgeon, as well as excruciating pain to the patient.

He was elected fellow of the Royal Society, to which learned body he communicated ſeveral curious caſes that fell within his cognizance; particularly a remarkable caſe of an hydrops ovarii, publiſhed in the Philoſophical Tranſactions, No. 423; an account of a miller whoſe arm was torn off by a mill, Auguſt 15, 1737, No. 449; and a remarkable inſtance of the bones of animals being turned red by aliment only, 442. The greateſt diſcoveries frequently are owing to trifling and accidental cauſes. Such was the caſe in the laſt-mentioned circumſtance, Mr. Belchier being led to make his

enquiries on that ſubject by the bone of a boiled leg of pork being diſcovered to be perfectly red, though the meat was well-flavoured, and of the uſual colour.

On his reſignation as ſurgeon of Guy's, he was made governor both of that and St. Thomas's hoſpital, to which he was particularly ſerviceable, having recommended not leſs than 140 governors.

Mr. Belchier, in private life, was a man of ſtrict integrity, warm and zealous in his attachments, ſparing neither labour nor time to ſerve thoſe for whom he profeſſed a friendſhip. He was a great admirer of the fine arts, and lived in habits of intimacy with the principal artiſts of his time. He enjoyed a great ſhare of health, though far advanced in years when he died. His body was interred in the chapel at Guy's hoſpital.

BELERIUM (anc. geog.), a promontory of the Dumnonii, or Damnonii, the weſternmoſt Britons. Now called the *Land's End*, in Cornwall.

BELESTAT, a town of France, in the department of Arriege and late county of Foix, remarkable for a ſpring, which, it is ſaid, ebbs and flows 12 times in 24 hours, as exactly as a clock.

BELGRADE, a ſmall town of Romania, in European Turkey, on the ſtrait of Conſtantinople, 20 miles N. of that city. Long. 29. 0. E. Lat. 41. 22. N.

BELGRAVE (Richard), a writer of the 14th century, of the ancient family of the Belgraves in Leiceſterſhire, was born at the town of Belgrave, about a mile from Leiceſter, and educated in the univerſity of Cambridge, where he applied himſelf with great diligence, and the like ſucceſs, to his ſtudies, and afterwards took the degree of doctor of divinity. He entered himſelf into the order of Carmelite friars, and diſtinguiſhed himſelf by his great ſkill in the Ariſtotelian philoſophy, and ſchool divinity. However, he was more remarkable for the ſtrength and ſubtilty of his lectures, than the elegance of his ſtyle, the ſtudy of polite literature being generally neglected in that age. Pits gives him the character of a man of eminent integrity and piety. He flouriſhed in the year 1320, under the reign of King Edward II. and wrote, among other works, Theological Determinations, in one book; the ſubject of which was, Whether the Divine Eſſence could be ſeen? and Ordinary Queſtions, in one book.

BELING (Richard), was born in the year 1613, at Belingſtown, in the barony of Balrothery, and county of Dublin, the ancient ſeat of his family, which was of conſiderable rank in the Engliſh pale. He was the ſon of Sir Henry Beling, knight, and was educated in his younger years at a grammar ſchool in the city of Dublin, but afterwards put under the tuition of ſome prieſts of his own religion, which was Popiſh; who ſo well cultivated his good genius, that they taught him to write in a fluent and elegant Latin ſtyle, as appears by ſeveral of his pieces hereafter mentioned. Thus grounded in the polite parts of literature, his father removed him to Lincoln's Inn, to ſtudy the municipal laws of his country, where he abode ſome years, and returned home a very accompliſhed gentleman; but it does not appear that he ever made the law a profeſſion. His natural inclination turning to arms, he early engaged in the rebellion of 1641, and, though not above twenty-eight years of age, was then an officer of conſiderable rank: for in February that year he appeared at the head of a ſtrong body of the Iriſh before Lifmore, and ſummoned the caſtle to ſurrender; but the lord Broghill, who commanded in it a ſmall body of one hundred new-raiſed forces, ſlighted the ſummons, and another party coming to his aid, Mr. Beling thought fit to draw off, and quitted the ſiege. He afterwards became a leading member in the ſupreme council of the confederate Roman-catholics at Kilkenny, to which he was principal ſecretary; by whom he was ſent ambaſſador to the pope, and other Italian princes, in 1645, to crave aid for the ſupport of their cauſe. He brought back with him a fatal preſent in the perſon of the nuncio, John Baptiſt Rinuccini, archbiſhop and prince of Fermo, who was the occaſion of reviving the diſtinctions between the old Iriſh of blood, and the old Engliſh of Iriſh birth, which ſplit that party into factions, prevented all peace with the marquis of Ormond, and ruined the country which he was ſent to ſave. When Mr. Beling had fathomed the miſchievous ſchemes of the nuncio and his faction, and perceived that they had other views than merely to obtain a toleration for the free exerciſe of their religion, as in the beginning they pretended, nobody was more zealous than he in oppoſing and clogging their meaſures, or in promoting the peace then in agitation, and ſubmitting to the king's authority, which he did with ſuch heartineſs and ſincerity, that he became very acceptable to the marquis of Ormond, who entruſted him with many negociations, both before and after the Reſtoration, which he executed with great fidelity and ſufficiency. When the parliament army had ſubdued the Iriſh, Mr. Beling retired to France, where he continued ſeveral years, and in that time employed himſelf in writing ſeveral books in Latin, in oppoſition to ſuch writers of the Romiſh party as had endeavoured to clear themſelves from being the inſtruments of the rebellion, and to lay the blame thereof on the ſeverity of the Engliſh government. His account of the tranſactions of Ireland, during the period of the rebellion, is eſteemed by judicious men as being more worthy of credit than any written by the Romiſh party; and yet he is not free from a partiality to the cauſe he was at firſt embarked in, and his credulity has been taxed in the caſe of Father Finachty. He returned home upon the Reſtoration, and was repoſſeſſed of his eſtate, by the favour and intereſt of the duke of Ormond. He died in Dublin, in September 1675, and was buried in the churchyard of Malahidert, about five miles from that city.

BELL (Beaupré), ſon of Beaupré Bell, eſq. of Beaupré-hall, in Upwell and Outwell, in Clackcloſe hundred, Norfolk, where the Beaupré family had ſettled early in the fourteenth century, and enjoyed the eſtate by the name of Beaupré (or de Bello prato) till Sir Robert Bell intermarried with them about the middle of the ſixteenth. Sir Robert was ſpeaker of the Houſe of Commons 14 Eliz. and chief baron of the Exchequer, and caught his death at the black aſſize at Oxford, 1577. Beaupré Bell, his fourth lineal deſcendant, married Margaret, daughter of Sir Anthony Oldfield, of Spalding, bart. who died 1720, and by whom he had iſſue his nameſake, the ſubject of this article, and two daughters, of whom the youngeſt married William Graves, eſq. of Fulborn in Cambridgeſhire, who thereby inherited the family eſtate near Spalding, with the ſite of the abbey, and has a ſtriking likeneſs of his brother-in-law. Mr. Bell, junior, was educated at Weſtminſter ſchool, admitted of Trinity College, Cambridge, 1723, and ſoon commenced a genuine and able antiquary. He made conſiderable collections of church notes in his own and the neighbouring counties, all which he bequeathed to the college where he received his education. Mr. Bloomfield acknowledges his obligations to him for collecting many evidences, ſeals, and drawings, of great uſe to him in his Hiſtory of Norfolk. The old gentleman led a miſerable life, hardly allowed his ſon neceſſaries, and delapidated his houſe. He had five hundred horſes of his own breeding, many above thirty years old unbroke. He took home his ſon from college, where his library was left to mould. On his death, his ſon ſucceeded to his eſtate, of about 1500l. a-year, which he enjoyed not long, and dying of a conſumption unmarried, on the road

to Bath, left the reverſion, after the death of his ſiſter (who was then unmarried, and not likely to have iſſue), with his books and medals, to Trinity College, under the direction of the late vice-maſter, Dr. Walker. But his ſiſter marrying (as above), it is ſaid the entail was cut off. He was buried in the family burying-place, in St. Mary's chapel, in Outwell church, for the paving of which, and for a monument, he left 150l. The regiſters of the ſociety abound with proofs of Mr. Bell's taſte and knowledge in ancient coins, both Greek and Roman, beſides many other intereſting diſcoveries.

BELLENDEN, or BALLANTINE (William), a celebrated author, was, in 1602, profeſſor of humanity, or belles letres, at Edinburgh, and maſter of the requeſts to James I. who had ſo high an eſteem for him, that he enabled him to live in eaſy circumſtances at Paris, where he wrote theſe three books; the firſt entitled, De Statu priſci Orbis in Religione, Re politica, et Literis; or, the State of Religion, Politics, and Literature, in the old World, both before and after the Flood. The ſecond and third contain the opinions of Cicero on matters of the higheſt importance, delivered in his own words. They were dedicated to Charles prince of Scotland and Wales, afterwards King Charles I. and to his brother Henry. In a late edition, the Rev. Dr. Parr thought proper to inſcribe them to Mr. Burke, Lord North, and Mr. Fox, whoſe reſpective portraits are prefixed to each dedication, and whoſe talents and virtues he celebrates and defends in a preface of ſeventy-ſix pages, containing a very free and bold diſcuſſion of our public men and meaſures in very claſſical language, and a ſtrong and ſatirical repreſentation, under borrowed names of antiquity, of the chiefs of the other party, or the preſent miniſtry.

Bellenden wrote another work, publiſhed after his death, "De tribus Luminibus Romanorum," whom he conceives to be Cicero, Seneca, and the elder Pliny. The editor gives an account of this work, from whence he took the idea of drawing his characters of the three luminaries of Great Britain. He marks the proficiency in Greek and Roman literature which once diſtinguiſhed the Scotch, before the civil diſſenſions drove their brighteſt geniuſes abroad, and celebrates the ardour for philoſophy and literature ſo prevalent in North Britain at preſent. Dr. Middleton has been charged with borrowing not only the matter, but the arrangement, of his "Life of Cicero," from Bellenden, without the leaſt acknowledgment, and the editor confeſſes himſelf of this opinion.

BELLESME, a town of France, in the department of Orne, and late province of Perche, with an ancient caſtle, 75 miles S. W. of Paris. Long. 0. 42. E. Lat. 48. 23. N.

BELLOVACI (anc. geog.), a people of Gallia Belgica, reckoned the braveſt of the Belgæ; now the *Beauvaſis*, in the Iſle of France.

BELMEIS, or BEAUMES (Richard de), I. biſhop of London in the reign of Henry I. was advanced to that ſee through the intereſt of Roger Montgomery, earl of Shropſhire, and conſecrated 26th July, 1108. Immediately after his conſecration, he was appointed by the king warden of the marches between England and Wales, and lieutenant of the county of Salop; which offices he held about three years, reſiding for the moſt part of the time at Shrewſbury. This prelate expended the whole revenues of his biſhopric on the ſtructure of St. Paul's cathedral in London; but deſpairing ever to finiſh it, and growing tired of ſo much labour and expence, he turned the ſtream of his liberality another way; and, exchanging the manor of Landſworth for a place in the dioceſe of London called St. Oſith de Chich, he built there a convent of regular canons. Being ſeized with a dead palſy, and thereby diſqualified for the exerciſe of his epiſcopal functions, he intended to have reſigned his biſhopric, and to have ſpent the remainder of his life in the monaſtery of his own foundation: but whilſt he delayed his purpoſe from day to day, he was prevented by death, which took him out of this life January 16, 1127.

BELMEIS, or BEAUMES (Richard de), II. biſhop of London, in the reign of King Stephen, was nephew of Richard de Belmeis, biſhop of London in the preceding reign, by that prelate's brother, Walter de Belmeis. Before he came of age, he was appointed by his uncle archdeacon of Middleſex: but the biſhop was prevailed upon by William dean of London, his nephew by his ſiſter Adelina, and by the Prior of Chich, to commit the adminiſtration of the archdeaconry, during Richard's minority, to Hugh, one of his chaplains. It was with no ſmall difficulty that Richard afterwards recovered his archdeaconry out of the hands of this faithleſs guardian. In the beginning of October 1151 he was advanced to the ſee of London, in the room of Robert de Sigillo, and conſecrated at Canterbury by Archbiſhop Theobald, in the preſence of all the biſhops of England, excepting Henry of Winchеſter, who excuſed his abſence, and approved the choice of Richard, in a letter to the archbiſhop. This prelate died May 4, 1162.

BELUNUM (anc. geog.), a town of Rhætia, above Feltria, in the territory of the Veneti; now *Belluno*, capital of the Belluneſe in the territory of Venice.

BELVOIR-CASTLE, in Lincolnſhire, four miles from Grantham, the ancient ſeat of the dukes of Rutland, ſuppoſed to have been a Roman ſtation, as many of their antiquities have been dug up here. Its foundation was laid ſoon after the Norman conqueſt. It affords a delightful proſpect into the counties of Nottingham, Derby, Leiceſter, Rutland, and Northampton, as well as over the fruitful valley under it.

BELUS (anc. geog.), a ſmall river of Galilee, at the diſtance of two ſtadia from Ptolemais, running from the foot of mount Carmel out of the lake Cendevia. Near this place, according to Joſephus, was a round hollow or valley, where was a kind of ſand fit for making glaſs; which, though exported in great quantities, was found to be inexhauſtible. Strabo ſays, the whole of the coaſt from Tyre to Ptolemais has a ſand fit for making glaſs; but that the ſand of the rivulet Belus and its neighbourhood is a better ſort: and here, according to Pliny, the making of glaſs was firſt diſcovered.

BENBECULA, an iſland of Scotland, one of the Hebrides, lying between N. and S. Uiſt. See BARA.

BENBOW (John), vice-admiral of the blue ſquadron, and one of the moſt eminent Engliſh ſeamen mentioned in our hiſtories, was born about the year 1650, and was deſcended of a very ancient, worthy, and honourable family in Shropſhire. His father dying when he was very young, left his ſon John no other proviſion than that of the profeſſion to which he was bred, viz. the ſea, a profeſſion to which he had naturally a great propenſity, and in which he ſucceeded ſo happily, that before he was thirty he became maſter, and in a good meaſure owner, of a ſhip called the Bembow frigate, employed in the Mediterranean trade, in which he would probably have acquired a good eſtate, if an accident that happened to him in the laſt voyage he made had not given a new turn to his fortunes, and brought him to ſerve in the Britiſh navy, with equal reputation to himſelf, and good fortune to his country, to which he rendered many, and thoſe very important, ſervices. In the year 1686, Captain Benbow, in his own veſſel, was attacked in his paſſage to Cadiz by a Sallee rover, againſt whom he defended himſelf, though very unequal in the number of men, with the utmoſt bravery, till at laſt the Moors boarded him, but were quickly beat out of the ſhip again, with the loſs of thirteen men, whoſe heads Cap-

tain Benbow ordered to be cut off, and thrown into a tub of pork pickle. When he arrived at Cadiz, he went aſhore, and ordered a negro ſervant to follow him, with the Moors' heads in a ſack. He had ſcarcely landed before the officers of the revenue enquired of his ſervants what he had in his ſack? The captain anſwered, ſalt proviſions for his own uſe. "That may be," replied the officers, "but we muſt inſiſt upon ſeeing them." Captain Benbow alleged, that he was no ſtranger there, that he did not uſe to run goods, and pretended to take it ill that he was ſuſpected. The officers told him, that the magiſtrates were ſitting not far off, and that if they were ſatisfied with his word, his ſervants might carry the proviſions where he pleaſed, but that otherwiſe it was not in their power to grant any ſuch diſpenſation. The captain conſented to the propoſal, and away they marched to the cuſtom-houſe, Mr. Benbow in the front, his man in the centre, and the officers in the rear. The magiſtrates, when he came before them, treated Captain Benbow with great civility, told him they were ſorry to make a point of ſuch a trifle, but that ſince he had refuſed to ſhew the contents of his ſack to their officers, the nature of their employments obliged them to demand a ſight of them; and that as they doubted not they were ſalt proviſions, the ſhewing them could be of no great conſequence one way or the other. "I told you," ſaid the captain, ſternly, "they were ſalt proviſions for my own uſe. Cæſar, throw them down upon the table; and, gentlemen, if you like them, they are at your ſervice." The Spaniards were exceedingly ſtruck at the ſight of the Moors' heads, and no leſs aſtoniſhed at the account of the captain's adventure, who with ſo ſmall a force had been able to defeat ſuch a number of barbarians. They ſent an account of the whole matter to the court of Madrid, and Charles II. then king of Spain, was ſo much pleaſed with it, that he would needs ſee the Engliſh captain, who made a journey to court, where he was received with great teſtimonies of reſpect, and not only diſmiſſed with a handſome preſent, but his Catholic majeſty was alſo pleaſed to write a letter in his behalf to King James, who, upon the captain's return, gave him a ſhip, which was his introduction to the royal navy. After the Revolution, he was conſtantly employed, and frequently, at the requeſt of the merchants, was appointed to cruiſe in the channel, where he did very great ſervice, as well in protecting our own trade, as in annoying and diſtreſſing that of the enemy. He was likewiſe generally made choice of for bombarding the French ports, in which he ſhewed the moſt intrepid courage, by going in perſon in his boat to encourage and protect the engineers, who, for that reaſon, were very ſolicitous that he ſhould command the eſcorts whenever they went upon thoſe hazardous enterpriſes, in which they knew he would not expoſe them more than was abſolutely neceſſary, and that he would put them upon running no ſort of danger, in which he did not willingly take his ſhare. The vigour and activity of Captain Benbow, in every ſervice on which he was employed, recommended him ſo effectually to his royal maſter King William, who was both a good judge of men, and always willing to reward merit, that he was very early promoted to a flag, and intruſted with the care of blocking up Dunkirk; the privateers from thence proving extremely detrimental to our trade during all that war. In 1695 we find him thus employed with a few Engliſh and Dutch ſhips, when the famous Du Bart had the good luck to eſcape him, with nine ſail of clean ſhips, with which he did a great deal of miſchief, both to our trade and to that of the Dutch. In 1697, he ſailed the 10th of April, from Spithead, with ſeven third-rates and two fire-ſhips, and after ſome time returned to Portſmouth for proviſions; after which he had the good fortune to join the Virginia and Weſt-India fleets, and ſaw them ſafe into port.

After the concluding of the peace of Ryſwick, and even while the partition treaties were negociating, King William formed a deſign of doing ſomething very conſiderable in the Weſt-Indies, in caſe his pacific views ſhould be diſappointed, or Charles II. of Spain ſhould die ſuddenly, as was daily expected. There were, indeed, many reaſons, which rendered the ſending a ſquadron at that time into thoſe parts highly uſeful and requiſite. Our colonies were in a very weak and defenceleſs condition, the ſeas ſwarmed with pirates, the Scots had eſtabliſhed a colony at Darien, which, very unluckily for them, gave the Engliſh little ſatisfaction, at the ſame time that it provoked the Spaniards very much. King William himſelf fixed upon Rear-Admiral Benbow to command this ſquadron, which proved but a very ſmall one, as conſiſting only of three fourth-rates; and when he went to take upon him his command, he received private inſtructions from the king to make the beſt obſervations he could on the Spaniſh ports and ſettlements, but to keep as fair as poſſible with the governors, and to afford them any aſſiſtance he could, if they deſired it. He was likewiſe inſtructed to watch the galleons; for the king of Spain, Charles II. was then thought to be in a dying condition. Rear-Admiral Benbow ſailed in the month of November 1698, and did not arrive in the Weſt-Indies till the February following, where he found things in a very indifferent ſituation. Moſt of our colonies were in a bad condition, many of them engaged in warm diſputes with their governors, the forces that ſhould have been kept up in them for their defence ſo reduced by ſickneſs, deſertion, and other accidents, that little or nothing was to be expected from them: but the admiral carried with him Colonel Collingwood's regiment, which he diſpoſed of to the beſt advantage in the Leeward Iſlands. This part of his charge being executed, he began to think of performing the other part of his commiſſion, and of looking into the ſtate of the Spaniſh affairs, as it had been recommended to him by the king; and a proper occaſion of doing this very ſpeedily offering, he effected it. On his return to Jamaica, towards the latter end of the year, he received a ſupply of proviſions from England, and, ſoon after, orders to return home, which he did with ſix men-of-war, taking New England in his way, and arrived ſafe, bringing with him from the plantations ſufficient teſtimonies of his having diſcharged his duty, which ſecured him from all danger of cenſure, though the Houſe of Commons expreſſed very high reſentment at ſome circumſtance that attended the ſending this fleet. But in regard to the admiral, the greateſt compliments were paid to his courage, capacity, and integrity, by all parties; and the king, as a ſignal mark of his kind acceptance of all his ſervices, granted him an augmentation of arms, which conſiſted in adding to the three Bent Bows, he already bore, as many Arrows; which ſingular act of royal favour ſufficiently deſtroys the fooliſh report of his being of mean extraction. His conduct in this expedition raiſed him ſo much in the king's eſteem, that he conſulted him as much or more than any man of his rank, and yet without making the admiral himſelf vain, or expoſing him in any degree to the diſlike of the miniſters. It may be eaſily imagined, that, in the time the rear-admiral ſpent in the Weſt-Indies, the face of affairs was much changed: indeed, ſo much they were changed, that the king was forced to think of a new war, though he was ſenſible the nation ſuffered ſeverely from the old one. His firſt care therefore was, to put his fleet into the beſt order poſſible, and to diſtribute the commands therein to officers that he could depend upon; and to this it was that Mr. Benbow owed his being promoted to the rank of vice-admiral of the blue. After this, the command of a Weſt-India ſquadron was conferred on him; and in an engagement with the French, he had the misfortune to loſe

his leg. During all the time of his illneſs he behaved with great calmneſs and preſence of mind, having never flattered himſelf, from the time his leg was cut off, with any hopes of recovery, but ſhewed an earneſt deſire to be as uſeful as he could while he was yet living. He continued thus diſcharging his duty till the laſt moment; for dying of a ſhort conſumption, his ſpirits did not fail him till very near his end, and his ſenſes were very ſound to the day he expired, which was on the 4th of November, 1702.

BENBOW (John), ſon to the vice-admiral before mentioned. He was intended by his father for a ſeaman, and educated accordingly. His misfortunes began very early, viz. in the ſame year his father died in the Weſt-Indies, by being ſhipwrecked on the coaſt of Madagaſcar, where, after many diſmal and dangerous adventures, he was induced to live with, and in the manner of, the natives, for many years, and at laſt, when he leaſt expected it, he was taken on board by a Dutch captain, out of reſpect to the memory of his father, and brought ſafe to England, when his relations thought him long ſince dead. He was a young gentleman naturally of a very briſk and lively temper; but by a long ſeries of untoward events, came to alter his diſpoſition entirely, ſo as to appear, after his return, very ſerious, or rather melancholy, and did not much affect ſpeaking, except among a few intimate friends. But the noiſe of his remaining ſo long, and in ſuch a condition, upon the iſland of Madagaſcar, induced many to viſit him, and to enquire into the circumſtances of the life he led there, whom he civilly received, and readily ſatisfied their curioſity, though otherwiſe diſtinguiſhed, as has been ſaid, by his taciturnity; but he always looked upon his preſervation there, and his eſcape from thence, as ſuch ſignal inſtances of the favour of Providence, that he did not judge himſelf at liberty to conceal them. But notwithſtanding his freedom in communicating this part of his hiſtory, very few particulars relating to it can now be recovered. He lived ſeveral years after his return to England, but in a very private manner.

BENDLOWES (Edward), author of ſome poetical pieces, was ſon and heir of Andrew Bendlowes, eſq. and born in the year 1613. This gentleman was carefully educated in grammar learning, and at ſixteen years of age admitted a fellow-commoner of St. John's College, in Cambridge, to which he was afterwards a benefactor. From thence he went with a tutor to travel, and having gone through ſeveral countries, and viſited ſeven courts of princes, he returned home a moſt accompliſhed gentleman both in behaviour and converſation, but a little tinctured with the principles of Popery. Being very imprudent in the management of his worldly concerns, he made a ſhift, though he was never married, to ſquander away his eſtate (which amounted to ſeven hundred or a thouſand pounds a-year) on poets, muſicians, buffoons and flatterers, and in buying curioſities. He gave a handſome fortune with a niece named Philippa, who was married to Mr. Blount, of Maple Durham, in Oxfordſhire; and having beſides engaged himſelf for the payment of other men's debts, which he was not able to diſcharge, he was put into priſon at Oxford; but being ſoon after releaſed, he ſpent the remainder of his life, which was eight years, in that city. He was eſteemed in his younger days a great patron of the poets, eſpecially Quarles, Davenant, Payne, Fiſher, &c. who either dedicated books to him, or wrote epigrams and poems on him. His flatterers uſed to ſtyle him Benevolus, by way of anagram on his name, in return for his generoſity towards them. Towards the latter end of his life, he was drawn off from his inclination to Popery, and would often take occaſion to diſpute againſt the Papiſts and their opinions, and particularly diſliked the favourers of Arminius and Socinus. This gentleman, reduced through his own indiſcretion to great want, died at Oxford the 18th of December, 1686, aged ſeventy-three years.

BENEFIELD (Sebaſtian), an eminent divine of the 17th century, was born in 1559 at Preſtonbury in Glouceſterſhire, and educated at Corpus Chriſti College in Oxford. In 1603 he took the degree of doctor in divinity; and five years after, was choſen Margaret profeſſor in that univerſity. He had been preſented ſeveral years before to the rectory of Meyſey-Hampton in Glouceſterſhire. He publiſhed Commentaries upon the firſt, ſecond, and third chapters of Amos; a conſiderable number of ſermons; and ſome Latin treatiſes. He died in 1630.

BENEVENTUM (anc. geog.), a town of the Samnites, formerly called *Maleventum* from the unwholeſomeneſs of the wind, and under that appellation it is mentioned by Livy; but after a Roman colony was led thither in the 485th year of the city, it came to have the name of *Beneventum*, as a more auſpicious title. It is mentioned by Horace as an ancient city ſaid to have been built by Diomedes before the Trojan war. Now *Benevento*.

BENGUELA, the capital of the kingdom of the ſame name, where the Portugueze have a fort. It lies to the north of the bay of Benguela. Long. 12. 30. E. Lat. 10. 30. S.

BENI (Paul), profeſſor of eloquence in the univerſity of Padua. He was a Greek by nation, according to Bayle; but other authors affirm that he was born at Eugubio, in the duchy of Urbino. He was in the ſociety of Jeſuits for ſome time, but quitted them upon their refuſing him permiſſion to publiſh a commentary on the feaſt of Plato. He was a great critic, and maintained a diſpute with the Academy de la Cruſca of Florence. He publiſhed a treatiſe againſt their Italian dictionary, under the title of Anti-Cruſca, at Paragone della Lingua Italiana. He had likewiſe another conteſt with the ſame academy in regard to Taſſo, whoſe defence he undertook, and publiſhed two pieces on this ſubject. In one of theſe he compares Taſſo to Virgil, and Arioſto to Homer, in ſome particulars giving Taſſo the preference to theſe two ancients; in the other he anſwers the critical cenſures which had been made againſt this author. He publiſhed alſo ſome diſcourſes upon the Paſtor Fido of Guarini. Theſe pieces which we have mentioned were in Italian; but he left a great number of works in Latin. He died the 12th of February, 1625.

BENIGNUS (St.), archbiſhop of Armagh in Ireland, was the immediate ſucceſſor of St. Patrick in that ſee, anno 455. He was the ſon of Seſgnen, a man of wealth and power in Meath, who, in the war in 453, hoſpitably entertained St. Patrick in his journey from the port of Colp, where he landed, to the court of King Leogair at Tarah, and with his whole family embraced Chriſtianity, and received baptiſm. The youth grew ſo fond of his father's gueſt, that he could not be ſeparated from his company. St. Patrick took him away with him at his departure, and taught him his firſt rudiments of learning and religion. Benin profited greatly under ſuch a maſter, and became afterwards a man eminent for piety and virtue, whom St. Patrick thought worthy to fill the ſee of Armagh, which he reſigned to him in 455. Benin died in 468, on the 9th of November, having alſo reſigned his ſee three years before his death.

BENNEVIS, a mountain of Scotland, near Fort-William, in the ſhire of Inverneſs. It is eſteemed the higheſt in Britain, riſing more than 4300 feet above the level of the ſea, its pointed ſummit capped with ſnow.

BENNINGTON, the principal town of the ſtate of Vermont in New England, in the ſouth-weſt corner of the ſtate, near the foot of the Green Mountain. Its public buildings are a church, a court-houſe, and a gaol; but the aſſembly commonly hold the ſeſſions at Windſor. It has many elegant houſes, and is a flouriſhing town. Near the centre of the

town is Mount Anthony, which rises very high in the form of a sugar-loaf. Bennington is 30 miles east by north of Albany. Long. 73. 10. W. Lat. 43. 0. N.

BENTHAM (Edward), canon of Christ-church, Oxford, and king's professor of divinity in that university, was born in the college at Ely, July 23, 1707. His father, Mr. Samuel Bentham, was a very worthy clergyman, and vicar of Witchford, a small living near that city; who having a numerous family, his son Edward, on the recommendation of Dr. Smalridge, dean of Christ-church, was sent in 1717 to the school of that college. Having there received the rudiments of classical education, he was in Lent-term, 1723, when nearly sixteen years of age, admitted of the university of Oxford, and placed at Corpus-Christi College, under his relation, Dr. John Burton. In this situation his serious and regular deportment, and his great proficiency in all kinds of academical learning, recommended him to the notice of several eminent men; and, among others, to the favour of Dr. Tanner, canon of Christchurch, by whose death he was disappointed of a nomination to a studentship in that society. At Corpus-Christi College he formed a strict friendship with Robert Hoblyn, esq. of Nansfwydden in Cornwall, afterwards representative for the city of Bristol, whose character, as a scholar and a member of parliament, rendered him deservedly esteemed by the lovers of literature and of their country. In company with this gentleman and another intimate friend, Dr. Ratcliff, afterwards master of Pembroke College, Mr. Bentham made, at different times, the tour of part of France, and other places. Having taken the degree of bachelor of arts, he was invited by Dr. Cotes, principal of Magdalen-hall, to be his vice-principal; and was accordingly admitted to that society, March 6, 1729-30. Here he continued only a short time; for, on the 23d of April, in the year following, he was elected fellow of Oriel College. In act term, 1732, he proceeded to the degree of master of arts, and, about the same time, was appointed tutor in the college; in which capacity he discharged his duty in the most laborious and conscientious manner for more than twenty years. March 26, 1743, Mr. Bentham took the degree of bachelor in divinity; and April 22, in the same year, was collated to the prebend of Hundreton, in the cathedral-church of Hereford. July 8, 1749, he proceeded to the degree of doctor in divinity; and in April, 1754, was promoted to the fifth stall in that cathedral. Here he continued the same active and useful course of life for which he had always been distinguished. He served the offices of sub-dean and treasurer, for himself and others, for above twelve years. The affairs of the treasury, which Dr. Bentham found in great confusion, he entirely new-modelled, and put into a train of business in which they have continued ever since, to the great ease of his successors, and benefit of the society. So intent was he upon the regulation and management of the concerns of the college, that he refused several preferments which were offered to him, from a conscientious persuasion, that the avocations they would produce were incompatible with the proper discharge of the offices he had voluntarily undertaken. Being appointed by the king to fill the divinity chair, vacant by the death of Dr. Fanshawe, Dr. Bentham was, with much reluctance, and after having repeatedly declined, persuaded by Archbishop Secker and his other learned friends to accept of it; and, on the 9th of May, 1763, he was removed to the eighth stall in the cathedral. His unwillingness to appear in this station was increased by the business he had to transact in his former situation, and which he was afraid would be impeded by the accession of new duties; not to say that a life spent in his laborious and sedentary manner had produced some unfavourable effects on his constitution, and rendered a greater attention than he had hitherto shown to private ease and health absolutely necessary. Besides, as the duties, when properly discharged, were great and interesting, so the station itself was of that elevated and public nature to which his ambition never inclined him: he preferred a humble situation. The diffidence he had of his abilities had ever taught him to suspect his own sufficiency; and his inauguratory lecture breathed the same spirit; the text of which was, "Who is sufficient for these things?" But whatever objections Dr. Bentham might have to the professorship before he entered upon it, when once he had accepted of it, they never discouraged him in the least from exerting his most sincere endeavours to render it both useful and honourable to the university. He set himself immediately to draw out a course of lectures for the benefit of young students in divinity, which he constantly read at his house at Christ-church, gratis, three times a-week during term time, till his decease. The course took up a year; and he not only exhibited in it a complete system of divinity, but recommended proper books, some of which he generously distributed to his auditors. His intense application to the pursuit of the plan he had laid down, together with those concerns in which his affection for his friends, and his zeal for the public good in every shape, involved him, proved more than a counterbalance for all the advantages of health and vigour that a strict and uniform temperance could procure. It is certain that he sunk under the rigorous exercise of that conduct he had proposed to himself: for though sixty-eight years are a considerable proportion in the strongest men's lives, yet his remarkable abstemiousness and self-denial, added to a disposition of body naturally strong, promised in the ordinary course of things a longer period. Dr. Bentham was a very early riser, and had transacted half a day's business before many others began their day. His countenance was uncommonly mild and engaging, being strongly characteristic of the piety and benevolence of his mind; and at the same time it by no means wanted expression, but, upon proper occasions, could assume a very becoming and affecting authority. In his attendance upon the public duties of religion, he was exceedingly strict and constant; not suffering himself ever to be diverted from it by any motives, either of interest or pleasure. Whilst he was thus diligent in the discharge of his own duty, he was not severe upon those who were not equally diligent. He could scarcely ever be prevailed upon to deliver his opinion on subjects that were to the disadvantage of other men; when he could not avoid doing it, his sentiments were expressed with the utmost delicacy and candour. No one was more ready to discover, commend, and reward every meritorious endeavour. Of himself he never was heard to speak; and if his own merits were touched upon in the slightest manner he felt a real uneasiness. Though he was not fond of the formalities of visiting, he entered into the spirit of friendly society intercourse with great pleasure. His constant engagements, indeed, of one kind or other, left him not much time to be devoted to company; and the greater part of his leisure hours he spent in the enjoyment of domestic pleasures, for which his amiable and peaceable disposition seemed most calculated. Till within the last half-year of his life, in which he declined very fast, Dr. Bentham was scarcely ever out of order; and he was never prevented from discharging his duty, excepting by a weakness that occasionally attacked his eyes, and which had been brought on by too free an use of them when he was young. That part of his last illness which confined him, was only from the 23d of July to the 1st of August. Even death itself found him engaged in the same laborious application which he had always directed to the glory of the Supreme Being, and the benefit of mankind; and it was not till he was absolutely forbidden by his physicians, that he gave over a particular course of reading that had been undertaken by him with a view of answering Mr. Gibbon's Roman History. Thus he died at his post, like a faithful soldier, in the exercise of his arms, and the defence of his religion. That serenity of mind and meekness of disposition, which he had manifested on every former occasion, shone forth in a more espe-

cial manner in his latter moments; and, together with the conſciouſneſs of a whole life ſpent in the divine ſervice, exhibited a ſcene of true Chriſtian triumph. After a few days' illneſs, in which he ſuffered a conſiderable degree of pain without repining, a quiet ſigh put a period to his exiſtence below, on the 1ſt of Auguſt, 1776, when he had entered into the ſixty-ninth year of his age.

BENTHEIM, a town of Germany, in the circle of Weſtphalia, capital of a county of the ſame name, ſeated on the Vecht, 32 miles north-weſt of Munſter. Long. 7. 25. E. Lat. 52. 23. N.

BENTINCK, or BENTHINCK (William), earl of Portland, &c. one of the greateſt ſtateſmen of his time, and the firſt that advanced his family to the dignity of the Engliſh peerage. M. Bentinck was a native of Holland, being deſcended of an ancient and noble family of that name in the province of Guelderland. After a liberal education, he was, by the intereſt of his friends, promoted to be page of honour to William, then Prince of Orange (afterwards King William III. of England), in which ſtation, his good behaviour and addreſs ſo recommended him to the favour of his maſter, that he preferred him to the more honourable poſt of gentleman of his bed-chamber. In this capacity he accompanied the prince into England in the year 1670, where, going to viſit the univerſity of Oxford, he was, together with the prince, created doctor of civil law. In 1672, the Prince of Orange being made captain-general of the Dutch forces, and ſoon after ſtadtholder, M. Bentinck was promoted, and had a ſhare in his good fortune, being made colonel and captain of the Dutch regiment of guards, afterwards eſteemed one of the fineſt in King William's ſervice, and which behaved with the greateſt gallantry in the wars both in Flanders and Ireland. In 1675, the prince falling ill of the ſmall-pox, M. Bentinck had an opportunity of ſignalizing his love and affection for his maſter in an extraordinary manner, and thereby of obtaining his eſteem and friendſhip, by one of the moſt generous actions imaginable: for the ſmall-pox not riſing kindly upon the prince, his phyſicians judged it neceſſary that ſome young perſon ſhould lie in the ſame bed with him, imagining that the natural heat of another would drive out the diſeaſe, and expel it from the nobler parts. Nobody of quality could be found in all the court to make this experiment: at laſt, M. Bentinck, though he had never had the ſmall-pox, reſolved to run the riſk, and accordingly attended the prince during the whole courſe of his illneſs, both day and night. Nothing was given him, nor was he ever removed in his bed, by any other hand. In the year 1677, M. Bentinck was ſent by the Prince of Orange into England, to ſolicit a match with the Princeſs Mary, eldeſt daughter of James, at that time duke of York (afterwards King James II), which was ſoon after concluded. And in 1685, upon the Duke of Monmouth's invaſion of this kingdom, he was ſent over to King James to offer him his maſter's aſſiſtance, both of his troops and perſon, to head them againſt the rebels, but, through a miſconſtruction put on his meſſage, his highneſs's offer was rejected by the king. In the year 1688, when the Prince of Orange intended an expedition to England, he ſent M. Bentinck, on the Elector of Brandenburgh's death, with his compliments to the new elector, and alſo to lay before him the ſtate of affairs to communicate to him his deſign upon England, and to ſolicit his aſſiſtance to put it in execution, &c. In this negociation M. Bentinck was ſo ſucceſsful, that he carried to his maſter a more favourable and ſatisfactory anſwer than the prince had expected; the elector having generouſly granted even more than was aſked. M. Bentinck had alſo a great ſhare in the glorious revolution on which our preſent happy eſtabliſhment is founded, in which difficult and important affair, he ſhewed all the prudence and ſagacity of the moſt conſummate and able ſtateſman. M. Bentinck accompanied the prince in his expedition to England; and after King James's abdication, during the interregnum, he held the firſt place among thoſe who compoſed the prince's cabinet at that critical time, and that in ſuch a degree of ſuper-eminence, as ſcarcely left room for a ſecond; and we may be ſure that he was not wanting, as far as his ſervices could avail, in endeavouring to procure the crown for the prince his maſter; who, when he had obtained it, was as forward on his part in rewarding the faithful and ſignal ſervices of M. Bentinck. Immediately upon the prince's acceſſion to the Britiſh crown, M. Bentinck was made groom of the ſtole, privy purſe, firſt gentleman of the royal bed-chamber, and was the firſt commoner upon the liſt of privy-counſellors; and, to fit him for greater honours, was ſoon after naturalized by act of parliament; and, by letters patent bearing date the 9th of April, 1619, two days before the king and queen's coronation, he was created Baron of Cirencester, Viſcount Woodſtock, and Earl of Portland. In the year 1690, the Earl of Portland, with many others of the Engliſh nobility, attended King William to Holland, where the earl acted as envoy for his majeſty, at the grand congreſs held at the Hague the ſame year; an aſſembly the moſt honourable to the Engliſh nation that is any-where to be read of. In the year 1695 King William made this nobleman a grant of the lordſhips of Denbigh, Bromfield, Yale, and other lands, containing many thouſand acres, in the principality of Wales, which being part of the demeſne thereof, the grant was oppoſed, and the Houſe of Commons addreſſed the king to put a ſtop to the paſſing it, which his majeſty accordingly complied with, and recalled the grant, promiſing, however, to find ſome other way of ſhewing his favour to Lord Portland, who, he ſaid, had deſerved it by long and faithful ſervices; and this promiſe the king ſoon after made good. It was to this nobleman, that the horrid plot for aſſaſſinating King William, in the year 1695, was firſt diſcovered; and his lordſhip, by his wiſe counſel and indefatigable zeal, was very inſtrumental in bringing to light the whole of that execrable ſcheme. The ſame year another affair happened, in which this noble lord gave ſuch a ſhining proof of the ſtricteſt honour and integrity, as has done immortal honour to his memory. The parliament having taken into conſideration the affairs of the Eaſt-India Company, who, through miſmanagement and corrupt dealings, were in danger of loſing their charter; ſtrong intereſt was made with the members of both houſes, and large ſums properly diſtributed, to procure a new eſtabliſhment of their company by act of parliament. Among thoſe noblemen whoſe intereſt was neceſſary to bring about this affair, Lord Portland's was particularly courted, and an extraordinary value put upon it, much beyond that of any other peer; for he was offered no leſs than the ſum of 50,000 pounds for his vote, and to uſe his endeavours with the king to favour the deſign. But his lordſhip, poſſeſſed of a greatneſs of ſoul that placed him above corruption, treated this injurious offer with all the contempt and indignation it deſerved, telling the perſon employed in it, that if he ever ſo much as mentioned ſuch a thing to him again, he would for ever be the company's enemy, and give them all the oppoſition in his power. This is an inſtance of public ſpirit not often met with, and did not paſs unregarded; for we find it recorded in an eloquent ſpeech of a worthy member of parliament, who took occaſion to relate this noble action to the Houſe of Commons, much to the honour of Lord Portland. It was owing to this nobleman, that the Banqueting-houſe at Whitehall was ſaved, when the reſt of the palace was deſtroyed by fire. Going on thus in a courſe of honour and proſperity, his lordſhip, in February 1696, was created a knight of the moſt noble order of the Garter, at a chapter held at Kenſington, the ſovereign and ten knights being preſent, and was inſtalled at Windſor on the 25th of March, 1697, at which time he was alſo lieutenant-general of his majeſty's forces; for his lordſhip's ſervices were

not confined to the cabinet; he likewiſe diſtinguiſhed himſelf in the field on ſeveral occaſions, particularly at the battle of the Boyne, battle of Landen, where he was wounded, ſiege of Limerick, Namur, &c. As his lordſhip thus attended his royal maſter in his wars both in Ireland and Flanders, and bore a principal command there, ſo he was honoured by his majeſty with the chief management of the famous peace of Ryſwick.

The king had for a long time given the Earl of Portland the entire and abſolute government of Scotland; and his lordſhip was alſo employed, in the year 1698, in the new negociation ſet on foot for the ſucceſſion of the crown of Spain, called by the name of the Partition Treaty, the intention of which being fruſtrated by the treachery of the French king, the treaty itſelf fell under ſevere cenſure, and was looked upon as a fatal ſlip in the politics of that reign; and Lord Portland was impeached by the Houſe of Commons, in the year 1700, for adviſing and tranſacting it, as were alſo the lords concerned with him in it. The Partition Treaty was the laſt public tranſaction we find Lord Portland engaged in; the next year, 1701, having put a period to the life of his royal and munificent maſter King William III. but not without having ſhewn, even in his laſt moments, that his eſteem and affection for Lord Portland ended but with his life; for when his majeſty was juſt expiring, he aſked, though with a faint voice, for the Earl of Portland, but before his lordſhip could come, the king's voice quite failed him. The earl, however, placing his ear as near his majeſty's mouth as could be, his lips were obſerved to move, but without ſtrength to expreſs his mind to his lordſhip; but, as the laſt teſtimony of the cordial affection he bore him, he took him by the hand, and carried it to his heart with great tenderneſs, and expired ſoon after. His lordſhip had before been a witneſs to, and ſigned, his majeſty's laſt will and teſtament, made at the Hague in 1695; and it is ſaid, that King William, the winter before he died, told Lord Portland, as they were walking together in the garden at Hampton-Court, that he found his health declining very faſt, and that he could not live another ſummer, but charged his lordſhip not to mention this till after his majeſty's death. We are told, that at the time of the king's death, Lord Portland was keeper of Windſor Great Park, and was diſplaced upon Queen Anne's acceſſion to the throne: we are not, however, made acquainted with the time when his lordſhip became firſt poſſeſſed of that poſt. After King William's death, the earl did not, at leaſt openly, concern himſelf with public affairs, but betook himſelf to a retired life, in a moſt exemplary way, at his ſeat at Bulſtrode in the county of Bucks, where he erected and plentifully endowed a free-ſchool, and did many other charities. His lordſhip had an admirable taſte for gardening, and took great delight in improving and beautifying his own gardens, which he made very elegant and curious. At length, being taken ill of a pleuriſy and malignant fever, after about a week's illneſs he died, November 23, 1709, in the ſixty-firſt year of his age, leaving behind him a very plentiful fortune, being at that time reputed one of the richeſt ſubjects in Europe.

Bentinck (Henry), ſecond ſon of William earl of Portland, whilſt he was a commoner was elected in two parliaments in the reign of Queen Anne one of the knights of the ſhire for the county of Southampton; and on the 21ſt of July, 1710, was made captain of the firſt troop of horſe-guards, in the room of the Earl of Albemarle. He was created by King George the Firſt, marquis of Tichfield in Hampſhire, and duke of Portland, by letters patent, bearing date the 16th of July, 1706

When the king went to Cambridge in 1717, and the ceremony of admitting and creating ſeveral degrees was, according to cuſtom, performed in his royal preſence, his Grace the Duke of Portland was created doctor of laws. His grace was alſo one of the gentlemen of King George the Firſt's bedchamber; and on the 9th of September, 1721, was appointed captain-general and governor of the iſland of Jamaica, where his grace departed this life, of a fever, on the 4th of July, 1726, in the forty-fifth year of his age.

BERCHTOSGABEN, a town of Germany in Saltzburg, which ſerves all the neighbourhood with ſalt; ſeated on the river Aa, 10 miles ſouth-weſt of Saltzburg. Long. 13. 0. E. Lat. 47. 30. N.

BERDOA, a town of Perſia, in a fertile plain, 10 miles weſt of the river Cour, and 62 ſouth-eaſt of Grandga. Long. 48. 0. E. Lat. 41. 0. N.

BEREILLY, a ſmall city of Hindooſtan Proper, capital of Rohilcund, or country of the Rohillas, which was conquered by the Nabob of Oude in 1774. It lies half way between Lucknow and Delhi, 120 miles from each. Long. 79. 40. E. Lat. 28. 30. N.

BERING (Sinus), of Copenhagen, a Latin lyric poet, flouriſhed about 1560.

BERGMAN (*Encycl.*). In our original article, vol. I. we have inadvertantly ſaid, that Profeſſor Bergman's Eſſays were collected and tranſlated by Dr. Ed. Cullen, and publiſhed in two vols. 8vo. They were collected and publiſhed in ſix octavo volumes. The 1ſt and 2d at Upſal, by himſelf; the 3d at Leipzig, after his death, by Leſke; the 4th, 5th, and 6th, at Leipzig alſo, under the inſpection of Profeſſor Hebenſtreit. Three of theſe volumes (viz. 1. 2. 4.) have been tranſlated by Dr. Cullen. The laſt of them was publiſhed at Edinburgh in 1791. Beſides theſe ſix volumes of Eſſays, Profeſſor Bergman publiſhed ſeveral other works in the Swediſh and other Tranſactions, which are not yet added to the collection of his pieces; to ſay nothing of a very valuable work on Phyſical Geography in Swediſh, in two quarto volumes, which, we have heard, has been tranſlated into Engliſh. Its value is ſuch, that Profeſſor Hebenſtreit is ſaid to have intended a tranſlation of it into Latin; and that he propoſed publiſhing it in that language for the promotion of rational geology. In the ſix volumes are conſumed 72 eſſays; but the catalogue of his works given at the end of Peter James Hjelms Gedachtnefzrede contains one hundred and ſix.

BERGMANNIAN Society. This ſociety was inſtituted for the promotion of thoſe ſciences in which Bergman chiefly excelled; namely, Chemiſtry, Geology, Natural Hiſtory, Mineralogy, and Electricity. It conſiſts of about 150 members, of whom one third may be foreigners, diſtinguiſhed by their ſkilful and fortunate reſearches in theſe departments of ſcience. No perſon can be admitted a member or fellow (F. B.S. or S. B. S.) unleſs of juſt celebrity in them. The preſent of a flint will not ſecure an election into it, as a fortunate *Leontodon Taraxacum* has done into another ſociety formerly more reſpectable. Of the Bergmannian Society, Henry Hodgſon, M.D. of Market Raſen, Lincolnſhire, was choſen preſident on the 16th September, 1795. At the ſame time J. Atzelius Ardvidſſon (Bergman's ſucceſſor in the chemical chair at Upſal), Charles William Noſe, M.D. of Elberfield, Profeſſor Pentland, of Dublin, Dr. Prieſtley, and ſeveral other illuſtrious philoſophers, were elected fellows. It is uſual to addreſs communications on the immediate objects of the ſociety to the preſident.

BERGUES, St. Vinox, a town of France, in the department of the North, and late county of Flanders, fortified by Vauban. It is ſeated on the river Colme, at the foot of a mountain, five miles ſouth of Dunkirk. Long. 2. 28. E. Lat. 50. 57. N.

BERKELEY, a town of Glouceſterſhire, with a market on Wedneſday. It is governed by a mayor and aldermen. Here

is a caſtle begun in the reign of Henry I. and finiſhed in that of Stephen. It ſtands on a riſing ground, commanding a delightful view of the ſurrounding country and the Severn. In the civil wars it ſuffered conſiderably, as it did a few years ago by an accidental fire. The room in which Edward II. was impriſoned is ſtill to be ſeen. In the church are ſome elegant monuments of the Berkeleys. It is 18 miles from Glouceſter, and 113 north-weſt of London.

BERKHAMSTEAD, a town of Herts, with a market on Monday. It was anciently a Roman town; and Roman coins have been often dug up here. On the north ſide of the town are the remains of a caſtle, the reſidence of the kings of Mercia. In 697 a parliament was held here, and Ina's laws publiſhed. Here William the Conqueror ſwore to his nobility to maintain the laws made by his predeceſſors. Henry II. kept his court in this town, and granted to it many privileges; and James I. whoſe children were nurſed here, made it a corporation; but this government was dropped in the civil wars. Here are two hoſpitals, a handſome Gothic church, and a free-ſchool. It is 26 miles north-weſt of London. Long. 0. 31. W. Lat. 51. 46. N.

BERNARD, a town of Germany in the electorate of Brandenburg, five miles from Berlin, noted for excellent beer.

BERNARDI (John), was the ſon of Count Francis Bernardi, reſident in England from the republic of Genoa, and was deſcended from a very ancient and honourable family, created for their ſervices to the Houſe of Auſtria, counts of the holy Roman empire. He was born in 1657, and was very early inured to misfortunes and impriſonment; for his father being diſguſted at ſome ill uſage he received from the government of Genoa, refuſed to return thither, and being himſelf a native of England, retired into Worceſterſhire, where he ſettled; and being a great lover of gardening, ſpent a conſiderable fortune in improvements of that kind, which, however, did not ſo far amuſe or divert him, as to extinguiſh his ſenſe of the injuries he had received, which ſoured his temper to ſuch a degree, that he frequently confined his ſon John, for very ſlight cauſes, to a dark room, where he allowed him only bread and ſmall-beer for ſeveral days, which hard uſage ſo wrought upon his diſpoſition, that he reſolved, at all events, to leave his father's houſe, and to throw himſelf into the world, though a perfect child. Accordingly, in 1670 he quitted his father's ſeat, with a full reſolution never to return thither while the old man lived. He travelled that night ſixteen miles in the road to Coventry, and as day-light began to appear, he took ſhelter in the houſe of a wheelwright, who, upon hearing his melancholy ſtory, promiſed to conceal him, which he performed, and put him into a little room from whence he could look upon the road, and in which he had not been long before he ſaw his father on horſeback, who enquired of the wheelwright if he had ſeen ſuch a boy as he deſcribed, which being anſwered in the negative, prevented the young man from being carried back to confinement. When the ſecond night came on, he ſet out again for Packington-hall, the ſeat of Sir Clement Fiſher, who married the famous Mrs. Jane Lane, very inſtrumental in preſerving King Charles II. after the famous battle at Worceſter. But on his coming thither, being informed that Sir Clement and his lady were in London, he followed them up to town, and was very hoſpitably received, the lady having been very kind to him at his father's, and often intreated the old gentleman to deal more indulgently with his ſon, and to afford him a liberal education. He was by her recommended to a near relation, Captain Littleton Clent, who was then in garriſon at Portſmouth, who took him into his company, and cauſed him to be taught his exerciſe as a ſoldier, which gave him the firſt taſte for a military life. While he was under the protection of this gentleman, he very narrowly eſcaped a misfortune, which would have put an early end to his troubles and his life. On the concluſion of the Dutch war, Captain Clent being broke, was no other way in a condition of expreſſing his kindneſs for Mr. Bernardi, than by making him a preſent of twenty pounds. But the loſs of his patron was not the only miſchief which befel him in the year 1673; for he had the ſmall-pox ſoon after, which reduced him very low both in conſtitution and fortune. In this diſtreſs he addreſſed himſelf to his godfather, Colonel Anſelme, who propoſed to him going over to Holland, with which he readily complied, and ſoon after his arrival entered as a private ſoldier into the ſervice of the States, and then lifted in one of the Engliſh independent companies. He was in the famous action of Seneff, in which the Prince of Condé fell on the rear of the Prince of Orange's army, and took part of his baggage, but after an obſtinate engagement was obliged to retire. He was alſo preſent at the ſiege of Oudenarde, and afterwards at that of Grave, where he ſerved in the company of Captain Philip Savage, and had his ſhare in a very dangerous attack on the counterſcarp, in which he was wounded. The place ſurrendered on the 29th of October, 1674. Soon after this, the Engliſh troops in the ſervice of the States being regimented, Mr. Bernardi obtained an enſign's commiſſion from the Prince of Orange, dated the 2d of February, 1675, in the company of his godfather, who was appointed lieutenant-colonel of Diſney's regiment. In June following he was removed, with his godfather, to another regiment, commanded by Sir John Fenwick, and at the cloſe of the year had the misfortune to be wounded in endeavouring to part two gentlemen in a duel. He was preſent the ſucceeding year at the ſiege of Maeſtricht, where he had the misfortune to loſe the ſight of one of his eyes, and to be ſhot through one of his arms, the bones of which were ſhivered to ſplinters; when, taking his arm in the lappet of his coat, he crowded back to the breach, and fell down to the bottom among the dead. A ſoldier of his ſeeing him fall, jumped after him, took him up in his arms, and carried him to the ſurgeons in the trenches, where he was dreſſed. The Prince of Orange being informed of his behaviour, and that the lieutenant of the major's company of that regiment was killed in the attack, gave his commiſſion to Mr. Bernardi: but it appearing afterwards that the lieutenant was only taken priſoner, he miſſed of this preferment. In April 1677 he married a Dutch lady of a good family, with whom he lived comfortably eleven years. He had a ſhare the next campaign in the battle of St. Omers, at the cloſe of which he was appointed lieutenant in Captain Philip Savage's company, in which he firſt ſerved by a commiſſion from the Prince of Orange, dated September 6, 1677. He was preſent the next year in the battle of Mons, which was the laſt action in the war. After the peace his godfather, Colonel Anſelme, was ſo reduced as to be obliged to ſerve as a private man under Mr. Bernardi, who allowed him double pay, and excuſed him from duty. In 1683 Mr. Bernardi was made captain-lieutenant in Colonel Monk's company; and at this time he was in ſo great favour with the Prince of Orange, that upon the death of Captain Jaſper Paſton, brother to the Earl of Yarmouth, he had his company given him by a commiſſion from the prince, dated the 17th of November, 1685, which was confirmed by a commiſſion from the States, dated the 3d of December following. At this time his circumſtances were very eaſy, and he had juſt reaſon to be thankful to Providence for the condition he was in, having obtained by his merit a company at the age of twenty-ſeven, the profits of which, together with his wife's fortune, brought him in a clear revenue of 500*l.* a-year. But it was not long that he continued in this eaſy and happy ſituation: for King James II. in the year 1687, having conceived ſome diſpleaſure againſt the States-

General, demanded the ſix regiments of Britiſh troops that were in their ſervice, and which had been ſo for fifteen years. This the States refuſed; but, at the ſame time, did not conſtrain the officers to ſerve them againſt their will, though care was taken to repreſent to them, in very ſtrong terms, the difference between remaining upon a ſettled eſtabliſhment, and returning home upon an uncertainty. This had ſuch an effect, that out of two hundred and forty officers that were in the whole brigade, no more than ſixty thought proper to obey the king's commands, amongſt whom was Captain Bernardi. King James was no ſooner informed of this, than he ordered a yacht to ſail for Holland to bring thoſe gentlemen over, to whom he ſent alſo three months' pay; and upon their arrival in England, immediately raiſed three new regiments, in order to replace thoſe officers in their commands; and, at the ſame time, iſſued a proclamation, declaring all officers that remained in the ſervice of the States of Holland rebels. But the ſcene was very ſoon changed: his ſerene highneſs proceeded ſoon after on his expedition to England, which brought about the Revolution. One of the firſt ſteps taken by his highneſs after the king was withdrawn, was to ſend an aſſociation to every one of the regiments then in being, which all the officers were required to ſign, importing, that they were determined to defend the prince againſt all perſons whatever, and ſuch officers as refuſed it, were ordered to quit their commands. Amongſt theſe was Captain Bernardi, who having obtained a paſs for himſelf and his family, he tranſported them to Calais, where, finding many perſons of his own principles in great diſtreſs, the captain pledged his effects for fifty pounds for their relief, though they were worth double as much, and the conſequence was, that he loſt both effects and money. He proceeded from thence to St. Germain's, where he was very kindly received, and after a ſhort repoſe, made a long and fatiguing march to Breſt, to wait the return of the French fleet, which carried King James to Ireland, and ſpeedily tranſported 2300 of his adherents to the ſame kingdom. This was in the month of April, 1689, and it was with great difficulty they landed theſe people in Bantry Bay on the 1ſt of May, and the next day engaged the Engliſh fleet under Admiral Herbert. The Earl of Dover, who was appointed by King James to receive theſe recruits, conducted them directly to Dublin, where they were formed into ſeparate corps, and all the officers had commiſſions given them. Amongſt the reſt, Mr. Bernardi was appointed major of an Iriſh regiment, which was ſoon diſbanded for mutiny; and then he had the like command in the regiment of M'Carthy Moor, a great Iriſh chief, under whom he ſerved for ſome time. After Marſhal Schomberg landed in that kingdom with twenty thouſand men from England, King James found his affairs in a very declining condition; however, as he had ſtill a ſuperior army, he marched to Ardee, which he fortified, and thereby kept the marſhal in his camp near Dundalk, which being a marſhy unwholeſome place, half his troops ſoon died of fluxes. While King James was at Ardee, he formed a deſign of ſending the Earl of Seaforth into Scotland, in hopes that the preſence of that nobleman might ſupply the loſs of the famous Viſcount Dundee, then lately killed in his ſervice. To aſſiſt the earl in this enterpriſe, the king directed Major Bernardi and another field officer to attend him, which they did, and embarking on board a man-of-war at Galway, in the weſt of Ireland, ſteered their courſe for Scotland; but before they got clear of the Iriſh coaſt, they met with a ſtorm, by which their bowſprit and fore-maſt were both broke to pieces; upon which the captain with much difficulty and danger worked the ſhip into Broad-haven, in the province of Connaught, from whence the earl ſent Major Bernardi to King James, then in his camp at Ardee, to acquaint him with this unlucky accident, which hindered his intended voyage. King James thereupon ordered the ſhip back again to Galway, and put off the earl's voyage to the next ſpring, when he proceeded with Sir Thomas Southwell and Major Bernardi for Scotland, where he ſpeedily raiſed a great body of men for King James's ſervice, and made the neceſſary diſpoſitions for joining Major-general Buchan, who commanded the remains of Lord Dundee's forces, in order to form the ſiege of Inverneſs. But the earl was diſappointed in this deſign by the ſpeedy march of Major-general Mackay, with a conſiderable body of regular troops into thoſe parts; and while things were in this ſituation, the news came of the total defeat of King James's army at the Boyne, upon which Sir Thomas Southwell prevailed upon the earl to diſmiſs his forces, and to ſurrender himſelf priſoner to Major-general Mackay upon honourable terms. The earl taking this ſtep without the conſent of his uncle, Mr. Colin Mackenzie, and the reſt of his friends, it provoked them to ſuch a degree, that they would have cut Sir Thomas Southwell to pieces, if Major Bernardi had not interpoſed and prevented it. This Mr. Colin Mackenzie took Major Bernardi, and the reſt of the officers that came with him from Ireland, under his protection, and conducted them ſafely to Major-general Buchan, who was then a hundred miles diſtance, and who, upon hearing of the Earl of Seaforth's conduct, had diſmiſſed moſt of his forces. Major Bernardi had now nothing more to tranſact in the Highlands; and, therefore, as his preſence there could be of no ſervice, he deſired to go to England, and Major-general Buchan approved of it, and ſent for the Laird of Glenco to come with forty of his vaſſals to receive Bernardi at Invergary, and to conduct and guard him to the Braes of Monteth, being near a hundred miles, and very difficult travelling over rocks and mountains in that ſeaſon of the year, near the end of October. A great part of the journey was to be performed in the night-time, ſeveral detachments of King William's forces lying in their way, particularly at Inverlochy, or Fort-William, a place where was a garriſon of twelve hundred men, and there was no way to climb up an high mountain, but near the gate of the ſaid fortreſs, ſo that it was impoſſible to paſs them but when aſleep and their gate locked. The Laird of Glenco's country lying within 20 miles of that garriſon, Major Bernardi arrived ſafe at that gentleman's houſe, and remained there ſome days to reſt himſelf and recover his ſtrength. After having repoſed himſelf there ſix days, he deſired to proceed on his journey, and the laird appointed forty of his beſt men, under the command of a relation of his own, to conduct him to the Braes of Monteth, places as dangerous and difficult to paſs as any of the way he had come before. The ſame inconveniences, of ſmall garriſons of the government, were in their way, and their parties were continually about the country in the day-time. This made the ſecond part of Major Bernardi's journey to be moſtly night-work: however, he arrived ſafe at the Braes, at which place he was recommended by Major-general Buchan, to one Colonel Duncan Graham, to be then farther directed by him. Major Bernardi proceeded on his journey from the Braes of Monteth, under the conduct of a guide appointed him by Colonel Graham, and having no more need of guards, he arrived at Edinburgh in the month of November, in the year 1691. The magiſtrates of that city having heard ſome gentlemen were come from the Highlands, ordered their gates to be ſhut, and a general ſearch to be made for them. Bernardi's landlord getting notice of it, conducted him out of town but half an hour before the order was put in execution, otherwiſe his journey at that time had terminated in ſome priſon at Edinburgh: but eſcaping that, and ſome other dangers, he travelled on from thence to London, meeting with no more difficulties than thoſe of a long winter's journey. Having finiſhed his affairs in London, by diſpoſing of ſome effects he had

left with a friend when he went out of England, and by ſelling his Scots horſes, he purpoſed to go over to Flanders, and meeting with two gentlemen of his acquaintance ready to make the ſame voyage, he went with them to Colcheſter, where they were recommended to the maſter of a ſhip, who was in a ſhort time to carry over a lady of great quality to Oſtend; but the wind happening to be fixed in the eaſt, the lady ordered her trunks to be put on board, and then went to a gentleman's houſe about five miles off, charging the maſter to ſend for her as ſoon as the wind came fair. Bernardi and his friends met with two other gentlemen who were ſtrangers to them, and alſo unknown in the town, who were come thither to get a paſſage over in the ſame ſhip. They joined company, and lodged all together for ſome nights at Mr. Cook's, then poſt-maſter in Colcheſter; but having notice of ſome people's inquiſitiveneſs about them, Bernardi and his two friends went to a gentleman's houſe about a mile out of the town, and the other two gentlemen went to the maſter of the ſhip's houſe. The ſecond night after Bernardi and his friends went into the country, intimation was given, that Sir Iſaac Rebow, a juſtice of the peace, had iſſued out his warrant to apprehend them, and bring them before him; and the wind coming fair the ſame night, they went directly to the maſter of the ſhip's houſe to go on board. The maſter of the ſhip told them, that he had ſent a meſſenger to the lady, and expected her in an hour more, and ſent one of his men to conduct them on board a-ſhip, and ſaid he would follow them, with the other two gentlemen at his houſe, as ſoon as the lady came. A meſſage came from the lady, that ſhe could not poſſibly come before the next day in the afternoon. Bernardi and his two friends continued on ſhip-board to avoid the juſtice's warrant. The next day, towards the evening, came a company of trained bands, with five hundred country people, to the key, where the ſhip then lay dry at low water, about two miles from the town, and Bernardi and the two gentlemen with him were ſeized, and carried directly to Colcheſter gaol, where the other two gentlemen, and the maſter of the ſhip, had before been made priſoners. The lady who occaſioned all this ſtir was the Counteſs of Errol, with whom Mr. Bernardi was not at all acquainted; however, it coſt him a great deal of trouble, and hindered him from purſuing any ſettled courſe of life till a year and a half afterwards, that a bill being preferred againſt him and his friends in Eſſex for high-treaſon was rejected; by which he eſcaped, indeed, any further ſuffering on this head, but at the expence of ſeveral hundred pounds, a loſs almoſt inſupportable to a man already of a broken fortune. He went afterwards over to Holland with the Earl of Nottingham's paſs, who was then ſecretary of ſtate, and returning within the time preſcribed, merited thereby ſome farther indulgences from his lordſhip. The times being now dangerous for a man of Major Bernardi's ſentiments, who could ſcarcely live ſo cautiouſly as not to give ſome offence, he reſolved to retire into the country, where he lived peaceably, and without ſeeing much company, for ſome months, at a houſe near Brentford. But being obliged to quit this houſe, on accounts of its changing its owner, he came to London again about Chriſtmas 1695, which proved his ruin by a ſeries of very unfortunate accidents, ſuppoſing what he conſtantly profeſſed to be true, that he was in no reſpect privy to the baſe and barbarous conſpiracy for aſſaſſinating King William. For being unhappily at a tavern on Tower-hill, with one Captain Rookwood, who was his old acquaintance, and who was involved in that affair, they were ſeized together, and ſent to the Compter, and afterwards committed to priſon, where he died, September 20, 1736.

BERN-Castel, a town of Germany, in the electorate of Treves, with a caſtle, built in 1277. It is remarkable for its good wine, and is ſeated on the river Moſelle, between Trarbach and Weldens.

BERNERS (Juliana), was born at Roding in Eſſex, about the beginning of the fifteenth century, being the daughter of Sir James Berners, of Berners Roding, and ſiſter of Richard Lord Berners. The education of Juliana ſeems to have been the very beſt which that age could afford; and her attainments were ſuch, that ſhe is celebrated by various authors for her uncommon learning, and her other fine accompliſhments. Her extraordinary qualifications rendered her every way capable and deſerving of the office ſhe bore, which was that of prioreſs of Sopewell nunnery. This was a cell to, and very near, St. Alban's; and a good part of the ſhell of it is ſtill ſtanding. Here ſhe lived in high eſteem, and flouriſhed, according to Bale, Tanner, and Ballard, about the year 1460; but if what we have ſaid concerning her birth be the true account, ſhe muſt have flouriſhed ſomewhat earlier. She was a very beautiful lady, of great ſpirit, and loved maſculine exerciſes, ſuch as hawking, hunting, &c. With theſe ſports ſhe uſed frequently to recreate herſelf; and ſo thoroughly was ſhe ſkilled in them, that ſhe wrote treatiſes of hawking, hunting, and heraldry. So well eſteemed were Juliana Berners's treatiſes, and indeed ſo popular were the ſubjects on which they were written, that they were publiſhed in the very infancy of the art of printing. That part of our abbeſs's work which relates to hunting is written in rhyme. It is ſpoken in her own perſon; in which, being otherwiſe a woman of authority, ſhe aſſumes the title of dame. The barbariſm of the times ſtrongly appears in the indelicate expreſſions which Juliana Berners often uſes; and which are equally incompatible with her ſex and profeſſion. The book on Armory begins with the following curious piece of ſacred heraldry: "Of the offſpring of the gentilman Jafeth, come Habraham, Moyſes, Aron, and the profettys; and alſo the kynge of the right lyne of Mary, of whom that gentilman Jheſus was borne, very God and man: after his manhode kynge of the land of Jude and of Jues, gentilman by his modre Mary, prince of cote armure, &c." The moſt diligent enquirers have not been able to determine the exact period of Juliana Berners's deceaſe.

BEROEA (anc. geog.), a noble city of Macedonia, to the ſouth of Edeſſa, or Ægæ, and ſouth-eaſt of Certus. The people are commended in Scripture for their reception of the Goſpel on a fair and impartial examination: now ſuppoſed to be *Aleppo*. See that Article.

BERQUIN (Lewis de), a gentleman of Artois, who was burnt for being a Proteſtant, at Paris, in 1529. He was lord of a village, whence he took his name, and for ſome time made a conſiderable figure at the court of France, where he was honoured with the title of King's counſellor. Eraſmus ſays, his great crime was openly profeſſing to hate the monks; and that from hence aroſe his warm conteſt with William Quernus, one of the moſt violent inquiſitors of his time. A charge of hereſy was muſtered up againſt him, and the articles of his accuſation were drawn out of a book which he had publiſhed: he was thereupon committed to priſon; but, when his affair came to a trial, he was acquitted by the judges. His accuſers pretended that he would not have eſcaped, had not the king interpoſed his authority; but Berquin himſelf aſcribed it entirely to the juſtice of his cauſe, and was no more cautious than before. Some time after Noel Beda and his emiſſaries made extracts from ſome of his books, and accuſed him of pernicious errors, whereupon he was again ſent to priſon, and the cauſe being tried, ſentence was pronounced againſt him; viz. that his books be committed to the flames, that he retract his errors, and make a proper ſubmiſſion, and if he refuſe to comply, that he be burnt. Being a man of an undaunted, inflexible ſpirit,

he would ſubmit to nothing; and in all probability would at this time have ſuffered death, had not ſome of the judges, who perceived the violence of his accuſers, got the affair to be again heard and examined. It is thought this was owing to the intercеſſion of madame the Regent. In the mean time, Francis I. returning from Spain, and finding the danger of his counſellor from Beda and his faction, wrote to the parliament, telling them to be cautious how they proceeded, for that he himſelf would take cognizance of the affair. Soon after Berquin was ſet at liberty, which gave him ſuch courage, that he turned accuſer againſt his accuſers: he proſecuted them for irreligion; though, if he had taken the advice of Eraſmus, he would have eſteemed it a ſufficient triumph that he had got free from the perſecution of ſuch people. But not content, ſays Mr. Bayle, with eſcaping from his accuſers, he muſt needs have the honour of a victory, as a reward of his labour. Is not this like the crane (continues Bayle), who aſked for a reward after he had got his neck ſafe and ſound out of the wolf's throat? He was ſent a third time to priſon and condemned to a public recantation, and perpetual impriſonment. He would not acquieſce in this judgment; and being therefore condemned as an obſtinate heretic, he was ſtrangled on the Greve, and afterwards burnt. He ſuffered death with great conſtancy and reſolution, being then about forty years of age.

BERRIMAN (Dr. William), was the ſon of Mr. John Berriman, apothecary, in Biſhopſgate-ſtreet, London, where he was born on the 24th of September, 1688. He ſtudied at Oriel College, Oxford, where he took his ſeveral degrees, and became curate and lecturer of Allhallows in Thames-ſtreet, and lecturer of St. Michael's, Queenhithe. In 1720 he was appointed domeſtic chaplain to Dr. Robinſon, biſhop of London, who ſoon after collated him to the living of St. Andrew's Underſhaft; and in 1727 he was elected fellow of Eton College. He died on the 5th of February, 1750, in the 62d year of his age. He wrote, 1. A ſeaſonable Review of Mr. Whiſton's Account of primitive Doxologies. 2. An hiſtorical Account of the Trinitarian Controverſy, in eight Sermons, at Lady Moyer's Lecture. 3. Brief Remarks on Mr. Chandler's Introduction to the Hiſtory of the Inquiſition. 4. Sermons at Boyle's Lectures, 2 vols. 8vo. 5. Chriſtian Doctrines and Duties explained and recommended, in 2 vols. 8vo.: and other works.

BERTHEAU (Charles), an eminent French Proteſtant divine, long reſident in the city of London, was born in the year 1660, at Montpellier, where his father, whoſe name alſo was Charles, was miniſter. He ſtudied philoſophy and divinity, partly in France, and partly in Holland, and was admitted a miniſter in the ſynod held at Vigan in 1681, being then only twenty-one years of age. He was, however, the next year choſen paſtor to the church of Montpellier; but he did not make any long ſtay in that city, for he was ſoon after promoted to be one of the miniſters of the church of Paris, which met at Charenton. He continued in that ſtation about two years, and though he was yet in very early life, he diſcharged the paſtoral duties to which he was called in a manner greatly to his reputation. But when Lewis the Fourteenth thought proper, by the revocation of the edict of Nantz, to drive his Proteſtant ſubjects out of France, an act equally repugnant to juſtice, humanity, and the dictates of ſound policy, Mr. Bertheau found himſelf obliged to quit his native country. He accordingly came to England in 1685, and the following year was choſen one of the miniſters of the Walloon church, in Threadneedle-ſtreet, London, where he diſcharged the duties of the paſtoral office for about forty-four years, in ſuch a manner as procured very general applauſe. He died on the 25th of December, 1732, in the 73d year of his age, exceedingly regretted by his congregation, and by all who had the pleaſure of being acquainted with him. He was the author of two volumes of ſermons, and Diſcourſes upon the Catechiſm.

BERTIUS (Peter), a man diſtinguiſhed by religious adventures as well as letters, was born in a ſmall town of Flanders, 1565. He became profeſſor of philoſophy at Leyden, but loſt his profeſſorſhip for taking part with the Arminians. He went to Paris, where he abjured the Proteſtant religion in 1620, was made coſmographer to the king, and royal profeſſor-extraordinary of mathematics. He died in 1629, aged 64, and left ſome better things behind him than he had written about the Gomariſts and Arminians. 1. Commentaria Rerum Germanicarum, 12mo. 2. A good edition of Ptolemy's Geography, in Greek and Latin, folio. 3. De Aggeribus et Pontibus. 4. Introductio in Univerſam Geographiam.

BERTON (William), an eminent divine of the fourteenth century, and doctor in that faculty, flouriſhed about the year 1381, in the reign of Richard II. and was ſome time chancellor of the univerſity of Oxford. He is chiefly remarkable for his oppoſition to the doctrines of Wickliff: for by virtue of his office as governor of the univerſity, he appointed twelve cenſors, ſix of the order of mendicants, and ſix ſeculars, conſiſting of divines and lawyers, to examine Wickliff's opinions, who accordingly declared him an heretic. He wrote likewiſe againſt that pretended hereſiarch; and for this reaſon it is that his character is ſo differently repreſented by different authors.

BERWICK, a ſhire in Scotland, bounded by the river Tweed, on the ſouth; by Lothian, on the north; by the German Ocean, on the eaſt; and by Tiviotdale on the weſt. It abounds with corn and graſs, and has in it ſeveral ſeats of perſons of quality. The principal rivers are the Tweed, the Whiteater, Blackadder, Eye, and Ednel. The principal place is the town and caſtle of Dunſe, which is the beſt place for trade in the country. It ſends two members to parliament.

BERWYN HILLS, lofty hills at the N. E. angle of Merionethſhire, beneath which ſpreads the fine vale, in which flows the infant river Dee.

BERY, or BURY, the villa or ſeat of habitation of a nobleman, a dwelling or manſion-houſe, being the chief of a manor: from the Saxon *beorg*, which ſignifies a *hill* or *caſtle*; for heretofore noblemen's ſeats were caſtles ſituated on hills, of which we have ſtill ſome remains; as in Herefordſhire, there are the *beries* of Stockton, Hope, &c. It was anciently taken for a ſanctuary.

BERYTUS (anc. geog.), a ſea-port town of Phœnicia on the Mediterranean, ſo ancient as to be thought to have been built by Saturn. It was deſtroyed by Tryphon, but rebuilt by the Romans. Agrippa placed here two legions, whence it became a colony. It enjoyed the *jus Italicum*, and had an excellent ſchool for the ſtudy of the law in Juſtinian's time. Now *Beroot*; which ſee.

BESSICA (anc. geog.), a diſtrict of Thrace towards mount Hæmus to the ſouth of the Hebrus. It was inhabited by a fierce and barbarous people noted for their robberies. Their chief city Uſcudama is now known by the name of *Adrianople*. They lived under their own kings till the conſulate of M. Licinius Lucullus and C. Caſſius Varus; when the conſul Lucullus invaded their country, and having gained a great victory over them, took their metropolis, and ſubjected the whole nation to the Roman laws. The Romans, notwithſtanding they had ſubdued them by force of arms, ſtill ſuffered them to live under their own kings; for Piſo, while he governed Macedon in quality of proconſul, having treacherouſly ſeized Rabocentus, whom Suetonius calls *prince of the Beſſi*,

cauſed him to be publicly beheaded. This affront ſo exaſperated the whole nation, that they revolted; but were overthrown in a great battle by Octavius the father of Auguſtus. During the civil wars of Rome they attempted anew to recover their liberty, but were again defeated by the famous M. Brutus. In the reign of Auguſtus one Vologeſes, a native of the country, and prieſt of Bacchus, having, under pretence of religion, drawn together great crowds of people, made himſelf maſter of the whole country, and, entering the Cherſoneſus, committed there the moſt dreadful ravages. He was at laſt, however, overcome by L. Piſo; who obliged the ſavage inhabitants to lay down their arms, and ſubmit to ſuch conditions as he was pleaſed to impoſe upon them. From this time the Beſſi continued ſubject to the Romans without attempting any more to regain their liberty.

BESSIS (*Encycl.*) miſſpelt Besis.

BETA, the Beet (*Encycl.*). The following account is given of the extraction of ſugar from the beet-root, by Lampadius, profeſſor of chemiſtry at the mineral academy of Freybourg. He took a hundred pounds of the yellow beet, called, in Germany, *runckel-ruben*, by Linnæus *beta ciclaris*, from which he obtained four pounds of ſugar. He peeled his beets, and removed all the ſticky parts, then raſped them, and ſqueezed out the juice: by this proceſs he obtained forty-four pounds of liquid. This he placed in a ſtew-pan, and then, after heating ſome charcoal thoroughly, broke it into grains of the ſize of a pea, of which he threw forty-four ounces into the liquor, taking care not to throw in any of the duſt, which would have diſcoloured the ſugar: he then boiled the whole for a quarter of an hour, after which he filtered it through flannel, and then replaced the liquor thus filtered on the fire, to gain the conſiſtency of ſyrup. On this operation the cryſtallization principally depends. When the juice had attained the conſiſtency required, he put it in a cool place, and left it there a fortnight; the cryſtallization took place, and at the end of that period it appeared like a kind of pap of a dark brown colour, and when he took up a ſmall quantity in his fingers, he could eaſily feel the cryſtallized particles in ſmall grains. Lampadius then paſſed the whole contents through a linen cloth, preſſing it ſtrongly. The cryſtals which remained in the cloth were put in lime-water, in which was mixed a pound of ox's blood; the whole was then placed on the fire, and great care taken during the boiling to keep it well ſkimmed: it was then filtered through flannel, and put in a cool place to cryſtallize: after remaining eight-and-forty hours, it was turned out in a linen cloth, and the cryſtals found to be whiter and larger than at firſt: it was again boiled in lime-water, with a pound of ſkimmed milk, ſtill taking care as it boiled to keep it free from ſcum; the cryſtals obtained this time were blue; they were reduced to powder, which, being placed in a mould properly wetted, turned out a ſugar loaf of four pounds weight, pretty white, and in flavour exactly ſimilar to the ſugar in general uſe. In February Profeſſor Lampadius repeated his experiments: the juice he obtained was not quite ſo white as the firſt, and produced him but three pounds and a half of ſugar. From the different reſidues and ſyrups obtained by filtration, he acquired each time ſeven pounds of a kind of rum or arrack, which was very ſtrong. Encouraged by this ſucceſs, Profeſſor Lampadius, and a rich citizen and farmer, named Kanitzki, eſtabliſhed an extenſive ſugar manufactory, of the ſucceſs of which Lampadius has publiſhed an account.

BETHAM (Edward, B.D.), received his education at Eton, of which ſeminary he was a diſtinguiſhed ornament; was elected from thence to King's College, Cambridge, in 1728, of which he became a fellow in 1731; was ſome time burſar, and by the provoſt and fellows, when ſenior fellow, was preſented to the living of Greenford in Middleſex. In 1771 the provoſt and fellows of Eton elected him to the vacant fellowſhip in that ſociety. So unexceptionable was his life, that he may truly be ſaid to have made no enemy in the progreſs of it. Of manners gentle, of friendſhip moſt ſuſceptible, of knowledge extenſive, he acquired the praiſe and commendation of all men. His fortune was not extenſive, yet his liberality kept more than equal pace with it, and pointed out objects and things to which it was impoſſible for his nature to reſiſt lending his aſſiſtance. In his life-time he gave two thouſand pounds for the better maintaining a botanical garden at Cambridge, thereby encouraging a ſtudy which did peculiar honour to his taſte, and materially benefited mankind. So humane was his diſpoſition, that he founded and endowed a charity-ſchool in his own pariſh; and this moſt nobly in his life-time, when avarice might have forbid it, or the fear of want might have excepted againſt it. As in his life he indicated the moſt extenſive liberality, ſo at his death he exhibited a laſting record of his gratitude. Impreſſed with the higheſt ſenſe of the munificence of the royal founder of Eton, within whoſe walls he had imbibed the firſt ſeeds of education, he, by his will, directed a ſtatue of marble, in honour of Henry VI. to be erected at the expence of ſix hundred pounds.

BETHLEHEM, a town of North America, in the State of Pennſylvania, on the river Lehigh, a weſtern branch of the Delaware. The town being partly on an eminence, and partly on the lower banks of the Manakes (a fine creek, affording trout and other fiſh), has a very pleaſant and healthy ſituation, and is frequently viſited, in ſummer, by the gentry from different parts. It is the principal ſettlement of the Moravians in America. They were fixed here by Count Zinzendorf in 1741. They have a church; a public meeting-hall; the ſingle brethren's or young men's houſe, where the ſingle tradeſmen, journeymen, and apprentices, are boarded at a moderate rate, and have morning and evening prayers; the ſingle ſiſters' or young women's houſe, where they live, and are employed, under the care of female inſpectors, at liberty, however, to go about their buſineſs in the town, or to take a walk for recreation, and every year ſome of them are married; and a houſe for widows. The houſes are 60 in number, moſtly built of free-ſtone; and the inhabitants are between 500 and 600. The German langnage is more in uſe here than the Engliſh: the latter, however, is taught in the ſchools; and divine ſervice is performed in both languages. Bethlehem is 53 miles north of Philadelphia. Long. 75. 8. W. Lat. 40. 37. N.

BETON, a kind of water-cement. The name of *Beton* is applied in France to every compoſition of mortar that is intended to keep out water, or to be uſed in works under water, and which is ſuſceptible of becoming almoſt inſtantaneouſly ſolid.

Beton may be prepared in various ways. 1. The mortar of Loriot, when well prepared, holds water very well; I have uſed it for plaſtering the interſtices between the ſlabs of a terrace, and not the ſmalleſt filtration took place. I keep a maſs of this mortar formed into the ſhape of a vaſe, which, when filled with water, and placed upon a ſheet of paper, does not leave upon it any perceptible traces of humidity.

2. The mortar of Lafaye does not harden with equal rapidity; but when once it has become ſolid, it holds water very well without growing ſoft.

3. The mortar, of which Mr. Smeaton ſpeaks, made with equal parts of lime and terras, is a real beton, or water cement, as it may be uſed in the water without becoming ſoft.

4. The mortars compoſed with Pozzolana may alſo be uſed in the water, and when once they have become hard, they are ſuperior to all others in durability and reſiſtance to the motions of the water.

The moſt common kind of water cement is that which is made with pure lime. It is formed into priſms of hard paſte, which are ſunk into the water to form a wall; or it is poured into a ſpace, 21 or 22 decimeters in breadth, between two walls, in the manner of coffer-work, intended to confine the water in thoſe parts of canals that are elevated above the ground.

BETTS (John), an eminent phyſician in the ſeventeenth century, was ſon of Mr. Edward Betts by his wife Dorothy, daughter of Mr. John Venables, of Rapley in Hampſhire. He was born at Wincheſter, and educated there in grammar learning. From thence he was elected a ſcholar of Corpus-Chriſti College in Oxford, in February, 1642. He took the degree of bachelor of arts, February 9, 1646. Being ejected by the viſitors appointed by the parliament in 1648, he applied himſelf to the ſtudy of phyſic, and commenced doctor in that faculty, April 11, 1654, having accumulated the degrees. He practiſed with great ſucceſs at London, but chiefly among the Roman-catholics, being himſelf of that perſuaſion. He was afterwards appointed phyſician in ordinary to King Charles II. The time of his death is not certainly known. Dr. Betts wrote the two following phyſical treatiſes, viz. 1. Of the Origin and Nature of the Blood. 2. The Anatomy of Thomas Parr, who died in the 152d year and ninth month of his age, with the obſervations of the celebrated Dr. William Harvey, and others of the king's phyſicians who were preſent.

BEVERGERN, a town of Germany, in the circle of Weſtphalia and dioceſe of Munſter, 22 miles from that city.

BEVERIDGE (*Encycl.*). Biſhop Beveridge has had a high character given him by ſeveral writers. The author of a letter publiſhed in the Guardian, having made an extract of the biſhop's firſt ſermon, in the ſecond volume, relating to the Deity, tells us, that it may, for acuteneſs of judgment, ornament of ſpeech, and true ſublime, be compared with any of the choiceſt writings of the ancient fathers, or doctors of the church, who lived neareſt to the apoſtles' times.

Biſhop Beveridge left many learned works. Thoſe publiſhed by himſelf are as follow: 1. De Linguarum Orientalium Præſtantia. 2. Inſtitutionum Chronologicarum Libri Duo. 3. Sunodikon, ſive Pandectæ S.S. apoſtolorum et conciliorum. 4. Codex Canonum Eccleſiæ Primitivæ vindicatus et illuſtratus. 5. The Church Catechiſm explained. Beſides the above-mentioned works of this prelate, we have the following, publiſhed after his death. 6. Private Thoughts upon Religion. 7. Private Thoughts upon a Chriſtian Life. 8. The great Neceſſity and Advantage of public Prayer and frequent Communion. 9. One hundred and fifty Sermons and Diſcourſes on ſeveral Subjects. 10. Theſaurus Theologicus; or, a complete Syſtem of Divinity. 11. A Defence of the Book of Pſalms, collected into Engliſh Metre, by Thomas Sternhold, John Hopkins, and others. 12. Expoſition of the Thirty-nine Articles.

BEWCASTLE, a village in Cumberland on the river Leven, ſaid to have been built about the time of the Norman conqueſt. The church is in ruins; and in the church-yard is an ancient croſs, five yards high, on the ſides of which are ſeveral ſculptures, but the inſcriptions are not legible.

BEWLEY, or Beaulieu, a river in Scotland, which riſes in the N. of Inverneſsſhire, and flowing along the S. border of Roſsſhire, forms the fine eſtuary on which ſtands Inverneſs, and Fort St. George, and which terminates in the frith of Murray. At the mouth of this river is the ferry of Kiſſock, near which is a good ſalmon fiſhery.

BEX, a village in the diſtrict of Aigle and canton of Bern, in Swiſſerland, near the little town of St. Maurice, which guards the entrance from that canton into the Lower Valais. It is remarkable for its delightful ſituation, and the ſalt-works near it. The largeſt ſaline is entered by a paſſage cut out of the ſolid rock. Travellers, who have the curioſity to explore theſe gloomy abodes, are furniſhed with lighted torches, and dreſſed in a coarſe habit, to defend them from the drippings that fall from the roof and ſides of the paſſage.

BEZIERS, a town of France, in the department of Herault and late province of Languedoc. It is an ancient, large, and handſome town, in a delightful ſituation, and was lately an epiſcopal ſee. The inhabitants are above 17,000 in number. The remains of a circus, and ſome inſcriptions, beſpeak its ancient grandeur. It has an academy of ſciences and two hoſpitals; is ſeated near the Royal Canal, on a hill, at the foot of which flows the Obre; and is 8 miles N. of the Mediterranean, and 12 N.E. of Narbonne. Long. 3. 18. E. Lat. 21. 0. N.

BIBRACTE (anc. geog.), a citadel of the Æduni, according to Strabo; but Cæſar deſcribes it as a town well fortified, very large and populous, and of the greateſt authority among that nation. Now *Beureſt*, or Bevray; a deſolate place four miles to the north-weſt of Autun.

BIBROCI (anc. geog.), an ancient people of Britain, now the *Hundred of Bray* in Berks.

BICETRE, a caſtle, two miles from Paris, where lunatics, beggars, vagabonds, pilferers, and diſſolute young men, were impriſoned.

BIDASSOA, a river of Spain on the frontiers of France, which has its ſource in the Pyrenean mountains, and falls into the ſea between Andaye and Fontarabia.

BIDIS (anc. geog.), a ſmall city of Sicily not far from Syracuſe, whoſe ruins are ſtill to be ſeen in the territory of Syracuſe, about fifteen miles to the ſouth-weſt, with a church called S. Giovanni di Bidini.

BIGGAR, a town of Lanerkſhire, in Scotland, ten miles S.E. of Carnwath. Here are the ruins of a collegiate church, founded in 1545.

BIJORE, a ſmall province of Hindooſtan Proper, lying between the rivers Indus and Attock, having Cabul on the W. the Bokharian mountains on the N. Caſhmere on the E. and Piſhour or Peiſhore on the S. Its dimenſions are not more than fifty miles by twenty. It is full of mountains and wilds, inhabited by a ſavage and turbulent race. In this province is the famous mountain Aornus, the taking of which was one of the moſt ſplendid exploits of Alexander in theſe parts. Arrian deſcribes it to be eighteen or twenty miles in circuit at the baſe, to be of vaſt elevation, and acceſſible by one narrow paſs only, cut out of a rock. On the ſummit was a great extent of arable and paſture land, with ſprings of water, ſo that a garriſon of 1000 men might ſubſiſt without any extraneous aid. This celebrated mountain lies about fifty-five miles N.N.E. from Piſhour.

BILBILIS (anc. geog.), a town of Hiſpania Citerior, the birth place of Martial; now ſuppoſed to be Calatajud in Arragon on the Xalon. See Calatajud.

BILMA, a vaſt burning deſert of Africa, to the S E. of Fezzan, between 21° and 25° N. lat. Surrounded by this dreary ſolitude, the traveller ſees, with a dejected eye, the dead bodies of the birds that the violence of the wind has brought from happier regions; and liſtens, with horror, to the driving blaſt, the only ſound that interrupts the awful repoſe of the deſert.

BINCAZA, a ſea-port of Africa in the kingdom of Tripoli, 140 miles W. of Derna. Long. 19. 10. E. Lat. 32. 20. N.

BINCHESTER, a village on the river Were, near the city of Durham. By ſeveral inſcriptions and monuments,

it appears to have been a Roman town (Vinovium); many Roman coins are dug up here, which are called Binchester pennies; and two altars have been discovered, importing, that the twentieth legion was stationed in this place during the wars between the Picts and Caledonians.

BINGIUM (anc. geog.), a village or town of the Vangiones in Gallicia Belgica, seated at the confluence of the Nave and Rhine. Now *Bingen;* which see.

BISCHOFS WERDA, a town of Germany, in the circle of Upper Saxony, in Misnia, three miles from Dresden.

BISLEY, a village in Surrey, noted for a spring called St. John Baptist's Well, near the church of that name, whose water is said to be colder than any other in the summer, and warmer in the winter. It is three miles N. of Woking.

BISNAGUR, a town of the peninsula of Hindoostan, in the kingdom of Mysore, seated on the W. bank of the river Tungebadra. It was the capital of the ancient kingdom of Narsinga, and when visited by Cæsar Frederic in 1567, was a large city. It is 140 miles E. by S. of Goa. Long. 76. 10. E. Lat. 15. 30. N.

BLACK (Joseph), a physician very eminent in chemical science, was born at Bourdeaux, in France, of British parents, in 1728. He came at an early age to Great Britain, and was educated for the medical profession at the university of Glasgow. Dr. Cullen was at that time lecturer in chemistry there; and though his name does not rank high among the discoverers in that science, his methodical and investigating spirit rendered him a very useful teacher of it; and the popularity of chemical studies among the medical students of Scotland is greatly to be attributed to his mode of instruction. Mr. Black became one of his favourite pupils, enjoyed the free use of his laboratory, and assisted him in his experiments; whence he imbibed a decided taste for this branch of natural philosophy. In 1754 he took the degree of doctor of physic in the university of Edinburgh, where he had studied for some time; and the choice of a subject for his inaugural dissertation gave proof of his attachment to chemical topics. It was, De humore acido a cibris orto, & Magnesia alba. The germ of doctrine which he brought to light in his thesis, was fully developed in a paper read the next year before a society in Edinburgh, and published in the second volume of the Essays Physical and Literary, 1756, containing experiments on magnesia alba, quick-lime, and some other alkaline substances. In this, by the most ingenious and philosophical series of researches, he irrefragably proved the existence of an aërial fluid, which he denominated fixed air, the presence of which gave mildness, and its absence causticity, to alkalies and calcareous earths. This beautiful discovery is the undoubted parent of all those wonderful acquisitions in the knowledge of aërial bodies, which have immortalised the names of Cavendish, Priestley, Lavoisier, and others, and have given a new form to chemical philosophy. In 1756, on the removal of Dr. Cullen to Edinburgh, Dr. Black became professor of medicine, and lecturer in chemistry, at Glasgow. In the following year he enriched the science of chemistry with the curious and important doctrine of latent heat, in which he explained, in a most perspicuous and satisfactory manner, the connection of heat with fluidity, the phenomena that occur during the processes of freezing and boiling, and the manner in which they affect the thermometer. These discoveries, the result of his sagacity, and great experimental skill, have unquestionably led the way to all the subsequent facts relating to this part of chemistry, which have been added by several of the most eminent philosophers of the present day, and would alone have sufficed to confer celebrity on the name of Black. So high was his reputation, that on the vacancy in the chemical chair of Edinburgh, in 1765, made by the removal of Dr. Cullen to another department, all eyes were turned on Dr. Black, as the only man adequate to sustain in his branch the superiority which that famed medical school had acquired in almost all others. He was accordingly elected, and for a long series of years discharged the duties of his office with universal applause, equally distinguishing himself by the ease, perspicuity, and elegance, with which he communicated instruction in his lectures, and his neatness and accuracy in performing experiments. Very complete manuscript copies of his lectures were taken by several of his students, especially in the earlier part of his teaching, when they contained a great variety of matter that was hardly yet known to the chemical world, and these copies, read with avidity by the lovers of this science, have highly contributed to secure to him the honour of those discoveries, and of that original mode of reasoning, which he scarcely made public in any other form.

He published nothing after his election to the chemical chair at Edinburgh, but a paper On the Effect of Boiling upon Water in disposing it to freeze more readily, printed in the sixty-fifth volume of the London Philos. Trans. for 1774; and An Analysis of the Waters of some Hot-springs in Iceland, in the third volume of the Edinburgh Philos. Trans. 1791. The latter contains matter very interesting to the chemist, concerning the formation of the siliceous stone, which is deposited by these wonderful springs; and has long been considered as a model of neatness and accuracy in the analysis of mineral waters. Two of his letters on chemical subjects have been published by Prof. Crell, and Lavoisier. It must, indeed, be confessed, that the active vigour of his mind seems to have undergone an early decline, and that, either through indolence, or a dislike of being taught by newer men, he suffered others to pass him in the very career of discovery which he had opened. He was long a strenuous opposer of the new theories in chemistry; and injured his character for candour and liberality, both by invidiously avoiding altogether the mention of some justly celebrated names, and by undervaluing the merits of others. At length, however, he became an avowed convert to the principles of the French chemists, and did not hesitate to make amends, by his applause, for his former opposition. Dr. Black never distinguished himself as a practical physician. His manners were simple; his temper cold and reserved; and his habits of life adapted to his own convenience. His health began to decline some years before his death, which at length took place suddenly in his sixty-second year, on December 6, 1799. He was never married. He was a member of the philosophical societies of London and Edinburgh; and obtained, at the solicitation of Lavoisier (a man superior to all envy), the distinguished honour of being one of the eight foreign members of the Academy of Sciences of Paris.

BLACKHEATH, a fine elevated plain, five miles S.E. of London, commanding beautiful prospects, and situated in the parishes of Greenwich, Lewisham, and Lee. It is adorned with handsome villas; and on the skirts of it, but in the parish of Charlton, is Morden College, for decayed merchants. On this plain Wat Tyler mustered 100,000 rebels. On the ascent to the heath, in the road to Dover, is a curious cavern, discovered in 1780.

BLACKLOCK (the Rev. Dr.), an ingenious divine and poet of Scotland, was born at Annan, in the county of Annandale, in Scotland, in the year 1721. His parents were natives of Cumberland, in which county his paternal ancestors had lived from time immemorial. Young Blacklock, before he was six years old, was totally deprived of his sight by the small-pox. His father had intended to bring him up to some trade; but as this misfortune rendered him incapable of any, all that this worthy parent could do, was to shew the utmost

attention to him, in this unhappy ſituation. This left ſuch an indelible impreſſion on the mind of his ſon, that he mentioned it, ever after, with the greateſt warmth of gratitude and affection. Of this he has given a very ſtriking proof in his poems. What was wanting to this poor youth, from the loſs of his ſight, and the narrowneſs of his fortune, ſeems to have been compenſated to him by the goodneſs of his heart, and the capacities of his mind. It was very early that he ſhewed a ſtrong inclination to poetry in particular. His father, and a few other friends, uſed often to read to divert him; and, among the reſt, they read ſeveral paſſages out of ſome of our poets. Theſe were his chief entertainment and delight. He heard them not only with uncommon pleaſure, but with a ſort of congenial enthuſiaſm; and, from loving and admiring them ſo much, he ſoon began to endeavour to imitate them. Among theſe early eſſays of his genius, there is one inſerted in his works which was compoſed when he was only twelve years old, and has ſomething very pretty in the turn of it, and very promiſing for one of ſuch a tender age. Indeed, it is obſervable, that there have been few of our moſt eminent poets who have not given very early proofs of their genius this way; a quick and promiſing bloſſom pre-indicating, as it were, the abundance and excellence of the fruit which their maturity affords.

In 1740, Mr. Blacklock's father having been informed that a kiln, belonging to a ſon-in-law of his, was giving way, his ſolicitude for his intereſt made him venture in below the ribs, to ſee where the failure lay; when the principal beam coming down upon him, with eighty buſhels of malt, he was inſtantly cruſhed to death.

When this melancholy event happened, Mr. Blacklock had juſt attained his nineteenth year; and as the loſs of his good father occaſioned his falling into more hands than he had been accuſtomed to before, he began by degrees to be more talked of, and his extraordinary talents to be better known. About a year after, he was ſent for to Edinburgh by Dr. Stevenſon, a man of taſte, and one of the phyſicians of that city, who had the goodneſs to ſupply him with every thing neceſſary for his living and ſtudying in the univerſity. Mr. Blacklock juſtly conſidered this gentleman as his Mæcenas; and the firſt poem in his works was a tribute of gratitude which he addreſſed to him, in imitation of the firſt Ode of Horace, by which the Roman bard has immortalized his illuſtrious patron.

Mr. Blacklock ſtudied at Edinburgh ten years; in which time he not only acquired great knowledge in the Greek, Latin, and French languages, but made a conſiderable progreſs alſo in all the ſciences. What was ſtill more extraordinary, he attained great excellence in poetry, although the chief inlets to poetical ideas were cloſed up to him, and all the viſible beauties of the creation had been long blotted from his memory. How far he contrived, by the uncommon force of his genius, to compenſate for this vaſt defect; with what elegance and harmony he often wrote; with how much propriety, ſenſe, and emotion, it is as eaſy to perceive, on reading his poems, as it is difficult to account for it. Conſidered in either of theſe lights, he muſt be allowed to have an extraordinary ſhare of merit; but if thoroughly conſidered in all together, we may be allowed to ſay, with his friend the late celebrated Mr. Hume, that he muſt be regarded as a prodigy.

Mr. Hume, alſo, ſpeaking of his moral character, obſerved, that "his modeſty was equal to the goodneſs of his diſpoſition, and the beauty of his genius;" and Mr. Spence, ſpeaking of the pieces which Dr. Blacklock would not ſuffer to be printed, obſerves, that they abound with ſo many poetical beauties, that nothing could do him greater honour.

Mr. Spence's account of Mr. Blacklock having been firſt ſeparately publiſhed in 1754, it was afterwards prefixed to a quarto edition of his poems, publiſhed by ſubſcription, under the patronage of that gentleman. By this publication a conſiderable ſum of money was obtained, and, ſoon after, our poet was fixed in an eligible ſituation in the univerſity of Edinburgh. In 1760 he contributed ſome poems to a Scotch collection, publiſhed at Edinburgh; and there being ſtyled the Rev. Mr. Blacklock, it appeared that he had then entered into holy orders. In 1766 he obtained the degree of doctor of divinity; and in 1767 he publiſhed Paracleſis, or Conſolations deduced from natural and revealed Religion, in two diſſertations, 8vo. In 1768 he printed Two Diſcourſes on the Spirit and Evidences of Chriſtianity, tranſlated from the French of M. Armand. Theſe were his principal productions. At length, after a long life, devoid indeed of variety or adventure, but conſtantly devoted to the moſt laudable purſuits, this good and ingenious man terminated his mortal exiſtence on the 14th of July, 1791, being then ſeventy years of age.

BLAIR (Dr. Hugh), an eminent Scots divine, was born in Edinburgh, on the 7th day of April, 1718. His father, Mr. John Blair, a reſpectable merchant in that city, was a deſcendant of the ancient family of Blair, in Ayrſhire, and grandſon of the famous Mr. Robert Blair, miniſter of St. Andrew's, chaplain to Charles I. and one of the moſt zealous and diſtinguiſhed clergymen of that period. This worthy man, though firmly attached to the cauſe of freedom, and to the Preſbyterian form of church government, by his ſteady, temperate conduct, commanded the reſpect even of his opponents; and in preference to all the other leaders of the covenanting party, he was ſelected by the king to fill an office which, from the circumſtances of the time, gave frequent acceſs to the royal perſon. His talents ſeem to have deſcended as an inheritance to his poſterity. For, of the two ſons who ſurvived him, David, the eldeſt, was a clergyman of eminence in Edinburgh, father to Mr. Robert Blair, miniſter of Athelſtonford, author of *The Grave* a poem; and grandfather to his majeſty's ſolicitor general for Scotland. From his youngeſt ſon Hugh, who was a merchant, and filled a high ſtation in the magiſtracy of Edinburgh, ſprung the learned clergyman, who is the ſubject of this narrative.

After the uſual grammatical courſe at ſchool, Dr. Blair entered the Humanity Claſs in the Univerſity of Edinburgh, in October 1730, and ſpent eleven years there, aſſiduouſly employed in the literary and ſcientific ſtudies preſcribed by the church of Scotland. During this period he was diſtinguiſhed among his companions both for diligence and proficiency; and obtained from the profeſſors under whom he ſtudied, repeated teſtimonies of approbation. One of them deſerves to be mentioned particularly, becauſe, in his own opinion, it determined the bent of his genius towards polite literature. An eſſay, Περι του καλου, or, *On the Beautiful*, written by him when a ſtudent of logic in the uſual courſe of academical exerciſes, had the good fortune to attract the notice of Profeſſor Stevenſon, and, with circumſtances honourable to the author, was appointed to be read in public at the concluſion of the ſeſſion. This mark of diſtinction made a deep impreſſion on his mind; and the eſſay which merited it, he ever after recollected with partial affection, and preſerved to the day of his death as the firſt earneſt of his literary reputation.

Dr. Blair now commenced a method of ſtudy which contributed much to the accuracy and extent of his knowledge, and which he continued to practiſe occaſionally even after his reputation was fully eſtabliſhed. It conſiſted in making abſtracts of the moſt important works which he read, and in digeſting them according to the train of his own thoughts. Hiſtory, in particular, he reſolved to ſtudy in this manner; and, in concert with ſome of his youthful aſſociates, he conſtructed a very comprehenſive ſcheme of *chronological tables*,

calculated to receive into its proper place every important fact that ſhould occur. This ſcheme was afterwards improved, filled up, and given to the puplic by Dr. John Blair, prebendary of Weſtminſter, in his well-known work on Chronology.

In 1739, Dr. Blair took the degree of A.M. on which occaſion he defended a theſis *De Fundamentis et Obligatione Legis Naturæ*, which contains a ſhort but maſterly diſcuſſion of the ſubject, and exhibits, in elegant Latin, an outline of the moral principles which have been ſince more fully unfolded and illuſtrated in his diſcourſes from the pulpit.

Edinburgh, about this period, numbered among her pupils many who were ſoon to make a diſtinguiſhed figure in the civil, eccleſiaſtical, and literary hiſtory of their country. With moſt of them Dr. Blair entered into habits of intimate connection, which no future competition or jealouſy occurred to interrupt, which held them united through life in their views of public good, and which had the moſt beneficial influence on their own improvement, on the progreſs of elegance and taſte among their contemporaries, and on the general intereſts of the community to which they belonged.

After his academical courſe, he underwent the cuſtomary trials before the Preſbytery of Edinburgh, and received a licence to preach the Goſpel, on the 21ſt of October, 1741. His public life now commenced with very favourable proſpects. The reputation which he brought from the univerſity was fully juſtified by his firſt appearances in the pulpit; and, in a few months, the fame of his eloquence procured for him a preſentation to the pariſh of Coleſſie in Fife, where he was ordained to the office of the holy miniſtry, on the 23d of September, 1742. But he was not permitted to remain long in this rural retreat. A vacancy in the ſecond charge of the Canongate of Edinburgh furniſhed to his friends an opportunity of recalling him to a ſtation more ſuited to his talents. And, though one of the moſt popular and eloquent clergymen in the church was placed in competition with him, a great majority of the electors decided in favour of this young orator, the choice of whom took place in July 1743.

In this ſtation Dr. Blair, for eleven years, diſcharged with great fidelity the various duties of the paſtoral office. His diſcourſes from the pulpit in particular attracted univerſal admiration. They were compoſed with uncommon care; and, occupying a middle place between the dry metaphyſical diſcuſſion of one claſs of preachers, and the looſe incoherent declamation of another, they blended together, in the happieſt manner, the light of argument with the warmth of exhortation, and exhibited captivating ſpecimens of what had hitherto been rarely heard in Scotland, the poliſhed, well-compacted, and regular didactic oration.

In conſequence of a call from the town-council and general-ſeſſion of Edinburgh, he was tranſlated from the Canongate to Lady Yeſter's, one of the city churches, on the 11th of October, 1754: and on the 15th day of June, 1758, he was promoted to the High Church of Edinburgh. To this charge he was raiſed at the requeſt of the lords of council and ſeſſion, and of the other diſtinguiſhed official characters who have their ſeats in that church. And the uniform prudence, ability, and ſucceſs, which, for a period of more than forty years, accompanied all his miniſterial labours in that conſpicuous and difficult ſtation, ſufficiently evince the wiſdom of their choice.

Hitherto his attention ſeems to have been devoted almoſt excluſively to the attainment of profeſſional excellence; and to the regular diſcharge of his parochial duties. No production of his pen had yet been given to the world by himſelf, except two ſermons preached on particular occaſions, ſome tranſlations, in verſe, of paſſages of Scripture for the pſalmody of the church, and a few articles in the Edinburgh Review; a publication begun in 1755, and conducted for a ſhort time by ſome of the ableſt men in the kingdom. But ſtanding as he now did at the head of his profeſſion, and releaſed by the labour of former years from the drudgery of weekly preparation for the pulpit, he began to think ſeriouſly on a plan for teaching to others that art which had contributed ſo much to the eſtabliſhment of his own fame. With this view, he communicated to his friends a ſcheme of Lectures on Compoſition; and, having obtained the approbation of the univerſity, he began to read them in the college on the 11th of December, 1759. To this undertaking he brought all the qualifications requiſite for executing it well; and along with them a weight of reputation, which could not fail to give effect to the leſſons he ſhould deliver. For, beſides the teſtimony given to his talents by his ſucceſſive promotions in the church, the univerſity of St. Andrew's, moved chiefly by the merit of his eloquence, had in June 1757 conferred on him the degree of D.D. a literary honour which, at that time, was very rare in Scotland. Accordingly his firſt Courſe of Lectures was well attended, and received with great applauſe. The patrons of the univerſity, convinced that they would form a valuable addition to the ſyſtem of education, agreed in the following ſummer to inſtitute a rhetorical claſs, under his direction, as a permanent part of their academical eſtabliſhment: and, on the 7th of April, 1762, his majeſty was graciouſly pleaſed "To erect and endow a profeſſorſhip of rhetoric and belles-lettres in the univerſity of Edinburgh, and to appoint Dr. Blair, in conſideration of his approved qualifications, regius profeſſor thereof, with a ſalary of 70l." Theſe Lectures he publiſhed in 1783, when he retired from the labours of the office; and the general voice of the public has pronounced them to be a moſt judicious, elegant, and comprehenſive ſyſtem of rules for forming the ſtyle and cultivating the taſte of youth.

About the time in which he was occupied in laying the foundations of this uſeful inſtitution, he had an opportunity of conferring another important obligation on the literary world, by the part which he acted in reſcuing from oblivion the *poems of Oſſian*. It was by the ſolicitation of Dr. Blair and Mr. John Home that Mr Macpherſon was induced to publiſh his Fragments of Ancient Poetry; and their patronage was of eſſential ſervice in procuring the ſubſcription which enabled him to undertake his tour through the Highlands for collecting the materials of Fingal, and of thoſe other delightful productions which bear the name of Oſſian. To theſe productions Dr. Blair applied the teſt of genuine criticiſm, and ſoon after their publication gave an eſtimate of their merits in a diſſertation, printed in 1763.

The great objects of his literary ambition being now attained, his talents were for many years conſecrated ſolely to the important and peculiar employments of his ſtation. It was not till the year 1777 that he could be induced to favour the world with a volume of the Sermons which had ſo long furniſhed inſtruction and delight to his own congregation. But this volume being well received, the public approbation encouraged him to proceed: three other volumes followed at different intervals; and all of them experienced a degree of ſucceſs of which few publications can boaſt. They circulated rapidly and widely wherever the Engliſh tongue extends; they were ſoon tranſlated into almoſt all the languages of Europe; and his preſent majeſty, with that wiſe attention to the intereſts of religion and literature which diſtinguiſhes his reign, was graciouſly pleaſed to judge them worthy of a public reward. By a royal mandate to the exchequer in Scotland, dated July 25th, 1780, a penſion of 200l. a-year was conferred on their author, which was continued till his death, which happened on the 27th of December 1800.

He left in the hands of the printer a fifth volume of Sermons, which, it ſeems, from the account of the Reverend Dr.

Finlayson, who publiſhed them (together with the author's life from whence we draw this abridgment), were compoſed at very different periods of his life. They were however all written out anew in his own hand, and in many parts re-compoſed, during the courſe of the ſummer preceding his death, after he had completed his eighty-ſecond year. The laſt of them which he compoſed, though not the laſt in the order adopted for publication, was the ſermon on a Life of Diſſipation and Pleaſure—a ſermon written with great dignity and eloquence, and which ſhould be regarded as his ſolemn parting admonition to a claſs of men, whoſe conduct is highly important to the community, and whoſe reformation and virtue he had long laboured moſt zealouſly to promote.

The ſermons which he has given to the world are univerſally admitted to be *models in their kind*; and they will long remain durable monuments of the piety, genius, and ſound judgment of their author. But they formed only a ſmall part of his compoſitions in this way. Theſe, however, ſenſible of the injury done to the fame of departed authors by the publication of their literary fragments, and too modeſt to attribute to them the degree of merit requiſite for the preſs, he ſtrictly forbad the publication of.

Dr. Blair, from a natural diſlike to any ſituation which might expoſe him to the neceſſity of taking the ſmalleſt part in the conteſts of eccleſiaſtical politics, would never conſent to become moderator of the general aſſembly of the church of Scotland. His opinions, however, were frequently reſorted to; and the great reputation he had acquired in the diſcharge of his public duties, as well as the great reſpectability of his private character, always gave them conſiderable weight.

In April 1748, Dr. Blair married his couſin, Catharine, daughter of the Rev. James Bannaſtine, one of the miniſters of Edinburgh, by whom he had a ſon who died in his infancy, and a daughter, who lived to her 21ſt year. His domeſtic enjoyments were alſo fatally interrupted by the death of Mrs. Blair, which happened a few years before his own.

This ineſtimable man carried with him the trueſt regrets of all who knew him both in public and private life; a funeral ſermon was preached at his burial, and the magiſtrates directed his church to be put in mourning.

BLAIR ATHOL, a village of Perthſhire, in an angle formed by the rivers Tilt and Garry. Cloſe by it is Blair Caſtle, a noble ſeat of the Duke of Athol's, on an eminence, amid a beautiful plain ſurrounded by hills, woods, and deep glens. In its vicinity are many fine waterfalls. Blair Athol is 28 miles N.W. of Perth. Long. 3. 41. W. Lat. 56. 46. N.

BLANCA, an uninhabited iſland to the N. of Margaretta, near Terra Firma. Long. 64. 30. W. Lat. 11. 50. N.

BLANDA (anc. geog.), a Roman city in the territory of Barcino in Hiſpania Citerior; now *Blanes*, a ſea-port town of Catalonia, ſituated near the river Tordara. E. Long. 3. 40. N. lat. 41. 30.

BLANDONONA (anc. geog.), a ſmall city of Liguria in Italy; now *Bron*, or *Broni*. See that article.

BLANES, a ſea-port of Catalonia, in Spain, near the river Tordera, twenty miles S. of Gironne. Long. 2. 50. E. Lat. 41. 40. N.

BLEACHING (*Encycl.*). To the information already communicated on this important branch of the arts, we are induced to add, in the inventor's words, the following ſpecification of the patent granted to Mr. Turnbull, junior, of Cordale Printfield, in Scotland, for certain new proceſſes and apparatus applicable to the bleaching and purifying of cotton, flax, hemp, ſilk, and wool, or of mixtures of thoſe materials, by which a conſiderable ſaving will be effected in fuel, alkali, &c. After the goods have been thoroughly waſhed, Mr. Turnbull ſays,

"When thus cleanſed, they are put into a ley of vegetable or of mineral fixed alkali, or the volatile alkali, either mild or made cauſtic by quick-lime, or into a ley of quick-lime only, or into a ſoapy ley, or into a ley compoſed of all or any of theſe ſubſtances (with or without the addition of oxygenated muriatic acid), of a ſtrength fit for the purpoſe of extracting the coloured or colourleſs gummy, reſinous, or other impurities which may exiſt naturally in, or which may have been introduced (by accident or deſign) into the fibre or texture of the materials or goods under proceſs, and which are too intimately united with them to admit of being removed by the firſt above-deſcribed waſhing or cleanſing. The alkaline, ſoapy, or other ley, may be prepared by the method or methods uſually followed by bleachers; my invention not conſiſting in the kind of alkaline leys, or other liquors employed, or in the way of preparing them, but in the mode of applying ſuch alkaline, ſoapy, or other leys, and in the accompanying and ſubſequent manipulations; for, when the goods or articles to be bleached are immerſed in the alkaline, ſoapy, or other ley or liquor, as before directed, inſtead of boiling or bucking them in it, as is the practice uſually followed, I only ſteep them, or keep them long enough in the ſaid ley to be thoroughly impregnated with it, which requires a ſhorter or longer time, according to the quantity and texture of the articles or goods. The goods are then drawn out of the rack over the veſſel in which they were impregnated, and ſuffered to drain, that the ſuperficially adhering ley or liquor may run from them back into the veſſel. After this draining, the goods ſtill hold a ſufficient quantity of the ley or liquor employed to anſwer the end in view. They are then put into a veſſel of ſufficient ſtrength and dimenſion, made of wood, ſtone, brick-work, earthen-ware, metal, or any proper material. This veſſel, which I call a ſteaming-vat, may be almoſt of any form convenient for the premiſes or place where it is to be fixed, and is connected by means of a pipe, tube, hoſe, trunk, or hollow priſm, made of wood, metal, or of any fit material, with a boiler, kettle, or cauldron, which I call the ſteaming-kettle, and which may be of any convenient form and dimenſions. The tube above mentioned may paſs from any part of the edge or of the ſide of the ſteaming-kettle, or even from its cover, which ought to fit ſteam-tight, into any part of the ſide or bottom of the ſteaming-vat, the intention and uſe of it being to convey ſteam from the aforeſaid kettle to the aforeſaid vat. The tube, pipe, hoſe, trunk, or hollow priſm, is furniſhed with a ſtop-cock or valve, or any contrivance that will anſwer the purpoſe of ſhutting and opening at pleaſure the communication between the ſaid kettle and vat. The ſteaming-vat ought, for the convenience of lifting out the goods, to be furniſhed with a falſe bottom of ſome kind in the inſide, as of wood or of net-work, for the goods to lie upon; and to this falſe bottom ſhould be attached ropes, by means of which, and the aſſiſtance of a crane and pulley, or any other convenient mechanical power, the goods may be withdrawn from the vat after the operation of ſteaming them. The operation of ſteaming the goods is performed by opening the communication between the ſteaming-kettle and ſteaming-vat; the former, which contains ſome water or aqueous ſolution, being kept at a proper heat by means of a fire put under it, and the latter having previouſly its cover fitted on ſteam-tight. The ſteam is thus, as it were, pent up in the kettle and vat, and made to act with any preſſure that may be deſired, or that the ſtrength of the veſſels may be able to ſuſtain. To ſecure the ſafety of the people employed, the apparatus ought always to be furniſhed with a ſafety-valve attached to any part of the ſteaming-kettle, or of the ſteaming-vat, or of the tube of communication, that when the elaſtic force of the encloſed ſteam reaches the determined point, the valve may open of itſelf,

and allow a portion of it to eſcape. By this proceſs the goods can be heated conſiderably above the boiling point, a circumſtance that adds ſo much to the diſſolving power of the alkaline, or ſoapy, or other ley, that the quantity left in the goods, after draining, as before deſcribed, is found ſufficient to diſſolve and diſcharge, by one ſteaming, as much of the reſinous, gummy, or other impurities, from the goods under proceſs, as could have been diſcharged by a long boiling of the goods in the ley itſelf, as is the uſual practice, and by this means a great ſaving is made in the alkalis or other ingredients employed for whitening the goods. For, in the common method, the colouring matter, as diſcharged from the fibre or texture of the goods, is diffuſed throughout the whole ley, which ſoon renders it ſo foul that it is obliged to be changed long before it has become ſaturated with the ſubſtances or matters on which it exerciſes its power. But by my proceſs or proceſſes there is no more ley employed for one ſteaming than what is ſufficient merely to impregnate the goods thoroughly; and the alkali thus depoſited in the texture or fibre of the goods under proceſs is more or leſs diſengaged from the ſaid texture or fibre by the action of the ſteam, and is found at the bottom of the ſteaming-vat, of a dark colour, occaſioned by the matters it has diſſolved, and carried down with it. The ſteaming-vat may be very commodiouſly freed from this depoſit by a common ſtop-cock, or even a plug at or near its bottom, to be opened as often as it may be neceſſary. I alſo effect the ſame end by uſing only a deep boiler, with a ſteam-tight cover, ſuſpending the goods previouſly impregnated with the alkaline or other ley, as before directed, on frame or net-work, over boiling water, in the ſaid boiler, and employing oxygenated muriatic acid, acidulated waters, mill waſhing, or expoſure to the ſun and air, when theſe are neceſſary: particular care muſt be taken to keep a ſupply of water, or ſome aqueous ſolution in the lower part of the boiler, below the frame or net-work on which the goods lie, or otherwiſe they may be ſinged, or actually burnt, and a loſs be actually incurred. But I prefer putting the goods into ſteaming-vats, to putting them in a boiler, in the manner juſt deſcribed, and that on ſeveral accounts, but eſpecially becauſe, by means of one ſteaming-kettle, ſteam can be thrown into as many vats as can conveniently be ranged round it, which is a mean of making a conſiderable ſaving in the article of fuel. One ſteaming generally requires from four to eight hours, but the length of time will vary according to the kind or quality of the goods to be whitened, and the ſtrength of the ley that has been employed for impregnating them. After the ſteaming has been continued a ſufficient length of time, the cover of the ſteaming-vat is taken off. The communication with the ſteaming-kettle is cut off by means of the aforeſaid cock or valve, provided for that purpoſe, and the goods are lifted out by means of a crane and pulley, or other fit mechanical power, as before mentioned. They are then well waſhed by milling, or by any of the proceſſes followed by bleachers. After this they are again impregnated with ley, ſteamed, and then waſhed; and theſe manipulations are repeated in the manner that has already been deſcribed till the goods are brought to the required degree of whiteneſs and purity. The uſual operations of ſteeping in acidulated waters, and expoſure to the ſun and air, or to the action of the oxygenated muriatic acid, in ſuch ſtages of the proceſs as the bleacher may think proper, may be employed with advantage in my method, as well as in the common and uſual method of bleaching. I need hardly direct here, what every bleacher's own experience muſt point out to him, namely, that when acidulated waters, expoſure to the ſun and air, or the oxygenated muriatic acid, are to be employed after any ſteaming, the goods ſhould firſt be waſhed. When ſilk, ſheeps' wool, or goods containing ſheeps' wool or animal hair, or fur, of any kind, are wiſhed to be cleanſed, ſcoured, or whitened, by the above-deſcribed method, the ley employed ought to be much weaker than in the caſe of cotton, flax, or hemp, or of goods manufactured of theſe, or any of them; for a ſtrong cauſtic ley would entirely deſtroy the former, and convert them into a ſaponaceous matter.

There has been diſcovered a method of preparing the oxygenated muriate of lime in a dry form, and applying it to the purpoſes of bleaching, or removing colours from cloth, cotton, &c.

Mr. Charles Tenant, of Darnley, near Glaſgow, the patentee, having found that the oxygenated muriatic acid is capable of forming a compound with calcareous earth, and alſo with ſtrontites, barytes, and magneſia, merely by bringing the oxygenated muriatic acid gas into contact with them either when in lumps or in a pulveriſed ſtate, has very conſiderably improved upon his former diſcovery, namely, that theſe earths might be ſo impregnated when diffuſed in water, and might, in that ſtate, be employed in bleaching.

Till the diſcovery of theſe proceſſes, Mr. Tenant obſerves, pot-aſh was uſed to ſerve the purpoſe now obtained by lime or the other earths; and its expence to the bleacher was very conſiderable. The bleaching liquor, indeed, when made with alkali, enabled the cotton-manufacturers to bring their goods to market in one-third of the time they formerly required, and alſo to carry on their buſineſs at all ſeaſons of the year. Hence a more extenſive trade was carried on by the manufacturers of cotton; but linen goods, requiring the liquor in a much more concentrated ſtate, heretofore derived little or no benefit from the practice of bleaching by chemical means. By the introduction of lime, however, the liquor is made ſo cheap that linens are alſo bleached with it, and that ſo expeditiouſly, that the dealer can turn his ſtock over twice or thrice for once that he could when the practice prevailed of bleaching in the open air.

Mr. Tenant farther obſerves, that, by preparing the oxygenated muriates in the dry way, bleachers may be cheaply and conveniently ſupplied with it, and ſave much of the trouble and expence and hazard which attend the preparation of the bleaching liquor in the old way.

BLETERIE (John Philip René de la), born at Rennes, entered early into the congregation of the Oratory, and was there a diſtinguiſhed profeſſor. The order againſt wigs occaſioned his quitting it; but he retained the friendſhip and eſteem of his former brethren. He went to Paris, where his talents procured him a chair of eloquence in the College Royal, and a place in the Academy of Belles-Lettres. He publiſhed ſeveral works, which have been well received by the public. 1. The Life of the Emperor Julian, Paris, 1735, 1746, 12mo. a curious performance, well written, and diſtinguiſhed at once by impartiality, preciſion, elegance, and judgment. 2. The Hiſtory of the Emperor Jovian, with Tranſlations of ſome Works of the Emperor Julian, Paris, 1748, two vols. 12mo. a book no leſs valuable than the former. 3. A Tranſlation of ſome Works of Tacitus, Paris, 1755, two vols. 12mo. The Manners of the Germans, and The Life of Agricola, are the two pieces compriſed in this verſion, which is equally elegant and faithful. Prefixed is a Life of Tacitus, which is alſo worthy of this writer, by the ſtrength of its ſentiments, and the animation of its ſtyle. 4. Tiberius, or the ſix firſt Books of the Annals of Tacitus, tranſlated into French, Paris, 1768, three vols. 12mo. 5. Letters occaſioned by the Account of Quietiſm given by M. Phelypeaux, 1733, 12mo. 6. Some Diſſertations in the Memoirs of the Academy of Belles-Lettres. 7. Moſt humble Remonſtrances of M. de Montrempuis. The Abbé de la Bleterie died at an advanced age, in 1772. He was a man of learning, attached to religion, and his morals did not belie his principles.

QUÆSTOR, see QUESTOR.

QUAGGA, or QUACHA. See BARB.

QUAIL, in zoology. See TETRAO.

Quails are to be taken by means of the call during their whole wooing time, which lasts from April to August. The proper times for using the call are at sun-rising, at nine o'clock in the morning, at three in the afternoon, and at sun-set; for these are the natural times of the quail's calling. The notes of the cock and hen quail are very different; and the sportsman who expects to succeed in the taking them must be expert in both: for, when the cock calls, the answer is to be made in the hen's note; and, when the hen calls, the answer is to be made in the cock's. By this means they will come up to the person, so that he may, with great ease, throw the net over them and take them. If a cock quail be single, on hearing the hen's note he will immediately come; but if he has a hen already with him, he will not forsake her. Sometimes, though only one quail answers to the call, there will three or four come up; and then it is best to have patience, and not run to take up the first, but stay till they are all entangled, as they will soon be.

The quail is a neat cleanly bird, and will not run much into dirty or wet places: in dewy mornings, they will often fly instead of running to the call; and in this case, it is best to let them go over the net, if it so happens that they fly higher than its top; and the sportsman then changing sides, and calling again, the bird will come back, and then will probably be taken in the net.

The calls are to be made of a small leather purse, about two fingers wide, and four fingers long, and made in the shape of a pear; this is to be stuffed half full of horse-hair, and at the end of it is to be placed a small whistle, made of the bone of a rabbit's leg, or some such other bone: this is to be about two inches long, and the end formed like a flageolet, with a little soft wax. This is to be the end fastened into the purse; the other is to be closed up with the same wax, only that a hole is to be opened with a pin, to make it give a distinct and clear sound. To make this sound, it is to be held full in the palm of the hand, with one of the fingers placed over the top of the wax; then the purse is to be pressed, and the finger is to shake over the middle of it, to modulate the sound it gives into a sort of shake. This is the most useful call; for it imitates the note of the hen quail, and seldom fails to bring a cock to the net if there be one near the place.

The call that imitates the note of the cock, and is used to bring the hen to him, is to be about four inches long, and above an inch thick; it is to be made of a piece of wire turned round and curled, and covered with leather; and one end of it must be closed up with a piece of flat wood, about the middle of which there must be a small thread or strap of leather, and at the other end is to be placed the same sort of pipe, made of bone, as is used in the other call. The noise is made by opening and closing the spiral, and gives the same sound that the cock does when he gives the hen a signal that he is near her.

QUAKERS, a religious society which took its rise in England about the middle of the seventeenth century; spread rapidly there, and found its way into some other countries of Europe, and into the English settlements in North America. The first preacher was George Fox, an illiterate person, who made his first appearance in that character about the year 1648. The nation was then greatly agitated by religious controversies. Fox acquired several followers, and in the year 1650, being brought before two justices in Derby, for having interrupted a minister in the exercise of his function, one of them by way of jeer gave this people the name of *Quakers*; an appellation which has stuck to them ever since; though they themselves adopted, and still retain, the name of *Friends*.

Robert Barclay and William Penn are two of the principal writers of this society. The former wrote a masterly apology for their doctrines, to which he prefixed a remarkable address to King Charles II. Penn wrote several books, the chief of which is that entitled, No Cross, no Crown, shewing that the way to obtain the heavenly crown is by being willing to bear the cross.

These were writers of considerable learning and abilities, to whom may be added Sewell, the historian, who wrote an account of this people, first in Dutch, and afterwards in English. It may also be proper to mention, of later time, Anthony Pruver, who having been brought up (like Fox) in the employment of a shepherd, and a shoemaker, afterwards acquired so much knowledge in the dead languages, as to translate the whole of the Scriptures into English. It must be admitted, however, that the quakers, as a body, have produced few learned or scientific authors; and this reason may be assigned, that they avoid sending their children to public schools, and train them principally to mechanical or commercial employments, preferring the useful to the ornamental in their education. In medicine, nevertheless, the only learned profession which is open to them in Great Britain, they have had many who have attained and adorned the degree of doctor, among whom the learned world will readily recognize the name of Fothergill.

It is somewhat difficult to give an accurate account of their tenets, as they have no standard confession of faith. They have however, so lately as 1790, published a summary view of their doctrines: from which we learn, in brief, that the Friends believe in one eternal God, and in Jesus Christ, his Son, the Messiah and Mediator of the new covenant. They acknowledge the divinity of Christ, who is the wisdom and power of God unto salvation. To Christ alone they give the title of the *word of God*, and not to the Scriptures, but they highly esteem those sacred writings, in subordination to the spirit, from which they were given forth. They believe that, in order to enable men to put in practice the most excellent precepts of the gospel, every man is endued with a measure of the light, grace, or good spirit, of Christ, by which he is enabled to distinguish good from evil, and to correct those corrupt propensities of his nature which mere reason is insufficient to overcome. They believe that the influence of the spirit of Christ is necessary to enable them acceptably to worship; and that to wait for it, when met, in silence, is their proper business. They ascribe all true ministry to the same source, the immediate influence of the Holy Spirit. They reject, or disuse, baptism with water and the supper: the former as pertaining, according to John the Baptist's avowal, to a decreasing dispensation, and having been merely typical of spiritual baptism: the latter rite they do not consider as maintaining communion between Christ and his church; which is only obtained by a real participation of his divine nature through faith. As this society lays so much stress on the inward persuasion of the mind, effected by the operation of the light of Christ; and as they believe that lively faith is not at man's command, but is the gift of God in Christ, although nourished by man's obedience to its discoveries; they are so far from requiring of such as request admission among them, or such as are employed in the service of their church, any of those articles or formulas of faith, which are too often the means of inducing an insincere compliance, that they make no use of such forms at all. They say, in their summary, "We prefer the judging of men by their fruits, and depending on the aid of him who, by his prophet, hath promised to be a spirit of judgment to him that sitteth in judgment. Without this, there is a danger of receiving numbers into outward communion, without any addition to that spiritual sheepfold, whereof our blessed Lord hath declared himself to be both the door and the shepherd—that is, of such as know his voice, and follow him in the paths of obedience."

[Cancel pages 679 and 680 of vol viii. and insert this leaf in their stead.]

In their public worſhip, all is performed in ſilence, unleſs ſome believe themſelves inwardly moved to ſpeak; and, except during the time of prayer by one ſo moved, the men ſit covered at liberty. Their marriages, after due enquiry, are performed by the parties taking each other in a meeting, and the company ſubſcribe as witneſſes. Their burials are equally ſimple; but frequently preaching takes place on both occaſions. The quakers believe it wrong for Chriſtians to uſe ſuch flattering titles to men as your grace, your excellency, the right honourable, reverend, and the like, to uſe compliments, or to adopt, for flattery's ſake, the cuſtom of ſaying the plural you, to one perſon. Neither do they allow of kneeling or uncovering the head, in reſpect to any man, reſerving theſe geſtures for divine worſhip. They condemn gaiety and ſuperfluity of apparel; public diverſions, gaming, ſports, and unneceſſary frequenting of public-houſes. They alſo diſuſe thoſe names of the months and days, which, having been given in honour of the falſe gods or heroes of the heathens, originated in their ſuperſtition or flattery; and they believe it forbidden to Chriſtians to ſwear or to fight on any occaſion.

The ſobriety of their dreſs is a good contraſt to the ever-varying modes of a degenerate age. Their guarded and decent language, and regular deportment, however uncouth to light and ſuperficial minds, muſt excite admiration in the liberal and intelligent obſerver. The excellent manner in which they govern their families and bring up their children in an acquieſcence with their reſtraints and cuſtoms, may be recommended as deſerving imitation. The quakers have exerted themſelves with great zeal to endeavour to procure an abolition of the ſlave trade in this country; and have themſelves ſo far ſet the example of emancipation in America, that there is ſcarcely a quaker in that continent poſſeſſing a ſlave. Though they are, as has been mentioned, reſtrained by their principles from attempting to ſerve their country in its wars, they have always proved themſelves good ſubjects of the ſtate, and have experienced from the Britiſh government many acts of indulgence.

A ſyſtem of diſcipline has been eſtabliſhed among this people, which has been admired, even by their adverſaries; the object of it is, the relief of their poor—the maintenance of good order—the ſupport of their teſtimonies, which they believe it is their duty to bear to the world—and the help and recovery of ſuch as are overtaken in faults. This diſcipline is laid down in the rules which their yearly meeting has iſſued from time to time; and is carried into effect at their monthly meetings, which are compoſed of members living at a convenient diſtance, and ſometimes of ſeveral ſmall congregations for worſhip. All their monthly meetings in one county (or, in ſome inſtances, in two or three adjacent counties) form a quarterly meeting, which has the immediate ſuperintendance of the monthly meetings. The quarterly meetings in their turn are ſuperintended by the yearly meeting. The yearly meeting requires of the quarterly meetings, and theſe latter of their monthly meetings, anſwers, at ſtated times, to certain queries, by which means the circumſtances of the inferior meeting is made known to the ſuperintending one. The monthly meetings ſend repreſentatives to the quarterly meetings, and theſe, to the yearly meeting. The yearly meeting for Great Britain is held in London in the ſpring, to which come repreſentatives from the yearly meeting in Ireland. The American continent, on which there are numerous ſettlements of the Friends, compriſes ſix other yearly meetings, namely, New England, New York, Pennſylvania, Maryland, Virginia, and the Carolinas, &c. Theſe yearly meetings are no otherwiſe bound to each other than by ſimilarity of principle, and yet (though this ſimilarity is doubtleſs the cauſe) no diſpute on any point of faith has yet ariſen between them; and it is not unuſual for miniſters of one country to ſpend much time in travelling in that character in the other, in which the certificates from the meetings to which he belongs at home ſecure him a reception. Theſe are certificates of concurrence ſigned in the monthly meeting to which the miniſter belongs; and if the propoſed journey extend beyond the limit of his yearly meeting, it is neceſſary to have the joint concurrence of his quarterly meeting, and alſo of his fellow-miniſters and elders aſſembled at their yearly meeting. It may be here remarked, that among the Quakers, women, as well as men, fill the ſtation of miniſter; and, with the before-mentioned concurrence, are often engaged in travelling from place to place.

The Quakers have charity ſchools in ſome parts of the kingdom; but at Ackworth in Yorkſhire they have a large ſchool, under the direction of their yearly meeting, in which about one hundred and eighty boys, and one hundred and ſeventy girls, are boarded and educated.

This ſociety experienced at its outſet violent oppoſition, and was cruelly perſecuted during the times of Cromwell and of Charles II. although the Friends do not impeach the character of either, as being the ſprings of the perſecution. In New England, the government put four of them to death; but farther executions of that ſect were ſtopped by the interference of King Charles. The friends, however, did not flinch, either in England or America; and as they ſeem to have borne perſecution with as much patience as any people, ſo, when in their turn they came into power, they never ſhewed any diſpoſition to perſecute others. For William Penn, who founded Pennſylvania, laid down the wideſt plan of religious liberty that had then been deviſed, and reſerved no privileges for his own ſociety in the government of his province.

QUALITY is a word which, as uſed in philoſophical diſquiſitions, cannot be explained by any periphraſis. That which is expreſſed by it muſt be brought into the immediate view of the ſenſes or intellect, and the name properly applied, or he who is a ſtranger to the word will never be made to comprehend its meaning. Ariſtotle, who treated it as a general conception ſecond in order among the ten *predicaments* or *categories* (ſee CATEGORY), gives ſeveral characters of it; but though they are all in ſome reſpects juſt, no man could from them, without other aſſiſtance, learn what *quality* is. Thus he tells us, Ὑπαρχει δε εναντιοτης καὶα το ποιον: Επιδεχεῖαι δε το μαλλον και το ηττον τα ποια. And again, Ὁμοια δε η ανομοια καὶα μονας τας ποιοτηῖας λεγεῖαι ομοιον γαρ ἑτερον· ἑτερω ουκ εσῖι καῖ αλλο ουσιν, η καθ' ο ποιον εσῖιν.

When a man comprehends, by means of his ſenſes and intellect, what it is which the word *quality* denotes, he will indeed perceive that the firſt of theſe characters is applicable to ſome qualities and not to others, that the ſecond is more applicable to *quantity* than to quality; and that it is only the third which can with propriety be conſidered as the general characteriſtic of this predicament. Thus, when we have learned by our ſenſe of ſight that *whiteneſs* is a quality of ſnow, and *blackneſs* of coal; and by means of obſervation and reflection, that *wiſdom* is a quality of one man and *folly* of another; we muſt admit that the ſenſible quality of the ſnow is *contrary* to that of the coal, and the intellectual quality of wiſdom contrary to that of folly. There is, however, no contrariety between *wiſdom* and *whiteneſs* or *blackneſs*, nor between *hardneſs* or *ſoftneſs* and *any particular colour*; for ſenſible and intellectual qualities can never be compared; and it is not eaſy, if poſſible, to make a compariſon between qualities perceptible only by different ſenſes: nay, among qualities perceptible by the ſame ſenſe, we often meet with a difference where there is no contrariety; for though the *figure* of a *cube* is *different* from that of a *ſphere*, and the figure of a

BLIND (*Encycl.*). By way of illuſtrating what has been already ſaid under this article, we ſhall add one or two very ſingular hiſtories; and ſhall begin with an account of ſome remarkable particulars that happened to a lady after having had the confluent ſmall-pox. "In the courſe of this diſeaſe the lady was attended by the late Sir Hans Sloane, and ſeveral threatening ſymptoms appeared, which, however, were at length overcome; and the patient was thought out of danger. She was attacked afterwards with dreadful ſpaſms, to remove or mitigate which many remedies were tried; and, among others, the cold bath: but either by the natural effect of the bath, or by ſome miſmanagement in the bathing, the unhappy patient firſt became *blind*, and ſoon afterwards deaf and dumb. It is not eaſy to conceive what could increaſe the miſery of deafneſs, dumbneſs, blindneſs, and frequent paroxyſms of excruciating pain: yet a very conſiderable aggravation was added; for the loſs of her ſight, her hearing, and her ſpeech, was followed by ſuch a ſtricture of the muſcles of her throat, that ſhe could not ſwallow any kind of aliment either ſolid or liquid. It might reaſonably be ſuppoſed that this circumſtance, though it added to the degree of her miſery, would have ſhortened its duration: yet in this condition ſhe continued near three quarters of a year; and during that time was ſupported in a very uncommon manner, by chewing her food only; which having turned often, and kept long in her mouth, ſhe was obliged at laſt to ſpit out. Liquors were likewiſe gargled about in her mouth for ſome time; and then returned in the ſame manner, no part of them having paſſed the throat by an act of deglutition: ſo that whatever was conveyed into the ſtomach, either of the juices of the ſolid food, or of liquids, was either gradually imbibed by the ſponginеſs of the parts, which they moiſtened, or trickled down in a very ſmall quantity along the ſides of the veſſels.

But there were other peculiarities in the caſe of this lady yet more extraordinary. During the privation of her *ſight* and *hearing*, her *touch* and her *ſmell* became ſo exquiſite, that ſhe could diſtinguiſh the different colours of ſilk and flowers, and was ſenſible when any ſtranger was in the room with her.

After ſhe became blind, and deaf, and dumb, it was not eaſy to contrive any method by which a queſtion could be aſked her, and an anſwer received. This, however, was at laſt effected by talking with the fingers, at which ſhe was uncommonly ready. But thoſe who converſed with her in this manner, were obliged to expreſs themſelves by touching her hand and fingers inſtead of their own.

A lady who was nearly related to her, having an apron on, that was embroidered with ſilk of different colours, aſked her, in the manner which has been deſcribed, if ſhe could tell what colour it was? and after applying her fingers attentively to the figures of the embroidery, ſhe replied, that it was red, and blue, and green; which was true. The ſame lady having a pink coloured ribbon on her head, and being willing ſtill further to ſatisfy her curioſity and her doubts, aſked what colour that was? her couſin, after feeling ſome time, anſwered that it was pink colour: this anſwer was yet more aſtoniſhing, becauſe it ſhewed not only a power of diſtinguiſhing different colours, but different kinds of the ſame colour; the ribbon was not only diſcovered to be red, but the red was diſcovered to be of the pale kind called a *pink*.

This unhappy lady, conſcious of her own uncommon infirmities, was extremely unwilling to be ſeen by ſtrangers, and therefore generally retired to her chamber, where none but thoſe of the family were likely to come. The ſame relation, who had by the experiment of the apron and ribbon diſcovered the exquiſite ſenſibility of her *touch*, was ſoon after convinced, by an accident, that her power of ſmelling was acute and refined in the ſame aſtoniſhing degree.

Being one day viſiting the family, ſhe went up to her couſin's chamber, and after making herſelf known, ſhe intreated her to go down, and ſit with her among the reſt of the family, aſſuring her that there was no other perſon preſent: to this ſhe at length conſented, and went down to the parlour door; but the moment the door was opened ſhe turned back, and retired to her own chamber much diſpleaſed; alleging, that there were ſtrangers in the room, and that an attempt had been made to deceive her: it happened indeed that there were ſtrangers in the room; but they had come in while the lady was above ſtairs, ſo that ſhe did not know they were there. When ſhe had ſatisfied her couſin of this particular ſhe was pacified; and being afterwards aſked how ſhe knew there were ſtrangers in the room, ſhe anſwered, by the ſmell.

But though ſhe could by this ſenſe diſtinguiſh in general between perſons with whom ſhe was well acquainted, and ſtrangers, yet ſhe could not ſo eaſily diſtinguiſh one of her acquaintance from another without other aſſiſtance. She generally diſtinguiſhed her friends by feeling their hands; and when they came in, they uſed to preſent their hands to her, as a mean of making themſelves known: the make and warmth of the hand produced in general the differences that ſhe diſtinguiſhed; but ſometimes ſhe uſed to ſpan the wriſt, and meaſure the fingers. A lady, with whom ſhe was very well acquainted, coming in one hot day, after having walked a mile, preſented her hand as uſual; ſhe felt it longer than ordinary, and ſeemed to doubt whoſe it was; but after ſpanning the wriſt, and meaſuring the fingers, ſhe ſaid, 'It is Mrs. M. but ſhe is warmer to-day than ever I felt her before.'

To amuſe herſelf in the mournful and perpetual ſolitude and darkneſs to which her diſorder had reduced her, ſhe uſed to work much at her needle; and it is remarkable, that her needle-work was uncommonly neat and exact: among many other pieces of her work that are preſerved in the family is a pin-cuſhion, which can ſcarce be equalled. She uſed alſo ſometimes to write; and her writing was yet more extraordinary than her needle-work: it was executed with the ſame regularity and exactneſs; the character was very pretty, the lines were all even, and the letters placed at equal diſtances from each other: but the moſt aſtoniſhing particular of all, with reſpect to her writing, is, that ſhe could by ſome means diſcover when a letter had by ſome miſtake been omitted, and would place it over that part of the word where it ſhould have been inſerted, with a caret under it. It was her cuſtom to ſit up in bed at any hour of the night, either to write or to work, when her pain or any other cauſe kept her awake.

Theſe circumſtances were ſo very extraordinary, that it was long doubted whether ſhe had not ſome faint remains both of hearing and ſight, and many experiments were made to aſcertain the matter; ſome of theſe experiments ſhe accidentally diſcovered, and the diſcovery always threw her into violent convulſions. The thought of being ſuſpected of inſincerity, or ſuppoſed capable of acting ſo wicked a part as to feign infirmities that were not inflicted, was an addition to her miſery which ſhe could not bear, and which never failed to produce an agony of mind not leſs viſible than thoſe of her body. A clergyman who found her one evening at work by a table with a candle upon it, put his hat between her eyes and the candle, in ſuch a manner that it was impoſſible ſhe could receive any benefit from the light of it if ſhe had not been blind. She continued ſtill at her work with great tranquillity; till, putting up her hand ſuddenly to rub her forehead, ſhe ſtruck it againſt the hat, and diſcovered what was doing; upon which ſhe was thrown into violent convulſions, and was not without great difficulty recovered. The family were, by theſe experiments, and by ſeveral accidental

circumſtances, fully convinced that ſhe was totally deaf and blind; particularly by ſitting unconcerned at her work, during a dreadful ſtorm of thunder and lightning, though ſhe was then facing the window, and always uſed to be much terrified in ſuch circumſtances. But Sir Hans Sloane, her phyſician, being ſtill doubtful of the truth of facts which were ſcarce leſs than miraculous, he was permitted to ſatisfy himſelf by ſuch experiments and obſervations as he thought proper; the iſſue of which was, that he pronounced her to be abſolutely deaf and blind.

She was at length ſent to Bath, where ſhe was in ſome meaſure relieved; her convulſions being leſs frequent, and her pains leſs acute: but ſhe never recovered her ſpeech, her ſight, or her hearing, in the leaſt degree.

Many of the letters dated at Bath, in ſome of which there are inſtances of interlineations with a caret, the writer of this narrative hath ſeen; and they are now in the cuſtody of the widow of one of her brothers, who, with many other perſons, can ſupport the facts here related, however wonderful, with ſuch evidence as it would not only be injuſtice, but folly to diſbelieve.

In the Annual Regiſter for 1762, we have the following account of a French lady, blind from her infancy, who could read, write, and play at cards, &c. A young gentlewoman of a good family in France, then in her eighteenth year, loſt her ſight when only two years old, her mother having been adviſed to lay ſome pigeon's blood on her eyes to preſerve them in the ſmall-pox; whereas, ſo far from anſwering the end, it injured them. Nature, however, may be ſaid to have compenſated for this unhappy miſtake, by the beauty of her perſon, ſweetneſs of temper, vivacity of genius, quickneſs of conception, and many talents which certainly much alleviated her misfortune. The narrative continues thus:

"She plays at cards with the ſame readineſs as others of the party. She firſt prepares the packs allotted to her, by pricking them in ſeveral parts; yet ſo imperceptibly, that the cloſeſt inſpection can ſcarce diſcern her indexes. She ſorts the ſuits, and arranges the cards in their proper ſequence, with the ſame preciſion, and nearly the ſame facility, as they who have their ſight. All ſhe requires of thoſe who play with her is, to name every card as it is played; and theſe ſhe retains ſo exactly, that ſhe frequently performs ſome notable ſtrokes ſuch as ſhew a great combination and ſtrong memory.

"The moſt wonderful circumſtance is, that ſhe ſhould have learned to read and write; but even this is readily believed on knowing her method. In writing to her, no ink is uſed, but the letters are pricked down on the paper; and by the delicacy of her touch, feeling each letter, ſhe follows them ſucceſſively, and reads every word with her fingers' ends. She herſelf in writing makes uſe of a pencil, as ſhe could not know when her pen was dry; her guide on the paper is a ſmall thin ruler and of the breadth of her writing. On finiſhing a letter, ſhe wets it, ſo as to fix the traces of her pencil, that they are not obſcured or effaced; then proceeds to fold and ſeal it, and write the direction: all by her own addreſs, and without the aſſiſtance of any other perſon. Her writing is very ſtraight, well cut, and the ſpelling no leſs correct. To reach this ſingular mechaniſm, the indefatigable cares of her affectionate mother were long employed, who accuſtomed her daughter to feel letters cut in cards or paſte-board, brought her to diſtinguiſh an A from a B, and thus the whole alphabet, and afterwards to ſpell words; then, by the remembrance of the ſhape of the letters, to delineate them on paper; and, laſtly, to arrange them ſo as to form words and ſentences.

"She has learned to play on the guitar, and has even contrived a way of pricking down the tunes as an aſſiſtance to her memory. So delicate are her organs, that in ſinging a tune, though new to her, ſhe is able to name the notes.

"In figured dances ſhe acquits herſelf extremely well, and in a minuet with inimitable eaſe and gracefulneſs. As for the works of her ſex, ſhe has a maſterly hand; ſhe ſews and hems perfectly well; and in all her works ſhe threads the needles for herſelf however ſmall.

"By the watch her touch never fails telling her exactly the hour and minute."

From this account, however, it would appear, that, except reading and writing, the French lady has nothing to boaſt of in which ſhe is not excelled by Mr. Stanley already mentioned, if we may credit all that is reported of him. The works peculiar to her ſex are gained mechanically; but the *diſtinguiſhing colours*, telling the preciſe time by a watch, naming the notes in muſic, and many other things depending upon the ear and touch, are ſaid to have been ſo familiar to him, that his friends ceaſe to think them extraordinary. Attainments ſtill more wonderful are aſcribed to him; as, the naming the number of perſons in a room on entering it; the directing his voice to each perſon in particular, even to ſtrangers when they have once ſpoken; the miſſing any perſon abſent, and telling who that perſon is; and laſtly, his being able to form juſt conceptions of youth, beauty, ſymmetry, and ſhape.

To the foregoing particulars, which abundantly demonſtrate what the blind, even when ſelf-inſtructed, are *capable of*, we ſhall now add a curſory account of ſome of the public inſtitutions ſet on foot in this country for their benefit, the methods practiſed there, and the degree of ſucceſs which has attended them, as far as we have had the means of aſcertaining the facts from printed documents which accident has thrown in our way. Theſe, however ſhort of the fulleſt information to be obtained, are at leaſt ſufficient to countenance any attempt to render general, throughout the united kingdom, ſimilar inſtitutions for the benefit of the moſt forlorn of our ſpecies. England ſeems to have been indebted to her late enemy and republican neighbour in this, as in ſome other material inſtances, for the example of ſchools for the blind*. The firſt eſtabliſhed in Britain was undertaken at Liverpool, at the ſuggeſtion and under the management of a benevolent clergyman there, who, in his public communications on the ſubject, evinced an obvious deſign to imitate the French ſchool, which had then been for ſome time eſtabliſhed, and given public proofs of ſucceſs. This inſtitution was called the "*Aſylum for the Blind*," and was, for near ten years, carried on in two very ſmall adjoining houſes, ſituated in an airy part of the town. Except one room, in which the manufactured goods were expoſed to ſale, and the apartments neceſſary for the ſuperintendant and his wife, the reſt of the premiſes were occupied with blind pupils, who purſued their ſeveral employments during the ſtated hours for work, and were allowed proper intervals for going home to their meals, and for relaxation. Their attendance was only *during the day*, as they were neither lodged nor boarded; nor were they received, unleſs the pariſhes to which they belonged (or their

* The following fact, however, will ſhew the *poſſibility* of the French having borrowed the *hint* from ourſelves. The Rev. Dr. David Johnſton, of Leith, deſcribing the ſtate of the ſchool for the blind at Edinburgh, writes thus to a gentleman in London in 1801:—"I have ſeen a plan of the ſame kind," ſays he, "which was formed in your city (London) *thirty years ago*, and the firſt people in the kingdom ſeemed to have countenanced it, but how it miſcarried I cannot tell."

friends, if able) contributed ſomething weekly towards their maintenance. With this allowance, the amount of their earnings, and a ſmall additional weekly payment from the inſtitution, they were ſupported till they became ſufficiently expert in their buſineſs to leave the aſylum and maintain themſelves, which the greater part of them have been enabled to do very decently. The average number of ſcholars from the commencement of the inſtitution in December 1790 is about forty-five. The following extract from the committee's report, will ſhew at once the articles they manufactured, and the amount of the ſales in the four ſucceſſive years.

	1797			1798			1799			1800		
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
Whips	92	16	10	33	6	0	18	6	6	5	5	0
White rope mats	2	5	0	7	14	2	11	18	9	4	3	4½
Tarred ditto	62	18	11½	70	6	0½	102	16	8½	139	14	2
Baſkets, hampers, &c.	79	13	11½	90	17	2	97	17	10½	131	12	8½
Points, gaſkets, &c.	64	13	9	29	2	8½	60	2	0½	49	14	3½
Sheeting	77	15	2½	52	8	6½	64	8	9	25	3	0½
Huckaback	27	18	8½	23	16	3	27	6	2	35	10	6½
Paſſage cloths	29	10	10	39	16	2	28	18	0	31	10	8½
Tarred ditto	9	14	5	67	12	3½	93	19	2	93	14	1½
Oakum	7	15	2	6	15	3	10	8	5½	32	0	8
Saſh and curtain line	38	12	6	55	11	1½	60	7	5	71	19	0
Worſted ſtockings	0	0	0	0	0	0	3	10	11	1	2	8

The ſame ſyſtem is now purſued in a new building purpoſely erected for the accommodation of the pupils (ſee Pl. 18.) near the infirmary.—It was firſt opened in the year 1800, to about ſixty ſcholars of both ſexes, and of indiſcriminate ages; and arrangements are now preparing for the boarding and lodging of ſome, whoſe poverty and want of friends to aſſiſt them diſtinguiſh them particularly as objects of charity.

This laudable example was ſoon followed by the inhabitants of Briſtol, at which place a ſchool for the blind, upon a ſmall ſcale, has been ſucceſsfully carried on for ſeveral years; the particulars of this need not be detailed, ſince the plan and good effects ſo nearly reſemble thoſe of its prototype.

In the Edinburgh inſtitution, which is profeſſedly calculated "*for the relief of the induſtrious blind,*" the employments of the pupils are theſe:

They work four looms in the manufacture of a kind of callico, which they call "Glaſgow *blune.*" A ſuperintendant, who is a regular workman, conſtantly attends to rectify the miſtakes of thoſe who are not yet perfect in this buſineſs. Upon an average each perſon weaves four ells per day, for which two pence per yard is paid by the proprietors of the goods. Boys are alſo employed in picking and untwiſting old junk, which is afterwards made into door-mats; ſome teaze horſe-hair, which is uſed for the ſtuffing of mattreſſes or chair bottoms, others card wool with the carding-machine; ſome are employed in the manufacture of fiſhing-nets—an art which they practiſe very readily, merely with their fingers and a needle, no bar being employed to ſquare the meſhes. It is ſomewhat curious that even thoſe who, previous to their becoming blind, were in the habit of netting with a bar, and could not work without one, afterwards have found it an obſtacle. So accurate is their ſenſe of touch, that one of them pointed out the irregularity of ſome meſhes made by a by-ſtander, and detected ſome imperfect knots, which he dexterouſly untied before he reſumed his work. Their cabbage-nets are made by firſt working a ſquare piece, then bringing the ſelvedges together, and afterwards faſtening the ends. All kinds of wicker-work are made; and when the twigs intended to be wrought are of different colours, the workman makes the diſtinction by keeping one kind on the right, the other on the left hand.

In the ſummer ſeaſon the pupils begin their work at ſeven in the morning, and quit it at the ſame hour in the evening; in winter they begin at eight and quit at ſix. They breakfaſt at nine, and dine at two o'clock, and are allowed one hour for each meal. Their food is provided by themſelves at their own homes, care being taken to fix their habitations as near as poſſible to the ſchool—an arrangement which, in a town like Edinburgh, is not by any means difficult. Thoſe who have no families, or live at a diſtance, bring their proviſions for dinner with them, ſo that they only have to come in the morning and return in the evening. Many find the way without aſſiſtance; others are conducted by one of their children or friends, ſo that little of their time is loſt. With a view of gratifying the curioſity of the inhabitants, and thereby inducing farther contributions, they have four public dinners in the year. The higheſt wages paid by the inſtitution is ſix ſhillings per week, the loweſt three and ſix-pence: this, however, does not ſo much depend on the quality or quantity of work they may perform, but on their domeſtic or perſonal exigencies; for a man ſhall receive ſix ſhillings a-week whoſe earnings may not amount, probably, to more than half that ſum.

Beſides the articles already mentioned, they manufacture a ſtrong cloth for ſtairs and paſſages, which is ſold for *3s. 6d.* a-yard. They alſo make various kinds of mattreſſes for ſale; and in the execution of theſe works, if the overſeer, who is an intelligent man, is not able to inſtruct them, proper maſters attend to give their aſſiſtance. Great attention, indeed, is found neceſſary in the different departments, to rectify any little miſtakes, to keep good order, and induce the pupils to pay a diligent attention to their work: on this, indeed, in a great meaſure, does the happineſs of theſe unfortunate perſons depend; it is this that guards them from *ennui,* and at night they are ſeen returning to their houſes with cheerful countenances.

The profits on their collective labours probably do not amount to more than 50*l.* annually, whereas about 250*l.* is diſtributed among them every year, the deficiency being made up by the funds of the inſtitution.

We have heard of ſimilar plans carrying on in ſome other towns in England, and alſo of one in Dublin; but as the ſketches already given convey a ſufficient idea of the nature of theſe undertakings, to enter into a minute deſcription of them would only be uſeleſs repetition. The only ſchool for the blind, therefore, on which it is farther neceſſary for us to dwell, as having ſome diſtinguiſhing features in its plan and extent, is that eſtabliſhed in 1799, in the neighbourhood of London.

This inſtitution, like that of Liverpool, owes its exiſtence to the exertions of a ſingle individual, who, relying on that benevolence and public ſpirit which on all occaſions has diſtinguiſhed the inhabitants of the Britiſh metropolis, brought a hoſt of friends to the undertaking by the ſimple act of circulating, at his own expence, a few printed copies of an addreſs tending to demonſtrate, by the example of the Liverpool aſylum, the importance and utility of ſuch an inſtitution in a place where the number of blind perſons could not but be conſiderable, where their poverty and depravity rendered them doubly the objects of commiſeration, and where the means of inſtruction and future employment were even more attainable than in remoter ſituations.

The plan of the London "*School for the indigent Blind,*" embraces two diſtinct objects:—

1. To provide a place of permanent reſidence and inſtruction for thoſe whoſe peculiar ſituation demands it, till they ſhall have learned what may be neceſſary for their future ſupport.

2. To eſtabliſhing, in *various parts* of the metropolis, *day-ſchools* to which the blind may reſort for inſtruction.

The former of theſe only have been carried into effect, though ſteps are now taking to accompliſh the latter; and it is intended to make the important and novel addition of *a cheap dinner* for ſuch as *chooſe* to partake of it at the ſchool; inſtead of going home and returning again to work, the inconvenience of which, to a blind perſon, in a crowded and buſy metropolis, muſt be obvious.

The principal ſchool (which alſo ſerves as a *day*-ſchool to the *neighbourhood*) is ſituated in St. George's Fields, and contains, at preſent, twenty boys and ten girls; a preference having been given to thoſe between thirteen and eighteen years of age, partly becauſe their organs are more flexible at that early period of life, and partly becauſe their term of exiſtence has been little abridged. They are inſtructed, by proper teachers, in ſuch manufactures as are found to anſwer beſt in other inſtitutions of the ſame deſcription; the chief are, baſket-making, ſpinning, netting, the manufacture of faſh-line, clothes-line, clock-line, and of woollen-liſt ſlippers.* The pupils are not confined to one ſingle employment, but inſtructed in ſeveral, that they may have the better chance of maintaining themſelves, at leaſt with ſome little aſſiſtance from their pariſhes or friends, in one or other of them. Whilſt ſome few are incapable of being taught, and are therefore diſmiſſed, the occaſional ingenuity diſplayed by others is exceedingly ſtriking: there is now in the ſchool a girl who threads a *fine* needle, by the aſſiſtance of her tongue, with the greateſt readineſs. Nor is this, though it demonſtrates how accurate the remaining ſenſes become in blind perſons, an unuſual accompliſhment with them; two women, at the Liverpool ſchool do the ſame thing, and one of them *cuts out* and *makes* her own caps and body linen, with a degree of perfection, and even *neatneſs*, that is truly ſurpriſing. The committee of the London ſchool have relaxed (we think improperly) from the practice ſo beneficially exerciſed at Liverpool, of requiring ſome pecuniary aid from the *friends* of the pupils, only demanding a weekly payment from the *pariſhes*. We condemn only the *uniform* exerciſe of this ill-directed humanity, many of the friends of ſuch objects being abundantly able, and even willing, to contribute to an expence which would, without the aſſiſtance of the charity, be wholly their own, and without any proſpect of its termination; whilſt the *entirely diſburthening* the parents, inſtead of aſſiſting them *in an exact proportion to their efforts to aſſiſt themſelves*, weakens that motive for exertion which is the life-ſpring of induſtry, of morality, and of happineſs to the poor.

It is not the object of theſe remarks to caſt any cenſure on the way in which theſe or other inſtitutions for the ſame laudable purpoſe are ſupported or conducted; they are, undoubtedly, entitled to every degree of praiſe, and every poſſible aſſiſtance from the wealthy and benevolent; they demonſtrate that human ingenuity may be made to triumph, in a variety of ways, over the moſt conſiderable of human privations; and that beggary and want, though they may be eventually, are not neceſſarily, the lot of the indigent blind. In ſearch of principles, however, we may be allowed ſome freedom of remark; and, therefore, the following concluſions, ſupported at once by theory and experience, may be hazarded for the advantage of thoſe who may attempt to form ſchools for the blind, in parts of the country where they do not now exiſt.

This ſubject ſeems to demand the following conſiderations:

1. What are the moſt attainable and profitable trades or employments for the blind?

2. How is the inſtruction to be afforded them in the cheapeſt manner?

3. As they cannot be ſuppoſed in any inſtance capable of earning ſo much as thoſe who have the benefit of ſight, are there any means of rendering the produce of their labour equal to their ſubſiſtence?

On the firſt of theſe ſubjects we may obſerve, that many of the employments which have been choſen for the blind, though the reſult of circumſtances, and apparently the beſt that their local ſituation admits of, are nevertheleſs better calculated to diſplay their ingenuity, than to enable them ſpeedily and effectually to provide for themſelves.

The manufacture of ſome one article of general conſumption, a knowledge of which is eaſily acquired by the pupil, which requires neither capital nor cumbrous machinery, and which will afford the workman a livelihood, are undoubtedly the objects to be attended to in theſe inſtitutions. It may not, perhaps, in all caſes, be expedient to qualify the blind man for a vender of his own wares; and in that caſe he may either manufacture the goods of his employer at home, or work out of doors on weekly wages, at trades which require the aid of machinery.

With regard to the ſecond object of enquiry, it is of the utmoſt importance to avoid the expences of an eſtabliſhment which, in general, are ſo conſiderable, as to leave the objects intended to be relieved a very ſcanty ſhare of that which ſhould be, if poſſible, wholly and excluſively applied to their advantage. Where a regular building is thought abſolutely neceſſary, the plan of the ſchool at Liverpool (ſee Pl. 18.) may very properly be adopted. There are ſome few inſtitutions, however, conducted on more economical principles, and there is no doubt but one of that nature might eaſily be eſtabliſhed in every conſiderable town. There would be no difficulty, for inſtance, in ſetting up a baſket-maker, who ſhould vend no other goods than thoſe manufactured by blind perſons *inſtructed by himſelf on the recommendation of the inhabitants*. His pupils, whilſt learning their buſineſs, ſhould attend to work in his ſhop till they became ſufficiently perfect in their buſineſs to be entruſted with materials to work at their own homes, and for which they ſhould then receive a fair remuneration when the goods were delivered. The only expence which the ſupporters of ſuch a plan would have to ſuſtain, would be the rent of an outhouſe for the workſhop, the price of a few twigs which would be ſpoiled by beginners, and an adequate ſalary to the maſter, who would, no doubt, derive farther encouragement by almoſt excluſively ſupplying the town with his goods at the uſual profit.

With regard to the third enquiry, as to the means of rendering the *little* which the blind are capable of earning *adequate to their ſubſiſtence* (without which the object we have in view is, in fact, only half accompliſhed), it may be obſerved, that whilſt it can be demonſtrated, that a *penny* or *three halfpence per day* is ſufficient, even in theſe dear times,

* As the manufactures which the blind are capable of conducting *entirely and without aſſiſtance*, and in their own confined dwellings, are very limited, the committee of the London ſchool have given ſome conſideration to the following queſtion propoſed to them, viz. *May not many of the ſimpler mechanic exerciſes, now too complex for the touch alone, be aided by machinery*, as is the caſe with the manufacture of horſe-whips? It is even propoſed to offer *premiums* to the ingenious for the diſcovery of means of this ſort, which may lead to the moſt important conſequences in the inſtruction of the blind, in theſe humane and highly uſeful ſeminaries throughout the country.

to provide a poor man with *a wholeſome and nutritious dinner*, there can be no difficulty in this part of the undertaking. All that is neceſſary on this head may be found in the firſt volume of Reports of the Society, eſtabliſhed in London, for increaſing the Comforts and bettering the Condition of the Poor. The information in their account of a *cheap dinner* ſupplied for ſeventy-ſeven labouring children at Epping, is well worth the attention of thoſe who propoſe to add to the number of theſe excellent ſeminaries. At the Liverpool ſchool, and in ſome other inſtitutions for procuring the means of ſubſiſtence to the blind, muſic has been taught—a heavenly ſcience, and one in the practice of which the blind have been long known to make great attainments. It is this notoriety which has occaſioned its omiſſion in the foregoing remarks. Indeed, as it demands a long and perſevering application on the part both of pupil and teacher, before the former is capable of practiſing it for a livelihood, it did not enter into the ſyſtem here recommended, which has in view means of more extenſive utility. There is no doubt, however, that a few of theſe unfortunate perſons in every place might, with great propriety, be taught muſic, and fill the ſituation of organiſts in all our churches, to which even an indifferent player is known to be competent. It ſhould by no means be forgotten, when the means of a livelihood are furniſhed for the blind, peremptorily to interdict their remaining idle, or becoming ſtreet beggars, or contributing to vice and immorality by fiddling in ale-houſes. In great towns, the temptation to mendicity is particularly ſtrong, ſince more is to be gotten by ſtanding at the corner of a ſtreet for two hours than perhaps can be procured by the induſtry of twenty-four. Thoſe charitable perſons, however, who really wiſh the happineſs of the indigent blind, or indeed the poor of any other deſcription, will *conſcientiouſly withhold the wages of idleneſs*, and direct their bounty to flow in a more indiſputable though circuitous courſe, namely, through the hands of thoſe who will not fail to apply it judiciouſly and with effect.

BLOCKLEY, a village of Worceſterſhire, though incloſed by Glouceſterſhire, ſeven miles S.E. of Evetham. Long. 1. 53. W. Lat. 52. 0. N.

BLYTHBOROUGH, a decayed town in Suffolk, on the river Blyth. It has a ſtately church, and is 98 miles N.E. of London. Long. 1. 40. E. Lat. 52. 26. N.

BOAT (*Encycl.*): M. Bernieres invented a boat which is not liable to be overſet or ſunk. Some trials were made with this veſſel at Paris, in the year 1777, in the preſence of a vaſt concourſe of ſpectators. Eight men went into the boat, and rocked it till it filled with water, and afterwards rowed it along the river in that ſtate, without danger of ſinking. M. Bernieres then ordered a maſt to be erected in the ſame boat, when filled with water, and hauled down by a rope faſtened to the top of the maſt till it touched the ſurface of the river, ſo that the veſſel heeled in a poſition to which neither winds nor waves could bring her; yet as ſoon as the rope was let go, the boat recovered her equipoiſe in leſs than a ſecond. This experiment proved that the boat could neither be ſunk nor overturned, and that it afforded the greateſt poſſible ſecurity againſt accidents. Hence this invention is of the firſt importance to the inhabitants of maritime ſtates.

In the year 1785, a patent was granted to Mr. Lukin for his improvement in the conſtruction of boats and ſmall veſſels, ſo that they will neither overſet nor ſink. This uſeful invention is deſcribed in the ſpecification of the patent as follows: To the outſides of boats and veſſels, of the common or any other form, are projecting gunwales, ſloping from the top of the common gunwale, in a ſeint curve, towards the water, ſo as not to interrupt the oars in rowing; and, from the extreme projection (which may be greater or leſs, according to the ſize and uſe the boat or veſſel is intended for), returning to the ſide in a ſlight curve, at a proper diſtance above the water-line. Theſe projecting gunwales may be made ſolid, of any light materials, that will repel the water, or hollow and water-tight, or of cork, and covered with thin wood, canvas, leather, tin, or any other light metal, mixture, or compoſition. Theſe projections are very ſmall at the ſtem and ſtern, and increaſe gradually to the dimenſions required; they will effectually prevent the boat or veſſel from being overſet by ſudden ſqualls, or violent gales of wind, either in ſailing or rowing, or by imprudent or unſkilful management. In the inſide, at the ſtem and ſtern, and at the ſides (where the projecting gunwales are not neceſſary), and under the ſeats and thwarts, are incloſures or bulk-heads, made water-tight, or filled with cork, or other light materials that will repel the water: the ſpaces between the timbers may in like manner be filled up. By this means the boat or veſſel will be ſo much lighter than the body of water it muſt diſplace in ſinking, that it will with ſafety carry more than its common burthen, though the remaining ſpace ſhould by any accident be filled with water. Under the bottom, along the centre of the keel, is affixed a falſe one of caſt-iron, or other metal; this will ſtrengthen and protect the bottom from injury in many caſes; and, by being placed ſo much below the ſurface of the water, will act as ballaſt with more power than a much greater weight in the common ſituation, and is much more ſafe, by being fixed in the proper place, and not liable to ſhift by any ſudden motion of the boat or veſſel.

Ice-BOAT, a modern invention of Thomas Ritzler, of Hamburgh, whoſe name deſerves to be tranſmitted to poſterity; as his ingenious and uſeful contrivance has already ſaved many valuable lives from a watery grave. We have given an accurate repreſentation of ſuch a boat in the annexed plate, and ſhall here furniſh the reader with the deſcription.

Fig. 1. Pl. 17. is a perſpective view of the boat, the body of which conſiſts of wicker-work covered with leather, to render it impermeable by water; and ſo remarkably light, that it may be eaſily managed by one perſon both on the ice and in the water. Its length, when meaſured on the outſide, is $7\frac{1}{2}$ feet in the keel, and 12 feet above from end to end: its breadth 3 feet at the bottom, and 4 at the upper part.

Fig. 2. repreſents the plan of the boat, the bottom of which is ſhod with two ſmall pieces of iron, marked *x*, *x*; by means of two hooks, one of which is delineated on the plate, the boat may with the greateſt facility be ſlided over the ice. In the lower part, or body of the veſſel, there is a large opening, 3 feet long and 15 inches wide, pointed out by *o*, *o*, *o*, fig. 2.; and *o*, fig. 3.; the four ſides of which are ſecured by a frame-work, marked *r*, fig. 1. and 3. to prevent the water from entering the veſſel. Through this opening, alſo, the boatman is enabled to ſtep upon the ice in thoſe places where it is too uneven to admit the ſliding of the boat, and to carry it, by means of the handles, as repreſented in fig. 1. where the perſon ſtanding is marked only with dotted lines, to ſhew that he has quitted his former ſtation in the boat. Another advantage derived from this aperture, in the middle of the boat, is the counterpoiſe which a column of water in its centre produces, and thus prevents it from being overſet, while the man who carried it over the ice immediately raiſes himſelf above the level of the water, and ſits down in the veſſel. But, in order to approach nearer to the perſon whoſe life is endangered, there is alſo employed a ladder with a long jointed handle, which is puſhed forward and held by another aſſiſtant ſtanding on the firm ice. On this ladder (which will be delineated among the implements of reſtoration from drowning) the boatman places himſelf, and advances as near as poſſible to

the body immerſed in the water. Having ſucceſsfully extracted it, no time ſhould be loſt in laying it in a proper poſture in the boat; for which purpoſe there is a kind of chair with an elevated back, on the ſtern of the boat, marked *n*, in fig. 1. and 3.; which laſt exhibits the longitudinal ſection of the veſſel.

M. Gunther, one of the moſt active members of the Hamburgh Society for the Encouragement of the Arts and uſeful Trades, informs us in the third volume of their Tranſactions, publiſhed in 1795, that he has often been preſent when unfortunate perſons have been reſcued from untimely death, by means of the ice-boat, and that the ſwiftneſs and dexterity with which this machine may be managed by expert aſſiſtants, is almoſt incredible. Hence the veſſel is not intruſted to any other but ſkilful hands, and during ſummer it is depoſited in an airy place, and the leather preſerved from becoming either too dry or mouldy. The whole of this uſeful apparatus coſts only 150 marks currency, or about 10l. ſterling; a ſum ſo inſignificant, that, while the city of Hamburgh has built five ſuch ice-boats, the great city of London ought to be in poſſeſſion of at leaſt one hundred.

Life-Boat, at Shields, one of the moſt uſeful modern inventions, by which many lives and much property have already been ſaved. It was built by Mr. Greathead, an eminent ſhip-builder, and generouſly preſented to the inhabitants of South Shields by the preſent Duke of Northumberland, by whoſe beneficence North Shields has alſo been ſupplied with a boat of a ſimilar conſtruction.

Mr. Fairleſs, who furniſhed ſome uſeful hints reſpecting the original plan, deſcribes the veſſel as meaſuring thirty feet by ten, reſembling in form a common Greenland boat, but more flat in the bottom. The quantity of cork employed in the conſtruction is about ſeven hundred weight, with which the boat is lined inſide as well as outſide of the gunwales, two feet in breadth; the ſeats being alſo filled with the ſame material. It is rowed by ten men, double banked, and ſteered by one at each end with oars, being alike in its form at both ends, and contrived ſo as not to ſink in the ſand.

This boat draws very little water, and can carry twenty perſons even when full of water. Being water-proof, and rendered buoyant by cork, it always keeps afloat, preſerving its equilibrium without danger of overſetting, and is able to contend againſt the moſt tremendous ſea, having never failed, in a ſingle inſtance, of conveying a diſtreſſed ſhip's crew in ſafety.

When taken out in the higheſt ſeas and broken water, the men teſtify no apprehenſion; and though cork-jackets were at firſt provided for them, yet their confidence in the boat is ſo great that they now refuſe them.

A model of this uſeful boat is kept at Northumberland-houſe in the Strand. It might be improved, by providing it with wheels, for its more ready conveyance to the place where it is immediately wanted.

The veſſel, when complete and copper-nailed, coſts about 150l.—But in the moment of diſtreſs, what ſhipwrecked mariner would not think this article a cheap purchaſe, and pronounce the value of ſuch a boat to be truly ineſtimable?

A patent has lately been granted to Mr. Edward Seers, of the Inner Temple, for a machine to be applied to boats and other veſſels, for the purpoſe of moving them with eaſe and ſwiftneſs. This invention conſiſts of two or more paddles, moving by means of machinery, in contrary and alternate directions. The paddles are ſo conſtructed, that when the machinery is ſet in motion, the broad ſurface of one or more of them will preſs againſt the water, while the broad ſurface of the other, or others, will give way to it, and by this means the veſſel will be moved.

BOBENHAUSEN, a town of Germany, in Weteravia, with a caſtle; ſeated on the ſmall river Gerſbrentz, three miles from Francfort on the Maine.

BOCAT, a fine valley of Syria, in Aſia, in which are ſituated the magnificent ruins of Balbec. "It might be rendered," ſays Mr. Volney, "one of the richeſt and moſt beautiful ſpots in Syria, it being more fertile than the celebrated vale of Damaſcus, and better watered than the rich plains of Rama and Eſdraelon."

BOCCALINI (*Encycl.*). From the laſh of this celebrated ſatirical writer ſovereign princes even did not eſcape. The cardinals Borgheſe and Gætan having declared themſelves his protectors, he publiſhed his *Ragguaglio di Parnaſſo*, and *La Secretaria di Apollo*, which is the continuation of the former. Theſe two works were received by the public with uncommon applauſe. He there feigns, that Apollo, holding his court at Parnaſſus, heard the complaints of the whole world, and did juſtice according as the caſes required. He at length printed his *Pietra di Paragone;* wherein he attacks the court of Spain, ſetting forth their deſigns againſt the liberty of Italy, and inveighing particularly againſt them for the tyranny they exerciſed in the kingdom of Naples. The Spaniards complained of him in form, and were determined at any rate to be revenged. Boccalini was frightened, and retired to Venice; but was there aſſaſſinated in a very ſtrange manner. He lodged with one of his friends, who having got up early one morning, left Boccalini in bed; a minute after ſome armed men entered his chamber, and gave him ſo many blows with bags full of ſand, that they left him for dead; ſo that his friend returning ſome time after, found him ſpeechleſs. Great ſearch was made at Venice for the authors of this murder; and though they were never diſcovered, it was univerſally believed that they were employed by the court of Spain.

BOCHIUS, or Bocaui (*Encycl.*), travelled into Italy, Germany, Poland, and Muſcovy, and at his return became ſecretary to the duke of Parma. He died on the 13th of January, 1609. The critics in the Netherlands ſet ſo great a value on his poetry, that they gave him the name of the *Belgic Virgil.* He wrote, 1. *De Belgii Principatu.* 2. *Parodia Heroica Pſalmorum Davidicorum.* 3. *Obſervationes Phyſicæ, Ethicæ, Politicæ, et Hiſtoricæ, in Pſalmos.* 4. *Vita Davidis.* 5. *Orationes.* 6. *Poëmata.*

BOECLER (John Henry), hiſtoriographer of Sweden, and profeſſor of hiſtory at Straſburg, was born in Franconia 1611, and died in 1686. He received penſions from ſeveral princes; among others, from Lewis XIV. and Chriſtina, which latter invited him to Sweden. His principal works are, 1. Commentationes Plinianæ. 2. Timur, vulgo Tamerlanus, 1657, 4to. 3. Notitia Sancti Romani Imperii, 1681, 4to. 4. Hiſtoria, ſchola Principum. 5. Commentatio in Grotii librum de Jure Belli et Pacis. With all the warmth and zeal, which commentators and biographers uſually have for their principals, he laviſhes panegyric upon Grotius. He ſwears, in a letter publiſhed after his death, that no man will ever approach him; and that whoever ſhould attempt to equal this work of his, would only furniſh matter of laughter to poſterity.

BOETHIUS, Boece, or Boeis (Hector), a famous Scottiſh hiſtorian, was born at Dundee, in the ſhire of Angus, about 1470. After having ſtudied at Dundee and Aberdeen, he was ſent to the univerſity of Paris, where he applied to philoſophy, and became a profeſſor of it there. Here he contracted an acquaintance with ſeveral eminent perſons, particularly with Eraſmus, who kept a correſpondence with him afterwards. Elphinſton biſhop of Aberdeen having founded the King's College in that city, about 1500, ſent for Boeis from Paris, and appointed him principal. He took for his

colleague Mr. William Hay, and by their joint labour the kingdom was furniſhed with ſeveral eminent ſcholars. Upon the death of his patron he undertook to write his life, and thoſe of his predeceſſors in that ſee. The work is in Latin, and entitled, Vitæ Epiſcoporum Murthlacenſium et Aberdonenſium. Paris, 1522, quarto. He begins at Beanus, the firſt biſhop, and ends at Gawin Dunbar, who was biſhop when the book was publiſhed. A third part of the work is ſpent in the life of Elphinſton, for whoſe ſake it was undertaken. He next applied to write, in the ſame language, The Hiſtory of Scotland; the firſt edition of which was printed at Paris, by Badius Aſcenſius, in 1526, which conſiſted of ſeventeen books, and ended with the death of James I. but the next, in 1574, was much enlarged, having the addition of the eighteenth book, and part of the nineteenth. The work was afterwards brought down to the reign of James III. by Ferrerius, a Piedmonteſe.

Mackenzie obſerves, that of all Scots hiſtorians, next to Buchanan, Boetius has been the moſt cenſured and commended by the learned men who have mentioned him. Nicolſon tells us, that in the firſt ſix books there are a great many particulars not to be found in Fordun, or any other writer now extant; and that, "unleſs the authors which he pretends to have ſeen be hereafter diſcovered, he will continue to be ſhrewdly ſuſpected for the contriver of almoſt as many tales as Jeoffrey of Monmouth." His eighteenth book, however, is highly commended by Ferrerius, and other writers. He was a great maſter of polite learning, well ſkilled in divinity, philoſophy, and hiſtory; but ſomewhat credulous, and much addicted to the belief of legendary ſtories.

BOFFRAND (Germain), a celebrated French architect, was the ſon of a ſculptor, and of a ſiſter of the famous Quinaut; and born at Nantes, in Bretagne, 1667. He was trained under Harduin Manſarad, who truſted him with conducting his greateſt works. Boffrand was admitted into the French academy of architecture in 1709. Many princes of Germany choſe him for their architect, and raiſed conſiderable edifices upon his plans. His manner of building approached that of Palladio, and there was much of grandeur in all his deſigns. As engineer and inſpector-general of the bridges and highways, he cauſed to be conſtructed a number of canals, ſluices, bridges, and other mechanical works. There is of this illuſtrious architect a curious and uſeful book, which contains the general principles of his art; to which is added, an account of the plans, profiles, and elevations, of the principal works which he executed in France and other countries. A very gracious idea is tranſmitted to us of this artiſt, who is repreſented as of a noble and diſintereſted ſpirit, and of a pleaſing and agreeable manner. He died at Paris, in 1755.

BOG, a river of Poland, which runs ſouth-weſt through Podolia and Budziac Tartary, falling into the Black Sea, between Oczakow and the river Dnieper.

BOILER. Many ingenious veſſels and utenſils have, at different periods, been invented, with a view to facilitate the proceſs of boiling, and ſave the conſumption of fuel. In the latter reſpect, Count Rumford ſtands at the head of thoſe experimental enquirers, who have directed their labours to the benefit of ſociety; yet we muſt confeſs that there is ſtill great room for improvement. One of the lateſt inventions in this department of domeſtic economy, is that of Mr. Tho. Rowntree, engine-maker, of Great Surrey-ſtreet, Blackfriars-road, who, in 1798, obtained a patent for "a new method of applying fire for the purpoſe of heating boilers and other veſſels, where heat is required." But as the patentee had not given a clear ſpecification, from which an ordinary tradeſman could have conſtructed a furnace on his principles, without any farther explanation, his patent was declared void, after a trial before Lord Elden and a ſpecial jury, on the 3d of November laſt, and has conſequently become public property. Theſe proceedings, however, have been attended with a good effect, as the obſcure account publiſhed by Mr. Rowntree, has been more clearly defined by the evidence given in court, eſpecially by that of Mr. Hindmarſh. We ſhall, therefore, preſent our readers with the ſpecification communicated by the patentee, and accompanying it with the neceſſary illuſtrations.—The following is a literal abſtract of the inventor's deſcription:—

"For heating of coppers, boilers, furnaces, ovens, and ſtoves, my fire-place is much ſmaller than heretofore made uſe of for the ſame ſized copper, boiler, furnace, oven, or ſtove. Inſtead of placing my fire-place, according to the common practice, immediately under the boiler, or other veſſel, I place it at the front, ſide, or end, as I ſee moſt convenient, in ſuch a manner as to oblige the flame to riſe in the front, ſide, or end, and paſs all round the veſſel, &c. while at the ſame time it ſtrikes the bottom of the veſſel, &c. without ſuffering the flame to paſs off in a flue, or flues, as it uſually does in the common way, and by that means ſending the heat into the flues, inſtead of its being uſed where it ought to be, namely, on the veſſels, &c.; this my method effectually prevents; for, by means of a ſmall perpendicular or other opening, into a box or trap, which I call a reſervoir, and which I place horizontally, or diagonally, as the ſituation may require, and is made of iron, brick, ſtone, or any other material capable of bearing heat, where a valve is placed riding on centres or otherwiſe, and ſtanding in a diagonal or other direction, as is found moſt convenient, the flame is returned or impeded in its progreſs to the chimney, and made to deſcend below the bottom of the veſſel, and paſs out at the bottom, top, or ſide of ſaid box, trap, or reſervoir, into the common chimney. This reſervoir is placed between the veſſel, &c. and the chimney. To the opening, which admits the flame into the reſervoir, are affixed, when neceſſary, ſliders, regiſters, or ſtops, which ſerve to increaſe or diminiſh the heat. The valve in the reſervoir is for the ſame purpoſe in another degree, which more immediately appertains to increaſing or diminiſhing the draught, which it does by moving the ſaid valve into different poſitions, as the ſpeed of the operation may require."

It would be needleſs to ſtate the particulars of the evidence relative to the effect produced to the new-invented furnaces, in heating boilers, &c. as well as the great ſaving of fuel, which was proved to be more than one-third, and in ſome caſes nearly one-half, of what is uſually conſumed in furnaces conſtructed on the old plan. Hence we ſhall communicate only the ſubſtance of Mr. Hindmarſh's evidence, which greatly tends to illuſtrate the principles of the invention. This, he conceives, principally conſiſts in the three following circumſtances:

1. In the peculiar mode of conſtructing the furnace, or ſetting the boiler, and of placing the fire, not immediately under, but a little in front, or at one ſide of it, whereby the flame and hot air can get acceſs to every part of the veſſel, and not only ſtrike with force againſt its bottom, with alſo with equal effect reverberate againſt, and violently embrace, its ſides, and whole external ſurface; unlike every former contrivance, the moſt perfect of which could only cauſe the flame and hot air to act partially upon the bottom and ſides of the veſſel.

2. In the elevated ſituation, and ſmallneſs, of the aperture leading from the furnace towards the chimney; whereby the flame and hot air are impeded in their progreſs to the atmoſphere, and compelled to tarry in the cavity of the furnace, and occupy every part thereof much longer than they otherwiſe would do. This effect in ſtopping, checking, and as it were arreſting the flame and hot air, in their attempt to eſcape into the atmoſphere, Mr. Hindmarſh conſidered as not only new, but ſingularly beneficial; for, by this means, the

flame and hot air are detained in the very place where their preſence is moſt wanted, and conſtrained to give forth their energies with an impetus againſt the bottom and ſides of the veſſel to be heated: whereas, in none of the furnaces heretofore erected, was any effectual ſtop interpoſed between the fire and the chimney, to cauſe the flame and hot air to dwell under and round the ſides of the veſſel; but they paſſed rapidly off into the atmoſphere, either by a direct communication through the chimney, or indirectly, but almoſt as ſpeedily, by flues; or elſe by a drain (as it is called), the aperture of which is equal in dimenſions to that of the chimney itſelf.

3. In an open ſpace between the furnace and chimney, called by the patentee a box, trap, or reſervoir, and intended as a receptacle of the flame, hot air, and ſmoke, after they have quitted the furnace, and paſſed through the ſmall aperture as above deſcribed. This ſpace, or reſervoir, for the flame, hot air, and ſmoke, being cloſed at the top and external ſides, and open only at the bottom outwards, for the purpoſe of permitting the ſmoke, &c. to paſs off into the chimney, ſtill farther checks and detains the flame and hot air in the furnace; and being itſelf conſtantly full of warm air, ſmoke, &c. cauſes the heat to be reverberated againſt the ſides and bottom of the veſſel or boiler, and effectually prevents the admiſſion of the cold atmoſpheric air from the chimney, which, on the old plans of conſtruction, is found by experience to rob the furnace and veſſel of more than half the ſupply of heat which any given quantity of fuel is capable of yielding. The valves, ſliders, and dampers, are not eſſential parts of the invention, but merely as regulators, which, in many caſes, may be altogether omitted, without detriment to the operation of the fire.

Although Count Rumford has ſucceſsfully extended his reſearches to diſcover the moſt economical plan in the management of fire, and the generation of heat for culinary and other purpoſes, it does not appear from his writings, that he had a diſtinct conception of the new method ſuggeſted by Mr. Rowntree, till after the enrolment of his ſpecification in May 1798. Nay, ſays Mr. Hindmarſh, the count evidently takes it for granted (ſee vol. II. p. 73, of his Eſſays), and even reaſons on the fact, which he there ſuppoſes to be unavoidable, and beyond remedy, that the fire cannot be made to impinge againſt the ſides of a veſſel with the ſame force and effect as againſt the bottom: which is a plain proof, that at the time of writing that eſſay, he was totally unacquainted with Mr. Rowntree's method of applying and managing the fire; in which the very effect which the count conſiders as a deſideratum in ſcience, and which appears to have been one grand object of his philoſophical purſuits, is now in a great meaſure completed.

BOILING, or EBULLITION (*Encycl.*). Count Rumford, in his admirable Eſſays, has taken much pains to impreſs on the minds of thoſe who exerciſe the culinary art the following ſimple, but *practical important fact*, namely, that, when water *begins* only to be *agitated* by the heat of the fire over which it is placed, it is *incapable of being made hotter*; and that the violent ebullition occaſioned by the application of more heat, is nothing more than an unprofitable diſſipation of the water in the form of ſteam, and an abſolute *waſte of the fuel employed*. See FIRE-PLACE.

BOLABOLA, one of the Society Iſlands, in the South Pacific Ocean, ſurrounded by a reef of rocks, and ſeveral ſmall iſlands, none of them more than eight leagues in compaſs. It is four leagues to the north-weſt of Otaha.

BOLBITINUM (anc. geog.), the ſecond mouth of the Nile reckoning from weſt to eaſt; now very ſmall, choaked up with ſand, and called *le Bras de Beltin*.

BOLENTIUM (anc. geog.), a town of Pannonia Superior; now *Rackerſburg* in Stiria.

BOLSEC (Jerome), a Carmelite of Paris; who, having preached ſomewhat freely in St. Bartholomew's church, forſook his order, and fled into Italy. He ſet up for a phyſician, and married; but ſoon after did ſomething or other for which he was driven away. He ſet up afterwards in Geneva as a phyſician; but not ſucceeding in that profeſſion, he went over to divinity. At firſt he dogmatized privately on the myſtery of predeſtination, according to the principles of Pelagius; and afterwards had the boldneſs to make a public diſcourſe againſt the received opinion. Upon this Calvin went to ſee him, and cenſured him mildly. Then he ſent for him to his houſe, and endeavoured to reclaim him from his error; but this did not hinder Bolſec from delivering in public an inſulting diſcourſe againſt the decree of eternal predeſtination. Calvin was among his auditors; but, hiding himſelf in the crowd, was not ſeen by Bolſec, which made him the bolder. As ſoon as Bolſec had ended his ſermon, Calvin ſtood up, and confuted all he had been ſaying. This was not all; a magiſtrate, who was preſent in that aſſembly, called him a ſeditious fellow, and ſent him to priſon. The cauſe was diſcuſſed very fully; and at laſt, with the advice of the Swiſs churches, the ſenate of Geneva declared Bolſec convicted of ſedition and Pelagianiſm; and as ſuch baniſhed him from the territory of the republic, on pain of being whipped if he ſhould return thither. This was done in 1551. He retired into a neighbouring place, which depended on the canton of Bern, and raiſed a great deal of diſturbance there. He boldly accuſed Calvin of making God the author of ſin. Calvin, to prevent the impreſſions which ſuch complaints might make upon the gentlemen of Bern, cauſed himſelf to be deputed to them, and pleaded his cauſe before them. He was ſo fortunate, that though he could not get a determination upon his doctrine, whether it was true or falſe, yet Bolſec was ordered to quit the country.

He retired to France, and applied himſelf to the Proteſtants; firſt at Paris, and afterwards at Orleans. He ſhewed a great deſire to be promoted to the miniſtry, and to be reconciled to the church of Geneva; but the perſecution that aroſe againſt the proteſtants, made him reſolve to take up his firſt religion, and the practice of phyſic. He went and ſettled at Autun, and proſtituted his wife to the canons of that place; and, to ingratiate himſelf the more with the papiſts, exerted a moſt flaming zeal againſt the reformed. He changed his habitation often: he lived at Lyons in 1582, as appears by the title of a book, which he cauſed to be printed then at Paris, againſt Beza. He died not long after; for he was not living in 1585. The book juſt mentioned is entitled, The Hiſtory of the Life, Doctrine, and Behaviour, of Theodore Beza, called the Spectable great Miniſter of Geneva. This was preceded by the Hiſtory of the Life, Actions, Doctrine, Conſtancy, and Death of John Calvin, heretofore Miniſter of Geneva; which was printed at Lyons, in 1577. Both theſe hiſtories are altogether unworthy of credit; as well becauſe they are written by an author full of reſentment, as becauſe they contain facts notoriouſly falſe.

BOLTON (Dr. Robert), was born in Northamptonſhire, about the year 1690, and received his education at Wadham College, Oxford, where, on the 13th of June, 1718, he took the degree of maſter of arts. Being a valetudinarian and hypochondriac, he found a college life not agreeable to his temper; and being poſſeſſed of a ſmall private fortune, he did not long reſide at Oxford. In 1720 he lived at Fulham, where his acquaintance commenced with Mrs. Butler, which afterwards occaſioned his being known to Mr. Pope; and he ſometimes took up his abode with old Lady Blount, at Twickenham. About 1724 he reſided at Kenſington, where the celebrated Mr. Whiſton then dwelt; and in part by his recommendation, on the reſignation of Dr. Butler, afterwards biſhop

of Durham, of the chaplainſhip of Sir Joſeph Jekyl, maſter of the rolls, our author was received into that gentleman's family in the ſame capacity, and continued there unto the time of Sir Joſeph's death.

Dr. Bolton's connection with Sir Joſeph Jekyl, introduced him to the patronage of Lord Hardwicke, by whoſe means, in the year 1735, he was promoted to the deanery of Carliſle. In 1738 he was appointed vicar of St. Mary's, Reading: and both theſe preferments, the only ones he ever received, he held until the time of his death. He was an excellent pariſh prieſt, and a good preacher; charitable to the poor, and having, from his own valetudinary ſtate, acquired ſome knowledge of phyſic, he kindly aſſiſted them by advice and medicine. He was greatly beloved by his pariſhioners, and deſervedly; for he performed every part of his duty in a truly exemplary manner. On Eaſter Tueſday, 1739, he preached one of the Spital ſermons at St. Bride's, Fleet-ſtreet, which was afterwards printed in quarto. We do not find that he aſpired to the character of an author, though ſo well qualified for it, until late in life. His firſt performance was entitled, A Letter to a Lady on Card-playing on the Lord's-day, 8vo. 1748, ſetting forth, in a lively and forcible manner, the many evils attending the practice of gaming on Sundays, and of an immoderate attachment to that fatal purſuit at any time. In 1750 appeared The Employment of Time, three eſſays, 8vo. dedicated to Lord Hardwicke; the moſt popular of our author's performances; and, on its original publication, generally aſcribed to Gilbert Weſt. The next year, 1751, produced The Deity's Delay in puniſhing the Guilty, conſidered on the Principles of Reaſon, 8vo.; and in 1755, An Anſwer to the Queſtion, Where are your Arguments againſt what you call Lewdneſs, if you can make no Uſe of the Bible? 8vo.

Continuing to combat the prevailing vices of the times, he publiſhed, in 1757, A Letter to an Officer of the Army on Travelling on Sundays, 8vo.; and, in the ſame year, The Ghoſt of Erneſt, Great Grandfather of her Royal Highneſs the Princeſs Dowager of Wales; with ſome Account of his Life; 8vo. Each of the above performances contains good ſenſe, learning, philanthropy, and religion, and each of them is calculated for the advantage of ſociety.

The laſt work which Dr. Bolton gave the public, was not the leaſt valuable. It was entitled, Letters and Tracts on the Choice of Company, and other Subjects, 8vo. 1761. This he dedicated to his early patron, Lord Hardwicke, to whom he inſcribed The Employment of Time, and who at this period was no longer chancellor. He died at London, on the 26th of November, 1763, and was buried in the porch between the firſt and ſecond door of the pariſh church of St. Mary, Reading.

BOLZANO, a large and handſome town of Germany, in the Tyrol, on the river Eiſach, twenty-ſeven miles north of Trent. Long. 11. 26. E. Lat. 46. 35. N.

BONA (John), a cardinal, famous for piety and learning, was deſcended from an ancient and noble family, and born at Mondovi, a town in Piedmont, upon the 10th of October, 1609. He was devoted to ſolitude, and had a contempt of the world from his infancy. At fifteen years of age he betook himſelf to a monaſtery near Pignerol, belonging to the begging friars of the order of St. Bernard; and in 1651 was made general of his order. Cardinal Fabio Chigi, who was Bona's great friend, and in 1655 choſen pope, under the name of Alexander VII. would have had him to have continued in this office, and uſed ſome means to prevail with him; but Bona preſſed ſo earneſtly to be diſcharged, that the pope at length ſuffered him to reſign it. He did it, however, upon this condition, that Bona ſhould not depart from Rome; and, in order to reconcile him to it, gave him ſeveral conſiderable places. Clement IX. continued him in theſe places, conferred upon him new ones, and made a cardinal of him in November, 1669. This pontiff dying ſoon after, many people wiſhed that Bona might ſucceed him in the holy ſee; but they were diſappointed.

Bona was very learned, held a correſpondence with moſt of the literati in Europe, and was ſometimes at the pains of reviſing and correcting their works. He was the author of ſeveral things himſelf, chiefly written in the devotional way, which were much eſteemed, and have been tranſlated moſt of them into French. Bona died at the age of ſixty-five.

Bona (*Encycl.*), a ſea-port town of Algiers. The inhabitants deny it to be the ancient Hippo, which had been ſo often taken, retaken, and deſtroyed by the wars; and pretend it to be ſince rebuilt at the diſtance of two or three miles from the ancient Hippo, out of its ruins, and called *Balced-el-Ugned*, from a ſort of trees of that name that grow in the neighbourhood. It is now a very mean place, poorly built, and thinly inhabited, with ſcarce any traces of its former grandeur, except the ruins of a cathedral, or, as others gueſs, of a monaſtery, built by St. Auſtin, about three miles diſtance from the city. Near theſe ruins is a famed ſpring called by his name, much reſorted to by the French and Italian ſailors, who come to drink of its waters, and pay their devotions to a maimed ſtatue, ſaid alſo to belong to the ſaint, but ſo mutilated that no traces either of face or dreſs are remaining; and as each of them ſtrives to break off ſome ſplinter, or to ſcrape off ſome part of it, on account of its ſuppoſed ſanctity, it will probably be ſoon reduced to a ſtate of non-exiſtence. Bona was taken by the pirate Barbaroſſa, and joined to his new kingdom of Algiers; but as quickly loſt, and recovered by its old maſters the Tuniſeens, who ſoon after loſt it again. It is commanded by a little fort, in which is a garriſon of about 300 Turks, under the command of an aga, who is alſo governor of the town. The road for the ſhips is good for nothing before the town, but a little farther weſt is very deep and ſafe. Dr. Shaw tells us, that the continual diſcharging of ballaſt into the road, and the neglect of cleanſing the port which came to the very walls, is the cauſe of both becoming ſo unſafe and incommodious; though this might be eaſily remedied, ſo as to make the town one of the moſt flouriſhing in all Barbary.

BONAVENTURE of Padua, a cardinal, was born in that city in 1332, and deſcended from a noble and illuſtrious family. He ſtudied divinity at Paris, where he diſtinguiſhed himſelf by his uncommon parts and application. He was of the order of St. Auguſtin, of which he was made general in 1377. Pope Urban VI. gave him a cardinal's cap the year after; which engaging him to ſtand up for the rights of the church againſt Francis de Carrario of Padua, that petty monarch contrived to have him murdered. He was diſpatched with the ſhot of an arrow, as he was paſſing St. Angelo's bridge at Rome, in 1386. He was the author of ſeveral works: as, Commentaries upon the Epiſtles of St. John and St. James, Lives of the Saints, Sermons, Speculum Mariæ, &c.

BONAVISTA, a cape on the eaſt ſide of the iſland of Newfoundland.

BONNA (anc. geog.), one of the fifty citadels built by Druſus on the Rhine; ſuppoſed by ſome to be the ſame with the *Ara Ubiorum*: now Bonn.

BONNER (*Encycl.*). The following pieces were publiſhed under the name of this prelate. 1. Preface to the Oration of Stephen Gardiner, biſhop of Wincheſter, concerning true obedience. 2. Several letters to the lord Cromwell. 3. A Declaration to Lord Cromwell, deſcribing to him the evil behaviour of Stephen (biſhop of Wincheſter). 4. Letter of his

about the proceedings at Rome concerning the king's divorce from Catharine of Arragon. 5. An Admonition and Advertiſement given by the Biſhop of London to all readers of the Bible in the Engliſh tongue. 6. Injunctions given by Bonner, biſhop of London, to his clergy (about preaching), with the names of books prohibited. 7. Letter to Mr. Lechmore. 8. Reſponſum & Exhortatio; Lond. 1553, 8vo. Anſwer and exhortation to the clergy in práiſe of prieſthood: ſpoken by the author in St. Paul's cathedral, the 16th October, 1553. 9. A Letter to Mr. Lechmore, 6th September, 1553, 10. Articles to be enquired of in the general viſitation of Edmund biſhop of London, exerciſed by him in the year 1554, in the city and dioceſe of London, &c. 11. A profitable and neceſſary Doctrine, containing an Expoſition on the Creed, ſeven Sacraments, ten Commandments, the Pater Noſter, Ave Maria, with certain Homilies adjoining thereto, for the inſtruction and information of the dioceſe of London. 12. Several letters, declarations, arguings, diſputes, &c. of his are extant in John Fox's Book of Martyrs. 13. His Objections againſt the Proceſs of Robert Horne, biſhop of Wincheſter, who had tendered the oath of ſupremacy to him a ſecond time.

BONNEVAL (Claudius Alexander de), count, known in the latter part of his life by the name of *Oſman Baſhaw*, deſcended from a family related to the blood-royal of France, entered himſelf at the age of ſixteen in the ſervice of that crown, and married the daughter of Marſhal de Biron. He made the campaign in Flanders in 1690; but ſoon after left the French army, and entered into the imperial ſervice under Prince Eugene, who honoured him with an intimate friendſhip. The intrigues of the Marquis de Prié, his inveterate enemy, ruined his credit, however, at the court of Vienna, and cauſed him to be baniſhed the empire. He then offered his ſervice to the republic of Venice, and to Ruſſia; which being declined, his next tender was to the Grand-Signior, who gladly received him: it was ſtipulated, that he ſhould have a body of 30,000 men at his diſpoſal; that a government ſhould be conferred on him, with the rank of baſhaw of three tails, and a ſalary of 10,000 aſpers a-day; and that, in caſe of a war, he ſhould be commander in chief. The firſt expedition he engaged in after his arrival at Conſtantinople, was to quell an inſurrection in Arabia Petræa, which he happily effected; and at his return had large offers made him by Kouli Khan, but he did not chooſe to accept them. Some time after, he commanded the Turkiſh army againſt the emperor, over whoſe forces he gained a victory on the banks of the Danube. But ſucceſs does not always protect a perſon againſt diſgrace; for Bonneval, notwithſtanding his ſervice, was firſt impriſoned, and then baniſhed to the iſland of Chio. The ſultan, however, continued his friend; and the evening before his departure made him baſhaw-general of the Archipelago, which, with his former appointment of beglerbeg of Arabia, rendered him one of the moſt powerful perſons in the Ottoman empire. In this iſland he found a retirement quite agreeable to his wiſhes; but did not long enjoy it, being ſent for back, and made *topigi* or maſter of the ordnance, a poſt of great honour and profit. He died in this employment, aged ſeventy-five, in 1747, and wrote the memoirs of his own life.

BONNY, a town of France, in the ci-devant Gatinois, ſeated at the confluence of a river of the ſame name with the Loire. E. long. 2. 54. N. lat. 47. 36.

BONONIA (anc. geog.), a town of Panonia Inferior, between Murſa to the north-weſt, and Taurinum to the eaſt.—Another Bononia, a town of Mœſia Superior, on the Danube; now *Bodon*, in Bulgaria. See BODON.

BONWICKE (Ambroſe), a nonjuring clergyman of great piety and learning, ſon of the Rev. John Bonwicke, rector of Mickleham in Surrey, was born April 29, 1652, and educated at Merchant Taylors' ſchool; he was elected to St. John's College, Oxford, in 1668, where he was appointed librarian in 1670; B.A. 1673; M.A. March 18, 1675; was ordained deacon May 21, 1676; prieſt, June 6 (Trinity Sunday), 1680; proceeded B.D. July 21, 1682; and was elected maſter of Merchant Taylors' ſchool, June 9, 1680. In 1689, the college of St. John's petitioned the Merchant Taylors' company, that he might continue maſter of the ſchool (which is a nurſery for their college) for life; but at Chriſtmas, 1691, he was turned out for refuſing to take the oath of allegiance, and was afterwards for many years maſter of a celebrated ſchool at Headley, near Leatherhead, in Surrey, where he had at one time the honour of having the poet Fenton for his uſher, and Bowyer (who was afterwards the learned printer) for a ſcholar.

BOODGE-BOODGE, a town of Hindooſtan Proper, capital of the rajah of Cutch, 330 miles N.E. by E. of Surat. Long. 68. 0. E. Lat. 23. 16. N.

BOOK-BINDING (*Encycl.*). The following is an extract from the ſpecification of the patent granted to Mr. Ebenezer Palmer, of Saint Mary Cole, Cheapſide, ſtationer; for an improved mode of binding books, eſpecially merchants' account books. It is dated December 30, 1800. The improvement conſiſts in the addition of a metallic hinge or chain, contrived and made in the following manner:

"Firſt. There are certain various ſmall bars of metal, or compoſition of metals, about the thickneſs of a ſhilling, or more, according to the ſize and thickneſs of the book to be made, the length of each ſuch bar being from half an inch to ſeveral inches long, in proportion to the ſtrength required in the back of the book.

"Secondly. At each end of every ſuch bar of metal is made a pivot, by being filed down, or otherwiſe, and which are of different lengths, alſo in proportion to the thickneſs of two links, which they are to receive.

"Thirdly. There are a certain number of links, made rather in an oval form, to the ſaid hinge, each of which contains two holes, according to the ſizes of the pivots they are to go on, which links are of the ſame metal as the hinge, or a compoſition of metals, as is judged neceſſary; each of the ſaid links being nearly the length that two of the above-deſcribed bars are wide.

"Fourthly. When ſuch metallic pivots are prepared, the afore-mentioned links are then rivetted on thoſe pivots, each pivot receiving two links, and thereby hold the ſaid hinge together, on the principle of a link-chain or hinge.

"Fifthly. There are two holes, or more, of different ſizes, as required in each bar of the hinge or chain, by which means each ſection of the book is ſtrongly faſtened to the ſame; which hinge, ſo faſtened, operates with the back of the book, when bound, in ſuch an improved manner that thereby occaſions the ſaid ſections to open in ſuch a manner as to bring them on a parallel with each other, and in conſequence thereof admit of the ruled lines being written into, even cloſe to the back, without any inconvenience."

BOOK-KEEPING (*Encycl.*). In the year 1796, a patent was granted to Mr. Edward Thomas Jones, of Briſtol, for his method or plan of detecting errors in accounts of all kinds, by which they may be adjuſted in a regular and conciſe manner. This work is entitled, The Engliſh Syſtem of Book-keeping, which requires a day-book, or journal, an alphabet, and a ledger, ruled in the following manner: namely, the day-book has three columns on each page, for receiving the amount of the tranſactions; one column of which to receive the amount of the debits and credits, one column to receive the debits only, and another to receive the credits only; or it may be ruled

with only two columns on each page, one to receive the amount of the debits, and the other the amount of the credits. There muſt alſo be on each page of the day-book, four other columns ruled, two on the left ſide, next the amount of the debits, and two on the right ſide next the amount of the credits, for receiving the letter or mark of poſting, and the page of the ledger to which each amount is to be poſted. The alphabet need not be ruled at all, but muſt contain the name of every account in the ledger, the letter that is annexed to it as a mark of poſting, and the page of the ledger. The ledger muſt be ruled with three, four, five, or ſeven columns on each page, as may be moſt agreeable, for receiving the amounts of the different tranſactions entered in the day-book.

But in order to prevent any miſtakes that may happen from the hurry of buſineſs in a counting-houſe, Mr. Jones has given only one column for receiving the amount of every tranſaction, whether debits or credits, at the inſtant of making the entry: and, for the convenience of ſeparating the debits from the credits, previous to poſting, which is neceſſary to prevent confuſion and perplexity, he has two other columns on the ſame page; that on the left ſide, into which the amount of every debit muſt be carefully entered, and that on the right for the amount of the credits; which columns muſt be caſt up once a month. The column of debits and credits of itſelf forms one amount; the column for the debits produces a ſecond amount; and the column of credits a third amount; which ſecond and third amounts, added together, muſt exactly agree with the firſt amount, or the work is not done right. By this means, the man of buſineſs may obtain monthly ſuch a ſtatement of his affairs, as will ſhew how much he owes for that month, and how much is owing to him; and the debits being added together for any given time, with the value of the ſtock of goods on hand, will, when the amount of the credits is ſubtracted therefrom, ſhew the profits of the trade.

The patentee's manner of examining the books kept by this method, alſo profeſſedly differs from that hitherto practiſed, as well in expedition as in the certain accuracy which attends the proceſs; it being only neceſſary to caſt up the columns through the ledger debits and credits, according to the examples given, and the amount of thoſe columns, if right, muſt agree with the columns in the day-book for the ſame correſponding ſpace of time. Theſe caſtings ſhould take place once a month, and if the amounts do not agree, the poſting muſt then, but not elſe, be called over; and when the time, whether it be one, two, three, or four months, that is allotted to each column of the ledger, is expired, the amount of each column ſhould be put at the bottom of the firſt page, and carried forward to the bottom of the next, and ſo on to the end of the accounts; taking care that the amount in the day-book, of each month's tranſactions, be brought into one groſs amount for the ſame time.

Having already enlarged upon this ſubject, we ſhall only obſerve, that this new ſyſtem of book-keeping, however ingeniouſly contrived, has not met with that general approbation to which it is apparently entitled. To enforce his claim to public patronage, Mr. Jones concludes the ſpecification of his patent by aſſerting, that upon his plan every page will be proved in the progreſs of calculation, and "the balance of ten thouſand ledgers could not unobſervedly be taken off wrong." —We give him full credit for this aſſertion; though it has, perhaps by invidious rivals, been objected that his method is more complicated than the old Italian ſyſtem of book-keeping; which has, by experience, been found fully adequate to the purpoſe of mercantile accuracy.

BOOTAN, a country N.E. of Hindooſtan Proper, between Bengal and Thibet, of which laſt it is a feudatory or dependency. The ſouthernmoſt ridge of the Bootan mountains riſes near a mile and a half perpendicular above the plains of Bengal, in a horizontal diſtance of only fifteen miles; and from the ſummit the aſtoniſhed traveller looks back on the plains, as on an extenſive ocean beneath him. The capital of this country is Teſſaſudon.

BOOTH (Barton), a famous Engliſh actor, born in Lancaſhire in 1681, and educated in Weſtminſter ſchool under the celebrated Dr. Buſby, where his ſucceſs in the Latin plays cuſtomarily performed by the ſcholars gave him an inclination for the ſtage. He was intended for the church; but running away from ſchool to Dublin, he there commenced actor. His firſt appearance was in the part of Oroonoko, in which he came off with every teſtimonial of approbation from the audience. From this time he continued daily improving; and, after two ſucceſsful campaigns in that kingdom, conceived thoughts of returning to his native country, and making a trial of his abilities on the Engliſh ſtage. To this end, he firſt, by letter, reconciled himſelf to his friends; and then, as a further ſtep towards inſuring his ſucceſs, obtained a recommendation from Lord Fitzharding (one of the lords of the bed-chamber to Prince George of Denmark) to Mr. Betterton, who with great candour and good-nature took him under his care, and gave him all the aſſiſtance in his power. The firſt part Mr. Booth appeared in at London was that of Maximus in Lord Rocheſter's Valentinian, his reception in which exceeded even his moſt ſanguine expectations; and very ſoon after his performance of Artaban, in Rowe's Ambitious Stepmother, which was a new tragedy, eſtabliſhed his reputation, as ſecond at leaſt to his great inſtructor. Pyrrhus, in the Diſtreſſed Mother, was another part in which he ſhone without a rival. But he was indebted to a happy coincidence of merit and chance, for that height of fame which he at length attained in the character of Cato, as drawn by Mr. Addiſon, in 1712. For this play being conſidered as a party one, the Whigs, in favour of whoſe principles it was apparently written, thought it their duty ſtrongly to ſupport it; while at the ſame time the Tories, who had too much ſenſe to appear to conſider it as a reflection on their adminiſtration, were ſtill more vehement in their approbation of it, which they carried to ſuch an height, as even to make a collection of fifty guineas in the boxes during the performance, and preſent them to Mr Booth with this compliment, "That it was a ſlight acknowledgment for his honeſt oppoſition to a perpetual dictator, and his dying ſo bravely in the cauſe of liberty." Beſides this, he had a preſent of an equal ſum from the managers, in conſideration of the great ſucceſs of the play, which they attributed in a good meaſure to his extraordinary merit in the performance; and certain it is, that no one ſince that time has ever equalled, or even nearly approached, his excellence in that character.—But theſe were not the only advantages which were to accrue to Mr. Booth from his ſucceſs in this part; for Lord Bolingbroke, then one of the principal ſecretaries of ſtate, in a little time after procured a ſpecial licence from Queen Anne, recalling all the former ones, and nominating Mr. Booth as joint manager with Wilks, Cibber, and Dogget; none of whom were pleaſed at it; but the laſt eſpecially took ſuch diſguſt as to withdraw himſelf from any further ſhare in the management. In 1704 Mr. Booth had married a daughter of Sir William Barkham, bart. who died in 1710 without iſſue. Being now eſtabliſhed in the management, he once more turned his thoughts towards matrimony; and in the year 1719 united himſelf to the celebrated Miſs Heſter Santlow, a woman of a moſt amiable diſpoſition, whoſe great merit as an actreſs, added to the utmoſt diſcretion and prudential economy, had enabled her to ſave up a conſiderable fortune. During the twenty years in which Mr. Booth continued a manager, the theatre

was in the greateſt credit; and his illneſs and death, which happened on the 10th of May, 1733, contributed not a little to its decline.

Mr. Booth wrote a dramatic entertainment called Dido and Æneas; but his maſter-piece was a Latin inſcription to the memory of Mr. William Smith, a celebrated actor, who died while he was young.—As an actor, his excelleney lay wholly in tragedy, not being able to endure ſuch parts as had not ſtrong paſſion to inſpire him. And, even in this walk, dignity rather than complacency, rage rather than tenderneſs, ſeemed to be his taſte. For a particular idea of his abilities, we muſt refer to the deſcription Mr. Cibber has given of him in his Apology; and the admirable character drawn of him by that excellent judge of dramatic perfection, Aaron Hill, eſq. in a political paper publiſhed by him called the Prompter, which may be ſeen at length in Theoph. Cibber's Lives of the Poets, and Chetwood's Hiſtory of the Stage.—His character as a man was adorned with many amiable qualities, among which, a goodneſs of heart, the baſis of every virtue, was remarkably conſpicuous; and ſo particularly was he diſtinguiſhed and careſſed, and his company ſought by the great, that, as Chetwood relates of him, not one nobleman in the kingdom had ſo many ſets of horſes at command as he had.

BORBETOMAGUS (anc. geog.), a city of the Vangiones on the Rhine; now *Worms*, in Germany.

BORCOVIUM (anc. geog.), a town of the Ottadini in Britain, now *Berwick-on-Tweed*.

BORDE (Andrew), a phyſician, was born at Pevenſey in Suſſex, early in the 16th century, and ſuppoſed to have been educated at Weſtminſter ſchool. In his Introduction to Knowledge, he ſays that he was a ſtudent of Oxford; but of what college, he does not mention. He left the univerſity without a degree, and entered himſelf a brother of a Carthuſian convent in or near London; but, not liking the ſevere diſcipline of that order, he returned to Oxford, and applied himſelf to the ſtudy of phyſic. Some time after, he embarked for the Continent; and, as he himſelf expreſſes it, "travelled through and round about Chriſtendom, and out of Chriſtendom into ſome parts of Africa." In the years 1541 and 1542 he reſided at Montpelier in France, where he was made doctor of phyſic, and after his return to England was incorporated into the ſame degree at Oxford. From the preface to his introduction above mentioned, it appears that he had been in Scotland, which probably was ſoon after his return from France. Having now ſatisfied his inclination for travelling, he ſettled firſt at Pevenſey where he was born, afterwards at Wincheſter, and finally in London, where he is ſaid to have become a fellow of the college of phyſicians, and firſt phyſician to King Henry VIII. But, notwithſtanding his eminence in his profeſſion, he had the misfortune to ſpend the latter end of his life in the Fleet priſon, where he died in the year 1549. As to his character, Wood ſays, that "he was eſteemed a noted poet, a witty and ingenious perſon, and an excellent phyſician." Pits calls him a man of ſufficient learning, but too volatile and inconſtant. Bale and ſome others, on the contrary, abuſe him groſsly. His writings are: 1. A book of the introduction of knowledge, the whych doth teach a man to ſpeak part of all manner of languages, &c. Lond. 1542, 4to.; dedicated, from Montpelier, to the Lady Mary, daughter to Henry VIII. It is written partly in verſe, and partly in proſe, containing thirty-nine chapters, before each of which is a wooden print of a man. 2. The breviary of health, wherein are remedies for all manner of ſickneſſes and diſeaſes, &c. Lond. 1547, &c. 4to. 3. Dietary of health, Lond. 1576, 8vo. 4 The merry tales of the madmen of Gotham. Printed, ſays Wood, in the time of Henry VIII. in whoſe reign, and after, it was accounted a book full of wit and mirth by ſcholars and gentlemen. Afterwards being often printed, it is now ſold only on the ſtalls of ballad-ſingers. 5. A right pleaſant and merry hiſtory of the mylner of Abington, with his wife and his fair daughter, and of two poor ſcholars of Cambridge. Lond. printed by Richard Jones, 4to. 6. A book of every region, country, and province; which ſhews the miles and leagues diſtance from city to city, and from town to town, with the noted things in the ſaid cities and towns. Wood ſays that the author lent the manuſcript of this book to his friend Thomas Cromwell, who loſt it, to the great grief of the author, who would otherwiſe have publiſhed it. In this inſtance, however, the antiquary was miſinformed; for it has ſince been publiſhed by Hearne at the end of *Benedictus abbas Peterb. de vita Henrici* II. Oxf. 1735, 8vo. 7. The principles of aſtronomy, the whych diligently perſecuted is in a manner a prognoſtication to the world. Lond. printed by Robert Copland, 12mo. The author ſays that he wrote this little book in four days, with one old pen without mending.

BORDUNI, or BORDONE (Paris), an excellent Italian painter, was born at Venice about the year 1512; and, being of a noble family, had a polite education. He was the diſciple of Titian; but has been admired more for the delicacy of his pencil than for the truth of his outlines. He was at the court of France in the reign of Francis I. who had a great eſteem for him, and for whom he drew not only abundance of hiſtory-pieces, but the portraits of ſeveral court-ladies, in ſo fine a manner, that original nature was hardly more charming. He at length returned to Venice, laden with riches and honour; and having gained great reputation in all parts of Italy, died in 1387, aged ſeventy-five.

BOREL (Peter), a learned phyſician, was the ſon of James Borel, who publiſhed ſeveral poems, and was born at Caſtres in 1620. He applied himſelf to the ſtudy of phyſic, of which he was created doctor, and practiſed with great ſucceſs in the city of Caſtres. Towards the end of the year 1653 he went to Paris, and was ſoon after made phyſician in ordinary to the king. In 1674 he was received into the Academy of Sciences, and diſtinguiſhed himſelf by writing a great number of works. The moſt eſteemed are, 1. *Hiſtoriarum & Obſervationum medico-phyſicarum.* 2. *Bibliotheca Chymica, duodecimo.* 3. *De vero teleſcopii inventore, cum brevi omnium conſpicillorum hiſtoria.* He died in 1678.

BORELLI (John Alphonſo), a famous philoſopher and mathematician, born at Naples the 28th of January, 1608. He was profeſſor of philoſophy and mathematics in ſome of the moſt celebrated univerſities of Italy, particularly at Florence and Piſa, where he became highly in favour with the princes of the houſe of Medicis; but having been engaged in the revolt of Meſſina, he was obliged to retire to Rome, where he ſpent the remainder of his life under the protection of Chriſtina queen of Sweden, who honoured him with her friendſhip, and by her liberality towards him ſoftened the rigour of his hard fortune. He continued two years in the convent of the regular clergy of St. Pantaleon, called the *pious ſchools*, where he inſtructed the youth in mathematical ſtudies. He died there of a pleuriſy, the 31ſt of December 1679, in the 72d year of his age. He wrote, in Latin, 1. Euclid reſtored. 2. The theory of the influence of the planets in medicine, deduced from phyſical cauſes. 3. Of percuſſive force. 4. Of natural motions depending upon gravity. 5. An hiſtorical and meteorological account of the burning of mount Ætna, in the year 1669. 6. Of the motion of animals: and ſeveral other works, ſome of which are in Italian.

BORGIA (Cæſar), natural ſon of Pope Alexander VI. was a brave general, but a moſt abandoned villain. It is incredible what numbers he cauſed to be taken off by poiſon, or by the ſword; and it is notorious that ſwarms of aſſaſſins were con-

ſtantly kept in pay by him at Rome, for the ſake of removing all who were either obnoxious or inconvenient to him. He experienced various turns of fortune; and was ſometimes very proſperous, ſometimes the reverſe. He very narrowly eſcaped dying by poiſon in 1503: for having concerted with the pope a deſign of poiſoning nine newly created cardinals at once, for the ſake of poſſeſſing their effects, the poiſoned wine, deſtined for the purpoſe, was by miſtake brought to and drank by themſelves. The pope died of it; but Cæſar, by the vigour of his youth, and the force of antidotes, after many ſtruggles, recovered. He only recovered to outlive his fortune and grandeur, to ſee himſelf depreſſed, and his enemies exalted; for he was ſoon after diveſted of all his acquiſitions, and ſent a priſoner to Spain, in order to free Italy from an incendiary, and the Italian princes from thoſe dangers which the turbulent and reſtleſs ſpirit of Cæſar made them fear even though he was unarmed. He eſcaped from thence; and got ſafe to Navarre, to King John his brother-in-law, who was then at war with his ſubjects. Cæſar ſerved as a volunteer in that war, and was killed in 1507.

BORGOGNONE, a celebrated painter, whoſe true name was *Giacomo Corteſi;* but he is commonly called *Borgognone*, from the country where he was born, about the year 1605. He was much admired and highly applauded for his admirable guſto, and grand manner of painting battles. He had for ſeveral years been converſant in military affairs, was an officer of conſiderable rank in the army, made the camp his ſchool, and formed all his ideas from what he had ſeen performed in the field. His ſtyle is roughly noble, full of fire and ſpirit, and there are a few prints etched by his own hand. Towards the cloſe of his life he retired to the Jeſuits' convent in Rome, where he is ſaid to have taken ſanctuary to rid his hands of an ill bargain he had got of a wife. But happily ſurviving her, he lived in great eſteem and honour till after the year 1675.

BORISTHENES (anc. geog.), the largeſt river of Sarmatia Europea, thus deſcribed by Mela, who copies *verbatim* from Herodotus: "It runs through a cognominal people, is the moſt pleaſant of all the rivers of Scythia, and calmer than all of them in its courſe, and very agreeable to drink: it feeds very rich paſtures, and produces large fiſh of the beſt flavour, and without bones: it comes a great way, riſing from ſprings unknown; its courſe is a diſtance of forty days, and ſo far it is navigable." It is now called the *Dnieper* or *Nieper*.

BORLASE (Dr. Edmund), an eminent phyſician and Engliſh writer in the 17th century, was the ſon of Sir John Borlaſe, maſter of the ordnance, and one of the lord juſtices of Ireland in 1643. He ſtudied in Dublin College, and afterwards at the univerſity of Leyden, at which laſt place he took the degree of doctor of phyſic. He afterwards practiſed phyſic with great ſucceſs in the city of Cheſter, and was incorporated doctor of the faculty in the univerſity of Oxford. Among the books which he wrote and publiſhed are the following: 1. Lathan Spaw in Lancaſhire, with ſome remarkable caſes and cures performed by it. 2. The reduction of Ireland to the crown of England. 3. The hiſtory of the Iriſh rebellion. 4. Brief reflections on the Earl of Caſtlehaven's memoirs, &c. He died after the year 1682.

BORNOU (*Encycl.*). No information can be obtained of this country from the actual viſits of any European; but Mr. Lucas, the geographical miſſionary, ſent by the African aſſociation, in 1788, obtained many particulars from ſome reſpectable Mahometans, whoſe information, however, on ſome accounts (without impeaching their veracity) is not abſolutely to be depended on. The climate of Bornou, according to them, is characteriſed by exceſſive, though not by uniform, heat. Two ſeaſons, the one commencing ſoon after the middle of April, and the other at the ſame period in October, may be ſaid to divide the year. The firſt is introduced by violent winds, that bring with them, from the S.E. and S. an intenſe heat, with a deluge of ſultry rain, and ſuch tempeſts of thunder and lightning as deſtroy multitudes of the cattle and many of the people. At the commencement of the ſecond ſeaſon, the ardent heat ſubſides; the air becomes ſoft and mild, and the weather perfectly ſerene. The complexion of the natives is black; but they are not of the negro caſt. The dreſs of the greater part conſiſts of ſhirts of blue cotton manufactured in the country, of a red cap imported from Tripoli, and a white muſlin turban from Cairo. Noſe-rings of gold are worn by the principal people. But the only covering of the poorer ſort, is ſometimes a kind of girdle for the waiſt. They cultivate two kinds of Indian corn, the horſe-bean of Europe, the common kidney-bean, cotton, hemp, and indigo. The hoe is uſed in tillage; the plough being unknown. While the men, with their hoes, form the trenches in ſtraight parallel lines, the women follow and throw in the ſeed; but the latter take the hoe when the weeds begin to appear. They have neither olives nor oranges, but few figs, and no good apples, plums, or dates; but they have abundance of grapes, apricots, pomegranates, lemons, limes, and melons. The moſt valuable tree is called Redeynah, in form and height like an olive, the leaf reſembling that of a lemon, and bearing a nut, both the kernel and ſhell of which are in great eſtimation; the firſt as a fruit, the laſt on account of the oil it produces when bruiſed. Horſes, aſſes, mules, dogs, horned cattle, goats, ſheep, and camels (of the fleſh of which they are very fond), are the common animals of the country; but they have no oxen. Their hives of bees are ſo numerous, that the wax is often thrown away as an article of no value. Their game conſiſts of the huadde, and other ſpecies of antelopes, the partridge, wild duck, and oſtrich, the fleſh of which they prize above every other. Their other wild animals are the lion, leopard, civet cat, wolf, fox; the wild dog, that hunts the antelope; the elephant, which is not common, and of which they make no uſe; the cameleopardalis, crocodile, and hippopotamus. They are much infeſted with ſnakes, ſcorpions, centipedes, and toads. In ſome parts, particularly the mountainous, the herdſmen prefer a reſidence in tents to ſtationary dwellings. More than thirty different languages are ſaid to be ſpoken in Bornou and its dependencies. The reigning religion is the Mahometan. Their monarchy is elective. On the death of the ſovereign; the privilege of chooſing a ſucceſſor, from among his ſons, without regard to primogeniture, is conferred on three of the moſt diſtinguiſhed men, whoſe age and character for wiſdom are denoted by their title of elders. Theſe retire to a ſequeſtered place, the avenues to which are carefully guarded; and, while their deliberations laſt, the princes are cloſely confined in ſeparate chambers of the palace. Their choice being made, they proceed to the apartment of the ſovereign-elect, and conduct him, in ſilence, to the gloomy place, where the unburied corpſe of his father, that cannot be interred till the concluſion of this awful ceremony, awaits his arrival. There the elders expatiate to him on the virtues and defects of his deceaſed parent; deſcribing, with panegyric or cenſure, the meaſures that exalted or ſunk the glory of his reign. "You ſee before you," ſay they, "the end of your *mortal* career: the *eternal*, which ſucceeds it, will be miſerable or happy, in proportion as your reign ſhall have proved a curſe or a bleſſing to your people." The preſent ſultan (in 1788) is a man of unoſtentatious appearance; undiſtinguiſhed, in his dreſs, from his ſubjects. But he is ſaid to have 500 ladies in his ſeraglio, and to be the reputed father of 350 children, of whom 300 are males: a diſproportion which naturally ſuggeſts the idea, that the mother, preferring the joy of being the ſuppoſed parent of a future candidate for the

empire to the gratification of natural affection, ſometimes exchanges her female child for the male offſpring of a ſtranger. His ſtud likewiſe contains 500 horſes. He has a vaſt army, which conſiſts almoſt entirely of horſe. Fire-arms, though not unknown to them, they neither uſe nor poſſeſs. The ſabre, lance, pike, and bow, are their weapons of offence, and a ſhield of hides is their armour. In their manners the people are courteous and humane. They are paſſionately fond of play; the lower claſſes of draughts; while the higher ranks excel in cheſs. Their capital is of the ſame name.

Bornou, the capital of the empire of Bornou in Africa, ſituated in a flat country, on the banks of a ſmall river. According to the information obtained by Mr. Lucas, it is of greater extent than Tripoli, but conſiſting of a multitude of houſes, ſo irregularly placed, that the ſpaces between them cannot be called ſtreets. Their moſques are conſtructed of brick and earth; and they have ſchools, in which the koran is taught, as in the principal towns of Barbary. The royal palace, ſurrounded by high walls, and forming a kind of citadel, is built in a corner of the town. The houſes of the inhabitants are neatly plaſtered, both within and without, with clay or mud, and are ſimilar in form to thoſe of Tripoli. Bornou is ſurrounded by a wall, and is 650 miles S.E. of Mourzook. Long. 27. 30. E. Lat. 19. 40. N.

BOROMÆUS (Frederic), cardinal and archbiſhop of Milan. He, in 1609, celebrated the council of Milan. He founded the Ambroſian library, which he enriched with 9000 manuſcripts. He left ſeveral works behind him, and died in 1632.

BORONDON (St.), an iſland in the Atlantic Ocean, mentioned by ſome writers, particularly Linſchotten, in their deſcription of the Canary iſlands, as ſomething ſupernatural. It is ſaid to be about 100 leagnes diſtance from Ferro, probably weſt, though no writer has pretended to lay down its exact ſituation. Here it is affirmed ſeveral ſhips have touched by accident, and all agree in their relations of the ſtate of the inhabitants and iſland. They affirm, that it is perpetually clothed with a great variety of wood, chiefly fruit-trees: that the valleys are in a perpetual ſtate of verdure; and continually decked with flowers, graſs, and plants, the ſpontaneous productions of the earth; or with corn and pulſe, cultivated with great care by the inhabitants: that the ſoil is ſo prolific as to raiſe large quantities of corn for exportation; and that the ſhips that call here never fail of meeting with refreſhments of every kind. It is ſaid to be peopled by Chriſtians, who have a language of their own, apparently combined of a variety of modern languages; for, ſay they, whoever underſtands the European tongues may make ſhift to hold converſation with this people. It is remarkable, that no ſhips, expreſsly ſent upon this diſcovery, were ever fortunate enough to fall in with the iſland of St. Borondon, though the Spaniards have ſeveral times attempted it from the Canaries. Hence it has been called the *marvellous iſland*; and hence indeed we may conclude, either that it exiſts wholly in imagination, or at leaſt that it is ſurrounded with ſuch currents as inſenſibly carry ſhips out of their courſe, and prevent their meeting with it. Some writers affirm that it actually diſappears upon certain occaſions, and ſhifts its poſition; while others, with more appearance of truth, allege, that it is frequently overcaſt with thick and impenetrable clouds, which occaſion the diſappointment of all the adventurers who have gone in ſearch of it.

BORRICHIUS one of the moſt learned men of his age, the ſon of a Lutheran miniſter in Denmark, was born in 1626. He applied himſelf to phyſic in the univerſity of Copenhagen, and began to practiſe during a moſt terrible plague that made great havoc in that city. He travelled: but before his departure, in 1660, he was appointed profeſſor in poetry, botany, and chemiſtry; and at his return diſcharged his duties with great aſſiduity, of which the works he publiſhed afford full proof. He was raiſed to the office of counſellor in the ſupreme council of juſtice in 1686; to that of counſellor of the Royal Chancery, in 1689; and died of the operation for the ſtone, in 1690. He publiſhed, 1. Lingua pharmacopæorum; 2. Diſſertationes de poeticis Græcis et Latinis; 3. De ortu et progreſſu chemiæ: and ſeveral other works.

BORROWDALE, a diſtrict in the S. part of Cumberland, on the borders of Weſtmorland. It is a dreary region, abounding, beyond any other part of the world, with the fineſt ſort of that valuable and ſingular mineral, black-lead or wad; the mines of which are only opened at intervals, and then carefully cloſed again, leſt this precious ſubſtance ſhould become too common. Copper, lead, and calamine, are alſo found in this tract.

BORROWSTONESS. See Burrowstoness.

BORZONI (Luciano), a Genoeſe hiſtorian and portrait-painter of great genius and abilities, flouriſhed about the middle of the 17th century. His three ſons were profeſſors of the ſame art: but only one, Francis Maria, ſucceeded; and that was in ſea-pieces, particularly ſtorms.

BOS (John Baptiſt du), a celebrated author and member of the French Academy, was born at Beauvais in 1670, and finiſhed his ſtudies at the Sorbonne. In 1695 he was made one of the committee for foreign affairs under Mr. Torez; and was afterwards charged with ſome important tranſactions in England, Germany, Holland, and Italy. At his return to Paris, he was handſomely preferred, made an abbé, and choſen perpetual ſecretary of the French Academy. He was the author of ſeveral excellent works; the principal of which are, 1. Critical reflections upon poetry and painting, 3 vols. 12mo. 2. The hiſtory of the four Gordians, confirmed and illuſtrated by medals. 3. A critical hiſtory of the eſtabliſhment of the French monarchy among the Gauls, 2 vols. 4to., 4 vols. 12mo. He died at Paris, on the 23d of March, 1742.

BOSCOBEL, a village of Shropſhire, near White Ladies, in the pariſh of Tongue, noted for the Royal Oak in which Charles II. was concealed, and ſaw the ſoldiers paſs by in queſt of him, after the battle of Worceſter. The tree was incloſed by a brick wall, but is now almoſt cut away by travellers.

BOSCAN (John), a Spaniſh poet of the 16th century, born at Barcelona. He was the friend of Garcilaſſo de Vega, another Spaniſh poet. Theſe two were the firſt who made any great improvement in the poetry of their nation, and their pieces were printed together. Boſcan, who died about the year 1542, principally ſucceeded in ſonnets.

BOSCHAERTS (Thomas Vuillebos), a celebrated painter, was born at Bergen-op-zoom; and, like the great painters who flouriſhed at that time, began to draw, when very young, in the books that were intended for other ſtudies. Preferring his pencil to every thing elſe, he drew his own picture, by his reſemblance in a looking-glaſs, ſo like, that thoſe who ſaw it were aſtoniſhed. This he did before he had the leaſt inſtruction from any one, and when he was only twelve years of age. Upon this, his parents ſent him to a maſter, that he might follow the bent of his genius; but his firſt maſter being only an indifferent painter, and incapable of ſatisfying his earneſt deſire of learning, he left him, and engaged himſelf with Gerard Segers, under whom, after four years' practice, he proved a moſt accompliſhed artiſt. Antwerp being at that time the ſeat of arts, where there was a conflux of the moſt eminent painters, he thought it the fitteſt place for his improvement; and there executed ſuch a number of noble pieces as added greatly to the ſplendor of that wealthy city. In 1642, Henry Frederick prince of Orange, and his ſon Prince William, em-

ployed him in their ſervice; in which he continued ſeveral years, and made thoſe excellent pieces that are to be ſeen in that prince's palace at the Hague, and other parts of Holland, and painted portraits for moſt of the perſons of quality that were then living. He died in the flower of his age, in 1670.

BOSSE (Abraham), an able engraver, born at Tours, was well ſkilled in perſpective and architecture. He wrote two treatiſes, which are eſteemed; the one on the manner of deſigning, and the other upon engraving.

BOSSU (Rene le), born at Paris in 1631, was admitted a canon regular in the abbey of St. Genevieve, in 1649; and after a year's probation, took the habit. He taught polite literature with great ſucceſs in ſeveral religious houſes for 12 years, when he gave up the taſk for retirement. He then publiſhed a parallel betwixt the principles of Ariſtotle's natural philoſophy and thoſe of Des Cartes, with a view to reconcile them; which was but indifferently received. His next treatiſe was on epic poetry; which Boileau declared one of the beſt compoſitions on that ſubject in the French language, and which produced a great friendſhip between them. He died in 1680, and left a great number of MSS. which are kept in the abbey of St. John de Chartres.

BOSSUET (James Benigne), Biſhop of Meaux, was born at Dijon, on the 27th of September, 1627. He diſtinguiſhed himſelf by his preaching, and the zeal he diſcovered in his endeavours to bring over the Proteſtants of France to the Romiſh church; by his oppoſition to Quietiſm; and by his numerous writings both in French and Latin, which have been collected together, and printed at Paris in 17 vols. 4to. This famous divine died at Paris, in 1704, aged 77.

BOSSUS (Matthew), diſtinguiſhed by his virtue and his learning, was born in 1427. He devoted himſelf to the eccleſiaſtical ſtate in 1451, in the congregation of regular canons of Lateran, and afterwards taught divinity at Padua. His orations, his ſermons, and his letters, have often been printed. He alſo wrote a ſort of an apology for Phalaris, and other works. He died at Padua in 1502, aged 75.

BOSWELL (James), an ingenious Scottiſh writer. He was the ſon of Alexander Boſwell, lord Auchinleck, a judge in the ſupreme court of ſeſſion and juſticiary, and was born at Edinburgh in 1740. After ſtudying the civil law at Edinburgh and Glaſgow, he viſited London, where he wiſhed to enter into the army, but his father was inflexibly bent againſt the meaſure, being deſirous to ſee his ſon make a figure at the bar. In compliance with his wiſh, he went to Utrecht, after which he made the tour of Europe. In 1763 he contracted an intimacy with Dr. Johnſon, which laſted till the doctor's death. In 1766 he was admitted an advocate at the Scotch bar. In 1768 he publiſhed an Account of Corſica, with Memoirs of General Paoli, which is a curious and well-written book. In 1784 appeared another original work, which had a great run, a Journal of a Tour to the Hebrides with Dr. Johnſon, full of anecdote, and highly entertaining. The ſame year he ſettled in London, and was admitted at the Engliſh bar. In 1790 appeared the work which will ſecure him a laſting name, the Life of Samuel Johnſon, LL.D. This reſpectable and ſenſible man died in London in 1795: he had by his lady, who died before him, two ſons and three daughters. Mr. Boſwell printed ſeveral pamphlets and fugitive pieces.

BOTALLUS (Leonard), phyſician to the duke of Alençon, and to Henry III. was born at Aſti in Piedmont. He introduced at Paris the practice of frequent letting of blood; which was condemned by the faculty; but ſoon after his death it came into practice with all the phyſicians. He publiſhed ſeveral books in phyſic and ſurgery; the beſt edition of which is that of Leyden in 1660, octavo.

BOTANY (*Encycl.*). In page 48, 25th claſs, 2d line, for "*ſpadax*," read "*ſpadix*."

BOTH (John and Andrew), Flemiſh painters, and pupils of Bloemart. The union of theſe brothers was very ſingular; they were inſeparable in their ſtudies, travels, and paintings. John painted the landſcape part of their pictures in the manner of Lorrain, and Andrew the figures and animals in the ſtyle of Bamboche. They both died in 1650. John's taſte in landſcape is elegant; his ideas are grand; his compoſition beautiful; and his execution rich and maſterly in the higheſt degree. His light is not always well diſtributed; but his figures are excellent. It is to be regretted that we have not more of his works; for they are certainly, upon the whole, among the beſt landſcapes we have.

BOTTRIGARO (Hercole), a perſon eminently ſkilled in the ſcience of muſic, though not a muſician by profeſſion. He was a man of rank in Bologna; and appears, from ſeveral letters to him that have been printed, to have had the title of *count*. He publiſhed ſeveral controverſial pieces on the ſubject of muſic. It ſeems that he entertained ſtrong prejudices in favour of the ancient muſic; and that he attempted, as Vincentino and others had done, to introduce the chromatic genus into practice, but with no better ſucceſs than had attended the endeavours of others. He corrected Gogavino's Latin verſion of Ptolemy in numberleſs inſtances; and that to ſo good a purpoſe, that Dr. Wallis has in general conformed to it in that tranſlation of the ſame author, which he gave to the world many years after. He alſo tranſlated into Italian *Boetius de Muſica*, and as much of Plutarch and Macrobius as relates to muſic: beſides this, he made annotations upon Ariſtoxenus, Franchinus, Spataro, Vicentino, Zarline, and Galiſlei; and, in ſhort, on almoſt every muſical treatiſe he could lay his hands on, as appears by the copies which were once his own, and are now repoſited in many libraries in Italy. Of Bottrigaro's works it is ſaid that they contain greater proofs of his learning and ſkill in muſic, than of his abilities as a writer, his ſtyle being remarkably inelegant: nevertheleſs, he affected the character of a poet; and there is extant a collection of poems by him, in 8vo, printed in 1557. Walther repreſents him as an able mathematician, and a collector of rarities; and ſays that he was poſſeſſed of a cabinet, which the emperor Ferdinand II. had a great deſire to purchaſe. He died in 1609.

BOUCHART, a ſmall town of France, in the department of Indre and Loire, and late province of Touraine. It is ſituated in a ſmall iſland of the river Vienne, 15 miles from Tours.

BOUCHET (John), a French poet and hiſtorian, flouriſhed in the 16th century. The moſt conſiderable of his writings are the Annals of Aquitaine, and his *Chapelet des Princes*.

BOUFLERS (Lewis Francis, duke of), a peer and marſhal of France, was born in 1644. He diſtinguiſhed himſelf by his valour and conduct in ſeveral ſieges and battles, and had the command of the right wing when the French were defeated at the bloody battle of Malplaquet. He died at Fontainbleau in 1711. Marſhal Boufflers, his ſon, died at Genoa, after having delivered that republic.

BOUGEANT (William Hyacinth), a famous Jeſuit, firſt taught humanity at Caen and Nevers, and afterwards ſettled at the college of Lewis the Great, where he employed himſelf in writing ſeveral works; the principal of which were, 1. A collection of phyſical obſervations, extracted from the beſt authors; 2. An hiſtory of the wars and negociations

which preceded the treaty of Weſtphalia; 3. The female doctor, a philoſophical amuſement on the language of beaſts, &c. He died in 1743.

BOUILLE (Marquis de), a celebrated French general, was deſcended of an ancient and noble family, from whom he inherited an ample patrimony. He received an excellent education, and was no leſs celebrated for the elegance of his manners than beloved for the goodneſs of his heart. During the American war he ſerved in the Weſt-Indies, and was appointed commandant of all the French Weſt India iſlands: he was alſo advanced to the rank of lieutenant-general, and received the knighthood of the moſt noble order of the Holy Ghoſt. In the courſe of the war, ſeveral of the Britiſh iſlands fell under the dominion of the French, and the Marquis de Bouillé was endeared to the vanquiſhed by the ſuavity of his manners, and the mildneſs of his ſway. At the end of the war, after a ſhort abode in the French metropolis, he came to London, and was received in a moſt favourable manner by the king; the Weſt-India merchants alſo paid the homage due to him for the liberality he had ſhewn when their property was committed to his diſpoſal. He afterwards viſited Holland, Pruſſia, Bohemia, and Vienna, being every-where received with the confidence due to his rank and talents, and entruſted with the ſecret of thoſe important plans which, at the moment, agitated the boſoms of all the continental potentates. In the ſummer of the year 1785 he returned to Pruſſia, intending to have viſited the court of Catherine II.; but his journey was delayed by orders for his return to Paris, in conſequence of a grand project formed by France and Holland, for an invaſion of the Britiſh dominions in India, the command of which was to be entruſted to him. The execution of the project was, however, ſtill diſtant, and the revolution in Holland, in 1787, ultimately prevented its proſecution.

The derangement of the French finances now demanded new and effectual exertions: M. de Calonne, having conceived a wiſe and juſt plan for repairing the deficiences of the revenue, and having ſecured, as he thought, the neceſſary co-operation, convoked the *notables* to meet in January, 1787; a meaſure which had not been recurred to ſince the year 1626, in the reign of Lewis XIII. It is not neceſſary here to detail the cauſes which fruſtrated Calonne's intentions, and occaſioned the diſmiſſion of the notables; M. de Bouillé was one of their number, and, immediately on their diſſolution, was appointed commandant of Metz, and of the province *des Evêchés*.

In the year 1778 thoſe meaſures were purſued which laid the government entirely at the mercy of intriguers, which afforded a pretext for the convocation of the ſtates-general, and for the recal of Necker. This quack-miniſter thought proper again to convene the *notables*, merely to ſhew them that he diſregarded their advice. M. de Bouillé was again a member of this aſſembly, and ſaw with indignation the efforts which were daily uſed, and generally encouraged, to ſubvert the ancient conſtitution of the kingdom. He oppoſed, in an open and energetic manner, the project of the innovators, detailed the miſeries to which they would give birth, and expoſed the errors both of Necker and La Fayette in the moſt perſpicuous terms. Alarmed at his firmneſs, they procured an invitation to be ſent to him, through the Baron de Stael, Necker's ſon-in-law, to accept a command in the ſervice of the king of Sweden, who was then at war with Ruſſia. M. de Bouillé would, with pleaſure, have accepted an offer which would have exempted him from witneſſing and taking a ſhare in the calamities which he ſaw ready to burſt forth on his country; but was ſuddenly, in the month of March, 1789, ordered to his government of Metz.

His conduct in this department, at ſuch a critical period, needs no other eulogy than his own inartificial narrative:—"While I commanded at Metz," he ſays, "not one perſon was aſſaſſinated; property in the towns, as well as in the country, remained inviolate; not a ſeat was burned, nor any nobleman or landholder expoſed to the fury of the people, which evaporated in empty threats. For the firſt twelve months of the revolution, I was ſo happy as to preſerve, among the twenty thouſand men I had under my command, the ſame temper of mind as formerly." Here he had an opportunity of experiencing the ignorance, or, more properly, the treachery of Necker, who refuſed an offer which he made to diſtribute part of the grain in his poſſeſſion among the people, on condition of its being reſtored to the garriſon at the next harveſt.

In this ſituation M. de Bouillé paſſed the eventful year 1789, contemplating with horror the progreſs of the revolution, in which he took no ſhare, though earneſtly ſolicited, and that, under the moſt plauſible pretences, by La Fayette, who was his kinſman, and with whom he had been intimate from his infancy. But M. de Bouillé penetrated into the feeble and crafty character of this vain pretender to ſuperiority in revolutions, and not only avoided a connection with him, but with every other political party which had a ſelfiſh view, derogatory to the true conſtitution of French government: he declared with honeſt magnanimity, "I am neither ariſtocrat nor democrat, I am a royaliſt."

But the efforts of the king's real friends received a fatal impediment from his viſit to the aſſembly on the 4th of February, 1790, when, influenced by the advice of hypocritical traitors, he threw himſelf into the boſom of that rebellious body, and declared himſelf the head and protector of that revolution which had already deprived him of the beſt prerogatives, and his liberty, and was rapidly proceeding in thoſe meaſures which hurled him to an untimely grave.

The diſtribution of arms among the populace, and the diſſemination of jacobin principles among the ſoldiery, had already induced moſt of the commandants of provinces to reſign, or to abandon the kingdom. M. de Bouillé, who had long contemplated with confidence the garriſon under his command, as a reſource for the royal family in the expected extremity, was now convinced no effectual uſe could ever be made of their ſervices: he exerted himſelf with effect in maintaining order and quelling inſurrection, but earneſtly ſolicited leave to reſign, and ſeek another country. This reſolution he was induced to abandon by the king's own requeſt: he took the conſtitutional oath, and permitted the federation of the national guards in his government with the troops of the line.

Having by theſe acts, in a certain degree, relinquiſhed the line of conduct which his own principles would have dictated, M. de Bouillé endeavoured to ſerve the royal cauſe, as connected with the imaginary, and as yet unfounded, conſtitution, but in vain. The diſſimulation of La Fayette, his folly, which gave a decided aſcendancy to the jacobins, rendered all ſuch attempts unavailing; and the troops who had been called to Paris to aſſiſt at the abſurd ceremony of the confederation, ſpread anarchy and inſurrection in every part of the kingdom. The garriſon of Metz, in Auguſt, 1790, commenced a moſt dangerous inſurrection, which was with difficulty ſuppreſſed: Nancy, in the ſame month, followed the example: the heroiſm of Deſilles, who oppoſed his perſon to a loaded cannon, was inſufficient to reſtrain the popular fury: M. de Bouillé, after eſſaying, without effect, every conciliatory meaſure, was reduced to the neceſſity of employing force, which he was authoriſed to do by a decree of the aſſembly; and, after an ob-

ſtinate conteſt, reduced the inſurgents, though not without great ſlaughter. For this timely effort he was aſſailed with all the virulence of jacobin vituperation; the ready pens of the Palais Royal were employed in aſperſing his character, and the eager echoes of jacobin invention in other countries were prepared to repeat, with atrocious additions, the calumnies derived from that never-failing ſource. The Orleans faction, who could never forgive this check on their favourite projects, haraſſed the aſſembly with perpetual motions on the ſubject, and eſſayed all means to obtain the cenſure of the marquis, in which they were at length ſucceſsful.

The conteſts of the various factions who pretended to give laws to France, tended only to one certain end, that of degrading the king, and making him miſerable. La Fayette was become his gaoler, and with the office, adopted the manners of a turnkey. Worn out with repeated indignities, which were daily renewed and increaſed under various pretences, the king reſolved to quit the capital, and ſeek refuge in one of the frontier towns, under the command of M. de Bouillé. Our limits do not allow a recapitulation of the negociations with Mirabeau; the projects of various individuals; the cauſes which retarded the king's departure, and occaſioned the final fruſtration of his plan. Throughout this critical emergency, which forms one of the moſt embarraſſing criſes of his life, Lewis diſplayed the utmoſt integrity of heart and goodneſs of diſpoſition. M. de Bouillé, failing in all his efforts to ſecure the retreat of his ſovereign, reluctantly ſecured his own ſafety by quitting a land which he conſidered irreparably diſhonoured, and where the advantages of birth, fortune, long ſervices, and unſhaken loyalty, could no longer ſecure him an aſylum. Still intent on rendering the lateſt ſervice in his power to the king, M. de Bouillé wrote a letter to the national aſſembly, avowing himſelf the ſole perſuader and contriver of the king's flight, and endeavouring, by every means, to divert the force of popular fury from the king to himſelf: his efforts were inſufficient to ſave the king; but the demagogues eagerly ſeized the opportunity of ſtigmatiſing a man whom they had long regarded as one of their moſt formidable enemies. The aſſembly paſſed a decree of accuſation againſt him and his ſon, their eſtates were confiſcated, and the national convention afterwards offered a reward to the man who would aſſaſſinate him.

M. de Bouillé, not ſeeing in the year 1791 any thing which denoted hoſtile preparations againſt France, offered his ſervices to the empreſs of Ruſſia, but being preſſed by the king of Sweden, who was then at Aix-la-Chapelle, he accepted a commiſſion in his ſervice. Guſtavus and Catherine had formed extenſive and beneficial projects relative to France, which were however fruſtrated, partly by the backwardneſs of Auſtria and Pruſſia, partly by the inflexible neutrality of Great Britain, and finally by the aſſaſſination of the king of Sweden.

Soon after this event, M. de Bouillé quitted the ſervice of Sweden. He had now, to uſe his own expreſſion, connected his fate with that of two ſovereigns, equally unfortunate, and henceforth reſolved to ſecure himſelf from the frowns of Fortune by troubling her no longer. On the preparations in the year 1792 to invade France, he was offered a command of ſix thouſand troops, but pecuniary difficulties prevented the intended arrangement, and he ſerved as a volunteer under the prince of Condé. After the retreat of the allies, he took no public ſhare in military or political tranſactions.

M. de Bouillé publiſhed in the year 1797 his memoirs relating to the French revolution, a work in which the moſt excellent principles are combined with a clear and ingenious narrative: and in which the author has the ſingular candour to review his own conduct with frequent and decided diſapprobation.

BOULAY (Cæſar Egaſſe du), in Latin *Bulæus*, was born at St. Ellier, a village of Maine in France; and became profeſſor of humanity at the college of Navarre, regiſter, rector, and hiſtoriographer of the univerſity of Paris. He died in 1678, after having publiſhed ſeveral works. The principal of them are, *A Hiſtory of the Univerſity of Paris*, in Latin, 6 vols. folio; and the *Treaſure of Roman Antiquities*, in 1 vol. folio.

BOULTER (Dr. Hugh), was born in or near London, of reputable and wealthy parents. He was educated at Merchant-taylors' ſchool; and, before the revolution, was from thence admitted a commoner of Chriſt-church in Oxford. Some time after, he was choſen a demy of Magdalen College, at the ſame election with Mr. Addiſon and Dr. Wilcox. From the merit and learning of the perſons elected, this was commonly called by Dr. Hough, preſident of the college, the *golden election*. He afterwards became fellow of the ſame college; in which ſtation he continued in the univerſity till he was invited to London by Sir Charles Hodges, principal ſecretary of ſtate, in the year 1700, who made him his chaplain, and recommended him to Dr. Teniſon archbiſhop of Canterbury; but his firſt preferments were owing to the Earl of Sunderland, by whoſe intereſt and influence he was promoted to the parſonage of St. Olave in Southwark, and the archdeaconry of Surrey. Here he continued diſcharging very faithfully and diligently every part of his paſtoral office, till he was recommended to attend George I. as his chaplain, when he went to Hanover in 1719. He had the honour to teach Prince Frederick the Engliſh language; and by his conduct he ſo won the king's favour, that he promoted him to the deanery of Chriſt-church, and the biſhopric of Briſtol, in the ſame year. As he was viſiting his dioceſe five years afterwards, he received a letter from the ſecretary of ſtate, acquainting him that his majeſty had nominated him to the archbiſhopric of Armagh and primacy of Ireland. This honour he would gladly have declined; and deſired the ſecretary to uſe his good offices with his majeſty to excuſe him from accepting it. Ireland happened to be at this juncture in a great flame, occaſioned by Wood's ruinous project; and the miniſtry thought that the biſhop would greatly contribute to quench it by his judgment, moderation, and addreſs. The king therefore laid his abſolute commands upon him: to which he ſubmitted, but with ſome reluctance. As ſoon as he had taken poſſeſſion of the primacy, he began to conſider that country, in which his lot was caſt for life, as his own; and to promote its true intereſt with the greateſt zeal and aſſiduity. Accordingly, in innumerable inſtances, he exerted himſelf in the nobleſt acts of beneficence and public ſpirit. His charities for augmenting ſmall livings and buying glebes amounted to upwards of 30,000l., beſides what he deviſed by will for the like purpoſes in England. In ſhort, the inſtances he gave of his generoſity and benevolence of heart, his virtue, his piety, and his wiſdom, are almoſt innumerable, and the hiſtory of his life is his nobleſt panegyric. This excellent prelate died at London, on the 2d of June, 1742; and was interred in Weſtminſter-abbey, where a beautiful monument of finely poliſhed marble is erected to his memory.

BOURBON (Nicholas), a famous Latin poet in the 16th century, was a native of Vandeure near Langres, and the ſon of a wealthy man who was maſter of ſeveral forges. Margaret de Valois appointed him preceptor to her daughter Jane d'Albert of Navarre, the mother of King Henry IV. At length he retired to Condé, where he had a benefice, and died about the year 1550. He wrote eight books of Epigrams; and a

poem on the forge, which he has entitled *Ferraria*. He had great knowledge of antiquity and of the Greek language. Eraſmus praiſes his epigrams.

BOURBON (Nicholas), a celebrated Greek and Latin poet, was nephew of the preceding. He taught rhetoric in ſeveral colleges of Paris; and the Cardinal de Perron cauſed him to be nominated profeſſor of eloquence in the Royal College: he was alſo canon of Langres, and one of the 40 of the French academy. At length he retired to the fathers of the Oratory, where he died in 1644, aged 70. He is eſteemed one of the greateſt Latin poets France has produced. His poems were printed at Paris in 1630.

BOURCHIER (John), lord Bemars, grandſon and heir of a lord of the ſame name, who was deſcended from Thomas of Woodſtock, duke of Glouceſter, and had been knight of the Garter, and conſtable of Windſor-caſtle, under Edward IV. Our Lord John was created a knight of the Bath at the marriage of the Duke of York, ſecond ſon of Edward IV., and was firſt known by quelling an inſurrection in Cornwall and Devonſhire, raiſed by Michael Joſeph, a blackſmith, in 1495, which recommended him to the favour of Henry VII. He was captain of the pioneers at the ſiege of Therouenne, under Henry VIII., by whom he was made chancellor of the exchequer for life, lieutenant of Calais and the Marches, appointed to conduct the lady Mary the king's ſiſter into France on her marriage with Lewis XII., and had the extraordinary happineſs of continuing in favour with Henry VIII. for the ſpace of 18 years. He died at Calais in 1532, aged 63. He tranſlated, by King Henry's command, Froiſſart's Chronicle; which was printed in 1523, by Richard Pinſon, the ſcholar of Caxton, and the fifth on the liſt of Engliſh printers. His other works were a whimſical medley of tranſlations from French, Spaniſh, and Italian novels, which ſeem to have been the mode then, as they were afterwards in the reign of Charles II. Theſe were, The life of Sir Arthur, an Armorican knight; The famous exploits of Sir Hugh Bourdeaux; Marcus Aurelius; and, The caſtle of love. He compoſed alſo a book, Of the duties of the inhabitants of Calais; and a comedy entitled *Ite in Vineam*, which is mentioned in none of our catalogues of Engliſh plays. Anthony Wood ſays it was uſually acted at Calais after veſpers.

BOURDALOUE (Lewis), a celebrated preacher among the Jeſuits, and one of the greateſt orators France has produced, was born at Bourges, on the 20th of Auguſt, 1632. After having preached at Provence, he, in 1699, went to Paris; and there met with ſuch applauſe, that the king reſolved to hear him: on which he was ſent for to court, and frequently preached before Lewis XIV. He aſſiſted the ſick, viſited the priſons and hoſpitals, and was very liberal in giving alms. He died in Paris on the 13th of May, 1704. The beſt edition of his ſermons is in octavo.

BOURMONT, a town of France, in the department of Upper Marne, and late province of Champagne, 22 miles from Chaumont. Long. 5. 43. E. Lat. 48. 14. N.

BOURTON-ON-THE-HILL, a village of Glouceſterſhire, on the ſide of a hill, with a fine proſpect into Oxfordſhire. There are two ſprings in this pariſh, one of which runs E. and empties itſelf into the Thames, and the other W. into the Severn. It is five miles from Stow, and 30 from Glouceſter.

BOURTON-ON-THE-WATER, a village, about a mile from the preceding place, and near the Roman Foſs: it is watered by a river that riſes near it, which here ſpreads 30 feet wide, over which is a ſtone bridge, beſide ſeveral others of wood at proper diſtances. It has many good houſes and a tolerable trade. Adjoining to it is a quadrangular Roman camp, inclosing 60 acres, now divided into 20 fields, where coins and other antiquities are dug up.

BOUSSAC, a town of France, in the department of Creuſe and late province of Marche, with a caſtle, on an almoſt inacceſſible rock, 25 miles N.E. of Gueret.

BOXHILL, a hill near Dorking, in Surrey, celebrated for its extenſive proſpects. It received its name from the box trees planted on the ſouth ſide of it, by the Earl of Arundel, in the reign of Charles II.

BOXHORNIUS (Marc Zuerius), a learned critic, born at Bergen-op-Zoom in 1612, was profeſſor of eloquence at Leyden, and at length of politics and hiſtory in the room of Heinſius. He publiſhed, 1. *Theatrum urbium Hollandiæ*. 2. *Scriptores hiſtoriæ Auguſtæ, cum notis*. 3. *Poetæ ſatyrici minores, cum comment*. 4. Notes on Juſtin, Tacitus: and a great number of other works. He died in 1653, aged 41.

BOXLEY, a village in Kent, a little to the eaſt of Pinnenden Heath, near Maidſtone; famous for an abbey of Ciſtertian monks, founded by William earl of Kent in 1146, the remains of which ſtill exiſt. It was during his reſidence in this abbey that Edward II. granted the charter to the city of London, empowering them to elect a mayor from their own body. This abbey was alſo famous for the wooden figure, called the Rood of Grace; the lips, eyes, and head of which moved on the approach of its votaries. It was broken to pieces, at St. Paul's Croſs, in 1538, by Hilſey biſhop of Rocheſter, who ſhewed to the credulous people the ſprings and wheels by which it had been ſecretly moved.

BOYD (Mark Alexander), an extraordinary genius, was ſon of Robert Boyd, who was eldeſt ſon of Adam Boyd of Pinkhill, brother to Lord Boyd. He was born in Galloway on the 13th of January, 1562, and came into the world with teeth. He learned the rudiments of the Latin and Greek languages at Glaſgow under two grammarians; but was of ſo high and intractable a ſpirit, that they deſpaired of ever making him a ſcholar. Having quarrelled with his maſters, he beat them both, burnt his books, and forſwore learning. While he was yet a youth, he followed the court, and did his utmoſt to puſh his intereſt there; but the fervour of his temper ſoon precipitated him into quarrels, from which he came off with honour and ſafety, though frequently at the hazard of his life. He, with the approbation of his friends, went to ſerve in the French army, and carried his little patrimony with him, which he ſoon diſſipated at play. He was ſhortly after roufed by that emulation which is natural to great minds, and applied himſelf to letters with unremitted ardour, till he became one of the moſt conſummate ſcholars of his age. He is ſaid to have tranſlated Cæſar's Commentaries into Greek in the ſtyle of Herodotus, and to have written many Latin poems which were little inferior to the firſt productions of the Auguſtan age. He alſo left ſeveral manuſcripts on phylological, political, and hiſtorical ſubjects, in Latin and French, which languages were as familiar to him as his native tongue. He could with facility dictate to three amanuenſes at the ſame time, in different languages and on different ſubjects. He was alſo one of the beſt Scottiſh poets of the age. To all this we muſt add, that his perſonal beauty and accompliſhments were equal to his mental ſuperiority. He died at Pinkhill in Scotland, in 1601. The following works, which are all that have been printed, were publiſhed in the *Delicæ Poetarum Scotorum;* Amſtel. 1637. 12mo.: 1. *Epigrammata*, lib. ii. 2. *Heroidum Epiſtolæ* XIV. lib. i. 3. *Hymni* XIV.

BOYLE (John), earl of Cork and Orrery, a nobleman diſtinguiſhed by his learning and genius, was the only ſon of Charles earl of Orrery, and was born on the 2d of January, 1707. He was educated at Chriſt-church College in Ox-

ford: but, as he himſelf declares, early diſappointments, indifferent health, and many untoward accidents, rendered him fond of retirement, and of improving his talents for polite literature and poetry; of which laſt art he gave ſeveral excellent ſpecimens. He alſo wrote a Tranſlation of Pliny the Younger's letters, with various notes, for the ſervice of his eldeſt ſon the Lord Boyle, in two volumes 4to. This was firſt publiſhed in 1751. The year following he publiſhed the Life of Dean Swift, in ſeveral letters, addreſſed to his ſecond ſon Hamilton Boyle; and afterwards printed Memoirs of Robert Cary earl of Monmouth, a manuſcript preſented to him by a relation, with explanatory notes. He died in 1762.

BOYOLO, a town of Italy, in the duchy of Mantua, capital of a territory of the ſame name, ſubject to the houſe of Auſtria. It is fifteen miles S. W. of Mantua. Long. 10. 35. E. Lat. 45. 6. N.

BOYSE (Samuel), an Engliſh poet of ſome merit, but more worth recording as an example of the extreme diſtreſs conſequent upon vice and folly in a literary character, was the ſon of the Reverend Joſeph Boyſe, a diſſenting miniſter of eminence in Dublin. He was born in 1708; and after receiving his ſchool education in his native city, he was ſent to the univerſity of Glaſgow. Here his ſtudies were interrupted by a love affair with the daughter of a tradeſman in the place, as thoughtleſs as himſelf, whom he married before he reached his twentieth year. He took his wife and her ſiſter to Dublin, and lived a diſſolute life at his father's expence, till the death of this unfortunate parent. He then removed to Edinburgh, where in 1731 he publiſhed a volume of poems, which gained him reputation, and the patronage of ſome perſons of rank; but a radical meanneſs of character, and fondneſs for low company and pleaſures, prevented him from obtaining any ſolid advantages from the favour he acquired by his talents. On his removal to London, however, he carried with him recommendatory letters from the Ducheſs of Gordon and Lord Stormont, to Mr. Pope, the lord chancellor, and other perſons of conſequence; but his negligence and miſconduct ruined every proſpect. His talents, indeed, were merely thoſe of a writer, and he was totally unfit to make his way by the powers of converſation, or any other mode of ingratiating himſelf with the reſpectable part of ſociety. He ſoon fell into a ſtate of extreme indigence, which he relieved as long as he could by begging with ſhameleſs importunity from the principal diſſenters, and others to whom his father's name was known. What he obtained in this manner he ſquandered in ſelfiſh luxury, leaving his wife and child to ſtarve at home. His induſtry was exerted in writing verſes for the magazines, which he did with great facility, and for wretched pay. He pawned all his clothes, and even the ſheets of his bed; and the manner in which at this period he *courted the muſe* is thus deſcribed by an eye-witneſs: "He ſat up in bed with the blanket wrapt about him, through which he had cut a hole large enough to receive his arm; and placing the paper on his knee, ſcribbled in the beſt manner he could the verſes he was obliged to make." *Cibber, Lives of the Poets* When he again appeared abroad, he occaſionally ſupplied the want of a ſhirt by ſlips of white paper round his wriſts and neck. Beſides his poetry, he was employed in tranſlating from the French, which he was capable of performing well; but it was his conſtant practice, after ſending a ſheet to the preſs, to pawn the original, and to repeat this as often as it was redeemed during the courſe of his work. Thus paſt his wretched and profligate life, in the viciſſitudes of ſponging-houſes, garrets, and ale-houſes. One of its principal changes was a reſidence at Reading in 1745, on the invitation of Mr. D. Henry, proprietor of the Gentleman's Magazine, for the purpoſe of compiling an hiſtorical work on the events in Europe from the commencement of the Spaniſh war in 1739 to the rebellion in Scotland. Here his wife died, and he ſeems to have been reclaimed to a ſtate of ſomewhat more decent manners and conduct. Indeed, the original impreſſions of a religious education were never effaced in him, and they aggraved the miſeries of his life by the remorſe with which his vicious indulgences were ever followed. He returned to London in declining health, married a ſecond time a woman in low life, and died in May 1749, in obſcure lodgings in Shoe-lane. His funeral was at the pariſh expence.

Boyſe's poetical effuſions, if collected from the periodical works, &c. in which they were inſerted, would make ſeveral volumes; but this labour is certainly what they are not entitled to. A collection in two volumes was publiſhed during his life, but probably with little ſucceſs. By much the moſt celebrated of his works is "Deity," a religious poem, probably firſt publiſhed about 1741. This was publicly praiſed by two very different writers: Harvey in his Meditations, and Fielding, in his Tom Jones: and it attracted notice enough to have paſt through three editions in 1752. It is a piece without much plan or connection, but profuſe in the ſplendid thoughts and images which belong to the ſubject, and generally harmonious and poetical in its diction, though with frequent inequalities. Boyſe himſelf uſed to relate, that Pope, on being aſked if he were not the author of it, diſclaimed the work, but ſaid there were many lines in it of which he ſhould not be aſhamed. Indeed, the ſtyle and verſification ſeemed formed on that poet's manner, though certainly with very inferior powers. His other productions have a like mixture of poetical fancy and elevation with flatneſs and inaccuracy. The beſt of them are admitted into a very comprehenſive collection of the poets of Great Britain, printed at Edinburgh, with biographical prefaces by Dr. Anderſon. In Ogle's Canterbury Tales of Chaucer modernized, ſeveral appear under Boyſe's name, and are executed with ſpirit.—We are indebted to the popular biographical work of Dr. AIKIN for the foregoing particulars.

BRAAN, a river of Scotland, which deſcends from the hills of Perthſhire, E. of Loch Tay, and falls into the Tay a little above Dunkeld. Upon this river is a grand ſcene, at a place called the Rumbling Bridge. Under an arch, thrown over a narrow chaſm, between two projecting rocks, which almoſt meet, the whole waters of the river are precipitated in a fall of nearly fifty feet.

BRADESLEY, or BADESLEY, a village near Bromſgrove, in Worceſterſhire, where are the ruins of a ſuperb abbey, founded by the Empreſs Maud, mother of Henry II.

BRADFORD (John), a divine, and martyr to the reformation, was born in the former part of the reign of Henry VIII. at Mancheſter in Lancaſhire. Being a remarkable penman and accountant, he became ſecretary to Sir John Harington, who was ſeveral times employed by King Henry and his ſucceſſor Edward VI. as paymaſter to the troops abroad. Bradford at this time was a gay man, and to ſupport his extravagance made free with the king's money; but being at laſt unable to ſupport the reflection of his guilt, he determined to make reſtitution, and actually repaid the money. Quitting his employment of ſecretary, about the year 1547, he took chambers in the Inner Temple, and for ſome time ſtudied the law; but finding in himſelf an inclination to preach the goſpel, in the following year he removed to Catharine-hall in Cambridge, where he

applied with ſuch uncommon aſſiduity to the ſtudy of divinity, that in a much ſhorter time than uſual he was admitted to the degree of maſter of arts, and ſoon after made fellow of Pembroke-hall. Biſhop Ridley, who, in 1550, was tranſlated to the ſee of London, charmed with Bradford's application and zeal, now ſent for him to the metropolis, ordained, and appointed him his chaplain. In 1553 he was alſo made chaplain to Edward VI. during which time he became one of the moſt popular preachers in the kingdom. Such a reformer was too dangerous to be ſuffered in the ſucceeding reign. Mary was hardly in poſſeſſion of the crown, before Bradford's perſecution began. He was firſt confined in the Tower for ſedition, where he continued a year and a half; during which time he wrote ſeveral epiſtles that were diſperſed in various parts of the kingdom. He was afterwards removed to other priſons, and at laſt brought to his trial before that infernal court of inquiſition in which Gardiner ſat as chief inquiſitor, where he defended his principles to the laſt, in contempt of their utmoſt power. They condemned him to the flames; and he was accordingly burnt alive in Smithfield, on July 1, 1555. His works are: 1. Seventy-two letters, written to various people, whilſt the author was in priſon; printed in Biſhop Coverdale's collection. 2. Ten letters, printed in Fox's acts and monuments. 3. Complaint of verity, 1559, 8vo. 4. Three examinations before the commiſſioners, and his private talk with the prieſts, with the original of his life, 1561, octavo. 5. Two notable ſermons, 1574, octavo, 1631. 6. Godly meditations and prayers, 1614, 24to. 7. Treatiſe of repentance, 1622. With ſeveral tranſlations and other pieces.

BRADSHAW (Henry), a Benedictine monk, was born at Cheſter, about the middle of the fifteenth century. Diſcovering an early propenſity to religion and literature, he was received while a boy into the monaſtery of St. Werberg in that city; and having there imbibed the rudiments of his education, he was afterwards ſent to Glouceſter College, in the ſuburbs of Oxford, where for a time he ſtudied theology with the novices of his order, and then returned to his convent at Cheſter; here, in the latter part of his life, he applied himſelf chiefly to the ſtudy of hiſtory, and wrote ſeveral books. He died in the year 1513, the fifth of Henry VIII. His poetry is not inferior to that of any of his contemporaries. His works are: 1. *De antiquitate et magnificentia urbis Ceſtriæ.* 2. *Chronicon.* 3. The life of the glorious virgin of St. Werberg. Printed Lond. 1521, 4to, in verſe. The life of St. Werberg makes only part of this work; for it contains alſo a deſcription of the kingdom of Mercia, life of St. Etheldred, the life of St. Sexburg, the foundation and hiſtory of Cheſter, and the chronicles of ſome kings. Poſſibly this work may include the two firſt. Biſhop Tanner ſays, that he wrote a chronicle in Engliſh verſe, extracted from Bede, Malmſbury, Geraldus, and others. Probably this is the chronicle above mentioned.

BRADWARDIN (Thomas), archbiſhop of Canterbury, was born at Hartfield in Suſſex, about the cloſe of the thirteenth century. He was educated at Merton College, Oxford, where he took the degree of doctor of divinity; and acquired the reputation of a profound ſcholar, a ſkilful mathematician, and conſummate divine. Authors are not agreed as to his firſt preferments. Pits ſays he was profeſſor of divinity at Oxford. They agree, however, in aſſerting, that from being chancellor of the dioceſe of London, he became a courtier and confeſſor to Edward III. whom he conſtantly attended during his war with France, aſſiſting that victorious prince with his advice, animating the troops, and fervently praying for their ſucceſs. After his return from the war, he was made prebendary of Lincoln, and afterwards archbiſhop of Canterbury. He died at Lambeth in the year 1349, forty days after his conſecration; and was buried in St. Anſelm's chapel, near the ſouth wall. His works are: 1. *De cauſa Dei*, printed in London, 1618, publiſhed by J. H. Savil. 2. *De geometria ſpeculativa*, &c. Paris, 1495, 1512, 1530. 3. *De arithmetica practica*, Paris, 1502, 1512. 4. *De proportionibus*, Paris, 1495, Venice, 1505, folio. 5. *De quadratura circuli*, Paris, 1495, folio.

BRADY (Robert), born in Norfolk in 1643, was maſter of Caius College, Cambridge, regius profeſſor there, and twice repreſentative of that univerſity in parliament. In 1685 he was made keeper of the records in the Tower, and was phyſician in ordinary to James II. He wrote, An introduction to the Old Engliſh hiſtory; An hiſtory of England, from the time of the Romans, to the end of the reign of Richard II.; and, A treatiſe on Engliſh boroughs. He died in 1700.

BRAILA, a town of Turkey in Europe, in Walachia, on the Danube. It has a caſtle, taken by the Ruſſians in 1711; but afterwards reſtored.

BRALIO, a lofty mountain of the Alps, in the country of the Griſons. It ſeparates the valley of Munſter from the county of Bormio; and this part of the Alps is ſuppoſed to be the ſame which Tacitus mentions under the name of Juga Rhætica.

BRAMHALL (Dr. John), archbiſhop of Armagh, was born of an ancient family at Pontefract in Yorkſhire, about the year 1593. He was invited over to Ireland by the Lord-deputy Wentworth; and ſoon after obtained the archdeaconry of Meath, the beſt in that kingdom. In 1634 he was made biſhop of Londonderry, which ſee he improved very much; but the greateſt ſervice he did to the church of Ireland, was by getting, with the deputy's aſſiſtance, ſeveral acts paſſed for aboliſhing fee-farms, recovering impropriations, &c. by which and by other means he regained to the church in the ſpace of four years 30,000 or 40,000l. a-year. In the convocation he prevailed upon the church of Ireland to unite in the ſame faith with the church of England, by adopting the thirty-nine articles of that church; and would willingly have introduced the Engliſh canons, but could only prevail on their accepting ſuch as they deemed proper. Articles of treaſon were exhibited againſt him in the Iriſh parliament; and at the treaty of Uxbridge in 1644, the Engliſh parliament made it a preliminary article, that Biſhop Bramhall, with Archbiſhop Laud, and others, ſhould be excepted from the general pardon. He went abroad; but on the reſtoration was appointed archbiſhop of Armagh, primate and metropolitan of all Ireland, and was choſen ſpeaker of the Houſe of Lords. He died in 1663; and was the author of ſeveral works, which are collected in one volume folio.

BRAMPTON, a village in Herefordſhire, one mile S. of Roſs. Here are the ruins of a magnificent caſtle; and the gatehouſe, which is entire, is a very curious ſtructure.

BRAN (*Encycl.*) The ſcarcity of bread which has occurred of late years has led to many important experiments and diſcoveries. One of theſe is, that bran contains *a very large portion* of what is nutritious in wheat. The advantages to be derived from kneading flour for baking with bran-water inſtead of common water, were firſt made public in the following copy of a letter from the reverend Francis Haggitt, prebendary of Durham, to the lord biſhop of Durham, dated Nuneham, February 18, 1800.

"If you were ſurpriſed, my lord, at receiving from me a

loaf of bread, your ſurpriſe will ceaſe when I explain my reaſon for ſending it; in doing which, I muſt enter into ſome details which, I am perſuaded, will be far from unintereſting to your lordſhip. In the courſe of reading an old work of Rural Economy, I lately met with the following aſſertion, viz. that flour kneaded with bran-water will produce a more *ſubſtantial* bread, and a *greater quantity* of it, than is obtained by the common mode of baking. As the author ſays nothing more upon the ſubject, I conclude he wrote in a time of plenty; but the information (if it ſhould prove correct) appeared to me of vaſt importance in theſe days of ſcarcity, and I determined to make the experiment without delay. Accordingly I cauſed four buſhels of wheat (nine-gallon meaſure) to be ground, and nothing but the coarſe bran taken out: the produce was four buſhels and a half of flour, and 22lb. of bran. About ten days ago, I boiled ſome of the bran, and kneaded a due proportion of the flour with the ſtrained liquor, and the reſult of the expement was ſo highly ſatisfactory, that I reſolved to repeat it with the moſt ſtrict attention, and the moſt ſcrupulous exactneſs. The details of this ſecond experiment I am now about to communicate to your lordſhip; and I thought proper to ſend you alſo ſome of the bread produced by it, that you might form a judgment of its excellence. Yeſterday I took 5lb. of bran, boiled it, and with the liquor ſtrained from it kneaded 56lb. of flour, adding the uſual quantity of ſalt and yeaſt. When the dough was ſufficiently riſen it was weighed, and divided into loaves; the weight, before being put into the oven, being 93lb. 13oz. or about 8lb. 10oz. more than the ſame quantity of flour kneaded in the common way; it was then baked two hours, and, ſome time after being drawn, the bread was weighed, and gave 83lb. 8oz.—loſs in baking 10lb. 5oz. The ſame quantity of flour kneaded with common water loſes about 15lb. 11oz. in the baking, and produces only 69lb. 8oz. of bread;—gain by my method 14lb; that is, a clear increaſe of one-fifth of the uſual quantity of bread from a given quantity of flour. This increaſe, which at firſt appears aſtoniſhing (ſince only 5lb. of bran were boiled), ſeems to depend on a combination of three cauſes;—firſt, the water in which the bran is boiled weighs half a pound more per gallon than plain water; ſecondly, owing to its glutinous conſiſtence, it is leſs ſubject to evaporation by heat; thirdly, and principally, a greater quantity of it is neceſſary to make the dough; a buſhel (or 56lb.) of flour requires three gallons (i. e. 27lb.) of plain water; but it imbibed three gallons and three quarts of bran-water, weighing 35lb. 10oz. The bran, after being uſed in this way, is equally fit for many domeſtic purpoſes, and I ſuſpect even more nutritious for pigs and poultry than if given to them raw. I had the curioſity to weigh it after the liquor was ſtrained off, and found that it had gained 12lb. and if water incorporates with it in the ſame manner as it does with rice, why may not its nutritive power be increaſed in the ſame manner? The conjecture accords, at leaſt, with Count Rumford's principle. But to return to my experiment: I have amuſed myſelf with the following calculation, which perhaps will make your lordſhip ſmile. The increaſe of bread, by this method, being a fifth from a given quantity of flour, the conſumption of flour would be ſaved by it every ſixth day, or ſixty days in a year. Suppoſing then that the practice were univerſally adopted, and taking the conſumption of flour in this kingdom at 200,000 buſhels per day, the *annual ſaving* would amount to twelve millions of buſhels, which, at the preſent price, would coſt about ten millions ſterling, and in ordinary times about four millions. Of the wholeſomeneſs of the bread there can be no doubt; of its flavour you will judge by the ſpecimen I have ſent you; and I can add from experience, that it keeps very well. After my *firſt* batch had been baked ten days, I put a loaf which remained of it into my oven for about twenty minutes, and, being ſuffered to grow cool again, it was cut, and had every appearance of new bread; nay, we even thought it better than it was at firſt. I am," &c.

This was publiſhed by the ſociety for bettering the condition of the poor in London, but as the trials of this method fell ſhort in ſome inſtances, it was followed by theſe "curſory obſervations on the uſe of bran in making bread."

"Moſt of the objections to the uſe of bran in the making of bread, appear to be founded on a preſumption, that no mode of preparation will make any difference in the degree of nutriment to be derived from food. Though the ſubject is as yet but little underſtood, ſtill we have gone far enough to aſcertain the fact, that in moſt kinds of grain, ſome increaſe of the ordinary nutritive power *may* be produced by culinary proceſs. The very making bread affords an example of this increaſe. In rice it is very great; and in barley-meal, particularly when uſed in ſoup, its increaſed power of nutriment may be extended to a ſurpriſing degree. It is now well known that rice, when increaſed by water to a ſolid ſubſtance of five times its original weight, or by the addition of milk to eight times what it originally weighed, is converted from a hard indigeſtible grain into a wholeſome nouriſhing food.

"It appears from chemical experiments, and particularly from thoſe made by a very able man, the late Dr. Addington, the miniſter's father, and mentioned in the Houſe of Commons, that wheat contains 'an eſſential oil of a moſt beneficial quality; and that *almoſt the entire of the oil is confined to the* BRAN.' Theſe words are copied from the account given in the public papers, with a view of ſuggeſting to the reader's mind, whether (if we *can* be perſuaded that the reſult of theſe chemical experiments is juſt, and that there really is *a very nutritious eſſential oil in the bran* of wheat) that circumſtance alone will not at once explain the cauſe of the increaſe, and demonſtrate the value of the diſcovery.

"The uſe and application of Mr. Haggitt's proceſs is now conſiderably extended, by the addition of the whole of the boiled bran to the dough. This has been adopted, for the laſt month, in ſome families, in the making of all their bread for common uſe; and the bread ſo made is perfectly good and ſweet, and (as far as one may at preſent judge) quite as *wholeſome* and *nouriſhing* as any other bread.

"The fact ſeems to be, that the boiling of the bran ſoftens it, and diveſts it of its dry huſky quality; thus preparing the nutritive part, *the eſſential oil*, for food. The increaſe in the quantity of bread by the addition of bran to 56lb. of flour, is from 34lb. to 36lb. of bread beyond what is produced in the common mode. In one inſtance, the 56lb. of flour with 14lb. 14oz. of bran, has produced 106lb. and a half of bread, weighed the next day when cold; above half as much again as what is commonly made, and about twice the quantity that is produced from a buſhel of wheat when merely the fine white flour is uſed. This improvement (if adopted only in the families of gentlemen and farmers, and in public inſtitutions) would have an inſtantaneous effect in reducing the price of flour, and in baffling the arts of the *ſpeculator*; and if univerſally adopted throughout the whole kingdom, the ſaving from it would be equal to one-third of our conſumption; or to the annual amount of as much wheat as, with the ſame economy, would ſupply the whole kingdom for ſix months;—of as

much wheat as *one thouſand ſhips* would import to our ſhores, if the reſt of Europe were *glutted* with grain, and the *millions* which it would coſt were no object of expenditure.

"There is not the moſt diſtant idea of preſſing upon the poor any variation in their habits; particularly with reſpect to bread, now become their chief article of ſubſiſtence. But it is conceived, that, in the preſent criſis, the *rich* are *inexcuſable*, if they neglect to attend to every practicable ſaving that can be made in the conſumption of wheat corn. Whether the high price of bread is occaſioned by actual ſcarcity, or by baneful monopoly, or whether (as ſome think) it owes its exiſtence to both cauſes, it is one of our firſt duties to adopt every juſt and legal expedient to keep down the price of corn, and to huſband this eſſential article of life for the benefit of our poor and neceſſitous brethren. Something has been already done, and with great and good effects: but it is hardly poſſible to conjecture what the price of bread *would have been at this day*, and how inſupportable might have been the preſſure upon the poor, if no meaſures had been taken for their relief and protection. When, therefore, we find any perſons openly oppoſing thoſe meaſures, or clandeſtinely endeavouring to diminiſh their effects, it is not very eaſy to diveſt the mind of the idea that they have an intereſt in the increaſe of the evil, and are taking advantage of a public calamity."

BRANCASTER, a village of Norfolk, to the E. of the promontory of St. Edmund's-chapel, was anciently Branodunum, a conſiderable Roman city, where ancient coins have been frequently dug up.

BRANDELS, a town of Bohemia, on the river Elbe, 10 miles N. E. of Prague. Long. 14. 45. E. Lat. 50. 15. N.

BRANDT (Gerard), a learned divine of the reformed religion, was born at Amſterdam in 1626, and was ſucceſſively miniſter in ſeveral places of the Netherlands. He wrote ſome works which are eſteemed, particularly The Hiſtory of the Reformation of the Netherlands, 4 vols. 4to.; and The Life of Admiral Ruyter; both written in the Flemiſh tongue. He died at Rotterdam in 1685.

BRASSA, a ſmall iſland to the N. of Scotland, one of the Shetland iſlands. Between this and the principal iſland, called the Mainland, is the noted Braſſa Sound; where a thouſand ſail may at once find commodious mooring.

BRATTON-CASTLE, on the E. ſide of Weſtbury, in Wilts, the remains of a ſtrong fortification, where the Danes held out againſt the Engliſh twenty-four days. It is ſeated on a hill, and is encompaſſed by two ditches, within which ſeveral pieces of old iron arms have been dug up.

BRAUBACH, a town of Germany, in Weteravia, with a caſtle, ſeated on the Rhine, eight miles S. of Coblentz.

BRAUN (George), in Latin *Braunius*, archdeacon of Dortmund, and dean of Notre Dame in Gradibus, at Cologne. He publiſhed a Latin oration againſt the prieſts guilty of fornication; he alſo wrote the Life of Jeſus Chriſt, that of the Holy Virgin, and a controverſial treatiſe againſt the Proteſtants; but his chief work is the *Theatrum Urbium*, in ſeveral volumes folio.

BRAY, a village of Berkſhire, famous in ſong for its vicar, who, having been twice a Papiſt, and twice a Proteſtant, in the reigns of Henry VIII., Edward VI., Mary, and Elizabeth, and therefore taxed with being a turncoat, ſaid, he always kept to his principle, which was, to live and die vicar of Bray. It is ſeated on the Thames, one mile from Maidenhead.

BRAZIL, erroneouſly ſpelt Bzazil in our original article. See Brasil.

BREAD *(Encycl.)* The following we add to our original article; viz. a method of fermenting a large body of flour with a ſmall quantity of yeaſt, invented by Mr. James Stone, of Amport, in Hampſhire. Suppoſe you want to bake a buſhel of bread, and have not more than one tea-ſpoonful of yeaſt; put the flour into a kneading-trough, and take about three quarters of a pint of warm water, and the tea-ſpoonful of yeaſt, which if thick and ſteady the better; put it into the water, and ſtir it until it is thoroughly mixed; then make a hole in the middle of the flour large enough to contain two gallons of water; pour in your ſmall quantity of yeaſt, mixed with water as above; then take a ſtick about two feet long, and ſtir in ſome of the flour until it is as thick as you would make batter for a pudding; ſtrew ſome of the dry flour over it, and let it reſt for about an hour, for in that time you will find this ſmall quantity raiſed ſo that it will break through the dry flour which you ſhook over it; then pour in about a quart more of warm water, and ſtir it with your ſtick as before, and leave it for two hours more; you will find it riſe, or break through the dry flour again; then add three quarts or a gallon more of warm water, and ſtir in the flour again; and in about three or four hours mix up the dough, and cover it warm. In four or five hours more you may put it in the oven, and you will have as light bread as though you had uſed a pint of yeaſt. It does not take above a quarter of an hour more time than the uſual way of baking; for there is no time loſt but that of adding water three or four times. When you find your body of flour ſponged large enough, before you put in the reſt of the water you ſhould, with both hands, mix that which it ſponged and the dry flour altogether, and then add the remainder of warm water, and your dough will riſe the better and eaſier. The author aſſerts, that he conſtantly bakes this way; in the morning, about ſix or ſeven o'clock, he begins his firſt operation; in an hour's time he adds more water, in two hours more a greater quantity, about noon he makes up the dough, and about ſix in the evening it is put into the oven; and that he has always good bread, never heavy nor bitter. He adds, that the cauſe of heavy bread is not owing to the ſmallneſs of the quantity of yeaſt uſed, but to its not being uſed properly, for yeaſt is to flour what fire is to fuel—a ſpark of the latter will kindle a large body by only blowing it up, ſo a thimble full of the former, by adding warm water to it, will raiſe or ſponge almoſt any quantity of flour.

Thus heavy bread is not owing to a deficiency in the quantity of yeaſt uſed, but to a deficiency of fermentation; for, if the dough be put into the oven before it is ripe, heavy bread is the natural conſequence. In regard to the difference of ſeaſons, he preſcribes that in ſummer the water ſhould be blood-warm, and in cold froſty weather as warm as you can bear your hand in it without making it ſmart; taking care in winter to cover up your dough.

In the Britiſh Magazine for 1800, we are taught how to make bread without yeaſt, as practiſed in Hungary.

Boil two good handfuls of hops in four quarts of water: pour this upon as much wheat bran as the liquor will moiſten. To this add four or five pounds of leaven: mix the whole together, ſo as to unite the parts. Put this maſs into a warm place for twenty-four hours; then divide it into pieces about the ſize of an hen's egg, which ſhould be dried in the air, but not in the ſun, and then will keep ſix months.

For ſix large loaves, ſix good handfuls of this broken ſmall, and diſſolved in eight quarts of warm water, and poured through a ſieve into one end of the bread-trough; and three quarts more of warm water are poured through the

ſieve after it, and what remains in the ſieve well preſſed out. This liquor muſt be mixed up with as much flour as will make a large loaf. This to be ſtrewed over with flour, the ſieve with its contents put upon it, and the whole covered up warm. When its ſurface begins to crack, fifteen quarts of warm water, in which ſix handfuls have been diſſolved, muſt be poured through the ſieve upon it, and the neceſſary quantity of flour added, and mixed and kneaded with the leaven; this muſt be covered up warm and left about an hour, then made up into loaves, which are kept in a warm room half an hour, and after that put into the oven till ſufficiently baked.

"The leaven," ſays Mr. Holt, of Walton near Liverpool, who relates this proceſs, "may be made in large quantities. By large loaves, I find by enquiry, in our own practice, is meant twelve pounds of flour, and to which four ounces of leaven in a dried ſtate is a proper quantity."

The following account of *ſubſtitutes for flour or bread* we extract from an excellent contemporary work, entitled The Domeſtic Encyclopædia.

We have, in the preceding analyſis, as well as on former occaſions, mentioned various ſubſtances which might advantageouſly be employed in the manufacture of this indiſpenſable article of human ſuſtenance; independently of the different kinds of grain and roots that are already made ſubſervient to this beneficial purpoſe. In order to exhibit a diſtinct view of the moſt promiſing ſubſtitutes, whether indigenous or exotic, and eſpecially ſuch as have actually been uſed, on the authority of credible evidence, we ſhall here divide them into three claſſes, having, in the courſe of the work, given a more particular account of each article, in its alphabetical order.

I. *Farinaceous Seeds*:—Wheat-graſs, or *Triticum Spelta*; millet, or *panicum meliaceum*; common buck wheat, or *polygonum fagopyrum*; Siberian buck-wheat, or *polygonum tataricum*; wild buck-wheat, or *polygonum convolvulus*; wild Feſcue graſs, or *Feſtuca fluitans*; Maize, or Indian Corn, the *Mays Zea*; Rice, or *Oryza ſativa*; Guinea Corn, or White Round-ſeeded Indian Millet; the *Holcus Sorghum*, L.; Canary-graſs, or *Phalaris Canarienſis*; Rough Dog's-tail Graſs, or *Cynoſurus echinatus*; Water Zizany, or *Zizania aquatica*; Upright Sea Lime-graſs, or *Elymus arenarius*; Sea-reed, Marram, Helme, or Sea Mat-weed, the *Calamagroſtis*, or *Arundo arenaria*.

The following mealy fruits, however, deſerve a decided preference over many of the preceding: viz. Water Caltrops, or the fruit of the *Trapa natans*, L.; Pulſe of various kinds, ſuch as Peas, Lentils, Beans, and the ſeeds of the Common Vetch, Fetch, or Tare-acorns, and eſpecially thoſe of the *Quercus cerris* and *eſculus*; the ſeeds of the White Gooſe-foot. Common Wild Orange, or the *Chenopodium album*; the ſeeds and flowers of the Rocket, or *Braſſica eruca*; the ſeeds of the Sorrel, or *Rumex acetoſa*; of the different ſpecies of Dock, or *Lapathum*; of the Yellow and White Water-lily; or the *Nymphæa lutea* and *alba*; of the Corn-ſpurrey, or *Spergula arvenſis*; of the Spinage, or *Spinacia oleracea*, L.; of the Common Gromwell, or Graymill, the *Lithoſpermum officinale*; of the Knot-graſs, or *Paniculum aviculare*; the Beech-nut; and even the huſks of the Lint-ſeed, &c.

II. *Farinaceous Roots:* namely, thoſe of the Common and Yellow Bethlem Star, or *Ornithogalum luteum* and *umbellatum*; of the well-known Yellow Aſphodel; of the Wake Robin, or *Arum maculatum* (after being properly dried and waſhed); of the Pilewort, or Leſſer Celandine, the *Ranunculus ficaria*; of the Common Dropwort, the *Spiræa filipendula*; of the Meadow-ſweet, or *Spiræa ulmaria*; of the White Bryony, or *Bryonia alba*; of the Turnip rooted Cabbage, or *Napobraſſica*; of the Great Biſtort, or Snake-weed; likewiſe of the Small, Welch, or Alpine Biſtort; of the Common Orobus, or Heath-pea; the Tuberous Vetch; the Common Reed; both the Sweet-ſmelling and Common Solomon's Seal; the Common Corn-flag, or *Gladiolus communis*; the Salt-marſh, Club-ruſh, or *Scirpus maritimus*, &c.—Indeed, ſome authors alſo include in this liſt the roots of the *Mandragora, Colchicum, Fumaria bulb, Helleborus acconitifol.* and *nigr. Lilium bulbif.*, and many others; but for theſe laſt mentioned we have not ſufficient authority.

III. *Fibrous and leſs juicy Roots:* viz. thoſe of the Couch-graſs, or Creeping Wheat-graſs; the Clown's, or Marſh Wound-wort; the Marſh Miry-gold, or Meadow Bouts; the Silver-weed, or Wild Tanſey; the Sea Seg, or *Carex arenarius*, &c.

Having thus ſtated the various ſubſtitutes for bread, which either have already been adopted with ſucceſs in this country, or which might, in times of *real* ſcarcity, be eaſily converted into proper nutriment, we cannot better conclude this article than in the words of Arthur Young, eſq. who, in his Obſervations on the late Royal Proclamation, recommending frugality in the conſumption of corn, as one of the ſureſt and moſt effectual means of alleviating the preſent preſſure of the times, eſpouſes the cauſe of the unfortunate poor, nearly in the following words: Every maſter or head of a family is in duty bound to ſecond, without compulſion, the humane views of the legiſlature. Hence, bread made of the whole produce of the wheat, excepting only ſeven pounds of the bran in each buſhel, and adding one-fourth or third part of a ſubſtitute, would probably be the moſt effective ſaving. If the conſumption of the whole kingdom be computed at 8,000,000 of quarters in twelve months, this ſaving on all the wheat conſumed in nine months would be 700,000 quarters, which would feed 875,000 perſons, at the ordinary conſumption of one quarter a head per annum; and probably be equal, under the preſent reſtrictions, to afford food to 1,000,000 of people for the next nine months. Further, if the ſaving of oats to the ſuppoſed number of 500,000 horſes of luxury, be calculated at one buſhel per week, this would, in nine months, amount to 18,000,000 of buſhels; or ſufficient to ſupport 1,000,000 of perſons for the ſame period of time, allowing to each not leſs than twenty-five buſhels per annum. With due deference to Mr. Young's ſtatiſtical information, however, we beg leave to doubt whether 500,000 fat horſes, crammed on the food of man, move about the kingdom; though it muſt be acknowledged, that *pleaſure horſes* "are ſpectacles of envy to the ſtarving poor—abominable and ſcandalous ſpectacles, which, in times like theſe, ought to be removed from the view of thoſe whoſe miſerable children might be fed on the corn thus ſaved."

BREMENWOERD, a town of Germany, in the duchy of Bremen; formerly a fortified town; but, ſince the year 1683, the fortifications have been demoliſhed. It is 27 miles N. of Bremen. Long. 8. 45. E. Lat. 53. 33. N.

BRENT, a river of Somerſetſhire which riſes in Selwood Foreſt, on the edge of Wilts, and receiving ſeveral rivulets, particularly one from Shepton-Mallet and Wells, falls into Bridgewater Bay.

BRENTE, a river which has its ſource in the biſhopric of Trent, and falls into the gulph oppoſite Venice.

BRESLE, a river of France that has its ſource above Aumale; ſeparates the late provinces of Normandy and Picardy, waters Eu, and then falls into the Engliſh Channel.

BRESSUIRE, a town of France, in the department of

the two Sevres and late province of Poitou, with a college, 35 miles N.W. of Poitiers.

BRETAGNE, a late province of France, 150 miles in length, and 112 in breadth. It is a peninsula, united on the E. to Anjou, Maine, Normandy, and Poitou. The air is temperate, and it has large forests. It is formed into five of the new departments of France; namely, the North Coast, Finisterre, Isle and Vilaine, Lower Loire, and Morbihan.

BRETEUIL, a town of France, in the department of Lower Seine and late province of Normandy, seated on the river Iton, 15 miles S. W. of Evreux. Long. 1. 0. E. Lat. 48. 56. N.

BREWING (*Encycl.*). In March, 1788, Mr. W. Ker, of Kerfield, Tweedale, received the king's patent for his improvement in brewing ale, beer, porter, and other malt liquors, so as to save a considerable portion of hops, to produce the liquors of a superior flavour and quality, and render them less liable to become acid or putrid. The steam which arises from the boiling copper, is known to be strongly impregnated with the essential oil of the hops, in which their flavour consists. Instead, therefore, of allowing it to escape and evaporate, as it does in the common mode of brewing, Mr. Ker contrives to preserve and condense it, by means of a winding-pipe fixed to the copper, similar to the worm of a still, or by a straight pipe passing through cold water, or any other cooling medium. The oil and water, thus obtained, are returned into the worts, when boiled; or the oil, after being separated from the water, along with which it had been exhaled, is returned into the worts after they are boiled; and the watery part, which, after the oil is separated, still continues impregnated with the aromatic taste and bitter of the hop, is returned into the next copper or boiling vessel, and so on, from one copper or boiling vessel into another. By this process, a considerable part of the hop and flavour, which is lost in the ordinary mode of brewing, is preserved; the flavour of the liquor is improved by the preservation of the finer parts of the aromatic oil; and the ale and beer are better secured from any tendency to acidity or putrefaction, and therefore must be fitter for home consumption and exportation.

In June 1790, Mr. John Long, of Ireland, obtained a patent for an improvement, which he calls *an entire new method*, in *all the essential parts* of brewing good malt liquor. Though his method, in one respect, is similar to that adopted by Mr. Ker, yet, as it comprehends the whole process of brewing, we shall lay it before our readers, nearly in the words of its author.

1. For the better extracting the virtues of malt, place near a mash-tun a shallow copper, or other vessel, that will readily heat, the curb of which to be on a level with the tun, and to contain from two to six hogsheads, according to the dimensions of the tun, more or less; and, at the lower end of the copper, have a cock, from two to five inches in diameter, to conduct the heated liquor from the copper into a tube, which passes down the external part of the tun, and enters it through an aperture about six inches from the bottom; then forming two revolutions, more or less, through the body of the tun, and communicating its heat to the wort as it passes through the tube; and then, at a convenient distance from the place where it first entered, it runs from the tun into a cistern or tub, situate as near as convenient to the copper or heating-vessel. In the tub or cistern is to be placed a pump, for the purpose of conveying the cooler liquor back to the copper or heating-vessel again, there to receive the heat of 208 degrees, more or less (which it will require after the first half hour), and then convey it through the mashing-tun, as before, and in the same manner, as long as the working-brewer may think necessary, to raise the mashing-tun to any degree of heat required. By adhering to the foregoing process, the first liquor may, with the greatest safety, be let upon the malt, from 20 to 30 degrees lower than the present practice; by which means it operates with gentleness, opens and expands the malt, and prepares it for the reception of sharper or warmer liquor, so as to extract the whole of the saccharine quality from the malt. By the foregoing method, the mashing-tun, instead of losing its first heat (which it does by the present practice), continues to increase in heat every moment, by conveying the heated liquor through the tube into the tun; by which means, at the end of two hours, the working-brewer can have the tun brought to any degree of heat he shall think best suited to the different qualities of the malt. Persons who would wish to save expence, may heat their mashing-tun at the side or bottom, by a large piece of metallic substance made fire-proof, and fixed therein; which, in some degree, will answer the end proposed, but with great trouble and delay.

2. To prevent the wort from receiving a disagreeable flavour, while in the under-back, a tube must be placed at the cock of the mashing-tun, to receive the wort as it comes off, and convey it to a great cistern, or refrigeratory, which is supplied with a stream of water. The wort, passing through that medium in a spiral tube, soon loses that heat which so often proves prejudical to the brewer in warm weather: it is then poured from the tube into a vessel in which pumps are placed, to return the wort into the copper, for the purpose of boiling off.

3. As the great object of long boiling the wort is remedied, by this invention of taking the extract from the hops in a separate manner from the worts, Mr. Long boils the latter no longer than from fifteen to twenty minutes; and by pursuing that method, he saves much time and fuel, and regulates the length of time accordingly.

4. He steeps his hops the preceding day to which they are to be used, in a copper or other vessel, with as much fluid, blood-warm, as will cover the hops; where it is to remain over a slow fire at least fourteen hours, close covered; the copper, at the tenth hour, not to be of a greater heat than 175 degrees, continuing slow until the last hour. Then he brings the copper gradually to a simmer, or slow boil; in which state he suffers it to remain about ten minutes, and then runs off the fluid; and this he does at the same time the first wort is boiled off, that they may both pass together through the refrigeratory, into the fermentation or working-tun. After the foregoing operation, he covers the hops again with other liquor, brings the copper to boil as soon as convenient, and lets it remain in that state a considerable time, until the second worts are boiled off. Then he passes the hop-fluid with the wort, the same as in the first instance; and, if there is a third wort, he boils the hops a third time with small worts, and drains off the liquid as before; by which means he gradually obtains the whole of the essential oil and pleasant bitter from the hops, which is effectually preserved in the beer.

5. When the wort is boiled off, it is conducted from the cock of the copper or boiler into a tube of a proper dimension, which passes the wort from the cock to the large cistern or refrigeratory, and there performs several revolutions, in a spiral manner, through the same tube; which is immersed in a constant supply of cold water, where it loses the greatest part of its heat in a short time, and thence continues a straight course through the tube, a little elevated, and some suitable length, placed in brick-work, until it meets a small

refrigeratory, ſupplied with colder water from a reſervoir made for that purpoſe, at the head of the works; whence a continual ſtream runs on the ſurface of the tube down to the great refrigeratory, cooling the wort as it paſſes, in order to enable the working-brewer to ſend it into the backs, or working-tuns, at whatever degree of heat he may think proper. The tube may be made of lead, or any other metallic ſubſtance.

6. To enable him to brew in the warm ſummer months, Mr. Long ſinks the backs, or working-tuns, at leaſt to a level with the ground, but if deeper the better, and covers them cloſely by an arch made of bricks, or other materials, that will totally exclude the atmoſpheric air. He then places them as near as poſſible to a ſpring or ſand-drain, as their depth will naturally draw the water thence, which muſt be ſo contrived as to paſs or flow round the backs or tuns. Next, he introduces a large tube, which paſſes through the tuns, and keeps the wort ſeveral degrees lower than can poſſibly be done by the preſent practice; by which means he produces a complete fermentation, even in the dog-days.

7. In cold or froſty weather, if the tun and backs ſhould loſe the firſt heat, intended to be conducted through the proceſs by the foregoing method, a ſupply of warm or boiling water may be conveyed by the tube, which paſſes through the body of the backs or tun, communicating its heat, which riſes to any degree the working-brewer ſhall think proper: by purſuing this method, in the coldeſt ſeaſon, a fermentation may always be procured.

In February 1798, Dr. Richard Shannon obtained a patent for his method of improving the proceſſes of brewing, diſtilling, boiling, evaporating, raiſing, applying, and condenſing ſteam or vapour from aqueous, ſpirituous, ſaccharine, ſaline, and other fluids. The principle of his invention conſiſts chiefly in the following arrangement: By covering and making the maſh-tun air-tight, and caſing it round, under and over, with a ſteam-tight caſing, ſo that, during the maſhing and ſoaking of the malt and grain uſed, the heat may be preſerved, or raiſed and regulated to any pitch, by the application of ſteam, both in and between the caſing of the maſh-tun; by which contrivance, the whole of the *farina* and ſubſtance of the grain may be as effectually extracted in one, or at moſt in two maſhings, as is now done in three or four. The ſteam, conducted by a proper tube or pipe, is to be alſo employed for ſweetening and cleanſing all the brewing, diſtilling, and vinegar-making utenſils, and caſks employed in each, &c. ſo as in future to prevent furring, foxing, &c. even in the inmoſt crevices.

In June 1798, the ſame patentee, in partnerſhip with Mr. Robert Burnett, of Vauxhall, procured another patent, for the diſcovery of a principle and invention of a method of improving the proceſs of fermentation, by which porter, beer, ale, malt and molaſſes waſh, wine, cyder, and all other ſaccharine and fermentable fluids, may be conducted with certainty through the vinous proceſs of fermentation in mild, warm, hot, and cold weather, without being materially injured as heretofore, by the different changes of the atmoſphere, &c. But as theſe improvements depend on the application of an expenſive *pneumatic apparatus*, which does not appear to us adapted to the uſe of families, we refer the reader to the tenth and fourteenth volumes of the Repertory of Arts and Manufactures, where he will find a detailed ſpecification of both patents.

The laſt patent we ſhall mention, is that of Mr. Thornton, of Eaſt Smithfield; which, being dated April 15, 1778, is earlier than either of the preceding, and does not ſtrictly relate to the proceſs of brewing, as his invention conſiſts in a new method of reducing *malt* and *hops* to an eſſence or *extract*, from which beer may be made either at ſea or in diſtant countries. The whole is managed by the tranſmitted heat of compreſſed vapour of boiling water, and a proper apparatus for that purpoſe. This apparatus may be made of iron, tin, or copper: it conſiſts of a boiler of any dimenſions, a double veſſel, and conducting tubes. The double veſſel conſiſts of one veſſel placed within another, and fitted tight at their rims. The upper veſſel forms the upper part of the under veſſel, and contains the liquor to be evaporated. The under veſſel is every-where incloſed, except at an aperture communicating with the boiler, and at another aperture communicating with the conducting tubes; and is conſtructed ſo as not to allow any part of the vapour condenſed into drops within it to eſcape, except back again into the boiler: it is not ſo extenſive as to act as a common refrigeratory, and yet is capacious enough to prevent the liquor boiling over. The aperture communicating with the boiler is large enough to freely admit the vapour from the boiler into the under veſſel; and the aperture communicating with the conducting tubes is of a proper ſize to allow of the vapour in the under veſſel being compreſſed, to a degree capable of tranſmitting to the liquor to be evaporated a proper heat, and at the ſame time to ſerve as a paſſage for more heat than is neceſſary to keep up that degree of compreſſion. The conducting tubes are to convey this ſuperfluous heat or vapour, to be uſed for farther purpoſes, or immediately out of the building.

Thoſe of our readers who are deſirous of further information on the ſubject, may conſult the laſt edition of *Philoſophical Principles of Brewing*," by Mr. Richardſon, of Hull; a work of acknowledged merit, and practical utility.

BRICKS (*Encycl.*). In addition to what has been ſaid under that article, it is neceſſary briefly to notice the patent of Mr. Sandford, of Hartford, in Connecticut, North America. On the 20th of January, 1800, he received the king's patent for a method communicated to him by Dr. A. Kinſley, of the ſame place, for manufacturing bricks, tiles, and pottery-ware in general; and for diſcharging the moulds uſed therein. The principle of this invention is amply detailed in the ſpecification, a copy of which is inſerted in the 13th volume of the Repertory of Arts, &c. p. 148, and following, illuſtrated by a plate. From the ſubjoined extract, however, the reader may form a tolerable idea of the nature and utility of this invention, which chiefly conſiſts in a newly-contrived apparatus, for expediting the tedious proceſs of making bricks, and other earthen-ware. The moulds uſed in this machine may be various, either with falſe or fixed bottoms, ſides, or ends; or open at top, bottom, ſides, or ends: but ſuch as are uſed by the original inventor, Dr. Apollos Kinſley, are the moſt convenient, and contain from one to ſix bricks in each mould, according to their ſize. Each frame, or mould, has a fixed bottom; and, when more than one brick is moulded in the ſame frame, or mould, the diviſion between them is made in three parts. The middle piece is made a little tapering, and ſerves as a wedge to confine the other two parts in their places, while the mould is filling; and, when diſcharged, the wedge or middle part is lifted out, which liberates the other two: by that means the moulds are diſcharged with eaſe. Moulds for large ſingle bricks and ornaments, have one ſide, bottom, or end, taken off by means of ſteady pins, joints, or cramps, which will confine them while filling, and may be opened in any way that will allow them to diſcharge. The moulds may be made of metal, or of wood and lined with metal. The foot of the ſpindle may ſtand in, and be ſupported by a bar, made faſt to the platform, at the bottom of the tub; or it may be ſupported by a collar, incloſing the ſpindle above the ſemi-circular ſections, and made faſt to the tub; by that mean the whole ſpace under the forcers will be open, and free to form

bricks and ornaments of any ſize or ſhape. The friction-rollers are placed in a frame which may be raiſed or lowered by ſcrews, according to the thickneſs of the bricks or ornaments; and, by means of the ſcrews, the moulds may be liberated from any foul matter that may obſtruct their paſſage through the machine. Clay for bricks, ornaments, potters-ware, and tiles, of all deſcriptions, may be tempered and moulded, of any ſize or ſhape, in the above-deſcribed apparatus. The clay being put into the tub, is, by the action of the ſections, perfectly tempered and moulded at the ſame time, &c.

The reaſons why the modern bricks are ſo very inferior to thoſe made by the ancients; which, in their monuments, after having withſtood the ravages of time for many centuries, are ſtill in perfect preſervation, appear to be principally the following: in the preſent expenſive ſtate of ſociety, the price of manual labour, though far from being adequate to the preſſure of the times, is ſo conſiderable, that the manufacturer is under a kind of neceſſity to make choice of thoſe materials which are the cheapeſt and moſt eaſily procured: thus, a mixture of the moſt improper earths and clay is often employed in the manufacture of bricks, without reflecting that two bodies ſpecifically different in their nature, muſt neceſſarily require different degrees of heat in the kiln, in order to produce an uniform hardneſs, and an intimate combination of parts. On the contrary, the ancients not only ſelected the very beſt ſort of clay, but combined it with other ingredients well adapted to form the moſt complete cement, ſuch as coarſely powdered charcoal and old mortar added to the clay. Of this deſcription, likewiſe, were the bricks which Profeſſor Pallas, on his laſt journey through the ſouthern provinces of Ruſſia, diſcovered in the ſtupendous Tartar monuments, and which would ſcarcely yield to the force of a hammer. Another advantage peculiar to the bricks and tiles manufactured by our forefathers, aroſe from their method of burning them uniformly, after being thoroughly dried. There is no doubt, that if all the defects before pointed out were removed, and modern brick-makers were to pay more attention to their art, by digging the clay at proper ſeaſons, working it better than is done at preſent, beſtowing more care on the burning of them, and particularly by making them much thinner than what is preſcribed by the ſtandard form, we might produce bricks of an equal ſtrength and durability to thoſe of our leſs enlightened, but more provident and induſtrious, anceſtors.

BRIDGE (*Encycl.*). A patent was granted to Mr. Naſh, of Dover-ſtreet, in 1797, for an invention ſomewhat ſimilar to that acroſs the Wear. He provides hollow maſſes of caſt or wrought iron, which are to be filled with earth, ſand, &c. and have the appearance of ſolid bodies. According to this plan, the arch of the bridge is formed by hollow frames, or boxes, each conſiſting of four ſides and a bottom. Theſe boxes, after being properly arranged in the manner ſtated by the patentee, are then to be filled with ſand, ſtones, &c. by which means the arch becomes like one ſolid body caſed with iron. A further explanation of this invention may be ſeen in the 6th volume of the *Repertory of Arts and Manufactures*.

The lateſt patent for bridges, was that granted in June 1800, to Mr. Samuel Wyatt, of Chelſea College, for his invention of a new method of conſtructing bridges, warehouſes, &c. without the uſe of wood, as a conſtituent part. The principle of his diſcovery conſiſts in the combination of pipes, tubes, or hollow pieces of caſt-iron, in a longitudinal direction, and plates or pieces of the ſame material, having ſockets in them to receive the ends or ſhoulders of the pipes, placed tranſverſely, and extending from one ſide of the bridge to the other, ſo that when the requiſite number of pipes, &c. are put together, they form the arch ſo firmly as not to require the aid of ſcrews, bolts, cramps, or any iron faſtening whatever; but the joints ſhould be cloſed with lead or cement.

When applied to warehouſes and other buildings, Mr. Wyatt's invention conſiſts in forming arched ceilings of caſt-iron, and ſupporting them and the floors by hollow pillars, or cylinders, of the ſame material. It ought to be remarked, that the number of ſockets in the tranſverſe iron plates, ſhould always correſpond with the number of ribs in the arch.

BRIDGE-END, a town of Glamorganſhire, with a market on Saturday. It is ſeated on the river Ogmore, which divides it into two parts, joined by a ſtone bridge. It is ſeven miles W. by N. of Cowbridge, and 178 W. of London. Long. 3.38. W. Lat. 51. 30. N.

BRIENTZ, a lake of the canton of Bern, in Switzerland, three leagues long and one broad. It is well ſtored with fiſh; with a very delicate kind eſpecially, which is peculiar to this lake, and which is ſalted and dried like red-herrings. The river Aar runs through the whole extent of this lake, and unites it to that of Thun. Beſide the Aar, the lake of Brientz receives the Lutſchinen. See LUTSCHINEN.

BRIEY, a town of France, in the department of Moſelle and late province of Lorraine, ſeated near the river Manſe, 30 miles N.E. of St. Michael.

BRIGANTIA, or BRIGANTIUM (anc. geog.), a town of Vindelicia; now *Bregentz*, in Tyrol, at the eaſt end of the lake of Conſtance. Another *Brigantium* in the Alpes Cottiæ; which laſt is probably Briancon, a town on the borders of Dauphiny.

BRIGANTINUS LACUS (anc. geog.), a lake of Rhætia, or Vindelicia, which Tacitus includes in Rhætia. Ammian calls the lake *Brigantia*. It took its name either from the Brigantii, the people inhabiting on it, or from the adjoining town. Now the lake of *Conſtance*, or *Bodenzee*.

BRIGANTINUS *Portus* (anc. geog.), a port of the hither Spain; ſo called from Flavium Brigantium. Now *El Puerto de la Corunna*, commonly the *Groyne*.

BRIGGS (William), an eminent phyſician in the latter end of the 17th century, was the ſon of Auguſtin Briggs, eſq. four times member for the city of Norwich, where our author was born. He ſtudied at the univerſity of Cambridge; and his genius leading him to the ſtudy of phyſic, he travelled into France, where he attended the lectures of the famous anatomiſt M. Vieuſſens, at Montpellier. After his return, he publiſhed his *Opthalmographia* in 1676. The year following he was created doctor of medicine at Cambridge, and ſoon after was made fellow of the College of Phyſicians at London. In 1682 he quitted his fellowſhip to his brother; and the ſame year, his *Theory of Viſion* was publiſhed by Hooke. The enſuing year he ſent to the Royal Society a continuation of that diſcourſe, which was publiſhed in their Tranſactions; and the ſame year he was, by King Charles II., appointed phyſician to St. Thomas's hoſpital. In 1684 he communicated to the Royal Society two remarkable caſes relating to viſion, which were likewiſe printed in their Tranſactions; and in 1685 he publiſhed a Latin verſion of his *Theory of Viſion*, at the deſire of Mr. Newton, afterwards Sir Iſaac, profeſſor of mathematics at Cambridge, with a recommendatory epiſtle from him prefixed to it. He was afterwards made phyſician in ordinary to King William, and continued in great eſteem for his ſkill in his profeſſion till he died, September 4th, 1704.

BRIMPSFIELD, a village of Glouceſterſhire, on the river Stroud. Here are the foundations of a caſtle long deſtroyed. It had alſo a nunnery. The river Stour riſes here, and the turnpike road from Glouceſter to Cirenceſter (the Ermine-ſtreet of the Romans) extends along the ſide of this pariſh, and divides it from Cowley. It is ſeven miles from Glouceſter.

BRINN, a ſtrong town of Moravia, where the aſſembly of the ſtates meet. It was inveſted by the Pruſſians in 1742; but they were obliged to raiſe the ſiege. It is ſeated at the confluence of the Zwitta and Swart, 53 miles N. of Vienna, and 27 S.W. of Olmultz. The caſtle of Spielberg is its principal defence, and is ſeated on an eminence. Long. 16. 40. E. Lat. 49. 6. N.

BRISSAC, a town of France, in the department of Maine and Loire and late province of Anjou, ſeated on the river Aubence, 13 miles S. of Angers. Long. 0. 27. W. Lat. 47. 20. N.

BRISTOL (*Encycl.*). The "croſs" deſcribed in that article as "ſtanding in the College Green," ſhould not have been mentioned. It was removed ſeveral years ago, and is now in the garden of Sir Richard Hoare, at Sturton.

BRITAIN, New, an iſland to the north of New Guinea. By whom this land was firſt diſcovered is uncertain. Dampier firſt ſailed through the ſtrait which ſeparates it from New Guinea; and Captain Carteret, in 1767, ſailed through another ſtrait which divides it into two iſlands, the northernmoſt of which he called *New Ireland*. New Britain lies in long. 152. 19. E. and lat 4. 0. S. The ſhores of both iſlands are rocky, the inland parts high and mountainous, but covered with trees of various kinds, among which are the nutmeg, the cocoa-nut, and different kinds of palm. The inhabitants are black and woolly-headed, like negroes, but have not their flat noſes and thick lips.

BRITANNICA, in botany, the trivial name of the rumex aquaticus. See Rumex.

BRITANNICUS, ſon to the Emperor Claudius by Meſſalina, was excluded from the empire after his father had married Agrippina; who put her ſon Nero on the throne, and cauſed Britannicus to be poiſoned, A D. 55

Britannicus, an Italian, one of the beſt humaniſts of the 15th century, was born at Breſcia. He publiſhed notes on Perſius, Juvenal, Terence, Statius, and Ovid. He died in 1510.

BRIVA Isaræ (anc. geog.), a town of Gallia Belgica on the river Iſara or Oyſe: now *Poyntoyſe*.

BRIVATES (anc. geog.), a port of Gallia Celtica: now *Breſt*, in Britany.

BRIXIA (anc. geog.), a town of the Cenomani in the Regio Tranſpadana: now *Breſcia*, capital of the Breſciano.

BRIZEN, or Brietzen, a town of Germany, in the Middle Marche of Bradenburg, ſeated on the river Adah, 12 miles N.E. of Wirtemberg.

BROAD-TENNESSE, a noble river of N. America, which riſes in N. Carolina, and croſſes the parallel of 35°. N. lat. into the ſtate of Georgia, juſt before it paſſes through Cumberland or Laurel Mountains. Its paſſage through theſe mountains occaſions a remarkable whirl. The ſtream, which a few miles above is half a mile wide, is here compreſſed to the width of about 100 yards. Juſt as it enters the mountain, a large rock projects from the northern ſhore, in an oblique direction, which renders the bed of the river ſtill narrower, and cauſes a ſudden bend: the water of the river is thrown, conſequently, with great rapidity, againſt the ſouthern ſhore, whence it rebounds around the point of the rock, and produces the whirl, which is about 80 yards in circumference. Canoes have been often carried into this whirl, and eſcaped unhurt. Near a mile below, the river ſpreads into its common width, and, except the interruption of ſome muſcle ſhoals, flows in a beautiful and placid ſtream, till it mingles with the Ohio; before it reaches which, it is called the Cherokee river.

BROD-NEMEKI, or Treutch-Brod, a town of Bohemia, on the river Sozawa, 20 miles S. by E. of Czazlaw. Long. 15. 40. E. Lat. 49. 33. N.

BRODZIEC, a town of Lithuania, on the river Berezina, 100 miles S. of Poloczki. Long. 28. 5. E. Lat. 54. 8. N.

BROEK, a town of Germany, in the circle of Weſtphalia and duchy of Berg; the capital of a county of the ſame name, ſeated on the river Roer, 11 miles N. of Duſſeldorp. Long. 6. 53. E. Lat. 51. 23. N.

Broek, in North Holland, ſix miles from Amſterdam, one of the moſt ſingular and picturesque villages in the world. "The inhabitants," ſays Madame de Sillery (late Counteſs de Genlis), "though peaſants only, are all rich. The ſtreets are paved in moſaic work, with variegated bricks, and diſplay the greateſt neatneſs. The houſes are painted on the outſide, and are as freſh and bright as if quite new. Each has a garden and terrace, incloſed by a low railing, that permits every thing to be ſeen. The terrace is in the front of the houſe, and from this we deſcend into the garden, which forms the ſeparation between each houſe. The ſtreets on both ſides are laid out in the ſame manner. The gardens are adorned with china vaſes, grottoes of ſhell-work, trees, and flowers; with borders compoſed of minute particles of glaſs of different colours, of a dazzling brightneſs, and diſpoſed into a variety of forms. There are likewiſe other borders formed of ſmall ſhells, and arranged with as much ſkill and care as thoſe in a muſeum. Behind the houſes and gardens are extenſive meadows, full of cattle grazing. The outhouſes are likewiſe behind; ſo that waggons, carts, and cattle, never enter theſe neat ſtreets. The floor of the houſes are paved with ſhining ſtones, in equal ſquares, commonly black and yellow. The principal apartments are wainſcotted. This wainſcot is of its natural colour, ornamented with the prettieſt ſculpture imaginable. In the beſt room is a large buffet, with glaſs folding-doors, through which are ſeen the moſt beautiful china, and quantities of plate perfectly bright. One would imagine, from their uniformity, that the fortunes of the reſpective owners were equal. In every houſe are two doors, one of which is called *the door of ceremony*, being never opened but for the event of marriage or death. The new-married couples enter at this door, and never paſs through it again but to their graves: in the interval it is conſtantly ſhut up. They have alſo a chamber, which is never made uſe of but on their wedding-day; and it is ever after conſidered as a temple, in which it would be a profanation to ſleep. This chamber is more ſplendid than the others, and the bed is profuſely ornamented with lace. On a table is a pretty baſket, which contains the finery worn by the bride on her wedding-day. In a word, they never enter this ſacred retreat but to adorn it with vaſes of flowers, or to ſhew it to ſtrangers. The dreſs of the men is very plain, and that of the women as ſtudied. They wear the moſt beautiful ſilks, the fineſt linen, and many trinkets of gold and pearls. A hood of white cambric conceals their hair, faſtened on the two ſides by large gold pins ſet with fine pearls. Many ſervants are dreſſed in this manner: their miſtreſſes excel them only in finer necklaces, rings, and more expenſive linen. The manners of theſe people are irreproachable: they live together in perfect harmony; but are very uncivil to ſtrangers. The moment they ſee ſuch arrive, they ſhut themſelves up, and refuſe to open their doors; but they have a natural gallantry, or, to ſpeak more properly, a certain reſpect for women, that makes them behave very differently to them. They no ſooner ſee them, than they haſten to ſhew them every mark of politeneſs; and although the fair ſtrangers were accompanied by men, this would not prevent their conducting them to the houſes, and ſhewing them every thing. Their wives never ſtir from Broek, and a young woman would find it difficult to marry, if ſhe went to another village a ſmall diſtance from it. Amſterdam is as little known to them as London or Conſtantinople. They

find their happineſs at home; Broek is the whole world to them; and they preſerve, in courſe, their manners and their virtue. They marry invariably among themſelves. Many nobles of this country have been deſirous of eſpouſing young women of Broek, on account of their riches; but the overtures of none have proved ſucceſsful. The inhabitants pride themſelves in their ſimplicity, and in their ſtates as peaſants. They lead a frugal life. To adorn their houſes is the greateſt pleaſure they know: to live in peace the only happineſs they court. Handſome as the natives are throughout all Holland, they are particularly ſo at Broek. The children are all charming; the men robuſt; and the women tall, well-made, and generally pretty, with a ſurpriſing freſhneſs of complexion. In a word, this village exhibits a very ſingular picture. Every thing in it delights the eye and heart: not one diſagreeable object appears to ſpoil the piece. Not only not a ſingle beggar is to be ſeen, but not a perſon, moreover, who is not perfectly at eaſe; not a cripple, not one infirm old perſon, nor a ſingle decayed houſe. Health; all that affluence can wiſh; the elegance of induſtry and neatneſs; ſimplicity, humanity, virtue, and happineſs; theſe are the ineſtimable advantages, theſe the delightful objects that we find at Broek; and which, added to the ſtriking ſingularity of their dreſs, their houſes, and their manners, render it altogether a very extraordinary place."

BROKEN Bay, a bay of New South Wales, on the E. coaſt of New Holland. It is formed by the mouth of a great river called the Hawkeſbury. Long. 151. 27. E. Lat. 33. 34. S.

BROMPTON, a populous village, in the pariſh of Kenſington, in Middleſex. Here is the public botanical garden and library of Mr. William Curtis, the author of Flora Londinenſis and other botanical works.

Brompton, a village in Kent, delightfully ſituated on an eaſy aſcent from Chatham, and containing the fine barracks for the accommodation of the military of that garriſon.

BROOM-Gall (*Encycl.*), in natural hiſtory. This gall is of a very ſingular kind: it is round and prickly; the ſtalk of the broom always grows directly through it, as if thruſt through its middle; and, when nicely examined, the whole gall appears to be formed of a congeries of leaves much larger than thoſe of the broom naturally are, and twiſted into a ſort of horns or cornets, ending in a point: theſe leaves are all hollowed in the middle; and are ſo thick ſet and nicely fixed to one another, that they make up the ſubſtance of the gall, which is nevertheleſs a conſiderably hard one, and their points make the appearance of ſpines or prickles on the outſide. Sometimes there is a ſort of fleſhy or pulpy ſubſtance within it, which ſupports the leaves; and the worms are ſometimes found in this, ſometimes in the hollows of the leaves, and ſometimes between them: they are ſo numerous, that there are often ſome hundreds of them in one gall. The origin of this gall is not from the eggs of the parent animal lodged in the tree; but they are depoſited on the ſurface of the branches, and the young worms, while very ſmall, almoſt as ſoon as hatched from them, go in company to ſome bud on the ſide of the branch: they get into the folds of this bud, and wounding it in ſeveral parts, cauſe a wrong derivation of the juices into it; the conſequence of which is, that inſtead of forming a branch ſhooting out from the other, it only yields a congeries of leaves which everywhere ſurround it. Theſe galls are of various ſizes, the largeſt ſeldom exceeding that of a nut; and there are often three or four of them ſeen on one branch, placed at an inch or a little more diſtance from one another.

Broom, *Loch*, a great lake and arm of the ſea, in Roſsſhire, on the W. coaſt of Scotland. It has long been noted for herrings of peculiar excellence, and is eſteemed one of the beſt fiſhing ſtations on the coaſt.

BRORA, a ſeaport of Scotland, on the E. coaſt of Sutherlandſhire. Here is a coal mine, which was lately worked, and the coal was uſed in the manufacture of ſalt. But this coal cannot be exported, or carried to any diſtance, as it takes fire on being expoſed to the air. The lime-ſtone quarry, above this place, is an intereſting fund of ſpeculation: the variety of ſhells contained in the heart of the ſtone is equally ſurpriſing and beautiful. Brora is forty miles N. by E. of Inverneſs.

Brora, a river of Scotland, in Sutherlandſhire, which iſſues from a beautiful lake of the ſame name. Above Brora, it forms ſeveral fine caſcades; and below that village it falls into the Britiſh Ocean. Many precipices on the banks of this river are full of ſhells, as in the lime-ſtone quarry near it.

BROUCA, a town of Sicily, on the S. ſide of the gulf of Catania; fifteen miles S. of Catania. Long. 15. 30. E. Lat. 37. 25. N.

BROUCK, a town of Switzerland, in Argow, of which it is the third free city. It is ſeated on the river Aar, over which is a handſome bridge. There is likewiſe a college, with a public library. It is twenty-two miles S.E. of Baſil. Long. 8. 4. E. Lat. 47. 21. N.

BROWNE (William), an old Engliſh poet of conſiderable excellence. As the peculiar fate of unmerited oblivion which attended this great genius precludes any minute diſquiſition, ſo his entire hiſtory may be compriſed in a very ſmall ſpace; and it will be ſcarcely credited that we can find no trace of an edition of his works (excepting one) ſince the uſurpation of Cromwell, although he had been highly commended by the learned Selden, and was an adopted favourite of the proud, but judicious, Ben Jonſon. Mr. Dermody relates the particulars of our poet's life and writings in the following terms:

"William Browne, ſays he, was born at Taviſtock in Devonſhire, in the year 1590; his father, according to Prince, in his Worthies of Devon, being probably of the knightly family of Browne, of Browne's-Iſlaſh, in the pariſh of Langtree, near Great-Torrington. After he had paſſed through the grammar-ſchool, we find him at Exeter College in the univerſity of Oxford, about the beginning of the reign of King James the Firſt, where he became celebrated for claſſical erudition, and for his knowledge in the belles-lettres nearly unequalled; from thence, however, before he had taken any academical degree, he removed to the Inner-Temple, London, where he more aſſiduouſly devoted himſelf to the muſe. In the beginning of the year 1624, he returned again to the college, was appointed tutor to Robert Dormer, who was afterwards Earl of Carnarvon, and loſt his life at Newbury fight, on the 20th of September, 1643. On the 25th of March, 1624, our author received permiſſion to be actually created a maſter of arts, although the degree was not conferred upon him till the November following. In the public regiſter of the univerſity he is ſtyled thus: Vir omni humanâ literatura, et bonarum artium cognitione inſtructus.

"After he had left college with his pupil, he was gladly received into the family of the munificent Earl of Pembroke, who entertained a great regard for him, and in that ſituation he made his fortune ſo well, that he had it in his power to purchaſe a comfortable independence. The preciſe period of his death cannot be aſcertained, but according to Wood, author of the Athenæ Oxonienſes, it may be affixed with moſt certainty to the year 1645.

"His Shepherd's Pipe conſiſts of ſeven eclogues, among

which is an admirable monody, entitled *Philarete*, written upon the death of his friend Mr. Thomas Manwood, which, whether equally excellent or not, was certainly the model from which Milton did not diſdain to borrow the charming idea of Lycidas, one of the moſt beautiful pieces of paſtoral poeſy that, perhaps, ever appeared in any language. There is another production of Browne, The Inner Temple Maſque, to which I imagine the world of taſte may eſteem themſelves equally indebted for the birth of Comus. Even this very diſtinction ought to have placed Browne in a more favourable light, for, aſſuredly, the divine framer of Paradiſe Loſt would not condeſcend to copy an indifferent original at any time.

"But as I mean to confine myſelf more particularly to the notice of this author's chief performance, Britannia's Paſtorals, I ſhall waſte no ſpeculation upon ſuch miſcellaneous pieces as occur, but juſt take the liberty of recommending them, indiſcriminately, to the attention of the reader, and purſue my main ſubject with leſs deviation from the regular rules of criticiſm. The deſign, then, of thoſe paſtorals is original and perfect in the higheſt degree; they profeſs no imitation of any ancient or foreign writer; and are meant ſolely as a compliment to our own country, which is ſet in happy competition with that famous haunt of demi-gods, Arcadia itſelf. The ſtyle is harmonious and flowing, diverſified with a pleaſing aſſemblage of new and captivating imagery; and even the meaſure is ſometimes changed, not for the worſe, as it adminiſters a kind of metrical relaxation, that relieves the fancy by variety without violence.

"To exemplify this aſſertion, I muſt beg leave to tranſcribe a few paſſages, which, conſidering the time they were compoſed, will be found not deſtitute of elegant thought, and poliſhed verſification. The following addreſs to a river deity contains both thoſe requiſites, in my humble opinion:

———May firſt
(Quoth Marine) ſwaines give lambs to thee;
And may thy floud have ſeignorie
Of all flouds elſe; and to thy fame
Meete greater ſprings, yet keep thy name.
May never euet, nor the toade,
Within thy bankes make their abode!
Taking thy journey from the ſea,
Maiſt thou ne'er happen in thy way
On niter or on brimſtone myne,
To ſpoil thy taſte! this ſpring of thine
Let it of nothing taſte but earth,
And ſalt conceived, in their birth
Be ever freſh! let no man dare
To ſpoile thy fiſh, make locke or ware,
But on thy margent ſtill let dwell
Thoſe flowres which have the ſweeteſt ſmell:
And let the duſt upon thy ſtrand
Become like Tagus' golden ſand.
Let as much good betide to thee,
As thou haſt favour ſhew'd to me.

Booke I. Song 2.

Nor do I think this other ſhort extract inferior to any of our old poets in point of conception:

Neare to this wood there lay a pleaſant meade,
Where fairies often did their meaſures treade,
Which in the meadow made ſuch circles greene,
As if with girlands it had crowned beene,
Or like the circle where the ſigns we tracke
And learned ſhepheards call't the zodiacke:
Within one of theſe rounds was to be ſeene
A hillocke riſe, where oft the fairie queene
At twilight ſate, and did command her elves,
To pinch thoſe maides that had not ſwept their ſhelves:
And further if by maidens over-ſight,
Within doores water were not brought at night:
Or if they ſpread no table, ſet no bread,
They ſhould have nips from toe unto the head:
And for the maid that had performed each thing,
She in the water-pale bade leave a ring.

Ibid.

"The ſublimity of this exclamation will be a ſufficient excuſe for its inſertion.

What muſe! what powre! or what thrice ſacred herſe,
That lives immortall in a wel tun'd verſe,
Can lend me ſuch a ſight that I might ſee
A guilty conſcience true anatomie;
That wel kept regiſter wherein is ſwrit
All ils men doe, all goodneſſe they omit?
His pallid feares, his ſorrowes, his affrightings,
His late wiſht had-I-wiſts, remorceful bitings:
His many tortures, his heart-renting paine:
How were his griefs compoſed in one chaine,
And he by it let downe into the ſeas,
Or, through the center, to the antipodes,
He might change climates, or be barr'd heav'n's face,
Yet finde no ſalve, nor ever change his caſe.

Ibid.

The preceding extracts are intentionally quoted to convey ſome idea of the general tenor of the work, we ſhall next introduce a few unconnected ſketches of more than ordinary beauty; and then preſume on no further intruſion, but a curſory critique, written in the moſt conciſe manner. A muſical concert of birds is thus moſt fancifully, though quaintly, depicted:

Two nights thus paſt: the lilly-handed morne
Saw Phœbus ſtealing dewe from Ceres' corne,
The mounting lark (daie's herauld), got on wing,
Bidding each bird chuſe out his bough and ſing.
The lofty treble ſung the little wren;
Robin the meane, that beſt of all loves men;
The nightingale the tenor, and the thruſh
The counter-tenor ſweetly in a buſh:
And that the muſicke might be full in parts,
Birds from the groves flew with right willing harts:
But (as it ſeem'd) they thought (as do the ſwaines,
Which tune their pipes on ſack'd Hibernia's plaines)
There ſhould ſome droaning part be, therefore willed
Some bird to flie into a neighbouring field,
In embaſſie unto the king of bees,
To aide his partners on the flowres and trees:
Who condiſcending gladly flew along
To beare the baſe to his wel tuned ſong.
The crowe was willing they ſhould be beholding,
For his deepe voice, but being hoarſe with ſkolding,
He thus lends aide, upon an oake doth climbe,
And nodding with his heade, ſo keepeth time.

Booke I. Song 3.

"No mind, ſuſceptible of the charms of natural deſcription, but will coincide with my ſentiments on the excellence of the ſubſequent two very oppoſite, but equally well-delineated, landſcapes.

Theſe pitchy curtaines drew 'twixt earth and heaven,
And as night's chariot through the air was driven,

Clamour grew dumb, unheard was ſhepherde's ſong,
And ſilence girt the woods; no warbling tongue
Talk'd to the echo; ſatyres broke their dance,
And all the upper-world lay in a trance.
Onely the curled ſtreams ſoft chidings kept,
And little gales that from the greene leaf ſwept
Dry ſummer's duſt, in fearfull whiſp'rings ſtir'd,
As loath to waken any ſinging bird.

Booke II. Song 1.

The muſe's friend (grey eyde Aurora) yet
Held all the meadows in a cooling ſweat,
The milk-white goſſamores not upwards ſnow'd,
Nor was the ſharpe and uſeful ſteering goad
Laid on the ſtrong-neckt oxe; no gentle bud
The ſun had dryde; the cattle chew'd the cud
Low level'd on the graſſe; no flyes quicke ſting
Inforc'd the ſtone-horſe in a furious ring
To teare the paſſive earth, nor laſh his taile
About his buttockes broad; the ſlimy ſnayle
Might on the wainſcot (by his many mazes
Winding meanders and ſelfe-knitting traces)
Be follow'd, where he ſtucke, his glitt'ring ſlime
Nor yet wipt off. It was ſo earely time
The carefull ſmith had in his ſooty forge
Kindled no coale; nor did his hammers urge
His neighbour's patience: owles abroad did flye,
And day as then might plead his infancy.

Ibid. Song 2.

"Theſe are only the "disjecta membra poetæ;" for, indeed, to do any diffuſe performance proper juſtice, it ſhould be never taken by piecemeal, or expoſed to public inſpection by lines and ſentences; yet as there is no other method, at firſt, of reſcuing its merit from immediate obſcurity, even this mode of ſelecting a few ſpecimens may be not unworthy of approbation. The good taſte of the preſent day has been highly favourable to thoſe pieces executed in the ſimple ſtyle of paſtoral, as the liberal reception which The Farmer's Boy has deſervedly received very amply teſtifies. It contains a profuſion of exquiſite images, enriched with the higheſt colouring, though perfectly chaſte, and never diſtorted by a gaudy extravagance. I may be ſuſpected by many of having a whimſical turn for hypotheſis, but I declare I have fancied various inſtances of a correſponding genius between William Browne and Robert Bloomfield, not forgetting this one material difference and advantage, that the former was a profound and accompliſhed ſcholar. But what I remark as a coincidence in both promiſcuouſly, is an unaffected felicity of calling forth new objects from the level ſcene of life; and an harmony of ſtyle and expreſſion peculiarly fortunate. The poets of Elizabeth's reign down to that of James, piqued themſelves on a pompous diſplay of learned acquiſition, nearly approaching to pedantry; it was an eſtabliſhed cuſtom to bring in the heathen mythology on every occaſion; and even ſo late as Waller and Lonſdowne, we can trace the progreſs of this abſurd faſhion, which, in the infancy of Engliſh poeſy, was more pardonable. Now, in our enlightened era, a perſon who ſhould crowd his pages with a motley contexture of Grecian demi-gods and heroes, would juſtly merit the deriſion of the judicious; and even the frequent invocation of the muſe, a being whom we acknowledge merely ideal, having loſt its primary attraction, though not yet entirely diſcarded, is unnatural and unhappy; unnatural, from the improbability it caſts on any grave ſubject; and unhappy, from the obſolete inſipidity of the fiction.

"Browne's paſtorals are not very faulty in this reſect; the ancient fables which he does, at times, allude to, are not the moſt hackneyed, and his main ſtory is, at any rate, as I mentioned before, entirely his own. His allegories are not ſo intricate as thoſe of his contemporaries; they are pictureſque without perplexity, and ſavour more of the ſchool of Taſſo than that of Spenſer. Yet two of his imaginary perſonifications would not, perhaps, diſgrace the ſublime pencil which daſhed out the wild horrors of the Cave of Deſpair; namely, Riot, in Book I. Song 4; and Limos, or Famine, in Book II. Song 1. We there deſcry all the bold and poetical conceit of Ovid, in the favourite parts of his Metamorphoſes, without thoſe minute and laborious touches which ſeldom come from the hand of a very great maſter. Salvator Roſa might have here ſatiated the luxuriancy of his imagination, without reſtraining his enthuſiaſm. It is certain that our moſt inſpired children of fancy did not dwell in patient apathy on the niceties of compoſition. What can be more fervid and engaging than the irregular graces of Collins, who was a profeſt admirer of our old bards, who made them his chief ſtudy, and even forfeited the eſtimation of all but the congenial few through a deſire of indulging in theſe rapturous excurſions! There are ſome, and thoſe by far the moſt delicious of his odes, which to a common plodding reader would appear verging cloſely on the confines of abſolute inſanity; but I am miſtaken much, if they appear ſo to the man whoſe "eye in a fine frenzy rolling, glances from heav'n to earth, from earth to heav'n!" I have likewiſe to aſſert, that one of the moſt exquiſite little poems we can boaſt, entitled A Hymn to May, was written by William Thompſon, whoſe fancy was fed with the pure honey of Browne, and who reviſed the only modern edition of his works. This hymn, ſo much deſerving the notice of every elegant reader for the voluptuous tenderneſs of its language, although compoſed after the ancient model, is to be found in the Poetical Calendar, publiſhed periodically, ſome time ago, by Fawkes and Woty; wherein ſome other pieces of conſiderable value are included.

"I know of no two productions more worthy of revival by ſome man of influence and fortune, than this, which I have attempted to draw into a fainter degree of obſervation from its long unmerited darkneſs of receſs; and The Piſcatory Eclogues of Phineas Fletcher, whoſe Purple Iſland, though inferior, has been favourably regarded by ſome late commentators of literary eminence. I am conſcious this ſlight effuſion of applauſe, ſecretly nouriſhed ſince my earlieſt days, is both deſultory and incorrect: yet I wiſhed to diſcover a mine to which I have been indebted for much intellectual treaſure; and the rich ore extracted from which ſource, I have ſo publicly prefixed as the very motto to my firſt poetical exertion.

"I quit my taſk thus, far from being finiſhed, with particular regret, transferring it to the care and abilities of ſome abler hand, with another concluding quotation.—

Looke as a lover with a lingring kiſſe,
About to part with the beſt half that's his,
Faine would he ſtay but that he feares to do it,
And curſeth time for ſo faſt haſtning to it;
Now takes his leave, and yet begins anew
To make leſſe vowes than are eſteemed true,
Then ſayes he muſt be gone, and then doth finde
Something he ſhould have ſpoke that's out of minde,
And whilſt he ſtands to looke for't in her eyes,
Their ſad ſweet glance ſo tye his faculties,
To thinke from what he parts, that he is now
As farre from leaving her, or knowing how,
As when he came; begins his former ſtraine,
To kiſſe, to vow, and take his leave againe,

Then turnes, comes backe, ſighes, parts, and yet doth goe,
Apt to retyre, and loath to leave her ſo.

BRUCHUS (*Encycl.*). To that article add the words, "See Plate 61."

BRUGGE, or BRUGGEN, a town of Germany, in the circle of Lower Saxony and biſhopric of Hildeſheim, ſix miles from the city of that name. Long. 10. 5. E. Lat. 52. 6. N.

BRUGNETO, an epiſcopal town of Italy, in the territory of Genoa, at the foot of the Apennines, thirty-five miles ſouth-eaſt of Genoa. Long. 9. 30. E. Lat. 44. 15. N.

BRUN (Anthony le), an ambaſſador of Spain, famous for his ſkill in negociating, was of an ancient and noble family, and born at Dole in the year 1600. He was attorney-general in the parliament of Dole; during which time he had a hand in all the ſtate negotiations which concerned the provinces. He was ſent afterwards by Philip IV. to the diet of Ratiſbon, and from thence to the court of the emperor Ferdinand III. He was one of the plenipotentiaries of his Catholic majeſty, at the conferences of Munſter held in 1643; where, though all the other plenipotentiaries took place of him, yet it is ſaid that he far exceeded them all in capacity. The king of Spain was particularly beholden to him for the peace which the Dutch made at Munſter, excluſively of France; and the intriguing turn which he ſhewed upon this occaſion made him dreaded ever after by French ambaſſadors. He was a man of letters, as well as of politics; and therefore employed his pen, as well as his tongue, in the ſervice of his maſter. He died at the Hague, during his embaſſy, in the year 1654.

BRUNDISIUM, or BRUNDUSIUM (anc. geog.), a town of Calabria, with the beſt harbour in Italy. It was a very ancient town, and belonged originally to the Salentines; but was taken by the Romans about 256 years before Chriſt. Now *Brindiſi*; which ſee.

BRUNETTO, a ſtrong and important place in Piedmont, near Suſa, which it defends.

BRUTTII, an ancient people of Italy, inhabiting the country now called *Calabria Ultra*; different from the ancient Calabria, or Meſſapia, to the eaſt on the Adriatic or Ionian ſea.

BRUTUS (Lucius Junius), the avenger of the rape of Lucretia, and founder of the Roman republic, flouriſhed 509 years before Chriſt.

BRUTUS (Marcus), the paſſionate lover of his country, and chief conſpirator againſt Cæſar, ſlew himſelf on loſing the battle of Philippi, forty-two years before Chriſt.

BRUTUS (Stephen Junius), the diſguiſed author of a political work intitled *Vindiciæ contra tyrannos*.

BRYENNIUS (Nicephorus), a prince diſtinguiſhed by his courage, probity, and learning, was born at Oreſtia in Macedonia; where his father by rebellion provoked the emperor to ſend his general Alexis Comnenus againſt him, who ordered his eyes to be pulled out: but being charmed with his ſon Bryennius, he married him to Anne Comnenus his daughter, ſo famous by her writings. When Alexis came to the throne, he gave Bryennius the title of *Cæſar*; but would not declare him his ſucceſſor, though ſolicited to it by the empreſs Irene; and was therefore ſucceeded by his ſon John Comnenus, to whom Bryennius behaved with the utmoſt fidelity. Being ſent, about the year 1137 to beſiege Antioch, he fell ſick; and returning, died at Conſtantinople. This prince wrote the *Hiſtory of Alexis Comnenus*, which he compoſed at the requeſt of his mother-in-law the empreſs Irene.

BUCHORN, a free and imperial town of Germany, in the circle of Suabia, on the lake of Conſtance, 18 miles E. of Conſtance. Long. 9. 42. E. Lat. 47. 41. N.

BUEN RETIRO, a palace of the king of Spain, on the E. ſide of Madrid: it is a perfect ſquare, and at each angle is a pavilion. It is generally the reſidence of the king in the ſpring, and part of the ſummer.

BUCK-BEAN (*Encycl.*), read *Buck*-BEAN.

BUILDING (*Encycl.*). From the deſcription given in the 493d number of the *Philoſophical Tranſactions*, by Mr. ARDERON, it appears that the ruins of two old towers, belonging to the Roman camp at Caſtor, in Norfolk, were built in the following ingenious manner: they began firſt with a layer of bricks, laid flat as in pavements; on that they placed a layer of clay and marl mixed together, and of the ſame thickneſs with the bricks; then a layer of bricks, afterwards of clay and marl, then of bricks again; making in the whole three layers of bricks, and two of clay. Over this were placed bricks and lime twenty-nine inches, the outſide being faced with bricks cut in ſquares; then brick and clay alternately, as high as the old ruins now remain ſtanding. He adds ſome remarks on the hardneſs of the mortar, and durableneſs of the bricks, the length of which laſt is found to be 17,4-tenths inches, or a Roman foot and a half; their breadth 11,6-tenths inches, or preciſely a Roman foot; and their thickneſs only 1,3-tenths of an inch.

Many compoſitions have, with more or leſs ſucceſs, been deviſed for making mortar impenetrable to moiſture. The following we believe is one of the moſt ſimple and effectual: mix thoroughly one-fourth of freſh unſlaked lime with three-fourths of ſand; and let five labourers make mortar of theſe ingredients, by pouring on water, with trowels, to ſupply one maſon, who muſt, when the materials are ſufficiently mixed, apply it inſtantly as cement or plaſter, and it will become hard as ſtone. This recipe is given by Mr. R. DOSSIE, in his ſecond volume of "Memoirs of Agriculture and other Economical Arts," 1771. The author, on this occaſion, obſerves that the lime uſed ſhould be ſtone-lime; that previous to its uſe, it ſhould be preſerved from the acceſs of air or wet, and the plaſter ſcreened for ſome time from the ſun and wind. He juſtly remarks, that its excellence ariſes from the particular attraction between lime and ſand, which would be deſtroyed by ſlacking the lime. Skimmed milk (ſays he) is preferable to water; and for the ſimilarity of this mortar to that of the ancients, he refers us to Pliny, Vitruvius, &c.

Another very durable and cheap cement in building, which is particularly deſigned as a handſome coping of walls, is that of the late P. Wych, Eſq. Take four or five buſhels of ſuch plaſter as is commonly burnt for floors about Nottingham (or according to Mr. Doſſie, a ſimilar quantity of any tarras, plaſter, or calcined gypſum); beat it to fine powder, then ſift and put it into a trough, and mix with it one buſhel of pure coal aſhes, well calcined. Pour on the water, till the whole becomes good mortar. Lay this in wooden frames of twelve feet in length on the walls, well ſmoothed with common mortar and dry, the thickneſs of two inches at each ſide, and three inches in the middle. When the frame is moved to proceed with the work, leave an interval of two inches for this coping to extend itſelf, ſo as to meet the laſt frame-work.

In December 1780, Dr. R. Williams obtained the king's patent for his invention of a mortar or ſtucco for the purpoſe of buildings. As the term of the excluſive privilege of uſing this compoſition is now expired, we ſhall give the following particulars: take of ſharp, rough, large grained ſand, ſifted, waſhed dried, and freed from all impurities; of well-burnt lime, ſlaked and finely ſifted; of curd, or cheeſe, pro-

duced from milk; (the firſt, freſh made and ſtrongly preſſed, to diveſt it of its whey; the ſecond, whilſt perfectly ſound, raſped into powder with a grater, or brought into a very light ſubſtance with ſcrapers, or fine-toothed plane-irons, in a turner's lathe); and laſtly, of water in its natural ſtate, in the following proportions, viz. of the cheeſe, or curd, four pounds; the lime twelve pounds; the ſand eighty-four pounds; the water ten pounds. If the ſand is not thoroughly dried, or the lime has got damp from the air, the quantity of water muſt be leſs than the above proportion; and, on the contrary, when the lime is uſed immediately, it may require more; ſo that the proper ſtiffneſs of the mortar, under thoſe circumſtances, will regulate the making of the compoſition.

As the goodneſs of this mortar depends on the preſervation of the natural properties of the cheeſe, or curd, made uſe of, all thoſe parts the leaſt tainted or rotten muſt be rejected; and as the cheeſe, like the curd produced from ſkim-milk, is diveſted of its buttery and oily particles, and on that account poſſeſſes a powerful coheſive quality, which makes it better for this work than that made of milk in its rich and pure ſtate; it is at all times to be bought of the wholeſale cheeſe-mongers at a lower price than any other; and being more convenient than the curd, as that will require frequent making, is to be preferred to it, as well as to every other ſort of cheeſe; for leſs of it is ſufficient, only four pounds being allowed to the nett hundred weight of all the ſolid ingredients; more than which might make mortar too lively to keep in its place without bagging, but leſs ſhould not be uſed; as that, on the other hand, would endanger its drying looſe and gritty within its ſurface, hinder it from adhering properly to the walls, and thus reduce it to the level of common mortar. Many tedious and trivial rules are ſtated by the patentee, relative to the manner of applying this cement, and its preſervation in boxes for ready uſe. Thoſe who wiſh to acquire additional information concerning this ſubject, may find the ſpecification of the patent, at full length, in the third volume of the "Repertory of Arts and Manufactures."

In July, 1796, Mr. H. Walker, of Thurmaſton, Leiceſterſhire, procured a patent for his invention of a method, by which houſes and other buildings, of any deſcription or dimenſions, might be erected in one entire maſs or body, at a much eaſier expence, eſpecially in the articles of timber, lime, and workmanſhip, and which would be equally as durable in themſelves, and leſs liable to accidents by fire, than buildings erected upon the common conſtruction. His proceſs is as follows:

1. The patentee takes an argillaceous earth or natural clay, which he purifies by the uſual well-known methods, and compounds it with ſand, or broken or pounded pottery or brick, coal-aſhes, charcoal, or, in ſhort, with any other of thoſe ſubſtances which are adapted to form a good, firm, and durable brick, when properly baked; and he varies the compoſition according to the nature of the component parts themſelves, and the purpoſes which they are intended to anſwer; but, for common conſtructions, he uſes the ſame proportions as brick-makers in general. He then proceeds to mix, knead, and incorporate the ſaid materials, till they are brought to the requiſite firmneſs and tenacity for building; which is nearly ſuch, that the parts of any lump or maſs of the ſame may be readily incorporated with, or joined to, any other ſimilar maſs, by moderate blows with a wooden mallet, and the occaſional addition of a very ſmall portion of water: this compoſition he calls the prepared material.

2. He conſtructs floors, walls, and all other buildings, according to this invention, in ſuch a manner that the power of fire, from wood, coal, charcoal, cork, or other combuſtible matters, may be applied to the external and interior ſurfaces of the floors, walls, and other parts, by means of fires maintained in cavities left within, which he calls by the name of furnaces.

3. With reſpect to the particular forms, dimenſions, and relative poſitions of the ſaid floors, walls, and other parts of buildings, and the furnaces left or formed within the ſame, together with the apertures or communications, for the purpoſes of ventilating the fires, of ſuffering the volatile matters to eſcape, and of converting the whole into one entire maſs of brick, by a due communication and continuance of heat, Mr. Walker ſays, the ground muſt be rendered ſolid, and the foundation laid in the uſual manner; after which he applies a quantity of the prepared material before alluded to, and beats, rams, or preſſes it down to the thickneſs of about ſix inches; and in width, correſponding with the intended dimenſions of the wall, regulated by boards or framing. He then plants upright, at a diſtance of about thirty inches aſunder, in the ſaid layer or bed of prepared material, a number of cylindrical pieces of wood, of about nine inches in diameter each, and eighteen or more inches in length, to ſerve as moulds for the cavities of the furnaces; and between each of ſuch moulds he places, in the longitudinal direction of the wall, a number of pipes of wood, or other materials, or rods, of combuſtible or incombuſtible matter, for the purpoſe of forming communications between all the ſeveral furnaces, or as many of them as he thinks proper. Then he proceeds to form another layer or bed of the material, to the ſame height, namely, about ſix inches, and diſpoſes a number of ſuch pipes, or rods for the purpoſe of forming ſimilar communications. In this manner he conſtructs the whole, or ſo much of the wall as he apprehends, all the time, may be conveniently formed, in the raw or unburnt ſtate; taking care, as the work advances, to raiſe the wooden cylinders, or moulds, that a ſufficient portion of them may remain above the ſurface of the work to admit the reception and proper faſhioning of each ſubſequent layer; or he forms the communications between the furnaces, by perforating the wooden moulds, in various places, at right angles to their reſpective axes; and through the ſaid perforations he paſſes a bar of iron, or other material, which ſerves to connect three or more of the ſaid furnace-moulds, and being afterwards withdrawn, as the work proceeds, leaves cavities of communication, ſimilar to thoſe formed by pipes, rods, &c. in the manner before deſcribed. Further, he opens ſuch a number of horizontal or oblique apertures, or flues, into all the furnaces, and likewiſe into all the cavities, as may be requiſite for admitting, on all ſides, the exceſs of atmoſpheric air. In ſome inſtances, he forms horizontal or oblique apertures or flues, by diſpoſing, along with the pipes, a ſuitable number of taper rods, which are afterwards extracted.

4. When the wall is built, he either ſuffers it ſpontaneouſly to dry, or promotes this effect by moderate fires in the furnaces. Sometimes by increaſing the heat within, and at others by ſuitable applications of fire externally, he converts the whole into one entire maſs of brick. By occaſional cloſing or opening of the furnaces at top, or any of the other apertures, in various parts, the intelligent operator will eaſily underſtand how to regulate the progreſs, communication, and effect of the heat, that the converſion into brick may be uniform through the entire maſs.

5. The dimenſions of the furnaces, the poſitions and relative diſtances of the pipes of communication and lateral apertures, and the thickneſs of the layers of the prepared material, are each ſuſceptible of great variation, according to the nature of this preparation, the activity of the fuel, the propoſed ſolidity or figure of the work, &c.

6. He then forms the remaining parts of the wall, or edifice, by applying additional portions of the prepared material in contact with that already baked; while he alſo avails himſelf of proper and ſuitable external and internal moulds, ſupports, frames, and other occaſional contrivances, well known to builders, for ſuſtaining works, or forming arches, or determining the figure and poſitions of ſoft plaſtic ſubſtances.

7. The ground-floor is likewiſe formed of the prepared material, leaving hollow ſpaces between the ſupports beneath, for making fires, ventilated by ſide apertures, which are provided with numerous holes. When the floor is of conſiderable thickneſs, it will require the conſtruction of furnaces in every reſpect ſimilar to thoſe before deſcribed.

8. The firſt above the ground floor is made upon ſuitable temporary framing, in ſuch a manner that the upper ſurface ſhall be plane, and the lower concave, ſo that it may, when baked, ſupport itſelf upon the principle of a low arch.

9, and 10. The patentee conſtructs, bakes, or burns other floors above the firſt, and alſo the roof, &c.; he cloſes the apertures, fills up the furnaces, amends the deficiences, adorns the walls, floors, ceilings, or other parts, with his prepared material, according to the taſte and direction of the proprietor.

Various plans have lately been deviſed for ſecuring buildings, and ſhips, againſt fire. We ſhall, however, mention only that of David Hartley, Eſq. who, in April, 1773, obtained a patent for his invention of applying plates of metal and wire, varniſhed or unvarniſhed, to the ſeveral parts of buildings or ſhips, ſo as to prevent the acceſs of fire, and the current of air; ſecuring to the ſeveral joints by doubling in, over-lapping, ſoldering, rivetting, or in any other manner cloſing them up; nailing, ſcrewing, ſewing, or otherwiſe faſtening, the ſaid plates of metal in, to, and about, the ſeveral parts of buildings, and ſhips, as the caſe may require.

BULAM, or BULAMA, as it is more uſually called, forms part of the Archipelago, or cluſter of Iſlands, lying on the weſtern or windward coaſt of Africa, and known by the name of the *Biſſuos* or *Biſſagos*, which are ſuppoſed to have been celebrated by the ancients under the appellation of the *Heſperides*. It is ſituated at the mouth of the Rio Grande, in 11° N. Lat. and 15° W. Long. from the meridian of London; and is between ſeventeen and eighteen leagues long, and from four to five broad.

This iſland has become an intereſting object to the inhabitants of Great Britain, in conſequence of its having been purchaſed in the year 1792 by a ſociety inſtituted for the ſame humane purpoſes with thoſe which gave riſe to the Sierre Leone Company. The Bulam aſſociation was formed towards the latter end of the year 1791; and they were induced to pitch upon that iſland as the moſt eligible tract for their intended colony, in conſequence of the flattering deſcription given of its climate, ſoil, and harbours, by M. Brue, formerly director-general of the French African companies.

The original truſtees for managing the concerns of the aſſociation at home were, Paul Le Meſurier, M. P.; James Kirkpatrick, eſq. George Hartwell, eſq. Moſes Ximenes, eſq. Sir John Riggs Miller, Bart. and David Scott, eſq. M. P.; and for eſtabliſhing the colony, and conducting the affairs of the ſociety abroad, the following gentlemen were nominated, viz. Meſſrs. H. H. Dalrymple, John Young, Sir William Halton, Bart. John King, Philip Beaver, Peter Clutterbuck, Nicholas Bayly, Francis Brodie, Charles Drake, John Paiba, Richard Hancorne, Robert Dobbins, and Iſaac Ximenes.

A ſum of 9000*l.* being quickly ſubſcribed for the eſtabliſhment of the intended colony, this committee ſailed from Spithead in three ſhips on the 11th of April, 1792; and landing in due time at Bulama, they purchaſed that iſland from the kings of Canabac, who claimed it as their property. They purchaſed likewiſe from the kings of Ghinala the neighbouring iſland Arcas, and the adjacent land on the continent; and theſe ſeveral purchaſes being taken poſſeſſion of in the uſual form, a body of ſettlers, conſiſting of forty-nine men, thirteen women, and twenty-nine children, were left at Bulama under the ſuperintendence of Mr. Beaver, with a temporary ſupply of proviſions, ſtores, plantation-tools, and merchandize, for trading with the neighbouring natives. It is from the diſpatches of theſe ſettlers, after having lived ſome time in Bulama, that the following account of the iſland was drawn up by Mr. Johanſen.

"The climate, on the whole, may be deemed ſalubrious, and will become more ſo in proportion to the increaſe of cultivation. The mornings and evenings are temperate and pleaſant; the middle of the day is hot, but the fine ſea breeze which then ſets in tends greatly to cool and refreſh the air. The heat of the ſun is not either ſo exceſſive or intolerable as has been generally ſuppoſed; indeed nature has moſt admirably adapted our mechanical and phyſical qualities to the exigencies of different regions; and man, who is the inhabitant of every climate, may, in ſome meaſure, render himſelf indigenous to every ſoil. Here the only danger ariſes from too ſudden an expoſure to the operation of the vertical rays of the ſun, or an exceſs of labour; both of which the firſt ſettlers ought moſt ſtudiouſly to avoid.

"It appears from Mr. Beaver's obſervations at noon, between the 20th of July, 1792, and the 28th of April, 1793, that the thermometer, when loweſt, was at ſeventy-four; the medium heat eighty-five; and that it never exceeded ninety-ſix, except at one time when it roſe to 100, during a calm that occurred in the interval between the north-eaſt breeze in the morning, and the ſouth-weſt in the evening of the 19th of February, 1793. The difference between the heat of noon and that of the morning and evening is from twenty to thirty degrees. On the 23d of October, 1792, hail of the ſize of a pin's head fell during two minutes, although not a cloud was to be ſeen during this phenomenon. The mercury in the thermometer then ſtood at eighty-five; the wind was at north-eaſt in the morning, and ſouth-weſt in the evening.

"Immediately after ſun-ſet a dew conſtantly begins to fall, which induces ſome to light a fire in their houſes; they at the ſame time put on warmer clothing. There is little or no twilight; and night and day are nearly equal: the earth has therefore time to cool during twelve hours abſence of the ſun.

"None of thoſe terrible and deſtructive hurricanes ſo frequently experienced in the Weſt Indies are to be met with here. The *tornadoes*, which ariſe chiefly from the eaſtern point of the compaſs, are but of ſhort duration, ſeldom laſting above an hour, and may be readily foreſeen ſome time previouſly to their commencement. They occur at the beginning and cloſe of the wet ſeaſon, and are highly beneficial, as they purify the air, and diſpel the noxious vapours with which it would otherwiſe abound.

"The rains ſet in about the latter end of May or the beginning of June, and diſcontinue in October or November. They do not fall every day, for there is often a conſiderable interval of clear weather, during which the atmoſphere is beautifully ſerene; the ſhowers in the firſt and laſt month occur but ſeldom, and are far from being violent; while, on the other hand, they ſometimes reſemble torrents, more eſpecially towards the middle of the ſeaſon. During the whole of this period, Europeans ſhould, if poſſible, confine themſelves to their habitations, as the rains prove injurious to health,

more eſpecially if thoſe expoſed to them neglect to wipe their bodies dry, and to change their clothes immediately on their return home. It is deemed prudent alſo not to dig the earth until the expiration of a month after the return of fair weather, as this is conſidered to be unhealthy.

" During the continuance of the dry ſeaſon, a dew falls during the night, in ſufficient quantity to anſwer all the purpoſes of vegetation.

" Every ſtranger is generally here, as well as in the Weſt Indies, ſubject to a fever or *ſeaſoning* on his arrival. This is not infectious; it proceeds perhaps from an increaſed perſpiration and a ſudden extenſion of the pores of the human body, in conſequence of the heat, by which means it is rendered more liable to imbibe the abundant exhalations that ariſe from the animal, vegetable, and mineral kingdoms; but even this, ſlight as it is, might doubtleſs be avoided by means of a proper regimen, and a ſhort ſecluſion from the full action of the open air, more eſpecially at noon, and during the evening, until the climate has been rendered familiar.

" Bulama is admirably adapted for all the purpoſes of an extenſive commerce, being not only happily ſituated at the mouth of the Rio Granda, but in the vicinity of ſeveral other navigable rivers; ſo that a trade with the internal parts of Africa is thereby greatly facilitated. The landing is remarkably eaſy and ſafe, there being no ſurge; the ebb and flow is regular, and there is an increaſe of ſixteen feet of water at ſpring tide. The bay oppoſite the Great Bulama is adorned with a number of iſlands, covered with trees, and forms a moſt excellent harbour, ſufficiently capacious to contain the whole navy of Great Britain, which might ride there in ſafety. The ſettlement in general is well ſupplied with water. A number of ſprings have lately been diſcovered in different places; and beſides a draw-well in the fort, which was erected for the defence of the colony, there is a ſmall ſtream, which runs into Elewſis Bay, near the new ſettlement called Heſper Elewſis: this is admirably ſituated for the ſupply of ſhipping.

" The iſland is beautifully ſurrounded, and interſperſed with woods: lofty fruit and foreſt trees, moſtly free from underwood and brambles, form a verdant belt, in ſome places two or three miles broad, which entirely encircles it, in ſuch a manner as to repreſent a plantation artificially formed around a park. Within this the fields are regularly divided by trees, ſo as to reſemble the hedge-rows in England. The beach has in ſome places the appearance of gravel walks; it is fringed with mangrove trees, which forming a line with the high-water mark, dip their branches into the ſea, and thus afford nouriſhment to the oyſters that often adhere to their extremities.

" Several parts of Bulama have been occaſionally cultivated by the neighbouring blacks, though they did not conſtantly reſide on it.

" The land in general riſes gradually towards the middle of the iſland, where the higheſt ſpot is from ſixty to 100 feet above the level of the ſea. The ſmall hill on which the fort is ſituated is nearly of the ſame altitude.

" The ſoil is abundantly rich and deep; ſtones do not here impede the labours of the farmer; and indeed none have hitherto been diſcovered, but a ſmall ſort, reſembling pieces of ore, which are to be met with on the ſhore. There are many *ſavannahs* or natural meadows, ſo extenſive that the eye can ſcarcely deſcry their boundaries. Theſe are admirably adapted for the rearing of ſtock and feeding of cattle of every kind.

" Cotton, indigo, rice, and coffee, grow ſpontaneouſly on this coaſt; the ſugar-cane is indigenous to many parts of Africa, and might be cultivated here by the labour of freemen, in equal perfection, and to much greater advantage, than in the exhauſted iſlands of the Weſt Indies. All kinds of tropical productions, ſuch as pine-apples, limes, oranges, grapes, plums, caſſada, guava, Indian wheat, the papaw, water-melon, muſk-melon, the pumpkin, tamarind, banana, and numbers of other delicious fruits, alſo flouriſh here. The adjoining territories produce many valuable ſorts of ſpices, gums, and materials for dying: all of which, it is but fair to ſuppoſe, might be readily cultivated in a kindred climate and a congenial ſoil.

" The neighbouring ſeas abound with a variety of fiſh, highly agreeable to the palate. The lyon, tyger, jackhall, &c. are natives of the continent; but in Bulama no animals have been diſcovered, the wolf, ſome buffaloes, a few elephants, and a ſpecies of the deer excepted.

" The woods abound with doves, guinea-fowls, and a variety of birds, celebrated for the beauty of their plumage.

" The natives of this part of Africa, like all ſavages, are entirely under the dominion of their paſſions: hence the violence of their attachment to their friends, and the exceſs of their reſentment againſt their enemies. Their notions of property are very obſcure and confuſed: they have no idea of any right ariſing from occupancy or improvement. What they want, they either receive or take wherever they may happen to meet with it, and they permit others to do the ſame. They have been taught by experience, that the Europeans will not agree to this: againſt them therefore they employ every artifice that it is in the power of cunning to ſuggeſt,

" The coloniſts need not fear any attack on the part of the negroes, provided their own conduct be juſt and peaceable: for Mr. Beaver, who was indeed admirably calculated by nature and habit for the ſtation he occupied, could inſure both ſafety and reſpect when the ſettlers under him were reduced to four white men, although the neighbouring nations knew that he was in poſſeſſion of commodities, for the acquiſition of which many of them had become day-labourers. He often kept from twenty to forty gromittos, or black cultivators in pay, at that very period, at about four or five bars each per month. A bar is about the value of three ſhillings and ſix pence. Theſe are eaſy to be procured, to almoſt any number that can poſſibly be wanted.

" Until a ſufficient quantity of ſtock and proviſions can be raiſed in the company's ſettlements, the adjacent iſlands will furniſh abundance of cattle, hogs, fowls, &c. at a very cheap rate. A horſe may be purchaſed at Goree for 1*l.* 10*s.* a bullock may be had from 12*s.* to 18*s.* ſterling: proviſions of all kinds are equally reaſonable. Honey is alſo to be procured in great plenty, and bees-wax may be rendered an advantageous object of commercial ſpeculation.

" In ſhort, the acquiſition of Bulama, Areas, and the adjacent territories, preſents the faireſt opportunity of furniſhing Europe with many valuable articles that have hitherto been brought from more remote countries, with much greater hazard, and at an increaſed expence. The intercourſe with England is eaſy, ſafe, and expeditious; for the voyage may be performed in the ſpace of three or four weeks: and by the terms of the firſt ſubſcription, a ſettler on Bulama might purchaſe 500 acres of land for 30*l.* ſterling, by the terms of the ſecond, which we ſuppoſe are the terms at preſent, he might purchaſe on the iſlands of Bulama and Arcas, or on that part of the adjacent coaſt which was ceded to the ſociety by the kings of Ghinala, 200 acres for 50*l.* ſterling.

" The colonization of Africa opens a noble and extenſive field to nations and to individuals. To people thoſe fertile territories, deſpoiled of their inhabitants by the ſlave-trade; to

rear the productions of the climes between the tropics, by the aſſiſtance of free men; to give ample ſcope to the induſtry and exertions of thoſe who may be inclined to remove from Great Britain; and to extend the commerce and the manufactures of our native country—theſe are ſubjects which have excited the attention of the Bulama aſſociation, and now claim the aſſiſtance of the ingenious, the ſupport of the rich, and the concurrence and good wiſhes of all."

BULLER (Sir Francis), one of the judges of the court of Common Pleas, long celebrated for the extent and correctneſs of his juriſprudential knowledge, was the ſecond ſon of James Buller, Eſq. member of parliament for Cornwall, by his ſecond wife Jane, daughter of Allen, Earl of Bathurſt.

Sir Francis Buller received a claſſical education at a private ſchool in the weſt of England, and having elected the law for his profeſſion, was entered in the Temple, under the pupilage of Mr. (afterwards judge) Aſhurſt. He was early diſtinguiſhed for great depth of knowledge, and profeſſional accuracy; and for ſome years before he was called to the bar, practiſed with great ſucceſs as a ſpecial pleader. Faſhion, and the indiſcriminate uſe of a phraſe which is little underſtood, have occaſioned ſomewhat of contempt to be attached to the reputation of a ſpecial pleader: by ſome, ſpecial pleading is underſtood to mean nothing more than a proficiency in the ſcience of chicane, and a facility of exerting technical knowledge in enabling iniquity and injuſtice to triumph over candour and good faith; by others it is conſidered as a mere accumulation of jargon without any exact meaning, and without any other reſult than the increaſe of expence, and the delay of juſtice. Thoſe who make theſe applications of the term, ſpeak from the abuſe againſt the ſcience. Special pleading, or rather the art of drawing pleas, is founded on the ſtricteſt, and, at the ſame time, moſt liberal rules of logic. It implies not only a correct and minute, but a vigorous and comprehenſive, mind; not only a talent for perceiving the ſhades of difference which are found between the extremes of right and wrong, but a great degree of readineſs in applying them to a particular caſe. The nervous exerciſe of vigorous and manly eloquence obtains greater applauſe, and produces a more perceptible effect on the minds of juries; but in vain does the advocate obtain a verdict at Niſi Prius, if the correctneſs of the ſpecial pleader has not laid the foundation on which the ſuperſtructure of ultimate ſucceſs muſt be raiſed; nor is the ſupport of the throne of juſtice, and the final adjudication of the law, ordinarily committed to thoſe orators whoſe talents have been moſt admired at Niſi Prius, but to thoſe who, by their ſkill in ſpecial pleading have evinced that laborious attention and preciſe information, without which juſtice may be perverted, and the judgment led captive by the imagination.

While Mr. Buller practiſed as a ſpecial pleader, Mr. Erſkine was numbered among his pupils. In Eaſter term, 1772, he was called to the bar, and in the ſame year publiſhed his "Introduction to the Law of Niſi Prius;" a work which reflects the greateſt honour on his learning, judgment, and ability; it ſtill remains in high repute, and although Mr. Eſpinaſſe has publiſhed a very laborious and ſucceſsful work on the ſame ſubject, Buller's Niſi Prius is, and perhaps always will be, a book in great demand and high eſtimation.

Mr. Buller's progreſs at the bar was extremely rapid: he is ſaid to have owed much of his ſucceſs to parliamentary connection; but this appears to be one of thoſe fictions by which dunces attempt to depreciate genius when it has met its due reward. Mr. Buller was never in parliament, nor was he ever a conſpicuous ſupporter of any miniſters or their meaſures. Lord Mansfield, though an active and able politician, was not ſubject to be biaſſed on the judgment-ſeat by his political predilections; at leaſt, not in ſuch a way as make coincidence a motive of perſonal preference. In Michaelmas term, 1777, he was honoured with a ſilk gown, and in three days after his promotion (27th November) made ſecond judge of Cheſter. In the enſuing Eaſter term, a vacancy ariſing by the death of Sir Richard Aſhton, Mr. Buller was, at the expreſs and earneſt recommendation of Lord Mansfield, advanced to the bench.

In this court, judge Buller ſat for ſixteen years, and his conduct abundantly verified the high hopes entertained of his abilities. Lord Mansfield ſupported his early exertions with all the weight of his authority, all the perſuaſion of his irreſiſtible eloquence: and when in the evening of his days that truly great character was frequently obliged to ſeek a temporary receſs from the fatigues of his ſtation, his place was ſupplied by Judge Buller, with a degree of ability and integrity which left little room for regretting the abſence of the principal. Lord Mansfield was ſo entirely convinced of his ability, that he is ſaid to have exerted all his influence, and to have even held his office after the power to execute its functions had ceaſed, for the purpoſe of obtaining the ſucceſſion to Sir Francis Buller.

His efforts failed, but this was not the only inſtance in which a marked predilection was ſhewn for Buller's talents: he was often deputed by Lord Thurlow to ſit in the Court of Chancery; and during the interval between the reſignation of Lord Thurlow and the appointment of Lord Loughborough, Judge Buller was one of the commiſſioners of the great ſeal.

In Trinity term, 1794, finding the buſineſs of the court of King's-bench too multifarious for his ſtate of health, he exchanged ſituations with Sir Soulden Lawrence, who had recently been made a judge, and ſat in the court till the end of his days.

Sir Francis was always celebrated for his ready perception of the real point in a cauſe, his penetration in detecting the fallacies of advocates, and the equivocations of witneſſes, and his clearneſs in explaining his opinions to the jury. His integrity is not commended, becauſe no Britiſh judge has been known ſince the revolution to want that quality. The detractors of Buller, and detractors every man in an exalted ſituation muſt expect, have imputed to him ſomewhat too much of ſeverity in criminal caſes; but this inſinuation is not founded on any cogent proof: one caſe alone is cited, but the public ſeems long ſince to have acquieſced in the juſtice of Donnellan's ſentence. In the year 1785, Judge Buller encountered much obloquy on account of an altercation with Mr. Erſkine, on the trial of the Dean of St. Aſaph; but the heat of political diſpute had conſiderable effect, and the judge was unfairly balanced in the public mind againſt an able and popular advocate in a popular cauſe. In 1798 he was at the head of the commiſſion for trying the ſtate priſoners at Maidſtone, and conducted himſelf with the moſt exemplary dignity, prudence, and moderation. This was the laſt conſpicuous act of his public life. He died on Wedneſday, the 4th of June, 1800.

In private he was amiable, gay, and benevolent; in perſon remarkably handſome, his complexion florid, his eye brilliant, and replete with ſagacity and penetration. His health, during his latter years, was undermined by continual attacks of the gout; and at the time of his death, he intended to have reſigned his ſituation of judge in a few days. His death was remarkably ſudden; he fell from his chair while playing a game at picquet, and expired inſtantaneouſly. He was in his 55th year.

BULNESS, a village in Cumberland, at the end of the Picts wall, on the Solway Frith, whence Antoninus began his Itinerary, and whence the people ſay a paved cauſeway ran formerly along the ſhore of Elenborough, of which, though few tokens appear, yet tracks of ſtreets, pieces of old

walls, and Roman coins, are often diſcovered in ploughing the fields.

BUNDELA, or BUNDELCUND, a territory of Hindooſtan Proper, on the S.W. of the river Jumna, and ſeparated from it by a narrow tract of low country. It is inhabited by a tribe of Rajpoots, and is ſurrounded by the dominions of Oude, Benares, and the Mahrattas. It was formerly ſubject to a rajah of the name of Hindooput, but is now equally divided among his ſons, or their deſcendants. It is a mountainous tract, of more than 100 miles ſquare, and contains the celebrated diamond mines of Panna, or Purna, with ſome ſtrong fortreſſes. Chatterpour, which is reckoned the capital, lies in the parallel of 25° N.

BUNGO, a kingdom of Japan, in the iſland of Ximo, whoſe capital is Lunay. The king of this country was converted to Chriſtianity, and ſent an embaſſy to pope Gregory, in 1683; but there is not now one Chriſtian in all Japan.

BUNIVA, a mountain of Greece, between Janna and Achaia, extending as far as the gulf of Zeiton. The ancient name was Œta; and it is famous for the narrow paſs of Thermopylæ (ſo called from the hot baths in the neighbourhood) where Leonidas, and his gallant 300 Spartans, reſiſted, for three days, the whole Perſian army. This is the place, feigned by the ancients to be the ſcene of the death of Hercules.

BURAGRAG, a river of Barbary, in the kingdom of Fez, which falls into the Atlantic ocean, at the town of Sallee.

BURGAW, a town and caſtle of Germany, in the circle of Suabia, capital of a margravate of the ſame name. It belongs to the houſe of Auſtria, and is 26 miles W. of Augſburg. Long. 10. 15. E. Lat. 48. 28. N.

BURG-CLERE, a village of Hampſhire, ſituated on the W. of King's-Clere, at the foot of a hill, which has a military camp on the top, and an extenſive proſpect.

BURGH-UPON-SANDS, a village of Cumberland, near Solway Frith, where the victorious Edward the Firſt died, in 1307, as he was preparing for an expedition againſt Scotland. It is five miles N.W. of Carliſle.

BURHANPOUR, a city of Hindooſtan, in the Deccan, the capital of Candeiſh, and, at one period, of the Deccan alſo. It is ſtill a flouriſhing city, ſituated in the midſt of a delightful country, 225 miles E. by N. of Surat. Long. 76. 19. E. Lat. 21. 25. N.

BURKE (Edmund), a writer, orator, and ſtateſman, of ſuperior eminence, was born at Dublin on January 1, 1730. His father was an attorney of reputation, of the proteſtant perſuaſion. Edmund received the early part of his education under Abraham Shackleton, a quaker, who kept a ſchool or academy at Ballytore near Carlow. If in this ſeminary he did not acquire that exactneſs of claſſical inſtruction, which is the pride of the public ſchools, it is probable that he was indebted to it for the rudiments of a larger plan of intellectual purſuit, which is often the advantage of a private inſtitution. It is to the honour both of the maſter and the ſcholar, that for near forty years, the latter, in his viſits to Ireland, uſed to travel many miles to pay his reſpects to the former, who lived to an advanced age. In 1746 Edmund entered at Dublin College as a ſcholar of the houſe. It does not appear that he diſtinguiſhed himſelf in the ſtudies and exerciſes of the place; but his mind was by no means unoccupied. He cloſely purſued a plan of ſtudy of his own choice, of which the principal objects were logic, metaphyſics, morals, hiſtory, rhetoric, and compoſition. He ſeems to have left Dublin College after taking a bachelor's degree in 1749; and it has been commonly reported that he finiſhed his ſtudies in the Jeſuits' College at St. Omer's. This circumſtance, which has illiberally been made a ſort of *charge* againſt him, has been denied, apparently on good grounds, by his biographers. Nothing, however, is recorded of him about this period of his life, but that he made an unſucceſsful application for the vacant profeſſorſhip of logic at the univerſity of Glaſgow. In 1753 he firſt entered upon the great theatre of London, as a law-ſtudent at the Temple. He ſoon became the wonder of his acquaintance for the brilliancy of his parts, and variety of his acquiſitions; but, like many other nominal ſtudents of the law, he directed the force of his mind rather to general literature, than to ſtudies properly profeſſional. Indeed it appears probable that he was obliged to depend upon his pen for a ſupport; for, ſoon after his ſettling in London, he became a regular writer in newſpapers and magazines, which was a drudgery his genius would ſcarcely have ſubmitted to, but for its emoluments. He was always induſtrious, and never waſted his time or ſpirits on the purſuits of faſhionable diſſipation. Yet he was not ſo much a recluſe as to be a ſtranger to the ſocieties of the gay and polite; and an intimacy with the celebrated actreſs Mrs. Woffington, whoſe converſation was at that time courted by men of wit as well as by men of pleaſure, contributed to form his manners and expand his ſocial talents. A ſtate of ill health, into which aſſiduous application threw him, rendered him a gueſt in the houſe of Dr. Nugent, a phyſician, and was eventually the cauſe of his marriage with the doctor's daughter. This lady retained his eſteem and affection during the whole of a long union. As ſhe was a Roman-catholic, additional force was given by that connection to the prevailing notion of Mr. Burke's good-will towards that communion.

His firſt avowed work appeared in 1756. It was a pamphlet entitled, "A Vindication of natural Society; or, a View of the Miſeries and Evils ariſing to Mankind from every Species of artificial Society; in a Letter to Lord * * * *, by a late noble Writer." This ſuppoſed noble writer was Lord Bolingbroke, whoſe manner of writing and reaſoning Mr. Burke in this piece ironically imitated, in order to ſhow, as he afterwards aſſerted, that the ſame arguments from abuſe, with which that nobleman had attacked religion, might be equally employed againſt all civil and political inſtitutions: and thereby to infer their fallacy. In ſo ſerious and forcible a ſtrain, however, did Mr. Burke argue upon the evils of ſociety, proceeding from the tyranny, injuſtice, and ambition of kings and governors, that the irony to many eyes was inviſible; and the work has actually been republiſhed in late times for the purpoſe of aiding the cauſe of a radical reform in human inſtitutions. Whatever the author really meant by it, he certainly diſplayed great powers of writing and extenſive knowledge; yet the work excited little notice, and it is only his ſubſequent fame that has made it an object of curioſity. For this diſappointment, however, he was fully compenſated by the reception of his next literary performance, the "Eſſay on the Sublime and Beautiful," publiſhed in 1757. The elegance of its language, and the ſpirit of philoſophical inveſtigation it diſplayed, at once raiſed its author to the firſt claſs among writers on topics of taſte and criticiſm. The hypotheſis he maintained concerning the objects of his enquiry was, that the principal ſource of the ſublime is terror, or ſome ſenſation analogous to it; and that beauty is that quality, or the reſult of thoſe qualities in objects, by which they excite love, or ſome ſimilar affection. This theory is ſupported with much acuteneſs, and felicity of illuſtration; and though, like many other ingenious men, he has ſhewn too great a propenſity to generaliſing, it is certain that many of his obſervations are not leſs ſolid than elegant. The ſame acquired by this work ſoon introduced the author to the beſt literary acquaintance. He became intimate in the houſe of Reynolds, afterwards Sir Joſhua; and this connection, which laſted for life, was equally ſerviceable to the reputation of the one, and the pecuniary circumſtances of the other.

Even the great Johnſon courted his ſociety, and there was no man of whoſe exalted talents he was more ſenſible. "Burke," ſaid he, in his ſtrong manner, "is one, with whom if you were to take ſhelter from a ſhower under a gateway, you would ſay you had been in company with the moſt extraordinary man you had ever ſeen." This praiſe implies not only uncommon qualifications, but as uncommon a readineſs of diſplaying them; which, in fact, was one of Burke's ſtriking diſtinctions. It is alſo ſaid, that Johnſon would more readily bear contradiction in opinion from Burke than from any other perſon; and that if he did not fear him, he was at leaſt held by him in reſpect. In 1758 Burke ſuggeſted to Dodſley the bookſeller the plan of that valuable and entertaining work, the "Annual Regiſter," and he took upon himſelf the writing of the hiſtorical part, which he continued for a number of years, greatly to the credit of the publication. It is allowed, that in no periodical work the narrative of the current tranſactions was ever given in a manner ſo nearly approaching to the dignity and conſequence of hiſtory.

He was thus gradually forming for a ſtateſman and orator; and his career may be ſaid to have commenced in 1761, when he went over to Ireland as confidential friend to Mr. Hamilton, ſecretary to the lord-lieutenant, Lord Haliſax. That gentleman, commonly known by the name of *ſingle ſpeech*, from a brilliant but ſole diſplay of his oratorical powers in the Engliſh Houſe of Commons, was poſſeſſed of leſs induſtry than ability; and Mr. Burke is thought to have rendered him and the miniſtry ſome uſeful political ſervices in Ireland, which were rewarded with a penſion of 300l. on the Iriſh eſtabliſhment. Soon after his return from that country in 1765, he was introduced by Mr. Fitzherbert to the Marquis of Rockingham, then appointed firſt lord of the treaſury, who made him his private ſecretary; and through the intereſt of Lord Verney, he was elected repreſentative for the borough of Wendover. The marquis, reſolving durably to attach to himſelf a man of ſuch firſt-rate talents, raiſed him at once to affluence by a nominal loan, but real gift, of a large ſum, with which he was enabled to clear off incumbrances, and to purchaſe the elegant ſeat near Beaconsfield, where he thenceforth conſtantly reſided. Mr. Burke was thus completely enliſted into party, under an ariſtocratical influence, but at that time exerted in favour of popular meaſures. Before his political conduct is more particularly conſidered, it will be candid to furniſh the reader with a kind of clue, which is contained in the character given of him by his early friend Mr. Hamilton. "Whatever opinion Burke, from any motive, ſupports, ſo ductile is his imagination, that he ſoon conceives it to be his right." This may be ſuppoſed chiefly applicable to the earlier part of his political life; yet it is ſufficiently evident that his imagination had a great ſway over his judgment to the laſt moment of his exiſtence.

At this period the riſing diſcontents in America were the great objects of intereſt to the nation. The ſtamp-act, impoſed by the Grenville miniſtery, had kindled a flame among the coloniſts which threatened very ſerious conſequences. Mr. Burke's firſt ſpeech in parliament was on this ſubject, and it was much admired as a piece of eloquence. It was from his advice that the Rockingham adminiſtration took the middle and indeciſive courſe of repealing the ſtamp-act, and paſſing a declaratory act, aſſerting the right of Great Britain to tax America; thus getting rid, indeed, of the preſent difficulty, but leaving to their ſucceſſors the temptation of renewing a project which it was evident would be attended with a renewal of all the hazard and contention. The repeal, however, was an extreme popular meaſure at the time; and the miniſtery proceeded to other popular acts, as the repeal of the cyder-tax, and the reſolution againſt general warrants, when, after a very ſhort reign, they were turned out to make room for a new adminiſtration under the auſpices of Mr. Pitt. It is allowed that Burke, though exhibiting great ſplendor of talents, was at this time too ſpeculative and refined for real practice. He had, indeed, gone through a very different courſe of preparation for public life from that uſually purſued. He had taken a wide range through all the ſtudies which teach the nature, fortune, opinions, and principles, of mankind, and had employed himſelf in laying up thoſe rich ſtores of knowledge, which he afterwards poured forth in ſuch aſtoniſhing profuſion. It was about this period that the character drawn for him by the poet Goldſmith, in the ſet of imaginary epitaphs compoſed for the ſeveral members of their celebrated literary club, appear to have been particularly applicable:

Here lies our good Edmund, whoſe genius was ſuch,
We ſcarcely can praiſe it or blame it too much;
Who born for the univerſe, narrow'd his mind,
And to party gave up what was meant for mankind.
Though fraught with all learning, yet ſtraining his throat
To perſuade Tommy Townſend to lend him a vote;
Who too deep for his hearers ſtill went on refining,
And thought of convincing, while they thought of dining;
Though equal to all things, for all things unfit;
Too nice for a ſtateſman; too proud for a wit;
For a patriot too cool; for a drudge diſobedient;
And too fond of the *right* to purſue the *expedient*,
In ſhort, 'twas his fate, unemploy'd or in place, ſir,
To eat mutton cold, and cut blocks with a razor.

It is not intended in this biographical ſketch to enter minutely into the political tranſactions of the time; it will ſuffice for our purpoſe to give a ſuccinct view of the principles ſupported by Mr. Burke in that long warfare of oppoſition to miniſterial meaſures in which he paſſed his beſt days. After concluding his official labours by a Short Account of a late ſhort Adminiſtration, written with force and ſimplicity, he took his ſtation, along with his diſcarded brethren, as a guardian of the people's rights and the public welfare, and a vigilant cenſor of the conduct of his ſucceſſors. In the proceedings againſt Mr. Wilkes, and the caſe of the Middleſex election, Burke found large ſcope for blaming and ridiculing the policy of miniſters; and he ſtrenuouſly joined his efforts to thoſe of the remonſtrants againſt the violation of the rights of electors. About that time he publiſhed one of his moſt remarkable political works, entitled, Thoughts on the Cauſes of the preſent Diſcontents, which contains a large and explicit declaration of his ideas of the Engliſh conſtitution, and the mode by which power ſhould be adminiſtered. He attributes all the evils and miſgovernment of the reign to a plan formed by the court for governing by the private influence of its favourites, thus eſtabliſhing a ſecret cabinet, always controlling the operations of the oſtenſible miniſters, and diſmiſſing them when not compliant with its deſigns. He ſhews in ſtrong terms the incompatibility of ſuch a ſecret influence with the principles of a free ſtate; and ſupports ſome extremely popular notions concerning the Houſe of Commons, which he ſays was originally deſigned as a "control, iſſuing immediately from the people, and ſpeedily to be reſolved into the maſs whence it aroſe." Democratical as theſe ſentiments may appear, his propoſed remedy for the prevailing evils was perfectly ariſtocratical; ſince it conſiſted eſſentially in placing the government in the hands of the great whig families which had been the ſupporters of the revolution and its conſequent meaſures;—in other words, the Rockingham party. This narrow concluſion from enlarged principles gave great offence to many friends of freedom; and the celebrated Mrs. Macaulay wrote a pamphlet expreſsly in anſwer

to it, in which with much force and ſpirit ſhe maintained her ſpeculative notions on the great ends of government, and the equal rights of all citizens to participate in it. If it be of importance to acquit Mr. Burke of the charge of ever having been inclined to democracy in practice, certainly this publication may be confidently adduced as a proof of very different views. He was uniformly, however, the ſupporter of liberty, and the cauſes connected with it; freedom of the preſs, the rights of juries, and religious toleration: nor would his ſincerity in theſe points ever have been queſtioned, had he not in his laſt years appeared as the champion of principles ſuppoſed directly adverſe to them.

But the moſt laſting, as well as the ſtrongeſt and nobleſt, of his parliamentary exertions, was his oppoſition to the train of miniſterial meaſures antecedent and conſequent to the American war. The whole powers of his eloquence, and the whole reſources of his political wiſdom, were employed firſt to prevent, and then to heal, the fatal breach between the mother country and her colonies; and to expoſe the miſconduct and imbecility of thoſe whom he conſidered as the authors of the calamity. And as this period compriſed the full maturity of his oratorical abilities, it ſeems the proper place to deſcribe the peculiar character of his oratory.

In all the records of eloquence an example probably is not found of a ſpeaker ſo full of mind as Burke. Ideas and images crowd in upon him from all quarters. On every topic he not only takes in the whole compaſs of matter belonging to it, but makes excurſions to a vaſt variety of ſubjects connected by the ſlighteſt aſſociations. His diction is equally rich and varied with his matter. Figure riſes after figure, image after image, in endleſs profuſion; often ſplendid, ſublime, and beautifully illuſtrative; not ſeldom coarſe, diſguſting, and puerile; for the rapidity of the current allowed him no time to ſelect or purify. When he got up, it was ſcarcely poſſible for the audience to divine whither he would carry them; but they were ſure of hearing nothing trite or common-place, and generally repaid for a patient attention, by ſtriking and original ſentiment, or deep and ingenious obſervation. From his ſpeeches may be collected maſterly diſcuſſions of almoſt every point intereſting to human ſociety, together with a great fund of hiſtorical narration and delineation of eminent characters. In argument he is often cloſe and cogent, ſometimes lax and ſophiſtical. In praiſe and invective he is equally fervid and exuberant, exhauſting all the tropes and epithets of language. In him feeling and fancy were alike potent, and daring vigour was allied with playful ingenuity. But oratory, as it was his forte, was alſo his foible. He loved too much to talk, and got the habit both of riſing too often and ſtaying up too long. His copiouſneſs degenerated into prolixity: and after charming and convincing hearers with the beginning of his ſpeech, he would tire them with the end. His vivacity and irritability rendered him not enough maſter of himſelf for a ſenatorial debator. He was ſometimes hurried into violations of prudence and decorum, and ſaid raſh things in heat which he could not recal, and which could not be forgotten. His own party trembled to ſee him riſe, and on many occaſions would have preferred his ſilence to his aid. On the whole, he was not the moſt effective ſpeaker of the houſe, though certainly the greateſt genius. It may be added, that his manner was little in his favour; his voice was harſh, his tone natural, his action forcible, but ſtrained and inelegant.

Mr. Burke's principles were ſuppoſed ſo favourable to liberty, that in 1774 he was choſen member for Briſtol, by the zealous and ſpontaneous efforts of the whigs and diſſenters of that opulent city. It does not appear, however, that, even in the great American conteſt, he ever explicitly declared himſelf concerning the fundamental rights of men in ſociety. He was accuſtomed expreſsly to ſhun all ſuch abſtract queſtions, which he ſeemed to think dangerous and incapable of poſitive deciſion; and his attacks upon the meaſures of miniſters were chiefly directed againſt their inexpediency, ſeverity, and partial injuſtice. He very early propoſed conciliation on the ground of renouncing future taxation, without diſcuſſing the queſtion of right; though indeed he argued ſtrongly againſt the aſſumed right of taxing *Britiſh ſubjects* who were unrepreſented. It is needleſs here to ſay, that all the efforts of Burke and his friends were ineffectual. The war even became popular, and Burke ſeemed to loſe ground in the public eſteem by his oppoſition to it. He further gave offence to many, particularly his Briſtol conſtituents, by his ſupport of the Iriſh petitions for a free trade, and of a bill for taking off ſome hardſhips and penalties to which the Roman-catholics were expoſed. He, however, recovered a large ſhare of popularity by his famous bill of reform in the national expenditure, introduced in February 1780. In the framing of this bill, it was wonderful what minute accuracy of reſearch he had employed; thus uſefully proving, as he alſo did by the general tenor of his life, that the moſt brilliant imagination is not in the leaſt incompatible with plodding induſtry. His ſpeech on the bill was likewiſe remarkable by an extraordinary mixture of wit and humour with financial detail; an alliance no one but himſelf could or would have made. But though the idea of retrenchment was very grateful to the nation, it was not likely to be ſo to miniſters and courtiers; and Burke's propoſed bills were rejected.

In March 1782, an end was put to the miniſtry of Lord North, which was ſucceeded by the return of the Marquis of Rockingham and his party to power. Burke in this change obtained the lucrative poſt of paymaſter to the forces, and a ſeat at the council-board One of the firſt meaſures was the re-introduction of his reform bill, which paſſed, though not without conſiderable modifications. The death of the marquis, however, very ſoon put a period to this miniſtry; for upon the appointment of Lord Shelburne to ſucceed him as head of the treaſury, inſtead of the Duke of Portland, ſeveral of the duke's friends reſigned, and among them Mr. Burke. The Shelburne adminiſtration did not long ſurvive the peace; and it was ſucceeded by that known by the name of the *Coalition*, as being compoſed in part of thoſe former miniſters who had been the objects of ſuch a long and violent oppoſition, and in part of that oppoſition itſelf. The coalition was projected by Burke, who appears little to have calculated the effect upon the public mind of ſuch a violent ſhock to all ideas of ſincerity and conſiſtency. It was, however, conformable enough to his old notion of governing by great families, and certainly ſtill further abſolves him from the charge of democratical principles. This aſſociation of power was diſſolved by Mr. Fox's India bill, which had the warm ſupport of Burke, but united againſt it both king and people. Mr Pitt ſucceeded to the helm, and diſſolved the parliament. This meaſure was attacked by Burke with great acrimony, and he moved a ſet of repreſentations to the crown on the ſubject, one of which ſeems to go further in aſſerting the right of innovating upon eſtabliſhed conſtitutions, than his uſual latitude. He ſays, "Neceſſary reformations may hereafter require, as they have frequently done in former times, limitations and abridgments, and, in ſome caſes, *an entire extinction in ſome branch of prerogative.*" The grand deſideratum of ſo many friends of freedom, parliamentary reform, was not however a ſpecies of alteration which he approved; and he oppoſed the plan for that purpoſe introduced by Mr. Pitt in 1785. Such a conduct was

conſiſtent enough with the partiſans of an ariſtocracy of borough-holding nobles.

The impeachment of the celebrated Eaſt-India governor, Mr. Haſtings, was one of the great events of Burke's public life. He was the original promoter of it; and private motives of reſentment were thought to have united with a regard to public juſtice in his purſuit of that national cauſe. He employed uncommon induſtry in collecting and arranging the materials of the charge, and followed it up with diſtinguiſhed perſeverance and ardour. His principal ſpeech in ſupport of the charge, was remarkable for violence and exaggeration; and upon the whole he was no gainer in the public eſtimation by this memorable impeachment, though perhaps the enormous length of the proceedings contributed more to render it unpopular than any well-grounded conviction of the innocence of the culprit.

The ſettling of the regency on the king's malady in 1788 was another ſubject in which Burke took a warm and active part. He contended vigorouſly againſt the miniſter's purpoſe of limiting the powers of the regent (the Prince of Wales), and his principle that the regency was elective and not hereditary. It is well known that the efforts of the oppoſition on this occaſion were neither ſucceſsful nor popular; and Burke expoſed himſelf to particular cenſure in conſequence of ſome very unfeeling and irreverent expreſſions concerning the king, which eſcaped him in the vehemence of debate.

The laſt great act of Burke's political life was the part he took with reſpect to that mighty event, the French revolution. Though it might be ſuppoſed that one who had ſo long acted with the avowed friends of liberty at home, and had ſhewn ſuch countenance to ſubjects whom oppreſſion had driven into actual rebellion, would applaud the efforts of a great nation to found a free conſtitution out of the wrecks of abſolute monarchy; yet, on the other hand, his conſtant unwillingneſs to reſort to firſt principles, his reverence for eſtabliſhed forms, and all the honours and ſplendors of civiliſed ſociety, his contempt for the vulgar, and, it may be fairly added, his ſtrong feelings of juſtice and humanity, might reaſonably be expected to cauſe him to regard firſt with ſuſpicion, and then with deteſtation, a revolution which ſoon betrayed ſymptoms of violence and a profligate ſpirit. He early manifeſted his diſlike to it; and in February 1790, on a debate in the Houſe of Commons concerning the reduction of the army, in which Mr. Fox recommended a generous confidence of this country towards the new rulers of France, he broke out into a virulent declamation againſt the original principles and the conduct of the French revolutioniſts, renounced perſonal friendſhip with Mr. Fox and thoſe who ſupported the ſame opinions, and took his decided ſtand of hoſtility againſt every thing connected with the new order of things. From that time he ſat down to the compoſition of his famous Reflections on the Revolution in France; on which he bent the utmoſt powers of his mind. It appeared in October, and no work perhaps ever excited more attention, or produced more effect. It is, in reality, a performance of wonderful vigour, diſplaying every characteriſtic excellence of the writer, and not a few of his defects. A liberal antagoniſt will not deny that it contains much juſtneſs of argument, much profundity of obſervation, with extraordinary beauties of language; while a judicious advocate will confeſs that it is not free from ſophiſm and miſrepreſentation, and betrays a heated and ungoverned imagination. The moſt reprehenſible circumſtance is, that the writer, in his zeal to deviate as far as poſſible from principles which he thinks hurtful, uſes arguments which would be applicable to the defence of the moſt tyrannical eſtabliſhment, and to the condemnation of every ſtruggle in favour of liberty. This work had a ſale almoſt unprecedented; and its author received the moſt unbounded praiſe from all thoſe who were engaged in the ſupport of eſtabliſhments, and from many others, who were convinced by his arguments, and with him were ſhocked by the character the French revolution was daily aſſuming. On the other hand, it met with ſevere and formidable critics, and affixed, in the opinion of a numerous party, the ſtain of *apoſtacy* on the writer. It produced, among other replies, Paine's celebrated Rights of Man, which, for a time, ſeemed fully to balance its effects; but in the end, events, and the efforts of power and property, threw the preponderance in the ſcale of Burke; and it is not doubted that the turn he gave to the national opinions was an efficacious preparative to the enſuing war. He followed up his attack on the French principles, with A Letter to a Member of the National Aſſembly, in 1791; An Appeal from the New Whigs to the Old; Letter to a noble Lord on the Subject in Diſcuſſion with the Duke of Bedford; and Thoughts on a Regicide Peace; with ſeveral Memorials, &c. privately circulated; in all of which he diſplayed unabated powers of mind, together with ſuch an earneſt and inflamed zeal in the cauſe, as muſt remove all doubts of his ſincerity. Indeed, enmity to the French revolution became the leading paſſion of his ſoul. He could not hear it named without violent irritation, and its ſucceſſes certainly embittered and diſquieted all the concluding years of his life Yet it muſt be allowed that his zeal was alſo invigorated by emolument. His hoſpitable diſpoſition, and careleſſneſs with regard to expence, had always rendered him a needy man; and the large penſions which were conferred upon him by the crown doubtleſs animated his love of royalty. Theſe penſions were made a ſubject of ſevere animadverſion in parliament, but he defended himſelf on their account with great vigour and ſpirit in his Letter to a noble Lord, above mentioned. The only other political object which occupied him during this period, was the emancipation of the Roman-catholics in Ireland from the diſabilities they lay under, which he urged in A Letter to Sir Hercules Langriſhe, on the Propriety of admitting the Roman-catholics to the Elective Franchiſe, 1792. He withdrew from parliament in 1794, and his ſeat for New Malton was occupied by his only ſon, a riſing young man, whom his father viewed with the higheſt admiration as well as affection. The death of that ſon, ſoon after, was a moſt ſevere ſtroke upon him, and haſtened the decline of nature he was beginning to feel. This, by gradual approaches, brought on a tranquil termination of his life on July 8, 1797, in the ſixty-eighth year of his age. He preſerved his ſenſes to the laſt, and a few hours before his death cauſed to be read to him Addiſon's paper in the Spectator, on the immortality of the ſoul.

Mr. Burke was a very admirable man in private life, exemplary in his domeſtic and ſocial relations, and greatly beloved by his friends, from ſeveral of whom he received ſubſtantial tokens of regard. His converſation was delightful, when not exaſperated by inflammatory topics. He loved praiſe to a degree of weakneſs, and was not ſparing in returning it. He had a very elegant taſte for the fine arts, and was much attached to rural improvements, and the purſuits of agriculture. He was highly charitable and benevolent in his private capacity, and promoted many beneficent plans in his neighbourhood. The ſtream of his bounty latterly was directed to the relief of the ſufferers from the French revolution, and he founded a ſchool for the children of emigrants, the permanent ſupport of which ſeems to have been one of his latett cares.

In addition to his literary exertions, it ſhould be mentioned, that one of his biographers has aſſerted with the greateſt confidence, that he was the real writer of Sir Joſhua Reynolds's

Academical Diſcourſes, that great artiſt having only contributed to the general plan, and the profeſſional obſervations; and indeed the finiſhed excellence of the compoſition, together with the great pecuniary favours he received from his friend, might render the ſuppoſition probable; yet it is ſtrenuouſly denied by other authority. It is more certain that he had a great ſhare in the compoſition of an admired account of the European ſettlements in America, undertaken by his couſin William Burke. The celebrated Letters of Junius were by many aſcribed to Edmund Burke, at leaſt as a leading aſſociate in the deſign, and plauſible arguments have been adduced for the opinion: but this literary myſtery is yet unravelled. Other anonymous pieces of the political kind are known to have employed the maſterly pen of Burke, as a principal or an auxilliary.——We are indebted to the popular work of Dr. AIKIN, for the foregoing particulars.

BURKHAUSEN, a town of Germany, in Lower Bavaria, on the river Saltz, twenty-ſeven miles N. by W. of Saltzburg. Long. 12. 50. E. Lat. 40. 17. N.

BURMAH, an extenſive kingdom of Aſia, to the E. of the Ganges; ſometimes, but erroneouſly, called Ava, from the name of its capital. It is bounded by Pegu on the S. and occupies both ſides of the river Ava, as far as the frontiers of China. On the W. it has Aracan; and on the E. Upper Siam. This country, which is very little known to Europeans, produces ſome of the beſt teek timber in India. Ships built of teek, upward of forty years old, are no uncommon objects in the Indian ſeas, while an European-built ſhip is ruined there in five years. The foreſts which produce this valuable wood (which may be ſtyled the *Indian oak*), are ſituated between the W. bank of the river Ava, and the country of Aracan, and are only 250 miles from the ſea, by the courſe of the river.

BURNS (Robert). Scarcely any of the *ſelf-taught* poets in any country have diſplayed ſo much real genius, or attained ſo much excellence, as the ſubject of the preſent article, who was the ſon of a gardener and ſmall farmer, a native of the northern part of Scotland, but finally ſettled in the county of Ayr. Near the town of Ayr, Robert was born on January 29, 1759. He was brought up to ruſtic labour; but ſuch a deſtination was not thought incompatible with that degree of literary education which is ſo general among the natives of Scotland. It appears that his father, a man of ſuperior underſtanding, as well as of uncommon worth, exerted himſelf extraordinarily to procure inſtruction for his children; for, joining with ſome other heads of families of his own ſtation, they engaged a maſter of conſiderable ability, under whom Robert became a very good Engliſh ſcholar, well grounded in the grammar, and poſſeſſed of a remarkable copiouſneſs of words and expreſſions. His memory was retentive; and his love of reading, in proportion as proper objects were preſented to him, became ardent. There was no great variety or choice among the books he firſt procured, nor does it appear that poetry was his earlieſt taſte. The Life of Hannibal, and the Hiſtory of Sir William Wallace, were his firſt favourites; and even polemical divinity, a topic of peculiar intereſt among his countrymen, was not without its attractions to him. In the mean time his imagination received a vigorous though homely food, from the converſation of an old woman reſident in the family, who was plentifully ſtocked with the popular ſtories of fairies, witches, ghoſts, and goblins, all which ſhe piouſly believed. His father's circumſtances did not permit Robert to enjoy a regular and unbroken courſe of inſtruction. It was interrupted by the neceſſity of early and hard labour; which, with poor diet, and melancholy proſpects, fixed upon him a hypochondriacal tendency, that found its ſpeedieſt cure in ſociety and diſſipation. The ſum of direct inſtruction he received, included a ſmattering of the French language, and ſome leſſons in practical mathematics; but his own ſtrong ſenſe, with the aid of obſervation and caſual reading, was continually making important additions to his mental ſtock. As he grew towards manhood, ſome of the beſt Engliſh poets came under his peruſal; and he derived very eſſential benefit from a collection of letters by the moſt eminent writers, which by a lucky miſtake fell into his hands, inſtead of a common introduction to the art of letter-writing.

His firſt poetical inſpirer was Love, a paſſion of which he was ever ſingularly ſuſceptible, and which formed much of the pleaſure and pain of his life. A harveſt companion gave him at fifteen the earlieſt impreſſions of this delicious emotion. She had ſeveral ſucceſſors; but for a conſiderable time no other conſequences enſued than the change of a topic for his verſes. As he began to be known in the neighbourhood for ſtrength of underſtanding and powers of converſation, his company was courted, and he too ſoon became initiated into riotous conviviality, though the love of company was long more prevalent over him than the love of drink. He has juſtly remarked, that his great misfortune at this period was the want of a fixed aim in life. His ſpirit roſe above the meanneſs of his ſtation. Though active in body, he could not ſubmit to the thought of paſſing his whole exiſtence in corporeal labour; yet no mode of elevating his condition preſented itſelf. He made a trial at manufacture, and aſſociated himſelf with a flax-dreſſer in the neighbouring town of Irvine; but the ſcheme ended in nothing but giving him a ſtronger reliſh for a town life. His reception among the fraternity of free-maſons was an additional ſtep towards his acquiſition of convivial habits. After his father's death he joined his ſecond brother in a ſmall farm; but a courſe of bad ſeaſons cauſed it to prove a loſing concern, and they were obliged to give it up with the loſs of their ſtock. During this period, he formed a connection with a young woman, which his circumſtances, or his roving diſpoſition, prevented him from improving into a legal union. When conſequences enſued which could not be concealed, he endeavoured to eaſe his partner's mind by giving her an acknowledgment of a private marriage, which, upon information of his ruined condition, her parents induced her to reſign. Poor Burns, now driven to utter deſpair, and having in proſpect the horrors of a gaol, reſolved to quit his native country, and actually engaged himſelf as aſſiſtant-overſeer to a plantation in Jamaica. But he had for a conſiderable time been known in his neighbourhood as a maker of verſes, and his compoſitions had become popular. Of theſe, ſome of the firſt were ſatirical effuſions againſt the rigid calviniſtical clergy of the diſtrict, which, while they rendered the writer ſuſpicious to the godly, were favourably received by thoſe of a freer caſt. Other pieces, humorous, deſcriptive, tender, and bacchanalian, were handed about and admired, and Burns himſelf began to think that he might lay ſome claim to the envied title of a poet. With the double view, therefore, of obtaining fame, and ſome pecuniary ſupply for his neceſſities, he reſolved before his departure to publiſh a collection of ſuch of his poems as he moſt approved; and in 1786 he printed a ſmall volume at Kilmarnock, of which about 350 copies were ſubſcribed for. When it is known that Halloween, the Addreſs to the De'el, the Field Mouſe, Mountain Daiſy, and, above all, the Cotter's Saturday Night, were in this collection, it will not be wondered at, that they not only excited ruſtic admiration, but were peruſed with wondering applauſe by perſons of the moſt refined taſte. The local ſucceſs was prodigious. The Ayrſhire plowman became the pride of the country; and the labourer and maid-ſervant were impatient to convert a portion of their hard-earned gains into a copy of the delightful productions of the Scottiſh muſe.

Burns, however, perſiſted in his purpoſe of quitting his native land; and with part of the ſum his publication yielded, actually paid for his paſſage to the Weſt Indies in a ſhip from the Clyde. "I had taken," ſays he, "the laſt farewel of my few friends; my cheſt was on the road to Greenock; I had compoſed the laſt ſong I ſhould ever meaſure in Caledonia, 'The gloomy night is gathering faſt;' when a letter from Dr. Blacklock to a friend of mine, overthrew all my ſchemes, by opening new proſpects to my poetic ambition." That amiable poet, in common with ſome other perſons of taſte in Edinburgh, had been ſtruck with the extraordinary merit of Burns, and had given his opinion that a viſit to that capital would prove highly advantageous to him. Burns embraced the propoſal with rapture, and poſted to Edinburgh in November, 1786, relying ſolely on his fame, as he did not poſſeſs a ſingle acquaintance in the place. His reception ſurpaſſed his moſt ſanguine hopes. He was introduced to men of the firſt rank in letters, and to others of title and fortune; he was invited to all parties, praiſed, careſſed, feaſted, and more ſolidly encouraged by large ſubſcriptions for a new edition of his poems. An ingenious periodical paper, entitled The Lounger, being about to conclude, one of its laſt numbers was devoted to a critique on the poetry of Burns, in which their peculiar excellences were amply diſplayed. In this new ſcene Burns exhibited a fund of manly ſenſe and enlarged underſtanding, which rendered the *man* as much the object of admiration, as his *works* had been. The ſtrength, purity, and fluency of his language in converſation, were thought particularly remarkable in one of his rank and education. His manners were ſimple and independent; he was above all the affected ſingularities of pretenders to genius: and though he ſufficiently diſplayed a conſciouſneſs of his value, he was neither vain nor aſſuming. Nature had given him a countenance expreſſive and dignified, and a free caſt of ſentiment had taught him to hold up his head in the preſence of his fellow-men; ſo that ſtrangers who thought they were going to confer an honour on the peaſant by their notice, were involuntarily awed by the firſt interview. The firmneſs of his mind, however, was not proof againſt the temptations to exceſs which aſſailed him from every quarter at Edinburgh. His ſocial propenſities were under continual ſtimulation, and the worſt of company obtained as eaſy a poſſeſſion of him as the beſt. He paſſed the bounds of moderation in all his enjoyments, and his abode of two winters in the Scotch metropolis irretrievably fixed his unfortunate habits.

In February 1788, he found himſelf maſter of 500l. the fruits of that extraordinary encouragement which his new edition of poems had met with. Of this ſum he advanced 200l. to his brother, the farmer; and with the remainder he took a conſiderable farm of a gentleman in Dumfrieſſhire, upon terms intended to be much in his favour. But it is evident that he himſelf at this time ſuſpected that he ſhould be unequal to the conſtant attention and induſtry which are abſolutely requiſite to produce ſucceſs in the laborious and anxious occupation of agriculture. As a kind of *dernier reſort*, he had employed all his intereſt to procure an appointment to the humble poſt of an exciſeman, the higheſt, it ſeems, which the favour of the great could obtain for him. We may be ſurpriſed that a man of his character ſhould be ambitious of an office which could not but hurt his generous feelings in its exercite, and completely deſtroyed his independence; and the fact can only be attributed to his melancholy forebodings with reſpect to the other plan. But his propoſed union of the two employments was an abſurdity which ſo obviouſly led to ruin, that his friends ſhould have interfered to prevent it. Before ſettling, he took the honourable ſtep of legaliſing, by a declaration of marriage, his connection with the female above mentioned, who had been abſolutely turned out of doors by her father.

Burns for a time ſeemed to enjoy his rural and domeſtic pleaſures, and worked cheerfully at his plough; but his fame and his habits drew him too often from his ſolitude to convivial company, and the unhappy exciſe buſineſs gave him too good a plea to quit his farm, and take up his abode at ale-houſes. After three years and a half, he found it neceſſary to reſign his leaſe into his landlord's hands, and remove to a ſmall houſe in the town of Dumfries as a mere exciſeman. One of the firſt troubles that followed him was a charge of diſloyalty. Like moſt other ardent and ingenuous ſpirits, he had been warmed to admiration of the beginning of the French revolution, and to concurrence in the principles on which it was founded. Theſe he expreſſed with his uſual freedom of ſpeech, and his incautious language was reported to the *board*. This offence was much more heinous than the jacobiniſm of his younger days, which, indeed, was no more than a harmleſs play of romantic ſentiment. A ſupervifor was appointed to enquire into his delinquency; and it was not without the interceſſion of a reſpectable friend, and promiſe of more guarded behaviour, that he was ſuffered to retain his ſituation. He afterwards wiped off all ſtain of diſloyalty, ſo as to be placed on the liſt of expecting ſupervifors, though he did not live to attain his advancement. It would be painful to dwell upon the poor remnant of his life, in which he ſunk into the habitual ſot, forgetful of reputation, health, virtue, and the claims of thoſe who ought to have been dearеſt to him. Even in this ſtate of degradation, however, he exhibited admirable powers of the imagination, and his mind was vigorous while his body was daily becoming more feeble and diſeaſed. He retained, too, a principle of honour in pecuniary matters, which preſerved him from meanneſs even when oppreſſed with poverty. He was jealous of all offers of aſſiſtance, and long declined even the fair recompence of literary ſervices. The latter years of his life were much occupied in lyric compoſitions, which he undertook at the requeſt of a Mr. Thomſon in Edinburgh, who was making an ample collection of Scottiſh ſong tunes, to many of which there exiſted either no words, or poor and improper ones. Burns engaged with ardour in this national work, waving all propoſals of remuneration; and he poured forth a ſurpriſing number of pieces, many of them exquiſite ſpecimens of deſcriptive and ſentimental beauty, clothed in language of touching ſimplicity and delicacy. He continued alſo to write to his correſpondents letters full of fancy and energy. Several of theſe contain expreſſions of the keeneſt remorſe for the faults he was daily committing; though neither that compunction, nor the religious ſentiments with which he was permanently imbued, had power to overcome the force of habits, now become part of his nature. With reſpect to religion, though his mind had been early ſhocked with the horrors of the calviniſtic faith, and he had been thrown into a ſtate of doubt concerning revelation, yet he always cheriſhed the hope and belief of a future life, as the only true ſolace under poverty and adverſity; and many noble and pathetic declarations to this purpoſe are to be found in his letters. After much ſuffering from pain and depreſſion, he died of the conſequences of irregularities, in July 1796, in his thirty-eighth year. He left his wife and four children with no other proviſion than the intereſt inſpired by a name endeared to the lovers of poetry, by performances never to be forgotten. This proviſion has proved not unfruitful. A conſiderable ſum was raiſed for his family by ſubſcription ſoon after his death; and Dr. Currie, an eminent phyſician at Liverpool, generouſly undertook to prepare for their benefit a complete edition of his works, which appeared in 1800, in 4 vols. 8vo. enriched with an ample account of his life, and

a criticiſm on his writings, with ſome obſervations on the character and condition of the Scottiſh peaſantry; the whole forming a highly valuable addition to Engliſh literature.

The poems of Burns conſiſt of pieces, none of conſiderable length, upon a great variety of ſubjects, and in very different ſtyles. Moſt of them are written in the old Scottiſh dialect, and in ſingular meaſures, of which he found the examples in Allan Ramſay's works. The beſt of them poſſeſs a vigour of imagination, a warmth of feeling, a happy ſimplicity and force of expreſſion, that render them irreſiſtibly engaging. It is difficult to determine whether he excels moſt in the ſublime, the tender, or the humorous. In fact, in all theſe modes he drew his ideas immediately from nature, and animated them with the fire of genius. Though he can only rank among the minor poets, he will continue to be read and admired as long as poetry is reliſhed, unleſs his productions ſhould be prematurely hurried into oblivion by the uſe of an obſcure and decaying dialect. His letters will by many be thought as extraordinary proofs of literary talents, ſuperior to his ſituation, as his poems. They are in general written with a purity and command of language which would be admired in any condition; and they abound with paſſages of elegance, variety, and vigour, which genius alone could produce. With one of theſe, which may ſerve as a ſketch of his own character drawn by himſelf, we ſhall conclude this article: "Take a being of our kind, give him a ſtronger imagination and more delicate ſenſibility, which between them will ever engender a more ungovernable ſet of paſſions than are the uſual lot of man; implant in him an irreſiſtible impulſe to ſome idle vagary, ſuch as, arranging wild flowers in fantaſtic noſegays, tracing the graſshopper to his haunt by his chirping ſong, watching the friſks of the little minnows in the ſunny pool, or hunting after the intrigues of butterflies; in ſhort, ſend him adrift after ſome purſuit which ſhall eternally miſlead him from the paths of lucre, and yet curſe him with a keener reliſh than any man living for the pleaſures that lucre can beſtow; laſtly, fill up the meaſure of his woes by beſtowing on him a ſpurning ſenſe of his own dignity;—and you have created a wight nearly as miſerable as the poet."——We are indebted to the popular biographical work of Dr. AIKIN, for the foregoing particulars.

BURNT ISLAND, a borough of Scotland, on the Frith of Forth, in Fifeſhire. It has an excellent harbour, in form of a baſin, where ſhips ſometimes perform quarantine. It has a ſugar-houſe, and ſome beginning manufactures. Near this place are found ſtones that appear to have been thrown out by a volcano. It is ſeated under a ſtupendous rock, ten miles N. W. of Edinburgh. Long. 3. 5. W. Lat. 56. 8. N.

BURRAMPOOTER, a river of Aſia, which riſes near the head of the Ganges, in the mountains of Thibet. Of theſe two rivers it is remarkable, that, iſſuing from oppoſite ſides of the ſame ridge of mountains, they direct their courſe towards oppoſite quarters, till they are more than 1200 miles aſunder; meeting in one point beyond the ſea, after it has performed a winding courſe of more than 2000 miles. From its ſource, the Burrampooter proceeds eaſterly through Thibet, where it is named Sanpoo, or Zancin, that is, the *River*. After waſhing the border of the territory of Laſſa, it takes a ſouth-eaſterly courſe, and approaches within 220 miles of Yunan, the weſternmoſt province of China. It then turns ſuddenly to the W. and proceeding through Aſſamp, aſſumes the name of Carampooter. It enters Bengal on the N. E. makes a circuit round the weſtern point of the Garrow Mountains, and then, altering its courſe to S. meets the Ganges about forty miles through Bengal. This river bears ſo intimate a reſemblance to the Ganges, except in one particular, that the ſame deſcription might ſerve for both. The exception is, that during the laſt ſixty miles before its junction with the Ganges, it forms a ſtream which is regularly from four to five miles wide; and, but for its freſhneſs, might paſs for an arm of the ſea.

BUTRAGO, a town of Spain, in New Caſtille, formerly a biſhop's ſee. It is ſeated on the river Lozoya, thirty miles N. by E. of Madrid. Long. 3. 5. W. Lat. 40. 46. N.

BUTTERMERE-WATER, a lake in Cumberland, about eight miles S. W. of Keſwick. It is two miles long, and not quite one broad. On the W. ſide it is terminated by a mountain, called, from its ferruginous colour, the Red Pike. A ſtrip of cultivated ground adorns the E. ſhore. A group of houſes, called Gateſgarth, is ſeated on the S. extremity, under a very extraordinary amphitheatre of mountainous rocks. Here Homiſter Crag is ſeen riſing to a vaſt height, flanked by two conical mountains, Fleetwith on the E. and Scarf on the W. ſide. A hundred mountain torrents form never-failing cataracts, that thunder and foam down the centre of the rock, and form the lake below. Here the rocky ſcenes and mountain landſcapes are diverſified and contraſted with all that aggrandize the object in the moſt ſublime ſtyle. This lake is called the Upper Lake; and, near a mile from it, to the N. E. is the Lower Lake, called alſo Cromack-water. The river Cooker flows through both theſe lakes to Cockermouth.

BYRON'S ISLAND, an iſland in the S. Pacific Ocean, diſcovered by Commodore Byron in 1765. It is low, full of wood, and very populous. On his approach to the iſland, ſeveral natives put off to the ſhip. After gazing at it ſome time, one of them ſuddenly ſprung out of his canoe, into the ſea, ſwam to the ſhip, ran up the ſide like a cat, and ſitting down, when he got on deck, burſt into a violent fit of laughter; then ſtarting up, he ran all over the ſhip, attempting to ſteal whatever he could lay his hands upon, but being quite naked, he was always foiled. The ſeamen put a jacket and trowſers on him, which cauſed great diverſion, as he diſplayed all the antics of a monkey; at laſt he leaped overboard in this dreſs, and ſwam to his canoe. His ſucceſs led ſeveral others to ſwim to the ſhip, and whatever they could ſeize they carried off with aſtoniſhing agility. Theſe people are tall, well proportioned, and clean; their features good, and their countenance expreſſive of a ſurpriſing mixture of intrepidity and cheerfulneſs. Long. 173. 46. E. Lat. 1. 18. S.

BYZANTIUM. See CONSTANTINOPLE.

C.

CAE

CABALLINUM (anc. geog.), a town of the Ædui in Gallia Celtica: now *Chalon ſur Saone*, which ſee.

CABALLINUS (anc. geog.), a very clear fountain of mount Helicon in Bœotia; called *Hippocrene* by the Greeks, becauſe opened by Pegaſus on ſtriking the rock with his hoof, and hence called *Pegaſius*.

CABALLIO, or CABELLIO (anc. geog.), a town of the Cavares in Gallia Narbonnenſis, ſituated on the Druentia. One of the Latin colonies, in the Notitiæ called *Civitas Cabellicorum*. Now *Cavaillon* in Provence. See CAVAILLON.

CABRERIA, a ſmall iſland in the Mediterranean, about ſeven miles to the S. of Majorca. It has a large harbour, defended by a caſtle.

CABUL, the capital of the province of Cabul, and of the dominions of the king of Candahar, ſituated near the foot of the Indian Caucaſus, not far from the ſource of the Attock, which runs near it. Its ſituation is ſpoken of by the Indian hiſtorians in terms of rapture; it being no leſs romantic than pleaſant; and having within its reach, the fruits and other products both of the temperate and torrid zone. It is conſidered as the gate of India toward Tartary, as Candahar is with reſpect to Perſia. It is 680 miles N. W. of Delhi. Long. 68. 58. E. Lat. 34. 36. N.

CACACA, a town of Africa, in the kingdom of Fez, near Malilla. The moors retook it from the Spaniards in 1534; and it has a fort upon a rock. Long. 2. 55. W. Lat. 35. 2. N.

CACERES-DE-CAMARINHA, a town of Aſia, in the iſle of Luconia, with a biſhop's ſee, ſubject to Spain. Long. 124. 0. E. Lat. 14. 35. N.

CACONGO, a ſmall kingdom of Africa, on the river Zaire, whoſe inhabitants are great traders. Their manners, religion, and government, are the ſame as in Loango. It lies in Lat. 5. 0. S.

CACORLA, a town of Spain, in Andaluſia, on the rivulet Vega, between two mountains. It belongs to the Archbiſhop of Toledo, and is fifteen miles E. S. E. of Ubeda. Long. 2. 55. E. Lat. 37. 40. N.

CADURCI, CADURCUM, *Cadurcus*, and *Cadurx* (anc. geog.), a town of the Cadurcii, a people of Aquitania; ſituated between the rivers Oldus running from the north, and the Tarnis from the ſouth, and falling into the Garumna: now *Cahors*, capital of the territory of the Querci, in Guienne. A part of the Caduci, to the ſouth next the Tarnis, were called *Eleutheri*.

CADURCII (anc. geog.), a people of Media Atropatene, ſituated to the weſt in the mountains, and reaching to the Caſpian ſea; between whom and the Medes perpetual war and enmity continued down to the time of Cyrus.

CÆRE (anc. geog.), a town of Etruria, the royal reſidence of Mezentius. Its ancient name was *Argyllæ*. In Strabo's time not the leaſt veſtige of it remained, except the baths called *caretana*. From this town the Roman cenſor's tables were called *cærites tabulæ*. In theſe were entered the names of ſuch as for ſome miſdemeanor forfeited their right of ſuffrage, or were degraded from a higher to a leſs honourable tribe. For the people of Cære hoſpitably receiving thoſe Romans who, after the taking of Rome by the Gauls, fled with their gods and the ſacred fire of Veſta, were, on the Romans recovering themſelves from this diſaſter, honoured with the privilege of the city, but without a right of voting.

CAERWENT, a village of Monmouthſhire, famous for a beautiful moſaic pavement, diſcovered in 1777; and aſſerted to be ſuperior to any ſuch diſcovered on this ſide of the Alps, and equal to thoſe preſerved by the king of Naples at Portici.

CÆSAR *Auguſta*, or *Cæſarea Auguſta* (anc. geog.), a Roman colony ſituated on the river Iberus in the hither Spain, before called *Salduba*, in the territories of the Edetani. Now commonly thought to be *Saragoſa*. See that article.

CÆSARODUNUM (anc. geog.), a town of the Turones in Celtic Gaul: now *Tours*, the capital of Touraine. See TOURS.

CÆSAROMAGUS (anc. geog.), a town of the Trinobantes in Britain; by ſome ſuppoſed to be *Chelmsford*, by others *Brentford*, and by others *Burſlet*.

CÆSENA (anc. geog.), a town of Gallia Ciſpadana, ſituated on the rivers Iſapis and Rubicon: now *Cæſena*, which ſee.

CÆSIA SYLVA (anc. geog.), a wood in Germany, part of the great Sylva Hercynia, ſituated partly in the duchy of Cleves, and partly in Weſtphalia between Weſel and Kesfield.

CÆTOBRIX (anc. geog.), a town of Luſitania, near the mouth of the Tagus on the eaſt ſide; now extinct. It had its name from its fiſhery; and there are ſtill extant fiſh-ponds on the ſhore, done with plaſter-of-Paris, which illuſtrate the name of the ruined city.

CAIETA (anc. geog.), a port and town of Latium, ſo called from Æneas's nurſe; now *Gacta*, which ſee.

CAIN, eldeſt ſon of Adam and Eve, killed his brother Abel; for which he was condemned by God to baniſhment and a vagabond ſtate of life. Cain retired to the land of Nod, on the eaſt of Eden; and built a city, to which he gave the name of his ſon Enoch.

CAIRNGORM, a mountain of Scotland, in the eaſt of Inverneſsſhire; the lofty top of which is patched with ſnow. It is famous for its beautiful rock-cryſtals of various tints. They are much eſteemed by lapidaries; and ſome of them, having the luſtre of fine gems, bring a high price.

CALAGORINA, or CALAGURIS, diſtinguiſhed by the ſurname *Naſica* (anc. geog.), a city of the Vaſcones in the Hither Spain: now *Calahorra*.

CALAMATA (*Encycl.*). Erroneouſly ſpelt CALAMAIA.

CALAMIANES, three ſmall iſlands of Aſia, between Borneo and the Philippines, and N. of Parago. They are famous for their edible bird-neſts. Long. 118. 5. E. Lat. 11. 0. N.

CALAURIA (anc. geog.), an iſland of Greece in the Saronic bay, overagainſt the port of Troezen, at the diſtance of forty ſtadia. It was thirty ſtadia in compaſs, and had a temple of Neptune held in great veneration. It was alſo an aſylum, and the place of the convention or aſſembly of the ſeven cities of the Amphictyons. To this place Demoſthenes went twice into baniſhment.

CALBEN, a town of Germany, in the Old Marche of Brandenburg, with a good caſtle, thirty-two miles N. of Magdeburg.

CALES (anc. geog.), a municipal city of ſome note in

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Campania, at no great diſtance from Caſilinum. The epithet *Calenus* is by Horace and Juvenal applied to a generous wine which the territory produced.

CALETES (anc. geog.), a people of Gallia Celtica, on the confines of Belgica, ſituated between the ſea and the Sequana. Now called *le Pais de Caux*, in Normandy,

CALLE (anc. geog.), a town of Hither Spain, ſituated on an eminence which hangs over the river Durius; whoſe port was at the mouth of the river. Now *Porto, Oporto*, or *Pont a Port*. See OPORTO.

CALLIRRHOE (anc. geog.), ſurnamed *Enneaerunos*, from its nine ſprings or channels; a fountain not far from Athens, greatly adorned by Piſiſtratus, where there were ſeveral wells, but this only the running ſpring. Callirrhoe was alſo the name of a very fine ſpring of hot water beyond Jordan near the Dead Sea, into which it empties itſelf.

CALORIMETER, an inſtrument or apparatus, invented by the celebrated Lavoiſier, for meaſuring the eſcape of heat. See CHEMISTRY, pages 376 and 480.

CALVADOS, a department of France, including part of the late province of Normandy. It is ſo called from a rock of the ſame name. Caen is the capital city.

CALVARY, MOUNT, a hill near Jeruſalem, on which JESUS CHRIST was crucified.

CALYDON (anc. geog.), a town of Ætolia, ſituated ſeven miles and a half from the ſea, and divided by the river Evenus: the country was anciently called *Æolis*, from the Æolians its inhabitants. This country was famous for the ſtory of Maleager and the Calydonian boar.

CAM, or GRANTA, a river which riſes in Hertfordſhire, runs N.E. by Cambridge, and N. to the Iſle of Ely, where it falls into the Ouſe.

CAMARAT, a ſea-port of France, in the department of Finiſterre and late province of Britany. In an expedition againſt Breſt in 1694, the Engliſh landed here, and loſt a great number of men. It ſtands on a bay of the ſame name.

CAMBERWELL, a fine village of Surrey, two miles S.S.E. of London. Its pariſh includes the villages of Dulwich and Peckham.

CAMPBELL (Archibald), earl and marquis of Argyle, was the ſon of Archibald earl of Argyle, by the Lady Anne Douglas, daughter of William earl of Morton. He was born in the year 1598; and educated in the profeſſion of the Proteſtant religion, according to the ſtricteſt rules of the church of Scotland, as it was eſtabliſhed immediately after the reformation. During the commonwealth he was induced to ſubmit to its authority. Upon the reſtoration, he was tried for his compliance; a crime common to him with the whole nation, and ſuch a one as the moſt loyal and affectionate ſubject might frequently by violence be induced to commit. To make this compliance appear the more voluntary and hearty, there were produced in court, letters which he had wrote to Albemarle, while that general governed Scotland, and which contained expreſſions of the moſt cordial attachment to the eſtabliſhed government. But, beſides the general indignation excited by Albemarle's diſcovery of this private correſpondence, men thought, that even the higheſt demonſtrations of affection might, during jealous times, be exacted as a neceſſary mark of compliance from a perſon of ſuch diſtinction as Argyle; and could not, by any equitable conſtruction, imply the crime of treaſon. The parliament, however, ſcrupled not to paſs ſentence upon him, and he ſuffered with great conſtancy and courage.

CAMPBELL (Archibald), earl of Argyle, ſon to the former, had from his youth diſtinguiſhed himſelf by his loyalty, and his attachment to the royal family. Though his father was head of the covenanters, he himſelf refuſed to concur in any of their meaſures; and when a commiſſion of colonel was given him by the convention of ſtates, he forbore to act upon it till it ſhould be ratified by the king. By his reſpectful behaviour, as well as by his ſervices, he made himſelf acceptable to Charles when that prince was in Scotland; and even after the battle of Worceſter, all the misfortunes which attended the royal cauſe could not engage him to deſert it. Under Middleton he obſtinately perſevered to haraſs and infeſt the victorious Engliſh; and it was not till he received orders from that general, that he would ſubmit to accept of a capitulation. Such jealouſy of his loyal attachments was entertained by the commonwealth and protector, that a pretence was ſoon after fallen upon to commit him to priſon; and his confinement was rigorouſly continued till the reſtoration. The king, ſenſible of his ſervices, had remitted to him his father's forfeiture, and created him Earl of Argyle; and when a moſt unjuſt ſentence was paſſed upon him by the Scots parliament, Charles had anew remitted it. In the ſubſequent part of this reign Argyle behaved himſelf dutifully; and though he ſeemed not diſpoſed to go all lengths with the court, he always appeared, even in his oppoſition, a man of mild diſpoſitions and peaceable deportment.

A parliament was ſummoned at Edinburgh in the ſummer of 1681, and the duke was appointed commiſſioner. Beſides granting money to the king, and voting the indefeaſible right of ſucceſſion, this parliament enacted a teſt, which all perſons poſſeſſed of offices, civil, military, or eccleſiaſtical, were bound to take. In this teſt the king's ſupremacy was aſſerted, the covenant renounced, paſſive obedience aſſented to, and all obligations diſclaimed of endeavouring any alteration in civil or eccleſiaſtical eſtabliſhments. This was the ſtate of the teſt as propoſed by the courtiers; but the country party propoſed alſo a clauſe of adherence to the Proteſtant religion, which could not with decency be rejected. The whole was of an enormous length, conſidered as an oath; and, what was worſe, a confeſſion of faith was there ratified which had been impoſed a little after the reformation, and which contained many articles altogether forged by the parliament and nation. Among others, the doctrine of reſiſtance was inculcated; ſo that the teſt being voted in a hurry, was found on examination to be a medley of abſurdity and contradiction. Though the courtiers could not reject the clauſe of adhering to the Proteſtant religion, they propoſed, as a requiſite mark of reſpect, that all princes of the blood ſhould be exempted from taking that oath. This exception was zealouſly oppoſed by Argyle; who obſerved that the ſole danger to be dreaded for the Proteſtant religion muſt proceed from the perverſion of the royal family. By inſiſting on ſuch topics, he drew on himſelf the ſecret indignation of the Duke of York, of which he ſoon felt the fatal conſequences.

When Argyle took the teſt as a privy-counſellor, he ſubjoined, in the duke's preſence, an explanation which he had beforehand communicated to that prince, and which he believed to have been approved by him. It was in theſe words: "I have conſidered the teſt, and am very deſirous of giving obedience as far as I can. I am confident that the parliament never intended to impoſe contradictory oaths: therefore I think no man can explain it but for himſelf. Accordingly I take it as far as it is conſiſtent with itſelf and the Proteſtant religion. And I do declare that I mean not to bind myſelf, in my ſtation, and in a lawful way, from wiſhing and endeavouring any alteration, which I think to the advantage of church or ſtate, and not repugnant to the Proteſtant religion and my loyalty: and this I underſtand as a part of my oath." The duke, as was natural, heard it with great tranquillity: no one took the leaſt offence: Argyle was admitted to ſit that

day in council: and it was impoſſible to imagine that a capital offence had been committed where occaſion ſeemed not to have been given ſo much as for a frown or reprimand.

Argyle was much ſurpriſed a few days after, to find that a warrant was iſſued for committing him to priſon; that he was indicted for high-treaſon, leaſing-making, and perjury; and that from the innocent words above mentioned an accuſation was extracted, by which he was to forfeit life, honours, and fortune. It is needleſs to enter into particulars, where the iniquity of the whole is ſo evidently apparent. Though the ſword of juſtice was diſplayed, even her ſemblance was not put on; and the forms of law were preſerved to ſanctify, or rather aggravate, the oppreſſion. Of five judges, three did not ſcruple to find the guilt of treaſon and leaſing-making to be incurred by the priſoner: a jury of fifteen noblemen gave verdict againſt him; and the king being conſulted, ordered the ſentence to be pronounced, but the execution of it to be ſuſpended till further orders. Argyle, however, ſaw no reaſon to truſt to the juſtice or mercy of ſuch enemies: he made his eſcape from priſon, and, till he could find a ſhip for Holland, he concealed himſelf during ſome time in London. The king heard of his lurking place, but would not ſuffer him to be arreſted. All the parts, however, of his ſentence, ſo far as the government in Scotland had power, were rigorouſly executed; his eſtate confiſcated, his arms reverſed and torn. Having got over to Holland, he remained there during the remaining part of the reign of Charles II. But thinking himſelf at liberty, before the coronation of James II. to exert himſelf in order to recover the conſtitution by force of arms, he concerted meaſures with the Duke of Monmouth, and went into Scotland to aſſemble his friends: but not meeting with the ſucceſs he expected, he was taken priſoner; and being carried to Edinburgh, was beheaded upon his former unjuſt ſentence, June 30, 1685. He ſhewed great conſtancy and courage under his misfortunes: on the day of his death he ate his dinner very cheerfully; and, according to his cuſtom, ſlept after it a quarter of an hour or more, very ſoundly. At the place of execution he made a ſhort, grave, and religious ſpeech; and, after ſolemnly declaring that he forgave all his enemies, ſubmitted to death with great firmneſs.

Campbell (John), duke of Argyle and Greenwich, grandſon of the former, was born on the 10th of October, 1680; and, on the very day when his grandfather ſuffered at Edinburgh, fell out of a window three pair of ſtairs high, without receiving any hurt. At the age of fifteen, he had made a conſiderable progreſs in claſſical learning. His father then perceived and encouraged his military diſpoſition, and introduced him to King William, who, in the year 1694, gave him the command of a regiment. In this ſituation he remained till the death of his father, in 1703; when becoming Duke of Argyle, he was ſoon after ſworn of Queen Anne's privy-council, made captain of the Scotch horſe-guards, and appointed one of the extraordinary lords of ſeſſion. In 1704, her majeſty reviving the Scottiſh order of the Thiſtle, his grace was inſtalled one of the knights of that order, and was ſoon after appointed high-commiſſioner to the Scotch parliament; where, being of great ſervice in promoting the intended union, he was on his return created a peer of England, by the titles of Baron of Chatham and Earl of Greenwich, and in 1710 was made knight of the Garter. His grace firſt diſtinguiſhed himſelf in his military capacity at the battle of Oudenard; where he commanded as brigadier-general, with all the bravery of youth, and the conduct of a veteran officer. He was preſent under the Duke of Marlborough at the ſiege of Ghent, and took poſſeſſion of the town. He had alſo a conſiderable ſhare in the victory obtained over the French at the battle of Malplaquet, by diſlodging them from the wood of Sart, and gaining a poſt of great conſequence. In this ſharp engagement, ſeveral muſket-balls paſſed through the duke's clothes, hat, and peruke. Soon after this hot action, he was ſent to take the command in Spain; and after the reduction of Port Mahon, he returned to England. His grace having now a ſeat in the Houſe of Lords, he cenſured the meaſures of the miniſtry with ſuch freedom, that all his places were diſpoſed of to other noblemen: but at the acceſſion of George I. he recovered his influence. At the breaking out of the rebellion in 1715, he was made commander-in-chief of his majeſty's forces in North Britain; and was the principal means and cauſe of the total extinction, at that time, of the rebellion in Scotland, without much bloodſhed. In direct oppoſition to him, or that part of the army he commanded, at the head of all his Campbells was placed Campbell earl of Braidalbin, of the ſame family and kindred, by ſome fatal error, that ever miſguided and miſled that unhappy family of the Stuarts and all its adherents. The conſequence was, that both ſets of Campbells, from family affection, refuſed to ſtrike a ſtroke, and retired out of the battle. He arrived at London, March 6th, 1716, and was in high favour: but, to the ſurpriſe of people of all ranks, he was in a few months diveſted of all his employments; and from this period, to the year 1718, he ſignalized himſelf in a civil capacity, by his uncorrupted patriotiſm and manly eloquence. In the beginning of the year 1719 he was again admitted into favour, appointed lord-ſteward of the houſehold, and in April following was created Duke of Greenwich. He continued in the adminiſtration during all the remaining part of that reign; and, after his late majeſty's acceſſion, till April 1740; when he delivered a ſpeech with ſuch warmth, that, the miniſtry being highly offended, he was again diſmiſſed from his employments. To theſe, however, on the change of the miniſtry, he was ſoon reſtored; but not approving of the meaſures of the new miniſtry more than thoſe of the old, he gave up all his poſts for the laſt time, and never after engaged in affairs of ſtate. He now enjoyed privacy and retirement; and died of a paralytic diſorder, on the 4th of October, 1743. To the memory of his grace a very noble monument was erected in Weſtminſter-abbey, executed by the ingenious Roubilliac.

The Duke of Argyle, though never firſt miniſter, was a very able ſtateſman and politician, moſt ſteadily fixed on thoſe principles he believed to be right, and not to be ſhaken or changed. His delicacy and honour were ſo great, that it hurt him to be even ſuſpected; witneſs that application ſaid to be made to him by one of the adherents of the Stuart family before the laſt rebellion in order to gain his intereſt, which was conſiderable both in Scotland and England. He immediately ſent the letter to the ſecretary of ſtate; and it vexed him much even to have an application made to him, leſt any perſon ſhould think him capable of acting a double part. When he thought meaſures wrong or corrupt, he cared not who was the author, however great or powerful he might be; witneſs his boldly attacking the great Duke of Marlborough in the Houſe of Lords, about his forage and army contracts in Flanders, in the very zenith of his power and popularity, though in all other reſpects he was the moſt able general of his time. The Duke of Argyle, on all occaſions, ſpoke well, with a firm, manly, and noble eloquence; and ſeems to deſerve the character given of him by Pope:

Argyle, the ſtate's whole thunder born to wield,
And ſhake alike the ſenate and the field.

CAMPI (Bernardine) of Cremona, an Italian painter, author of an admired treatiſe on the art, flouriſhed in the 12th century.

CAMPSEY HILLS, a ridge of hills in Stirlingſhire, which extend from E. to W. and occupy the centre of the county.

CANAL (*Encycl.*). The following is the ſpecification of a patent granted to Mr. Hudleſton, of Shafteſbury, for a method of conveying boats or barges from a higher level to a lower, and *vice verſâ*, on canals, by the immerſion of a plunger or plungers. "I aſſume and propoſe," ſays the inventor, "that in order to put in practice ſuch my method of conveying boats or barges from a higher level to a lower, and *vice verſâ*, on canals, by the immerſion of a plunger or plungers, there ſhall be or be ſuppoſed a lock (conſtructed of the uſual and proper materials, with which locks on canals are uſually or may be conveniently made to contain water), of a proper form and dimenſion, placed in a line between, and connecting together, the upper and lower parts of a canal and navigation, and furniſhed at each end with a gate or ſluice, ſufficiently wide to allow, when opened, the paſſage of the boat or veſſel about to be conveyed; ſuch gates or ſluices to be adapted in their reſpective depths, the one to the upper, the other to the lower level of the canal or navigation; the upper part or coping of ſuch lock muſt be made of a height ſufficient to contain the water of the upper line, and the bottom of ſuch lock muſt be of a depth to correſpond with that of the lower line of navigation. The horizontal ſuperficies or form of the boat or barge intended to be conveyed, ought to correſpond with that of the lock, with the allowance of ſufficient ſpace for the free riſe and fall of the veſſel, within the ſides and bounds of the lock, the depth of ſuch boat being neceſſarily regulated by that of the navigation.

"I next propoſe that there be a reſervoir building or excavation made (and prepared with ſtone, brick, wood, or any other proper material capable of containing water), the upper part or coping of which ſhould be level with that of the ſaid lock; and that the area of the ſaid reſervoir ſhould be equal to (or rather in practice ſomewhat exceeding) the area of the ſaid lock. In this caſe the perpendicular depth of the reſervoir ſhould be equal to double the intended riſe or fall of the veſſel within the lock; but where the areas of the lock and reſervoir are unequal, this proportion varies: for as in all caſes the quantity of water to be diſplaced out of the reſervoir into the lock, muſt be equal in cubical content to that of the ſpace in the ſaid lock between the ſurface of the lower line and that of the upper, it follows, that if the area of the reſervoir be greater than that of the lock, the neceſſary depth of the water to be diſplaced will be ſo much the leſs than in the caſe before ſtated; and, *e contra*, if the area of the reſervoir be leſs than that of the lock, the neceſſary depth of water to be diſplaced will be ſo much the greater: ſo that whether this proportional quantity of water ſhall be obtained by the greater depth or the greater area of the reſervoir, is a point for the conſideration of the artiſt. A communication ſufficient for the free paſſage of water at or near the bottoms, or in the lower parts of ſuch lock and reſervoir, is in all caſes eſſentially neceſſary. The diſtance between the ſaid lock and reſervoir or reſervoirs (where more than one) is diſcretional, provided there be ſuch level and communication: the ſhape of the reſervoir is alſo diſcretional, though for the better adaptation of the plunger or plungers, hereafter to be deſcribed, I regard an angular form as the moſt convenient; and to obviate the poſſibility of damage or obſtruction to the free motion of the plunger, by the falling of ſtones or other ſubſtances, between the ſides of the reſervoir and plunger, it may be practically expedient to give to the plunger or plungers a ſhape ſomewhat diminiſhing downwards, in the nature of a reverſed pyramid, in order to enable them on aſcending to clear themſelves from the obſtructing ſubſtance.

"Aſſuming the ſaid lock and reſervoir to be formed to communicate as aforeſaid, and to be ſupplied with water from the lower line, whence of courſe it would follow, that whatever may be the depth of the reſervoir, the water contained in it, and the water in the lock, and of ſuch lower line, would have one common level: ſuppoſing a veſſel floated into ſuch lock, the lower gate or ſluice ſhut, and that ſome ſolid body or bodies, equal or nearly ſo in cubical content to that of the reſervoir itſelf, be plunged downwards (whether falling by ſuperior ſpecific gravity to that of water, or forced by mechanical means) to the lower part or bottom of ſuch reſervoir, it is obvious that the water (if not all at leaſt nearly all) in ſuch reſervoir would be diſplaced, and by paſſing into the lock would, in addition to the water therein-before contained, fill or nearly fill the ſaid lock; and the ſmall quantity of water remaining in the ſaid reſervoir would ſurround the immerſed body or bodies up to a level with the water in the lock; and if ſuch ſolid body or bodies were withdrawn from ſuch reſervoir, then the water in the lock would ſubſide to its original level, reoccupying the ſpace in the reſervoir, lately held by the body or bodies now raiſed and before immerſed, which I call a plunger or plungers.

"My ſaid invention therefore conſiſts in the practical application of the two following laws of Hydroſtatics, for the purpoſes of conveying boats or barges from a higher level to a lower, and *vice verſâ*. 1ſt, That two columns of water, however different in lateral dimenſions, will, if there be a communication between them, always maintain one and the ſame level: and 2dly, That the immerſion of any ſolid body in water will diſplace a portion of the fluid, equal in quantity to the bulk or ſolid contents of the body immerſed.—And to obviate any objection reſpecting the above application of the term *ſolid*, I beg to be underſtood as uſing it hypothetically only; being well aware, that in order to produce the propoſed effect by immerſion, it is not neceſſary that the body immerſed ſhould be a ſolid one.

"Therefore I apply to the reſervoir above predicated (and to more reſervoirs than one where neceſſary, and in any poſition relative to the lock, ſo as the lock and reſervoirs have ſuch levels, capacities, convenient forms, and communications, as above deſcribed) one or more plunger or plungers, fitted to and nearly filling ſuch reſervoir or reſervoirs, and freely moving up and down therein (but not water-tight, or acting as piſtons or forcers in the common acceptation of thoſe terms), formed of ſuch materials, be they ſtone, wood, brick, copper, iron, or any other ſuitable material or combination of materials, as may be moſt conveniently applied to and uſed in ſuch reſervoir or reſervoirs. The means of raiſing or depreſſing ſuch plunger or plungers, whether by levers, balancing-weight, ropes, chains, pulleys, tooth and pinion, wheel, capſtan, windlaſs, winch, crank, ſcrew, animal force, ſteam, or other engine or engines, or other mechanical or ſtatical contrivances, muſt according to ſituations, circumſtances, and expediency, be left to the choice of the perſon or perſons applying ſuch plunger or plungers.

"The ſaid invention may alſo be executed by cauſing one or more ſuch plunger or plungers, in reſpect to height and ſolid content, to deſcend or riſe within the area of a lock capable of containing, with the allowance of free motion up and down, both the propoſed boat or veſſel, and the propoſed plunger or plungers, and of a depth or depths adapted in its ſeveral parts to the neceſſary riſe and fall of each of them reſpectively, ſuch plunger or plungers being underſtood to be alſo of ſuch a figure or figures, as to permit the ſaid boat or veſſel to aſcend and deſcend freely within the ſaid lock, and along ſide of ſuch plunger or plungers: but conſidering, as I do at preſent, a partition between the plunger and the lock as more eligible, I notice ſuch an application of my ſaid method principally with a view to prevent evaſion.

"My preſent model conſiſts of a lock and boat as already deſcribed (ſaving a certain exceſs in the depth of each of them), a reſervoir near to and parallel with ſuch lock, oblong and rectangular, a ſub-communication as ſpecified, a ſingle plunger, oblong and rectangular, fitting, and ſubject to free motion, filling ſuch reſervoir, having two large guiding-wheels or pulleys raiſed by two other correſponding wheels ſecured upon a windlaſs or axis, by means of lines repreſenting chains faſtened to ſuch windlaſs-wheels, and paſſing under and round the ſaid plunger-wheels, the ends of ſuch lines or chains being brought up and faſtened to a beam and frame, ſupported on the ſpace or partition dividing the reſervoir and lock; which frame and the upper part of the windlaſs-wheels have an elevation ſufficient to allow of the aſcent of the plunger, till raiſed above the ſurface-water of the reſervoir. The plunger is counter-balanced by a weight ſuſpended by a line, repreſenting a rope or chain, fixed to the extremity of a curved or ſpiral lever (as I term it, though perhaps not with ſtrict propriety, it being analogous to the fuſee of a time-piece), which lever proceeds from the windlaſs axis; ſo that whilſt the plunger is raiſing from its loweſt depth to its greateſt height (*viz.* to the ſurface of the water), the ſaid curved lever, by removing the balance-weight from the axis of the windlaſs, in a ratio correſponding with, or counteracting, the increaſing weight of the plunger, facilitates and promotes the ſteady raiſing of the plunger; and when the plunger is to be depreſſed, by reverſing the action of the windlaſs, the weight is made to approach the axis of the windlaſs, and following the curve of the lever, it ſurrenders its counteracting powers in proportion, or nearly ſo, to the increaſe of the action of the diſplaced water upon the lower ſurface of the plunger, as depreſſed into the reſervoir.

"Premiſing that I conſider my ſaid method as preferably applicable, where the lifts or deſcents are ſmall or moderate, yet without ſuggeſting preciſe limits, which practice only can regulate; premiſing alſo, that boats of a moderate ſize, as recommended by Dr. Anderſon and Mr. Fulton, and exceeding rather in depth than in length or breadth, ſeem beſt adapted to the mode of conveyance, the conveying of boats or barges is effected by this invention:

"Let us ſuppoſe the reſervoir to be ſixteen feet deep, and by means of the communication with the water in the lock and lower canal to be half full of water; let us ſuppoſe the plunger to be raiſed to its greateſt height of ſuſpenſion, and to be at or above the ſurface of the water in the reſervoir; let a boat or barge be floated through the lower ſluice or gate into the lock, the lower ſluice or gate being cloſed, and the upper one remaining ſo; let the plunger be depreſſed to the bottom of the reſervoir; the water in the reſervoir (minus the ſmall quantity encompaſſing the plunger) is diſplaced into the lock through the paſſage of ſub-communication, and the ſurface of the water in the lock is raiſed as much as the plunger ſinks, *viz.* eight feet, which brings the water in the lock on a level with the upper line of navigation. The upper gate or ſluice may then be opened, and the boat floated out of the lock into the upper canal or line of navigation. For deſcending conveyance, the lock gates, plunger, and reſervoir, remaining or being put into the preſent ſuppoſed ſtate, let a boat or barge be floated into the lock from the upper canal or line, the upper gate or ſluice be cloſed, and the plunger raiſed, the water in the lock will fall as the water in the reſervoir takes place of the plunger; and when the plunger is wholly raiſed, the veſſel in the lock will have deſcended as many feet, *viz.* eight, as the plunger has aſcended, and the boat or barge being lowered to the water-level, or nearly ſo, of the lower line of navigation or canal, is ready to proceed along ſuch lower line, on the opening of the lower gate or ſluice. The lock remains in a ſituation to receive another veſſel from the lower line to be raiſed to the upper line in the courſe already deſcribed. It may be proper to obſerve, that in all caſes it is neceſſary that the height of the reſervoir ſhould be at leaſt equal to that of the lock, and that the plunger or plungers ſhould fill or nearly fill the reſervoir or reſervoirs.

"This method of conveying boats or barges from line to line, whenever it is expedient to be practiſed, ſeems, on a compariſon with other contrivances of a late invention, to be attended with the following material advantages.

"1ſt, The only machinery eſſentially neceſſary (the two ſluices excepted) is, for the purpoſe of raiſing and depreſſing the plunger or plungers.

"2d, Whilſt the machinery in other contrivances above alluded to, is either wholly or in part liable to injury from water, the machinery in this (the two ſluices excepted) is wholly exempt from that diſadvantage.

"3d, Whilſt in the other contrivances, caiſſoons, coffers, &c. require not only the opening of one or more ſluices, but alſo an adjuſtment of their ends to the mouth of the canal, to prevent the loſs of water, before each boat can enter the lock; according to this plan, on the opening of a ſingle ſluice, the boat floats at once into the lock without loſs of water, and without any ſuch delay or difficulty. When I ſay without loſs of water, it muſt be underſtood with this allowance, that if a boat goes down laden, and returns (or another goes up) unladen, the upper level gains a body of water equal to the weight of the cargo; *e contra*, the lower canal gains ſimilarly, if a boat goes down unladen, and returns laden.

"4th, By the application of this method to the common gate-lock, or by forming the lock of this invention for the eſcape of water from the higher level into the lock, and from the lock into the lower level, the properties and uſes of the common gate-lock and of this invention are united, and they may be uſed either in combination with other contrivances, or independently. So that

"5th, Whenever the water of the upper line is in plenty, ſufficient to allow of the tranſmiſſion of a lockful of water to the lower level, the machinery of this invention may be left at reſt, and veſſels may paſs and repaſs by the operation of the common lock: whereas in the other inventions alluded to, no boat or veſſel can paſs or repaſs without working the machinery, though the water be ever ſo abundant.

"6th, On the ſuppoſition that the lock uſed in this invention is conſtructed as the common gate lock for the tranſmiſſion of water, this further and important advantage ariſes, *viz.* that ſhould the machinery of the plunger or plungers be at any time diſordered, boats may ſtill paſs and repaſs as through the common gate lock; whereas, ſhould any accident embarraſs the machinery of the other locks already alluded to, the whole navigation is obſtructed."

CANDAULES, the laſt king of Lydia, of the family of the Heraclides, was ſo proud of the beauty of his wife, that he had the folly to let Giges, his favourite, ſee her naked while ſhe was bathing. The queen, enraged at this action, which, according to the opinion of the Lydians, rendered her infamous, perſuaded Giges to murder Candaules; after which ſhe married him, about 716 years before the birth of Chriſt. In him began the race of the Mermnades, which laſted till the defeat of Crœſus.

CANDLE (*Encycl.*). A patent was lately granted to Mr. Bolts, of Cannon-ſtreet, London, for an improved mode of manufacturing candles. The patentee, by means of moulds with ſpindles of proper ſhape and dimenſions in the centre, caſts hollow candles, or tubes of tallow or wax, without wicks. Theſe tubes are of various ſhapes, round, elliptical, hexagonal. The hollow in the centre of the tube is alſo of different ſhapes

and dimenſions, ſometimes round, for common purpoſes, ſometimes elliptical, to receive a broad flat wick which ſhall give a greater light. The wicks are put in at pleaſure, thicker or thinner at the choice of the perſon uſing the candles, who can thus, after having made trial of one candle for a ſhort while, ſo proportion the wicks to all the others of the ſame ſize in his poſſeſſion, that they ſhall burn equably and without waſte of tallow or wax by guttering. The wicks alſo are thus kept perfectly in the centre, without any of thoſe little projecting jags of cotton which frequently waſte and disfigure candles.

In ſome caſes, a ſolid centre of tallow or wax is inſerted into the tube above deſcribed; a ſpace being left between the centre and the tube for a circular wick, as uſed in Argand's lamp.

The wicks do not run the whole length of the candles, but are made ſometimes by means of a weight, ſometimes of a ſpring or key, to accommodate themſelves to the progreſſive conſumption of the tallow or wax, and ſeldom require to be ſnuffed.

Thin tubes of wax are alſo caſt, which are filled with a tallow inſide, adding economy to neatneſs. And whether wax or tallow be the ſubſtance employed, it is rendered more ſolid by the application of preſſure by means of an air-pump, while yet in a fluid ſtate in the moulds.

The patentee has, moreover, contrived a very ingenious and expeditious mode of manufacturing the wax or tallow tubes, which conſiſts in forcing, by means of an air-pump, a conſtant ſtream of the melting ſubſtance through a mould open at both ends, from which it falls, in proper candle lengths, into a veſſel of water placed beneath to receive them.

CANE, Grotta del, a celebrated grotto, on the banks of the Lake d'Agnano, ſeven miles from Puzzoli, in the kingdom of Naples. Here many dogs have been cruelly tortured and ſuffocated, to ſhew the effect of a vapour, which riſes a foot above the bottom of this little cave, and is deſtructive of animal life. A dog having his head held in this vapour is convulſed in a few minutes, and ſoon after falls to the earth motionleſs. The experiment is repeated for the amuſement of every unfeeling perſon who has half-a-crown in his pocket, and affects a turn for natural philoſophy. The fellows who attend at the cave, have always ſome miſerable dogs, with ropes about their necks, ready for this cruel purpoſe.

CANGERECORA, a large river of the peninſula of Hindoſtan. It deſcends from the Gaut Mountains, and flowing ſouth-weſt to the coaſt of Malabar, enters the weſtern ocean, four miles to the north of Mount Dilla; previous to which its courſe is parallel with the ſea coaſt for about eleven miles, being ſeparated only by a ſpit of ſand.

CANAADERAGO, Lake, a narrow lake of North America, in the ſtate of New York. It is about nine miles long, and lies to the Weſt of Lake Otſego. A ſtream called Oaks Creek, iſſues from it, and falls into the river Suſquehannah, five miles below Otſego. The beſt cheeſe in the ſtate of New York is made on this creek.

CANNÆ (anc. geog.), a mean hamlet of Apulia in the Adriatic, at the mouth of the river Aufidus; raiſed out of obſcurity by a moſt terrible overthrow given the Romans by the Carthaginians under Hannibal. The Roman conſuls were C. Terentius Varro, and L. Emilius Paulus. Their army was vaſtly ſuperior in numbers to the Carthaginians; but the latter were ſuperior in cavalry. Notwithſtanding, however, that the Romans were no fewer than 87,000, ſo great was the fame of Hannibal, that the conſuls were divided in their opinion as to the venturing of an engagement. Emilius was for avoiding a battle, and accordingly encamped on the eminences where the cavalry of the enemy could not act; but next day, it being Varro's turn to command, he advanced into the plain in which Cannæ was ſituated, and brought the army into ſuch a ſituation that an engagement became unavoidable. The Romans were then drawn up in the uſual manner; the *haſtadi* in the firſt line, the *principes* in the ſecond, and the *triarii* in the third. The cavalry were poſted on the wings. On the right, the Roman knights flanked the legionaries; on the left, the cavalry of the allies covered their own infantry. The two conſuls commanded the two wings, Emilius the right, and Terentius the left; and the two proconſuls Servilius and Attilius the main body. On the other hand, Hannibal, whoſe army conſiſted of 40,000 foot, and 10,000 horſe, placed his Gauliſh and Spaniſh cavalry in the left wing, to face the Roman knights; and the Numidian horſe in his right, over againſt the cavalry of the allies of Rome. As to his infantry, he divided the African battalions into two bodies; one of which he poſted near the Gauliſh and Spaniſh horſe, the other near the Numidian. Between theſe two bodies were placed on one ſide the Gauliſh, on the other the Spaniſh infantry, drawn up in ſuch a manner as to form an obtuſe angle projecting a conſiderable way beyond the two wings. Behind this line he drew up a ſecond which had no projection. Aſdrubal commanded the left wing; Maherbal the right; and Hannibal himſelf, with his brother Mago, the main body. He had alſo taken care to poſt himſelf in ſuch a manner that the wind *Vulturnus*, which riſes at certain ſtated times, ſhould blow directly in the faces of the Romans during the fight, and cover them with duſt. The onſet was begun by the light-armed infantry; the Romans diſcharging their javelins, and the *baleares* their ſtones, with pretty equal ſucceſs; nevertheleſs, the conſul Emilius was wounded. Then the Roman cavalry in the right wing advanced againſt the Gauliſh and Spaniſh in Hannibal's left. As they were ſhut in by the river Aufidus on one ſide, and by their infantry on the other, they did not fight, as uſual, by charging and wheeling off, and then returning to the charge; but continued fighting each man againſt his adverſary, till one of them was killed or retired. After they had made prodigious efforts on both ſides to overbear each other, they all on a ſudden diſmounted, and fought on foot with great fury. In this attack the Gauls and Spaniards ſoon prevailed; put the Romans to the rout; and purſuing them along the river, ſtrewed the ground with their dead bodies, Aſdrubal giving no quarter. This action was ſcarce over, when the infantry on both ſides advanced. The Romans firſt fell upon the Spaniards and Gauls, who, as already obſerved, formed a kind of triangle projecting beyond the two wings. Theſe gave ground, and, purſuant to Hannibal's directions, ſunk into the void ſpace in their rear; by which means they inſenſibly brought the Romans into the centre of the African infantry, and then the fugitives rallying, attacked them in front, while the Africans charged them in both flanks. The Romans, being by this artful retreat drawn into the ſnare and ſurrounded, no longer kept their ranks, but formed ſeveral platoons, in order to face every way. Emilius, who was on the right wing, ſeeing the danger of the main body, at the head of his legionaries, acted the part both of a ſoldier and general, penetrating into the heart of the enemy's battalions, and cutting great numbers of them in pieces. All the Roman cavalry that were left, attended the brave conſul on foot; and, encouraged by his example, fought like men in deſpair. But, in the mean time, Aſdrubal, at the head of a detachment of Gauliſh and Spaniſh infantry brought from the centre, attacked Emilius's legionaries with ſuch fury, that they were forced to give ground and fly: the conſul being all covered with wounds, was at laſt killed by ſome of the enemy who did not know him. In the main body, the Romans, though inveſted on all ſides, continued to ſell their lives dear; fighting in platoons,

and making a great ſlaughter of the enemy. But being at length overpowered, and diſheartened by the death of the two proconſuls Servilius and Attilius who headed them, they diſperſed and fled, ſome to the right, and others to the left, as they could find opportunity; but the Numidian horſe cut moſt of them in pieces: the whole plain was covered with heaps of dead bodies, inſomuch that Hannibal himſelf, thinking the butchery too terrible, ordered his men to put a ſtop to it.—There is a great diſagreement among authors as to the number of Romans killed and taken at the battle of Cannæ. According to Livy, the republic loſt 50,000 men including the auxiliaries. According to Polybius, of 6000 Roman horſe, only ſeventy eſcaped to Venuſia with Terentius Varro, and 300 of the auxiliary horſe. As to the infantry, the writer tells us, that 70,000 of the Roman foot died on the field of battle fighting like brave men; and that 13,000 were made priſoners. According to Dionyſius of Halicarnaſſus, of 6000 horſe, only 370 eſcaped the general ſlaughter, and of 80,000 foot, 3000 only were left. The moſt moderate computation makes the number of Romans killed amount to 45,000.

CANNAY, one of the weſtern iſles of Scotland, to the ſouth-weſt of the iſle of Skye. In this verdant and fertile iſland, are vaſt baſaltic columns, which riſe above each other to a great height, in many ſucceſſive ranges, each ſeparated from the other by a ſtratum of pebbly concretions, reſembling pudding-ſtone. On the eaſt ſide of the iſland, the tops of an immenſe number of theſe columns appear at low water, forming a ſort of cauſeway of ſurpriſing extent, and of which the ſurface is ſmooth and regular, like an ordinary paved ſtreet.

CANOGUE, a town of Hindoſtan Proper, in the province of Agra, ſeated on the weſt bank of the Ganges, near its confluence with the Calini. It is ſaid to have been built more than 1000 years before the Chriſtian æra, and to have been the capital of all Hindoſtan, under the predeceſſor of Porus, who fought againſt Alexander, in the year 326 before Chriſt. In the 6th century, it was ſaid to contain 30,000 ſhops, in which betel-nut (which the Indians almoſt univerſally chew, as ſome Europeans do tobacco) was ſold. It is now reduced to the ſize of a middling town. It is 127 miles ſouth-eaſt of Agra. Long. 80. 13. E. Lat. 27. 3. N.

CANOPUS, in Pagan mythology (*Encycl.*). It is ſaid, that the Chaldeans, who worſhipped fire, carried their fancied deity through other countries to try its power, in order that, if it obtained the victory over the other gods, it might be acknowledged as the true object of worſhip; and it having eaſily ſubdued the gods of wood, ſtone, braſs, ſilver, and gold, its prieſts declared, that all gods did it homage. This the prieſts of Canopus hearing, and finding that the Chaldeans had brought their god to contend with Canopus, they took a large earthen veſſel, in which they bored ſeveral holes, which they afterwards ſtopped with wax, and having filled the veſſel with water, painted it of ſeveral colours, and fitting the head of an idol to it, brought it out, in order to contend with the Chaldean deity. The Chaldeans accordingly kindled their fire all around it; but the heat having melted the wax, the water guſhed out through the holes, and extinguiſhed the fire; and thus Canopus conquered the god of the Chaldeans.

Canopus, or *Canobus*, according to Strabo, had been Menelaus's pilot, and had a temple erected to him in a town called *Canopus*, near one of the mouths of the Nile. Dionyſius mentions it.

Και τεμενος περιπυστον Αμυκλαιο Κανωβου.
There ſtands Canobus' temple known to fame;
The pilot who from fair Amycla came.

Voſſius remarks, on this occaſion, the vanity of the Greeks, who, as he conjectures, hearing of an Egyptian deity named *Canopus*, took from thence an opportunity of deifying the pilot of Menelaus who bore the ſame name, and giving out that the Egyptian god Canopus had been a Greek. F. Monfaucon gives ſeveral repreſentations of this deity. One, in alluſion to the victory above mentioned, throws out water on every ſide through little holes.

CANSTAT (*Encycl.*), erroneouſly ſpelt CONSTAT.

CANTABRIA (anc. geog.), a diſtrict of Terraconenſis, on the Oceanus Cantabricus or bay of Biſcay; now Biscay. The inhabitants were remarkable for their warlike character. In conjunction with the Aſturians, they carried on deſperate wars with the Romans; but they were ſubdued by them, about twenty-five years before Chriſt. Being impatient, however, of a foreign yoke, they in a few years revolted. Moſt of their youth had been already taken priſoners by the Romans, and ſold for ſlaves to the neighbouring nations; but having found means to break their chains, they cut the throats of their maſters; and returning into their own country, attacked the Roman garriſon with incredible fury. Agrippa marched againſt them with great expedition; but, on his arrival, met with ſo vigorous a reſiſtance, that his ſoldiers began to deſpair of ever being able to reduce them. As the Cantabrians had waged war with the Romans for upwards of 200 years, they were well acquainted with their manner of fighting, no way inferior to them in courage, and were now become deſperate; well knowing, that if they were conquered, after having ſo often attempted to recover their liberty, they muſt expect the moſt ſevere uſage, and cruel ſlavery. Animated with this reflection, they fell upon the Romans with a fury hardly to be expreſſed, routed them in ſeveral engagements, and defended themſelves when attacked by the enemy with ſuch intrepidity, that Agrippa afterwards owned, that he had never, either by ſea or land, been engaged in a more dangerous enterpriſe. That brave commander was obliged to uſe entreaties, menaces, and to brand ſome of his legionaries with ignominy, before he could bring them to enter the liſts with ſuch a formidable enemy. But having at laſt, with much ado, prevailed upon them to try the chance of an engagement in the open field, he ſo animated them by his example, that, after a moſt obſtinate diſpute, he gained a complete victory, which indeed coſt him dear, but put an end to that deſtructive war. All the Cantabrians fit to bear arms were cut in pieces; their caſtles and ſtrong holds taken and raſed; and their women, children, and old men (none elſe being left alive), were obliged to abandon the mountainous places, and ſettle in the plain.

CANTAL, a department of France, including part of the late province of Auvergne. It is ſo called from a high mountain, near St. Flour and Aurillac, almoſt always covered with ſnow. The capital is St. Flour.

CANTIUM (anc. geog.), a promontory of Britain, literally denoting a head-land, giving name to a territory called *Cantium*, now *Kent*. The promontory is now called the *North Foreland*.

CAPNOIDES, in botany, the trivial name of a ſpecies of Fumaria.

CAPPADOCIA-MAGNA (*Encycl.*). The firſt king of Cappadocia we read of in hiſtory was Pharnaces, who was preferred to the crown by Cyrus king of Perſia, who gave him his ſiſter Atoſſa in marriage. This is all we find recorded of him, except that he was killed in a war with the Hyrcanians. After him came a ſucceſſion of eight kings, of whom we know ſcarce any thing but that they continued faithful to the Perſian intereſt. In the time of Alexander the Great, Cappadocia was governed by Ariarathes II. who, notwithſtanding the vaſt conqueſts and fame of the Macedonian monarch, continued unſhaken in his fidelity to the Perſians. Alexander was

prevented by death from invading his dominions; but Perdiccas marching againſt him with a powerful and well-diſciplined army, diſperſed his forces, and having taken Ariarathes himſelf priſoner, crucified him, with all thoſe of the royal blood whom he could get into his power. Diodorus tells us that he was killed in the battle. He is ſaid to have reigned 82 years. His ſon Ariarathes III. having eſcaped the general ſlaughter of the royal family, fled into Armenia, where he lay concealed, till the civil diſſenſions, which aroſe among the Macedonians, gave him a fair opportunity of recovering his paternal kingdom. Amyntas, at that time the governor of Cappadocia, oppoſed him; but being defeated in a pitched battle, the Macedonians were obliged to abandon all the ſtrong holds. Ariarathes, after a long and peaceable reign, left his kingdom to his ſon Ariaramnes II. He applied himſelf more to the arts of peace than war, in conſequence of which Cappadocia flouriſhed greatly during his reign. He was ſucceeded by his ſon Ariarathes IV. who proved a very warlike prince, and having overcome Arſaces, founder of the Parthian monarchy, conſiderably enlarged his dominions.

He was ſucceeded by Ariarathes V. who marrying the daughter of Antiochus the Great, entered into an alliance with that prince againſt the Romans; but Antiochus being defeated, the king of Cappadocia was obliged to ſue for peace, which he obtained, after having paid 200 talents by way of fine, for taking up arms againſt the people of Rome. He afterwards aſſiſted the republic with men and money againſt Perſeus king of Macedon, on which account he was by the ſenate honoured with the title of the *friend and ally of the Roman people*. He left the kingdom in a very flouriſhing condition to his ſon Mithridates, who on his acceſſion took the name of Ariarathes VI.

This prince (ſurnamed *Philopater*, from the filial reſpect and love he ſhewed his father from his very infancy) immediately renewed the alliance with Rome. Out of mere goodnature he reſtored Mithrobuzanes, ſon to Ladriades king of the Leſſer Armenia, to his father's kingdom, though he foreſaw that the Armenians would lay hold of that opportunity to join Artaxias, who was then on the point of invading Cappadocia. The differences, however, were ſettled, before they came to an open rupture, by the Roman legates; and Ariarathes ſeeing himſelf delivered from an impending war by the mediation of the republic, preſented the ſenate with a golden crown, and offered his ſervice wherever they thought proper to employ him. The ſenate in return ſent him a ſtaff, and chair of ivory; which were preſents uſually beſtowed on thoſe only whom they looked upon as attached to their intereſt. Not long before this, Demetrius Soter king of Syria had offered Ariarathes his ſiſter in marriage, the widow of Perſeus king of Macedon: but this offer the king of Cappadocia was obliged to decline for fear of offending the Romans; and his ſo doing was in the higheſt degree acceptable to the republic, who reckoned him among the chief of her allies. Demetrius, however, being greatly incenſed at the ſlight put upon his ſiſter, ſet up a pretender to the throne, one Orophernes, a ſuppoſititious, or, as others call him, a natural ſon of the deceaſed king. The Romans ordered Eumenes king of Pergamus to aſſiſt Ariarathes with all his forces: which he did, but to no purpoſe; for the confederates were overthrown by Demetrius, and Ariarathes was obliged to abandon the kingdom to his rival. This happened about 159 years before Chriſt, and the uſurpers immediately diſpatched ambaſſadors to Rome with a golden crown. The ſenate declined accepting the preſent, till they heard his pretenſions to the kingdom; and this Orophernes, by ſuborned witneſſes, made appear ſo plain, that the ſenate decreed that Ariarathes and he ſhould reign as partners; but next year, Orophernes was driven out by Attalus brother to Eumenes, and his ſucceſſor to the kingdom of Pergamus.

Ariarathes being thus reſtored, immediately demanded of the Priennians 400 talents of gold which Orophernes had depoſited with them. They honeſtly replied, that as they had been entruſted with the money by Orophernes, they could deliver it to none but himſelf, or ſuch as came in his name. Upon this, the king entered their territories with an army, deſtroying all with fire and ſword. The Priennians, however, ſtill perſevered in their integrity; and though their city was beſieged by the united forces of Ariarathes and Attalus, not only made an obſtinate defence, but found means to reſtore the ſum to Orophernes. At laſt they applied to the Romans for aſſiſtance, who enjoined the two kings to raiſe the ſiege, under pain of being declared enemies to the republic. Ariarathes immediately obeyed; and marching his army into Aſſyria, joined Alexander Epiphanes againſt Demetrius Soter, by whom he had been formerly driven out of his kingdom. In the very firſt engagement Demetrius was ſlain, and his army entirely diſperſed, Ariarathes having on that occaſion given uncommon proofs of his courage and conduct. Some years after, a war breaking out between the Romans and Ariſtonicus, who claimed the kingdom of Pergamus in right of his father, Ariarathes joined the former, and was ſlain in the ſame battle in which P. Craſſus, proconſul of Aſia, was taken, and the Roman army cut in pieces. He left ſix ſons by his wife Laodice, on whom the Romans beſtowed Lycaonia and Cilicia. But Laodice, fearing leſt her children, when they came of age, ſhould take the government out of her hands, poiſoned five of them, the youngeſt only having eſcaped her cruelty by being conveyed out of the kingdom. The queen herſelf was ſoon after put to death by her ſubjects, who could not bear her cruel and tyrannical government.

Laodice was ſucceeded by Ariarathes VII. who, ſoon after his acceſſion, married another Laodice, daughter of Mithridates the Great, hoping to find in that prince a powerful friend to ſupport him againſt Nicomedes king of Bithynia, who laid claim to part of Cappadocia. But Mithridates, inſtead of aſſiſting, procured one Gordius to poiſon his unhappy ſon-in-law; and, on his death, ſeized the kingdom, under pretence of maintaining the rights of the Cappadocians againſt Nicomedes, till the children of Ariarathes were in a condition to govern the kingdom. The Cappadocians at firſt fancied themſelves obliged to their new protector; but, finding him unwilling to reſign the kingdom to the lawful heir, they roſe up in arms, and, driving out all the garriſons placed by Mithridates, placed on the throne Ariarathes VIII. eldeſt ſon of the deceaſed king.

The new prince found himſelf immediately engaged in a war with Nicomedes; but, being aſſiſted by Mithridates, not only drove him out of Cappadocia, but ſtripped him of a great part of his hereditary dominions. On the concluſion of the peace, Mithridates ſeeking for ſome pretence to quarrel with Ariarathes, inſiſted upon his recalling Gordius, who had murdered his father; which being rejected, with abhorrence, a war enſued. Mithridates took the field firſt, in hopes of over-running Cappadocia before Ariarathes could be in a condition to make head againſt him; but, contrary to his expectation, he was met on the frontiers by the king of Cappadocia with an army no way inferior to his own. Hereupon he invited Ariarathes to a conference; and, in ſight of both armies, ſtabbed him with a dagger, which he had concealed under his garment. This ſtruck ſuch terror into the Cappadocians, that they immediately diſperſed, and gave Mithridates an opportunity of poſſeſſing himſelf of the kingdom without the leaſt oppoſition. The Cappadocians, however, not able to endure the tyranny of his prefects, ſoon ſhook off the yoke;

and recalling the king's brother, who had fled into the province of Aſia, proclaimed him king. He was ſcarce ſeated on the throne, however, before Mithridates invaded the kingdom at the head of a very numerous army, and having drawn Ariarathes to a battle, defeated his army with great ſlaughter, and obliged him to abandon the kingdom. The unhappy prince ſoon after died of grief; and Mithridates beſtowed the kingdom on his ſon, who was then but eight years old, giving him alſo the name of *Ariarathes*. But Nicomedes Philopater, king of Bithynia, fearing leſt Mithridates, having now got poſſeſſion of the whole kingdom of Cappadocia, ſhould invade his territories, ſuborned a youth to paſs himſelf for the third ſon of Ariarathes, and to preſent to them a petition in order to be reſtored to his father's kingdom. With him he ſent to Rome Laodice, ſiſter of Mithridates, whom he had married after the death of her former huſband Ariarathes. Laodice declared before the ſenate, that ſhe had three ſons by Ariarathes, and that the petitioner was one of them; but that ſhe had been obliged to keep him concealed, leſt he ſhould undergo the ſame fate with his brothers. The ſenate aſſured him that they would at all events reinſtate him in his kingdom. But, in the mean time, Mithridates having notice of theſe tranſactions, diſpatched Gordius to Rome, to undeceive the ſenate, and to perſuade them that the youth to whom he had reſigned the kingdom of Cappadocia was the lawful ſon of the late king, and grandſon to Ariarathes, who had loſt his life in the ſervice of the Romans againſt Ariſtonicus. This unexpected embaſſy put the ſenate upon enquiring more narrowly into the matter, whereby the whole plot was diſcovered; upon which Mithridates was ordered to reſign Cappadocia, and the kingdom was declared free. The Cappadocians, however, in a ſhort time ſent ambaſſadors to Rome, acquainting the ſenate that they could not live without a king. This greatly ſurpriſed the Romans, who had ſuch an averſion to royal authority; but they gave them leave to elect a king of their own nation. As the family of Pharnaces was now extinct, the Cappadocians choſe Ariobarzanes; and their choice was approved by the ſenate, he having, on all occaſions, ſhewn himſelf a ſteady friend to the Romans.

Ariobarzanes had ſcarce taken poſſeſſion of his kingdom, when he was driven out by Tigranes king of Armenia; who reſigned Cappadocia to the ſon of Mithridates, in purſuance of an alliance previouſly concluded between the two parties. Ariobarzanes fled to Rome; and, having engaged the ſenate in his cauſe, he returned into Aſia with Sylla, who was enjoined to reſtore him to his kingdom. This was eaſily performed by Sylla, who, with a ſmall body of troops, routed Gordius who came to meet him on the borders of Cappadocia at the head of a numerous army. Sylla, however, had ſcarce turned his back, when Ariobarzanes was again driven out by Ariarathes, the ſon of Mithridates, on whom Tigranes had beſtowed the kingdom of Cappadocia. This obliged Sylla to return into Aſia, where he was attended with his uſual ſucceſs, and Ariobarzanes was again placed on the throne. After the death of Sylla, he was the third time forced by Mithridates to abandon his kingdom; but Pompey, having entirely defeated Mithridates near Mount Stella, reſtored Ariobarzanes to his throne, and rewarded him for his ſervices during the war, with the provinces of Sophene, Gordiene, and great part of Cilicia. The king, however, being now advanced in years, and deſirous of ſpending the remainder of his life in eaſe, reſigned the crown to his ſon Ariobarzanes, in preſence of Pompey; and never afterwards troubled himſelf with the affairs of ſtate.

Ariobarzanes II. proved no leſs faithful to the Romans than his father had been. On the breaking out of the civil war between Cæſar and Pompey, he ſided with the latter; but after the death of Pompey, he was received into favour by Cæſar, who even beſtowed upon him great part of Armenia. While Cæſar was engaged in a war with the Egyptians, Pharnaces king of Pontus invaded Cappadocia, and ſtripped Ariobarzanes of all his dominions; but Cæſar, having defeated Pharnaces, reſtored the kingdom of Cappadocia, and honoured him with new titles of friendſhip. After the murder of Cæſar, Ariobarzanes, having refuſed to join Brutus and Caſſius, was by them declared an enemy to the republic, and ſoon after taken priſoner and put to death. He was ſucceeded by his brother Ariobarzanes III. who was, by Marc. Anthony, deprived both of his kingdom and life; and in him ended the family of Ariobarzanes.

Archelaus, the grandſon of that general of the ſame name who commanded againſt Sylla in the Mithridatic war, was, by Marc. Anthony, placed on the throne of Cappadocia, though nowiſe related either to the family of Pharnaces or Ariobarzanes. His preferment was entirely owing to his mother Glaphyra, a woman of great beauty, but of a looſe behaviour, who, in return for her compliance with the deſires of Anthony, obtained the kingdom of Cappadocia for her ſon. In the war between Auguſtus and Anthony, he joined the latter; but, at the interceſſion of the Cappadocians, was pardoned by the emperor. He afterwards received from him Armenia the Leſſer, and Cilicia Trachæa, for having aſſiſted the Romans in clearing the ſeas of pirates, who greatly infeſted the coaſts of Aſia. He contracted a ſtrict friendſhip with Herod the Great, king of Judæa; and even married his daughter Glaphyra to Alexander, Herod's ſon. In the reign of Tiberius, Archelaus was ſummoned to appear before the ſenate; for he had always been hated by that emperor, becauſe in his retirement at Rhodes he had paid him no ſort of reſpect. This had proceeded from no averſion in him to Tiberius, but from the warning given Archelaus to his friends at Rome. For Caius Cæſar, the preſumptive heir to the empire, was then alive, and had been ſent to compoſe the differences of the Eaſt, whence the friendſhip of Tiberius was then looked upon as dangerous. But when he came to the empire, Tiberius, remembering the diſreſpect ſhewn him by Archelaus, enticed the latter to Rome by means of letters from Livia, who promiſed him her ſon Tiberius's pardon, provided he came in perſon to implore it. Archelaus obeyed the ſummons, and haſtened to Rome; where he was received by the emperor with great wrath and contempt, and ſoon after accuſed as a criminal in the ſenate. The crimes of which he was accuſed were mere fictions; but his concern at ſeeing himſelf treated as a malefactor was ſo great, that he died ſoon after of grief, or, as others ſay, laid violent hands on himſelf. He is ſaid to have reigned 50 years.

On the death of Archelaus, the kingdom of Cappadocia was reduced to a Roman province, and governed by thoſe of the equeſtrian order. It continued ſubject to the Romans till the invaſion of the eaſtern empire by the Turks, to whom it is now ſubject, but has no diſtinguiſhing modern name. In what was anciently called *Cappadocia*, however, the Turks have four beglerbeglics, called *Siwas*, *Trebizond*, *Maraſch*, and *Cogni*.

The religion of the ancient Cappadocians was much the ſame with that of the Perſians. At Comana there was a rich and ſtately temple dedicated to Bellona; whoſe battles the prieſts and their attendants uſed to repreſent on ſtated days, cutting and wounding each other as if ſeized with an enthuſiaſtic fury. No leſs famous and magnificent were the temples of Apollo Catanius, and of Jupiter: the laſt of which had 3000 ſacred ſervants, or religious votaries. The chief prieſt was next in rank to that of Comana; and, according

to Strabo, had a yearly revenue of 15 talents. Diana Perſica was worſhipped in a city called *Caſtaballa*, where women, devoted to the worſhip of that goddeſs, were reported to tread barefooted on burning coals, without receiving any hurt. The temples of Diana at Dioſpolis, and of Anias at Zela, were likewiſe held in great veneration both by the Cappadocians and Armenians, who flocked to them from all parts. In the latter were tendered all oaths in matters of conſequence; and the chief among the prieſts was no way inferior in dignity, power, and wealth, to any in the kingdom; having a royal attendance, and an unlimited authority over all the inferior ſervants and officers of the temple. The Romans, who willingly adopted all the ſuperſtitions and ſuperſtitious rites of the nations they conquered, greatly increaſed the revenues of this and other temples; conferring the prieſthood on ſuch as they thought moſt fit for carrying on their deſigns.—We are told that human ſacrifices were offered at Comana; and that this barbarous cuſtom was brought by Oreſtes and his ſiſter Iphigenia from Taurica Scythica, where men and women were immolated to Diana. But this cuſtom, if ever it obtained in Cappadocia, was aboliſhed in the times of the Romans.

CAPSA (anc. geog.), a large and ſtrong town of Numidia, ſituated amidſt vaſt deſerts, waſte, uncultivated, and full of ſerpents, where Jugurtha kept his treaſure. In his time it was taken and raſed by Marius the Roman general, who put to death all the citizens capable of bearing arms, and ſold the reſt for ſlaves. It was, however, afterwards rebuilt by the Romans, and ſtrongly fortified; but, on the decline of their empire, was taken and demoliſhed a ſecond time by Occuba, a famous Arab general. The walls of the citadel are ſtill remaining, and are monuments of the ancient glory and ſtrength of Capſa. They are 24 fathoms in height, and five in thickneſs, built of large ſquare ſtones, and have now acquired the ſolidity and firmneſs of a rock. The walls of the town were rebuilt by the inhabitants ſince their firſt demolition; but were afterwards deſtroyed by Jacob Almanzar, who ſent a governor and troops into the province. In Marmol's time Capſa was very populous, and abounded with ſtately moſques and other ſtructures of ſuperb and elegant workmanſhip; but at preſent it is occupied by a poor and indigent people, fleeced and oppreſſed by the Tuneſe government. In the very centre of the city ſtands an incloſed fountain, which both ſupplies the people with drink, and affords them an agreeable bath. The adjacent country is now cultivated, and produces ſeveral kinds of fruits; but the climate is unhealthy. The inhabitants are remarkable for their peeviſhneſs of temper. Both men and women dreſs handſomely except their feet, which they cover with coarſe ſhoes of bungling workmanſhip, and made of the rough ſkins of wild beaſts, equally inconvenient and unbecoming. E. Long. 9. 3. N. Lat. 33. 15.

CAPTION, in Scots law, a writ iſſuing under his majeſty's ſignet, in his majeſty's name, obtained at the inſtance of a creditor in a civil debt, commanding meſſengers at arms and other officers of the law to apprehend and impriſon the perſon of a debtor until he pay the debt.

CAPUA, a town of the kingdom of Naples, with an archbiſhop's ſee. It is two miles from the ancient Capua, and was built out of its ruins. It is the place where Hannibal and his officers triſled away their time in pleaſure, during which the Romans recovered from their conſternation after the battle of Cannæ. It was taken by the allies in 1707; and is ſeated on the river Volturno, 15 miles N. of Naples. Long. 14. 19. E. Lat. 41. 7. N.

CAPUA (anc. geog.), a very ancient city of Italy, in Campania, and capital of that diſtrict. It is famous for the abode of Hannibal the Carthaginian general after the battle of Cannæ, and where Livy accuſes him, but unjuſtly, of having enervated himſelf with pleaſure. It ſtill retains the name, and is the ſee of an archbiſhop. It is ſeated on the river Volturno, in E. long. 15. 5. N. lat. 41. 7.

CARACCAS (*Encycl.*). Of this diſtrict the coaſt is rocky and mountainous, interſperſed with ſmall fertile valleys; ſubject at certain ſeaſons of the year to dry north-weſt winds, but bleſſed in general with a clear air and wholeſome climate. A very great illicit trade is carried on by the Engliſh and Dutch with this province, notwithſtanding all the vigilance of the Spaniards, who have ſcouts perpetually employed, and breaſtworks raiſed in all the valleys. A vaſt number of cacao-trees are cultivated in this province; and it is reckoned that the crop of cacao produced here amounts to more than 100,000 fanegas of 110 pounds each. The country of Santa Fé conſumes 20,000; Mexico a little more; the Canaries a ſmall cargo; and Europe from 50 to 60,000. The cultivation of the plant employs 10 or 12,000 negroes. Such of them as have obtained their liberty have built a little town called *Nirva*, into which they will not admit any white people. In 1728 a company was formed at St. Sebaſtian, which obtained an excluſive right of maintaining connections with this part of the new world. Four or five ſhips, which they diſpatch every year, ſail from thence, but they return to Cadiz.

CARAITES (*Encycl.*). The Caraites paſs for the moſt learned of the Jewiſh doctors. They are chiefly to be met with in Poland, Muſcovy, and the Eaſt; and they are but few in compariſon of the bulk of the Jews who are of the party of the rabbins. The latter have ſo great an averſion to the Caraites, that they will have no alliance or even converſation with them: they treat them as baſtards; and would a Caraite turn rabbiniſt, the other Jews would not receive him. In our original article this word has been erroneouſly ſpelt GARAITES.

CARARA, a ſmall town of Italy, in the duchy of Maſſa, between the towns of Maſſa and Sarzana, five miles from each. Near this place are quarries of marble of various colours. Long. 9 55. E. Lat. 44. 5. N.

CARASU, a river of Natolia, which riſes in Caramania, croſſes part of Aladula, and falls into the Mediterranean. The water of this river is ſo cold, that when Alexander the Great bathed in it, it threw him into a dangerous diſeaſe. The emperor Barbaroſſa was killed by it on his return from the Holy Land, in 1100.

CARASU-MESTRO, a river of Romania, in Turkey in Europe, which takes its riſe in Mount Rodolpho, and falls into the Archipelago.

CARASUI, a lake in Bulgaria, ſaid to be 55 miles in circumference, and to contain ſeveral iſlands. It is formed by a branch of the Danube, not far from its entrance into the Black Sea.

CARAVACCA, or THE CROSS OF CARAVACCA, a town in Spain, among the mountains near the Segura, in Murcia. They pretend to have a croſs here, brought by an angel to a prieſt, who was going to ſay maſs to a Mooriſh king. It is 50 miles N.W. of Carthagena. Long. 2. 5. W. Lat. 38. 5. N.

CARDIGAN-BAY, on the coaſt of Cardiganſhire, at the mouth of the Tyvy, extending to Barſey iſland in Carnarvonſhire. It is 40 miles from one cape to the other, and affords good ſhelter for ſhips.

CARIGNANO, a town of Piedmont, in a diſtrict of the ſame name. It is ſeated on the river Po, three miles S. of Turin. Long 7. 45. E. Lat. 44. 57. N.

CARIMAN-JAVA, a cluſter of iſlands to the N. of Java, at the principal of which European ſhips touch for refreſh-

ments in their voyage to Borneo. Long. 110. 12. E. Lat. 5. 56. S.

CARNATIC, The, a country of the peninſula of Hindooſtan, extending from the Guntoor Circar, along the whole coaſt of Coromandel, to Cape Cormorin; including its appendages, which are Tanjore, Maravar, Tritchinopoly, Madura, and Tinevelly. It is 570 miles in length from N. to S. but no-where more than 120, and commonly 75 miles wide. The revenue of the ſovereign, who is called Nabob of Arcot, is ſtated at 1,500,000l. per annum, out of which he pays a ſubſidy of 160,000l. to the Eaſt-India Company, toward the expence of their military eſtabliſhment. The Britiſh poſſeſſions in the Carnatic are confined chiefly to the tract called the Jaghire, which extends 108 miles along the coaſt, and 47 inland in the wideſt part; its annual revenue 150,000l. There is, beſides, a land-revenue of 725,000l. dependent on Madras. The Carnatic is a rich, fertile, and populous country, and contains an incredible number of fortreſſes. Public monuments too, the unequivocal marks of civilization and opulence, are more common here than in the N. parts of India. In 1787 the Eaſt-India Company took the whole adminiſtration of the Carnatic, and the collection of the nabob's revenues, into their own hands; on which account his highneſs inſtituted a ſuit in the Britiſh Court of Chancery againſt the Company, and likewiſe preſented a petition for redreſs to the Houſe of Commons.

CAROLINA. (*Encyl.*) This country is ſeated between extremities of heat and cold, though the heat is more troubleſome in ſummer than the cold in winter; their winters being very ſhort, and the froſty mornings frequently ſucceeded by warm days. The air is generally ſerene and clear the greateſt part of the year; but in February and March, the inhabitants have a cuſtom of burning the woods, which cauſes ſuch a ſmoke as to ſtrangers would ſeem to proceed from a fog or thickneſs in the air. The ſmoke of the tar-kilns likewiſe deceives the ſtrangers, and gives them an ill opinion of the air of Carolina; to which alſo conduces a cuſtom of the Indians of ſetting fire to the woods in their huntings, for many miles round. The great rains are in winter, though they are not without heavy ſhowers at midſummer; add to theſe the conſtant dews that fall in the night, which refreſh the ground and ſupply the plants with moiſture. In North Carolina, the north-weſt winds in the winter occaſion very pinching weather: but they are not of long continuance. Weſterly winds bring very pleaſant weather; but the ſoutherly are hot and unwholeſome, occaſioning fevers and other diſorders. But this muſt be underſtood of ſummer, for in winter they are very comfortable. The depth of winter is towards the latter end of February, and then the ice is not ſtrong enough to bear a man's weight. In Auguſt and September, there are ſometimes great ſtorms and ſqualls of wind, which are ſo violent as to make lanes of 100 feet wide, more or leſs, through the woods, tearing up the trees by the roots. Theſe ſtorms generally happen once in about ſeven years; and are attended with dreadful thunder, lightning, and heavy rains. They commonly happen about the time of the hurricanes which rage ſo fatally among the iſlands between the tropics; and ſeem to be occaſioned by them, or to proceed from the ſame cauſe: but by the time they reach Carolina, their force is much abated; and the further north they proceed, ſo much the more do they decreaſe in fury. The ſoil on the coaſt is ſandy; but further up, the country is ſo fruitful, that they have not yet been at the trouble to manure their land. The grains moſt cultivated are Indian corn and rice, though any ſort will thrive well enough; they have alſo pulſe of ſeveral ſorts, little known in England. All kinds of garden-ſtuff uſual in England are cultivated here, and may be had in great plenty. They export large quantities yearly of rice, pitch, tar, turpentine, deer-ſkins, and timber for building; cypreſs, cedar, ſaſſafras, oak, walnut, and pine. Beſides theſe they alſo ſend out beef, pork, tallow, hides, furs, wheat, peas, potatoes, honey, bees-wax, myrtle-wax, tobacco, ſnake-root, cotton, ſeveral ſorts of gums, and medicinal drugs. Indigo is alſo cultivated in this province, but of an inferior quality to that which comes from the Caribbee iſlands. It hath been attempted in vain to cultivate vines, and produce ſilk, in this country; for though the froſts here do not continue long without intervals of warmer weather, they are ſufficient to check the growth of the vine, as well as olives, dates, oranges, &c. The furs are bought of the Indians with vermilion, lead, gunpowder, coarſe cloth, iron, and ſpirituous liquors. As yet they have not a ſufficient number of handicraftſmen; which renders labour very dear, and a ſupply of clothes from Europe neceſſary. The aſpect of the country is very fine, being adorned with beautiful rivers and creeks, and the woods with lofty timber, which afford delightful and pleaſant ſeats for the planters, and render the fencing their lands very eaſy. And as they have plenty of fiſh, wild fowl, and veniſon, beſides other neceſſaries which this country produces naturally, they live eaſy and luxuriouſly. The planters and their families that are born here, are troubled with few diſtempers; and are generally tall, well made, and active. The women who are not expoſed to the weather are remarkably fair and handſome, with fine eyes. They marry at thirteen or fourteen; and where there is no clergyman, the ceremony is performed by a juſtice of the peace. They are very fruitful, have eaſy labours, and the children at nine months old are able to run about the houſe. Both ſexes, as well young as old, are very dextrous in paddling and managing the canoes, being bred to it from their infancy. The religion of the planters is that of the church of England; but, as there is liberty of conſcience, here are diſſenters of all ſorts.—The moſt ſubſtantial people build their houſes with brick and lime made with oyſter-ſhells; for there is no ſtone except near the mountains. The meaner ſort make theirs with rough boards, and cover them with ſhingles. Their diet, except Indian corn, differs little from ours; and they import ſeveral ſorts of ſtrong liquors. Beſides which they have cyder, perſimon, and cedar-beer, of their own. They have likewiſe a beer made with molaſſes, wheat-bran, and hops, which is very good. There are mines of pit-coal in this country; but they have ſuch plenty of wood for firing, that there is no occaſion to work them.

Their rivers are large, and navigable a great many miles up the country. They riſe near the mountains, and abound with delicate fiſh, beſides water-fowl of different kinds. In ſome there are iſlands which yield good paſture, without the annoyance of wild beaſts. The chief mountains are the Cherokee or Allegany mountains, which are ſituated north and north-weſt, five or ſix hundred miles diſtant from the ſea. They are very high; and abound with trees, plants, ſtones, and minerals, of different kinds. The inhabitants chiefly make uſe of paper money among themſelves.

The moſt common diſeaſes are agues, cachexies, fluxes, the yaws, colics, convulſions, the hooping-cough, tetters, the prickly heat, and the itch.

The Indians, like thoſe in other parts, are well made, of a red copper colour, with black hair, and the whites of their eyes ſtreaked with red. They have no beard, nor hair on any part of the body but the head. Thoſe that are clothed and brought up among the planters, have their ſkins of a bright reddiſh colour; but thoſe that go naked are more

duſky, from a cuſtom of daubing themſelves with bears' greaſe. However, by painting themſelves with roucou, they appear more red than they naturally would be. They uſe other colours on different occaſions. They generally go quite naked, except a few who have been taught to be a little more modeſt. They are great ſmokers, and good marksmen; and will walk on the ridge of a houſe without fear of danger of falling.

This country is divided into North and South Carolina, and Georgia; each of which is under a particular governor. The North is ſubdivided into four counties, Granville, Colleton, Berkley, and Craven; and South Carolina into two, Clarendon and Albemarle. This laſt is alſo divided into fourteen pariſhes or townſhips, each of which has a brick or timber church. The former likewiſe has the ſame number of pariſhes. Charleſtown is the capital of the whole country.

Carolina was diſcovered by Sebaſtian Cabot, about the year 1500, in the reign of Henry VII. but the ſettling of it being neglected by the Engliſh, a colony of French Proteſtants, by the encouragement of Admiral Coligni, were tranſported thither; and named the place of their firſt ſettlement *Arx Carolina*, in honour of their prince, Charles IX. of France: but in a ſhort time that colony was deſtroyed by the Spaniards; and no other attempt was made by any European power to ſettle there till the year 1664, when 800 Engliſh landed at Cape-Fear in North Carolina, and took poſſeſſion of the country. In 1670 Charles II. of Britain granted Carolina to the Lords Berkley, Clarendon, Albemarle, Craven, and Aſhley, Sir George Carteret, Sir William Berkley, and Sir John Colliton. The plan of government for this new colony was drawn up by the famous Mr. Locke, who very wiſely propoſed an univerſal toleration in religious matters. The only reſtriction in this reſpect was, that every perſon claiming the protection of that ſettlement, ſhould, at the age of ſeventeen, regiſter himſelf in ſome particular communion. To civil liberty, however, our philoſopher was not ſo favourable; the code of Carolina gave to the eight proprietors who founded the colony, and to their heirs, not only all the rights of a monarch, but all the powers of a legiſlation. The court, which was compoſed of this ſovereign body, and called the *Palatine Court*, was inveſted with the right of nominating to all employments and dignities, and even of conferring nobility; but with new and unprecedented titles. They were, for inſtance, to create in each county two *caciques*, each of whom was to be poſſeſſed of 24,000 acres of land; and a *landgrave*, who was to have 80,000. The perſons on whom theſe honours ſhould be beſtowed were to compoſe the upper houſe, and their poſſeſſions were made unalienable. They had only the right of farming or letting out a third part of them at the moſt for three lives. The lower houſe was compoſed of the deputies from the ſeveral counties and towns. The number of this repreſentative body was to be increaſed as the colony grew more populous. No tenant was to pay more than about a ſhilling per acre, and even this rent was redeemable. All the inhabitants, however, both ſlaves and freemen, were under an obligation to take up arms upon the firſt order from the Palatine court.

It was not long before the defects of this conſtitution became apparent. The proprietary lords uſed every endeavour to eſtabliſh an arbitrary government; and, on the other hand, the coloniſts exerted themſelves with great zeal to avoid ſervitude. In conſequence of this ſtruggle, the whole province, diſtracted with tumults and diſſenſions, became incapable of making any progreſs, though great things had been expected from its particular advantages of ſituation. Though a toleration in religious matters was a part of the original conſtitution, diſſentions aroſe likewiſe on that account. In 1705, Carteret, now Lord Granville, who, as the oldeſt of the proprietors, was ſole governor of the colony, formed a deſign of obliging all the non-conformiſts to embrace the ceremonies of the Church of England; and this act of violence, though diſavowed and rejected by the mother-country, inflamed the minds of the people. In 1720, while this animoſity was ſtill ſubſiſting, the province was attacked by ſeveral bands of ſavages, driven to deſpair by a continued courſe of the moſt atrocious violence and injuſtice. Theſe unfortunate wretches were all put to the ſword: but, in 1728, the lords proprietors having refuſed to contribute towards the expences of an expedition, of which they were to ſhare the immediate benefits, were deprived of their prerogative, except Lord Granville, who ſtill retained his eighth part. The reſt received a recompence of about 24,000l. The colony was taken under the immediate protection of the crown, and from that time began to flouriſh. The diviſion into North and South Carolina now took place; and the ſettlement of GEORGIA commenced in 1732.

CARPATHIAN MOUNTAINS, mountains which divide Hungary and Tranſylvania from Poland.

CARSHALTON, a village in Surrey, ſituated ſouth-weſt of Croydon. It lies among many ſprings, which joining others from Croydon and Beddington, form a river, in the very ſtreet, called the Wandle.

CARRIAGE (*Encycl.*), a vehicle ſerving to convey perſons, goods, merchandizes, and other things, from one place to another. The following deſcription of an apparatus for preventing paſſengers in carriages being injured when the horſes have taken fright, by Mr. George Davis, of Windſor, is worthy of being noticed, ſince the Society for the Encouragement of Arts, Manufactures, and Commerce, deemed the inventor worthy of a bounty of thirty guineas. Having given in plate 19. a view of the apparatus as fixed to a coach, we ſhould conceive it will not be neceſſary to enter into a very particular deſcription of it. We ſhall therefore only relate the manner of operation in the inventor's words.

"It is fixed behind the ſplinter-bar," ſays he, "and the communication, by means of a copper chain, is carried through the boot to the ſide of the coach-box, that, in caſe of the horſes taking fright, or, of that more fatal accident, the reins breaking, which precludes the poſſibility of ſtopping the horſes, the coachman can diſcharge them inſtantaneouſly. There is this ſuperiority in my invention over any other method hitherto put in practice, That the horſes can be liberated, even when the pole is at right angles, or locked cloſe to the perch, a poſition which otherwiſe overturns a carriage. I have had the honour of exhibiting a trial before his majeſty, and diſcharged the horſes three times; which Mr. Vidler, of Millbank, can atteſt, having been preſent on the ſpot, and who was pleaſed to ſay, that he thought, if it was more generally known, no carriage would be without it.

"Fig. A, is the ſplinter-bar of a carriage, to which the horſes are attached by the traces fixed to the rollers B, B, B, B, and to the pole C.

"D D D, a braſs chain, extending from the coach-box to the ſplinter-bar: this chain goes under the roller F, is then wound once round the pulley G, and thence directed, by the ſmall rollers H and I to the quadrant K, to the fartheſt extremity of which it is attached.

"The quadrant K has a vertical axis, on the upper part of which is a pinion with four teeth (ſee L, figs. 2 and 3). This pinion works in two racks, M, M, fixed on two elbow-head bolt-bars N, N; and by means of theſe racks, the bolts are moved backwards and forwards by the action of the quadrant K.

Theſe bolt-bars extend from the centre of the ſplinter-bar

to its extremity, the ſtraight end of the bolts ſhooting into the rollers B, B, fig. 1, at the end of the ſplinter-bar, and the elbow-heads, *n*, *n*, ſhooting into the two centre-rollers B, B.

" On the lower part of the axis of the quadrant K is a female ſcrew, which receives a bolt O (ſee fig. 3), one end of which, when bolted, paſſes through the bolt C: the other end of it is a ſmall ſcrew.

" P, Q, are two collars fixed on the ſplinter-bar, which collars confine the axis, and prevent its being diſplaced.

" Fig. 4, ſhews the pulley G, round which the chain D paſſes: the axis of this pulley contains two female ſcrews, R, S, with threads in different directions moving the two bars, T, V, backwards or forwards, ſo as to protrude them on the conical part of the naves of the fore wheels of the carriage, and to act as a brace thereon, ſo as to retard their motion.

" Fig. 5, is a link of the chain, in order to ſhew its make or formation.

" When the horſes are to be detached, and the carriage ſtopped, the coachman, ſitting on the coach-box, draws up a handle W, fig. 1, affixed to the chain D by means of an iron bolt with a ſpring upon it, to retain it when drawn out: the chain D pulls back the quadrant K, and draws back the double bolts N, N, which paſs through ſquare holes at the lower end of the rollers B. The ſame motion of the quadrant, by means of its female ſcrew, raiſes the ſcrew-bolt O, and ſets the pole at liberty; ſo that the horſes move off with the pole and rollers. It has been before obſerved, that the chain D winds once round the pulley G; by this means, when the chain is drawing up to detach the horſes, the motion of the pulley propels, from its female ſcrew on each ſide, bolts which have ſcrew-heads at one end, and wedges at the other, which wedges, when propelled, act as braces on the conical-formed naves of the fore-wheels, and ſtop the motion of the fore-wheels.

" X is a ſquare head on the axis of the quadrant K: by means of a key applied on this head, when neceſſary to attach the horſes to the carriage, the quadrant is returned to its place, and bolts the rollers and pole, after they are replaced in their proper ſituations: the quadrant at the ſame time pulls back the chain on the pulley G, which pulley draws back the wedge-bolts from the conical naves of the fore-wheels, and ſets them free to move.

" The Committee of Mechanics, to whoſe conſideration this buſineſs was referred by the Society, appointed a trial to be made near the Magazine in Hyde Park, on Thurſday, the 27th of March, 1800, with a coach, to which the apparatus was attached. Four horſes and two poſtillions were employed for the purpoſe. A perſon ſitting on the coach-box looſed the pole and rollers from the carriage, by pulling a chain placed near the boot, which chain drew back the bolts in the ſplinter-bar, and allowed the pole and rollers to be carried off by the horſes, at a time when they were galloping at the rate of more than ten miles an hour. The experiment was repeated thrice, and the horſes diſengaged each time; but the impetus given to the carriage by the velocity of the horſes, occaſioning the coach to run forwards above twenty yards on level ground, after the horſes were detached, the committee were of opinion, that a part, but not the whole of the object of the ſociety was anſwered, as the paſſengers in the carriage might yet ſuffer injury from the motion of the carriage after the horſes were liberated. On their noticing this circumſtance to Mr. Davis, and a gripe being added to ſtop the motion of the wheels, Mr. Davis, on the 8th of May laſt, produced the preſent ingenious invention to the committee; by means of which, at one pull of the chain, the horſes may be liberated, and two bolts propelled on the nave of the fore-wheels, ſo as to retard their motion."

The following is the ſpecification of the patent granted to Mr. Reddel, of Birmingham, for a new method of conſtructing carriages for the conveyance of merchandize either by land or water; which carriages may be removed (either loaded or unloaded) from the land to the water, or from the water to the land, with eaſe, expedition, and ſafety.

" I make the bodies of the carriages," ſays Mr. Reddel, " to any form or ſize required, chiefly of wood, and ſtrengthen or faſten the parts together with iron, or any other ſuitable ſubſtance, and make the bottoms, ends, and ſides of them as water-tight as poſſible. I then fix a ſuitable number of wheels thereto, by means of an axletree, or axletrees, or in any other eligible manner (but in moſt caſes it will be beſt to place them ſo that the bottom of the carriage or carriages may not be more than ſix, or leſs than three or four inches above the level ſurface of the ground). I ſometimes place the wheels, in ſuitable receſſes, in the ſides of the boat-parts, or bodies, of the carriages, and put either a broad plank, or ſome ſtrong iron work, over their centres, in order to ſupport and protect them; or they may be fixed in narrow water-tight compartments, or boxes, in ſuitable places in the inſide of the boat-part, or body, of the carriage, but of courſe the number of the wheels, and the manner of fixing them, muſt be varied according to circumſtances. When they are in the water, a conſiderable number of the ſmall-ſized carriages may be faſtened together, in any eligible manner, and hauled by one horſe; and if they are wanted out of the water they muſt be ſeparated, and drawn up an inclined place by one or more at a time. They may then be taken up, or let down, a plane to a higher or lower level of water, as circumſtances may require, or be drawn by land (either loaded or unloaded) to any place wherever they may be wanted, very near, if not quite, as readily as a common waggon or cart. Carriages of this deſcription may be made to carry any reaſonable burden, that is to ſay, from one ton to twenty tons and upwards, according to the uſes for which they are intended; ſuch as are meant to be drawn about when on the land by two or three horſes would be beſt, if calculated to carry about two or three tons. They may be made principally with ſquare ends, and may be either linked, tied, or grappled, to each other when they are in the water, or a rope or ropes, chain or chains, may paſs through either rings, loops, or holes, made in, or attached to, each of them: and by means of a lever, weight, or ſpring, in one or both of the end carriages, they may be braced together ſufficiently tight. The foremoſt end of the body of the leading carriage, if it is deemed neceſſary, may be made in the uſual cut-water form, and the hindmoſt may have a rudder attached to it, which may be taken off, or put on, at pleaſure, and they all may be ſteered together as one boat. In canals, where the water is on different levels, if a ſufficient quantity cannot conveniently be ſpared from the upper level for the ſupply of locks, it will be extremely eligible to have carriages of the aforeſaid deſcription to carry about ſix or eight tons each, and when three of them are faſtened together in the water, they will be equal in ſize and appearance to a common canal coal-boat, and to paſs them from one level to another it would be neceſſary to have an inclined plane or planes to go down into the water at the head of the upper level, and another from thence down into the water of the lower level, and of courſe a certain degree of power would likewiſe be neceſſary to let down, and draw up, the carriages on the inclined planes. A ſmall ſteam-engine, ſomewhat like thoſe which are uſed at ſeveral of the colleries in the kingdom, to draw the coals out of the pits, if well executed, would paſs upwards of two hundred tons over the planes in an hour, if the difference in the levels was not more than twenty or thirty feet; and the expence of making the planes, and erecting the engine, would not be much more, if ſo much, as making four common

locks, with the neceſſary appendages; or any other power might be made uſe of that was thought more eligible. If ſtill greater diſpatch is required, the machinery may be made a little ſtronger, and carriages of nine or ten tons burden or more may eaſily be taken over the planes, and then may be ſo conſtructed that when two of them are faſtened together in the water, they would form but one complete boat in ſize and appearance, of courſe they may paſs the locks together as one boat, if there are any locks on the line of the canal where theſe boat-carriages may be uſed, or paſs the planes ſeparately, with expedition and ſafety."

The following duties have been laid by parliament on carriages kept for pleaſure.

By the ſtat. 38 Geo. III. c. 41. there ſhall be paid from and after April 5, 1798, in lieu of the old duties repealed by this act, the following duties for every carriage herein-after mentioned:

	£.	s.	d.
For one ſuch carriage with four wheels and no more	9	12	0
For two ſuch carriages with ditto - -	10	4	0
For three with ditto - - - -	11	4	0
For four with ditto - - -	11	8	0
For five with ditto - - -	11	11	0
For ſix with ditto - - -	11	12	0
For ſeven with ditto - - -	11	13	6
And for eight ſuch carriages with four wheels and upwards - -	11	14	0

The ſaid duties to be charged for every carriage with four wheels, or any number thereof, kept by any perſon for his own uſe, or to let out for hire.

And there ſhall be paid for every ſuch carriage with four wheels let to hire for the purpoſe of travelling poſt, by any licenſed poſtmaſter, or inn-keeper, and whereon the name and abode of the perſon licenſed ſhall be painted - 8 8 0

And for every carriage with leſs than four wheels 4 4 0

The laſt duty to be charged on every carriage with leſs than four wheels, kept by any perſon for his own uſe, or to let out to hire, to be paid by the perſon keeping or uſing ſuch carriage.

TABLE OF THE DUTY ON CARRIAGES.

No. of Carriages with 4 Wheels.	Duty per Carriage	Total Amount	No. of Carriage with 2 Wheels.	Duty per Carriage	Total Amount
	L. S. D.	L. S. D.		L. S. D.	L. S. D.
1	9 12 0	9 12 0	1	4 4 0	4 4 0
2	10 4 0	20 8 0	2		8 8 0
3	11 4 0	33 12 0	3		12 12 0
4	11 8 0	45 16 0	4		16 16 0
5	11 11 0	57 15 0	5		21 0 0
6	11 12 0	69 12 0	6		25 4 0
7	11 13 6	81 14 6	7		29 8 0
8	11 14 0	93 12 0	8		33 12 0
9		105 6 0	9		37 16 0
10		117 0 0	10		42 0 0
11		128 14 0	11		46 4 0
12		140 8 0	12		50 8 0
13		152 2 0	13		54 12 0
14		163 16 0	14		58 16 0
15		175 10 0	15		63 0 0
16		187 4 0	16		67 4 0
17		198 18 0	17		71 8 0
18		200 2 0	18		74 12 0
19		211 16 0	19		79 16 0
20		223 10 0	20		80 0 0

And ſo on, at the rate of 11l. 14s. for every carriage with four wheels, and 4l. 4s. for every carriage with two wheels.

Note, Carriages with four wheels, let to hire to travel poſt for a day, or leſs period of time, or by the mile, or from ſtage to ſtage, are chargeable only 8l. 8s. per carriage.

CART (*Encycl.*). We propoſe to extend this article, by availing ourſelves of the ſelections of our reſpectable fellow-labourer the editor of the DOMESTIC ENCYCLOPÆDIA.

In rural economy, the proper conſtruction, and adaptation of carts to different ſoils and ſituations, are objects of the firſt conſequence to every reflecting farmer. Nevertheleſs, it is ſurpriſing, that little attention has been paid to this important ſubject, previous to the late improvements in agriculture: the flouriſhing æra of which, in Britain, commenced about the middle of laſt century, or the year 1754, when that patriotic Society for the Encouragement of Arts, Manufactures, and Commerce, was inſtituted at London. Since that memorable period, numberleſs inventions have been introduced into rural economy, and the names of many other illuſtrious promoters of true national wealth, will be remembered by a grateful poſterity. In Mr. Arthur Young's Annals of Agriculture, the 18th volume, we meet with an elaborate paper, entitled *The Farmer's Cart*; by the editor; from which we ſhall extract the following particulars: Mr. Young firſt obſerves, that the moſt general farmer's carriage in England, is a waggon, drawn by four horſes, in which is conveyed corn, hay, wood, &c. but not dung or earth, which are uſually moved by carts, or tumbrils, drawn by three or four horſes:—carriers almoſt univerſally employ broad-wheeled waggons, drawn by eight horſes.

In Scotland, waggons were formerly uſed, but afterwards changed for large carts, and more lately for ſmall ones, drawn by one horſe.

In Ireland, the moſt common vehicle at preſent is the one-horſe car, with low wheels beneath the body of the machine; which has univerſally ſuperſeded the uſe of Engliſh carts and waggons, from a conviction of their inferiority. Nothing, ſays Mr. Young, exceeds the amazing expedition with which corn and hay fields are cleared in that country, by means of this uſeful, though inelegant implement. In conſequence of ſuch a deciſive encomium, as well as the very favourable account given of this machine by the late Mr. Bakewell, of Diſhley, Leiceſterſhire, in the Communications to the Board of Agriculture, we have been induced to preſent our readers with the following deſcription, of an Improved Iriſh Car. See Pl. 19.

The advantages of this vehicle, which was preferably employed, and ſtrongly recommended, by the laſt-mentioned agriculturiſt, conſiſts in the facility with which it is laden, on account of its lowneſs; and, when gate-ways and roads are narrow, much room is gained by the wheels being fixed under the body of the cart. In ſuch ſituations, therefore, it is well calculated for carrying manure, eſpecially on meadow or ploughed land; and for that purpoſe, its wheels ought to have a flat bearing, and to be at leaſt ſix inches in breadth. Another peculiarity in the conſtruction of this cart is, that its wheels are neceſſarily cylindrical; and that the facility of draught ariſing from this unobſerved circumſtance, was probably imputed to ſome other part of the machinery. But, though contrary to the generally-received opinion, Mr. Alexander Cummins (in his Obſervations on the Effect which Carriage-wheels with Rims of different Shapes have on the Roads, printed in the Communications to the Board of Agriculture), has ſatisfactorily demonſtrated, and it is likewiſe evinced by experience, that the reſiſtance to the cylindrical wheel is not increaſed, but diminiſhed, by increaſing the breadth and the flat bearing of its rim. The knowledge of this fact is of very great importance to the farmer, as well as to the waggoner;

ſer, by availing himſelf of this ſimple improvement, he may be enabled, in almoſt all ſeaſons, to drive his broad-wheeled carts, &c. on his meadow or ploughed ground, when no narrow wheel can be employed.—Hence it would be ſuperfluous to enumerate the further advantages of this implement; yet, when the width of gate-ways and the breadths of roads will admit of the wheels being placed at the ſides of the cart, without confining the width of its body, it will probably be more advantageous to have them at the ſides, than under the cart.

One of the greateſt advocates for one-horſe carts, is Lord Robert Seymour, whoſe excellent paper on this ſubject, dated Taliaris, 5th September, 1796 (inſerted in the 27th volume of the Annals of Agriculture), deſerves the thanks of all Britiſh farmers. This patriotic nobleman ſtrongly recommends the cart which he employs on theſe eſtates, as a moſt uſeful implement of huſbandry. Convinced of its ſuperior excellence, in many ſituations, we have thought proper to annex an accurate engraving of this cart, for the elucidation of which, we ſhall extract the following particulars from his lordſhip's letter, addreſſed to the editor of the laſt-mentioned work:

The advantages of ſingle-horſe carts are univerſally admitted, wherever they have been attentively compared with carriages of any other deſcription. By his own obſervation, Lord Seymour is led to conclude, that a horſe acting ſingly will do half as much more work as in conjunction with another, ſo that two horſes will, ſeparately, perform the work of three conjunctively. This difference, he believes, ariſes partly from the ſingle horſe being ſo near the load he draws, and partly from the point or line of draught being ſo much below his breaſt; as the wheels of ſingle-horſe carts are uſually made very low. When a horſe draws in conjunction with another, he is generally embarraſſed by ſome difference of rate—the horſe behind, or before him, being quicker or ſlower than himſelf: whereas a ſingle horſe has only his load to contend with, and is not inconvenienced by the greater or leſſer height of his fellow. Nor is there any neceſſity for employing additional drivers; as horſes, once in the habit of going ſingly, will follow each other as uniformly and ſteadily, as they do when harneſſed together: hence, on the moſt frequented roads in Ireland, one man conducts three, four, or five ſingle-horſe carts, without any inconvenience to the paſſenger.

Dimenſions of the body of the cart: two feet eleven inches acroſs the bottom; three feet nine inches, inſide length; one foot high; ſloping top, nine inches. It has iron wheels; two feet eight inches high; rim, three inches and a half wide, and from three-quarters to an inch thick: ſpoke, three inches and a quarter at each end, worked off to two inches at its centre. See Pl. 19.

In the introduction to the letter above alluded to, his lordſhip obſerves, that the price of iron-caſt into wheels is 16s. per cwt: and the weight of each wheel is about three-quarters of a hundred.—Two inconveniences, however, ariſe from the uſe of low caſt-iron wheels; namely, 1. That ſuch iron is very liable to break upon concuſſion; and, 2. That the courſe of a wheel of ſo ſmall a diameter, occaſions a very quick conſumption of greaſe. The firſt of theſe objections is, in a great meaſure, removed by the facility with which the rim of the wheel may be repaired by the application of wrought-iron; the latter being joined to the former by a rivet, the wheel acquires a degree of elaſticity, and thus becomes, perhaps, ſtronger than it was when new. In order to furniſh a regular ſupply of greaſe, Lord Robert has introduced four grooves or cavities in the boxes, increaſing a little towards their centres: and with a view to defend the axle-tree, which conſiſts of wrought-iron, againſt the harder body of the box, he ordered the extremity of it to be ſteeled.

Mr. Arthur Young, in the 18th volume of his Annals of Agriculture, before quoted, ſtates the following dimenſions of a ſingle-horſe cart, which he, by the teſt of experience, has found to be the moſt advantageous:

Buck.—Length, 5 feet 1 inch.
Breadth, 3 feet 7 inches.
Depth, 2 feet.
Cubical feet, 35 and a fraction.

On his farm of 350 acres, in Suffolk, Mr. Young employs only five ſuch carts; and obſerves, that he would not add more than one to the number, even though he ſhould increaſe his buſineſs to 400 or 500 acres: hay, corn in the ſtraw, faggot-wood, billets, dung, clay, marl, lime, bricks, &c. are all conveyed by them; carrying out nine, and even ten coombs of wheat in ſacks, and they are never drawn by more than one horſe or ox.—No farm of the ſame extent, in an arable country, has leſs than three waggons, three tumbrils, and a light cart: the exact price of theſe different implements, in the year 1792, amounted to 109l.; while the building of ſix carts, upon Mr. Young's plan, coſts only 63l: thus he ſaves about 40 per cent. in annual repairs. Beſides this great reduction of expence, another circumſtance deſerves particular notice.—As theſe carts had for many years been the object of ridicule, Mr. Young offered a bet to one of his prejudiced neighbours, that he ſhould load a waggon, till five horſes could not ſtir with it; and Mr. Young engaged to carry away that load with eaſe, in his carts, with four of the ſame horſes; but the confidence which his antagoniſt poſſeſſed in waggons would not allow him to accept the offer.

The infinite benefit,, concludes Mr. Young, of which theſe carts would be to the roads, if their uſe ſhould become general, may be eaſily conceived. In all the examinations before committees of the Houſe of Commons, as well as in moſt of the treatiſes publiſhed on the ſubject, it has been admitted that no police or management can keep the roads in repair, while ſuch weights are permitted to be drawn in a ſingle carriage. Parliament has been made ſo ſenſible of this fact, that repeated acts have been paſſed, by which the weight of waggons was limited, and a certain breadth of the wheels enjoined. Experience, however, has proved, that both are inſufficient, and that the only method of effecting a favourable change, would be to prohibit numerous teams. Let every man carry whatever weight he pleaſes in one-horſe carts, and pay a light toll; led the load of a two-horſe cart be limited, and the toll increaſed; further leſſening the weight, and raiſing the toll, when four horſes are employed; and thus advancing the turnpike expences for every additional horſe, till it amounts nearly to a prohibition. If ſuch a plan were to be adopted, we ſhould ſoon ſee all our roads in an improved ſtate. Rollers have, indeed, been greatly indulged both in weight and toll; but this was a prepoſterous meaſure, for a roller will cruſh a pebble to duſt, as well as a wheel, and the badneſs of roads muſt be attributed to the materials being reduced to powder, almoſt as ſoon as laid on, and either blown away in duſt, or carried off in mud. Having followed ſome of Sharp's waggons, and obſerved the effect, Mr. Young is perſuaded, that the roller is more detrimental to the road than nine-inch wheels. In ſuch an enquiry, facts only can decide the queſtion: the Iriſh roads are made at an expence beyond compariſon leſs than the Engliſh, and were at the time he viſited that country greatly ſuperior to thoſe in England. This difference, in his opinion, muſt be attributed entirely to the uſe of one-horſe carts, as he has explained in his Tour of Ireland. "Many hundred thouſands a-year would be ſaved in England, if theſe carts were ſo favoured in road-acts, as to enſure a great decreaſe of waggons." On the whole, he ventures to recommend the uſe of one-horſe carts to his brother farmers, with that confidence

which ought to arise solely from numerous and varied experiments.

Having concluded the subject of single-horse carts, we shall only observe, for the information of those who employ teams with two-wheeled carriages, that several useful implements have lately been invented, for the more effectual stopping of such carts, in descending steep hills, and likewise for taking off the increased weight thrown on the shaft horse's back in all descents. See a description of the latter contrivance, under the head of LOCKING-POLE. The WHEEL-DRAG is represented in Pl. 19. where *a, a, a, a,* is a piece of wrought-iron, curved to the exact form of a cart-wheel, with the thickest part at *b*, on which the weight of the cart rests. 1, 2, 3, 4, are shoulders, that keep the wheel within the drag, and should be about four inches high. *c*, is the wheel, made of solid iron, which is nearly as wide as the drag, seven inches in diameter; runs on its axis at *d*; has a strong shoulder; and, as it projects, resists the sudden jolts of rough roads. *e*, is the chain to be fastened to the near shaft, in order to keep the drag properly under the wheel, which, from being violently jerked, might be apt to pass over the drag, and leave it behind: this is a necessary precaution, though seldom wanted if the drag be well constructed. In the shoulders marked 1, 2, are holes, by which the drag is suspended on hooks beneath the tail of the cart when it is not employed.

In London and Westminster, carts are not permitted to carry more than twelve sacks of meal, 750 bricks, one chaldron of coals, &c. on pain of forfeiting one of the horses (stat. 6 Geo. I. c. 6).—By the laws of the city, carmen are forbidden to ride either on their carts or horses: they are to lead or drive them on foot through the streets, under the penalty of 10s.

Rolling carts are very useful machines for carrying manure on low-lands during wet seasons. According to an account given by Mr. Richard Moyle, and inserted in the 14th volume of the Transactions of the Society for the Encouragement of the Arts, &c. such a cart consists of three circular pieces of strong elm, two feet in diameter, and each eighteen inches long, through which a strong iron axis is passed, so as to protrude a few inches on each end beyond the rollers; after all, allowing an inch between each piece, for the conveniency of turning round. On the projecting part of the axis, a fixed frame is placed, for supporting the body of the cart, which, according to the nature of the soil, may be loaded to any degree, and employed simply as a roller, or for carrying manure, &c. on land where common wheels cannot be admitted.

By means of these rolling carts, the surface of the land is to be frequently compressed, in order to consolidate the soil more perfectly, so that the earthy particles may embrace the roots of the grasses, and retain their proper moisture; on which the luxuriancy of such soils in a great measure depends.

By 38 Geo. III. c. 93, there shall be paid for every carriage with less than four wheels, to be drawn by one horse, which shall be built wholly of wood and iron, without any covering other than a tilted covering, and without any lining or springs, or any ornament whatever, other than paint of a dark colour for the preservation of the wood or iron only, and which shall have the words "A TAXED CART," and also the owner's name and abode, thereon, and the price of which (repairs excepted) shall not have exceeded or which shall not at any time exceed twelve pounds, the annual sum of 1l and 4s.

But nothing herein shall authorise any person to keep any carriage as a taxed cart, who shall be liable to the duties for any four-wheel carriage, or for two male servants; but every such person shall be liable to the full duty of four pounds four shillings, imposed on carriages with two wheels.

Also all carriages, of whatever construction the same may be, which shall be let out to hire, shall be subject to the duty of 4l. 4s.

But no person assessed to this duty of 1l. 4s. shall be charged in respect thereof with the additional duties granted by the triple assessment act of this session. And if any cart shall have been assessed, the commissioners may, on appeal, cause the assessments to be vacated, but so as not to annul any payment already made, nor the collection of any arrears: but such appeals are not to be heard till after ten days' notice to the surveyor; and in case either the party, or surveyor, shall be dissatisfied, they may demand a case, in like manner, as for other assessed taxes.

Persons occupying farms, or carrying on trades, and making a livelihood solely thereby, and ecclesiastical persons not possessed of an annual income of one hundred pounds or upwards, whether arising from ecclesiastical preferment, or otherwise, who shall keep any carriage subject to the duty hereby granted, shall be charged, in respect of the horse, at the rate prescribed for horses not kept for the purpose of riding, or drawing carriages, so as such horse be not at any time used for riding or drawing carriages.

Every person to be rated as aforesaid, shall paint on a black ground in white letters, or on a white ground in black letters, on the outside of the back pannel, or back part of such carriage, or if it be constructed without a back part on which they may be painted, then on the side, or some conspicuous part on the outside, his christian and sur-names, and the place of his abode, and the words "A TAXED CART," in Roman letters, and in words at full length, each at least one inch in length, and shall, upon demand, produce such carriage to the assessor or surveyor, or at any meeting of the commissioners; and if any person shall keep any such carriage, the price whereof, or for any subsequent addition (repairs excepted), have been charged (the proof of which shall lie on the owner) at more than 12l. or if the value thereof shall appear to the commissioners, on examination, to exceed 12l. or if such carriage shall be built contrary to the provisions before mentioned, or shall not be so marked, or if such person shall neglect or refuse, upon demand, to produce the carriage, such person shall be charged with the duty of 4l. 4s.

Nothing herein shall subject to the said duty of 1l. 4s. any cart whatever which shall be kept without fraud to be used wholly in the affairs of husbandry or of trade, by reason of the owner or any of his servants riding therein, when laden, or when returning from, or going to, any place, to or from which any load shall be to be carried in the course of husbandry, or for the purpose of trade, or for conveying the owners thereof, or their families, to or from divine service, on Sundays, or for carrying persons going to or returning from the election of members of parliament.

CART, the name of two rivers of Renfrewshire, in Scotland, distinguished by the appellation of *Black* and *White*. The Black Cart issues from the lake called Lochwinnoch, or Castle Semple Loch; the White Cart descends from the north-east angle of the county; and, uniting their streams, they both flow into the Clyde, near Renfrew. Opposite this town, in the road to Port Glasgow, is a handsome bridge of ten arches, built exactly at the confluence of these two rivers. Three roads meet upon this bridge, so that it has three ends or entrances.

CARTERET ISLAND, an island of the South Pacific Ocean, seen by Captain Carteret in 1767. It is about six leagues long from east to west. Long. 159. 14. E. Lat. 8. 26. S.

CARTHAGO, a rich trading town of North America, in Mexico, with a bishop's see, 360 miles west of Panama. Long. 85. 0. W. Lat. 9. 5. N.

CARTHAMUS (*Encycl.*). Having in the article DYEING referred to CARTHAMUS, we think it necessary to speak more at large on its qualities. We shall therefore present the reader with the account given of it by Berthollet.

" *Carthamus* contains two kinds of colouring matter; the one, yellow; the other, red. The firſt alone is ſoluble in water: its ſolution is always turbid: with re-agents it exhibits the appearances commonly obſerved in yellow colouring matter: acids render it lighter, alkalies make it deeper, and more approaching to orange: both produce a ſmall portion of a fawn-coloured precipitate by means of which it becomes clearer. Alum forms with it a deep yellow precipitate in ſmall quantity: ſolution of tin, and other metallic ſolutions, precipitates which have nothing remarkable.

" Alcohol acquires but a ſlight tincture from the flowers, after all the yellow ſubſtance has been extracted by repeated waſhings. If theſe flowers be put into a ſolution of cauſtic alkali, they become yellow, and the liquor which is preſſed out is of a deep yellow colour. On ſaturating the alkali with an acid, the liquor becomes turbid, reddiſh, and gradually depoſits a very ſmall quantity of a reddiſh yellow precipitate. With ſolutions of alum, zinc, and tin, a yellow precipitate is formed; and with ſolutions of iron and copper, a precipitate inclining to green. If inſtead of a ſolution of cauſtic alkali, a ſolution of carbonat of alkali be uſed, acids produce with it a more copious precipitate of a redder hue: but the redneſs differs according to the acid employed. Alum alſo produces with the latter alkaline ſolution, a red precipitate, which is ſo light, that it generally ſwims on the ſurface of the liquor. This colouring matter is ſo delicate, and ſo eaſily changed, that if heat be employed to diſſolve it, the precipitates produced by acids will not have ſo fine a colour.

" Mr. Beckmann has obſerved, that the carthamus of Thuringia contained much more of the yellow matter, than that of the Levant: that in other reſpects the red matter of the former was by no means inferior in beauty to that obtained from the latter: yet, that to produce equal effects, half as much more of it was required. He next examined, whether this difference depended on the climate, or only on the mode of preparation.

" Haſſelquiſt relates, in his travels in Egypt, that when the flowers of carthamus are gathered, they are preſſed between two ſtones, to ſqueeze out the juice. After this they are waſhed ſeveral times with water, which in Egypt is naturally ſalt. When taken out of the water they are preſſed between the hands, and then ſpread on mats, placed on the flat roofs of their houſes; where they are covered in the day-time, that the ſun may not dry them too faſt, but left expoſed to the dew at night. They are occaſionally turned, and when ſufficiently dry, taken in, and kept for ſale under the name of *ſaffranon*.

" If the carthamus of Levant, ſuch as it is in commerce, be compared with that of Thuringia, the former will be found to be more pure, a little moiſt, and in compreſſed maſſes; the latter, drier and more elaſtic. Theſe differences depend on the preparation. Writers on agriculture, deceived by the erroneous name of *baſtard ſaffron* given to carthamus, have ſuppoſed, that it ſhould be treated like ſaffron. Hence they direct it to be gathered in a dry ſeaſon, and dried with care. Mr. Beckmann thinks, on the contrary, that the mode adopted in Egypt ought to be imitated. He adviſes even to add a little ſalt to the water uſed in preparing it, to give it the quality it has naturally in Egypt.

" The flower of carthamus has a fine colour of fire, but in drying it grows yellow. It ſhould not be gathered till it grows dry; and it is better if it has been rained upon in that ſtate, though the contrary opinion is erroneouſly held. The want of rain may be ſupplied by watering the flowers morning and evening. When they are gathered, the ſeeds may ſtill be left to ripen.

" The intention of theſe directions is, to promote the ſeparation of the yellow matter, the abundance of which conſtitutes the difference between the carthamus of our climates, and that of the Levant. Carthamus ſhould be kept in a moiſt place, as its becoming too dry would be injurious.

" There are many reaſons to induce us to enrich our agriculture with this production. The ſeeds of carthamus are very good food for wild fowl, and particularly for parrots, whence they have received the name of grain de perroquet. An uſeful oil might be expreſſed from them, and the reſidue given to cattle. The dry leaves and ſtalks would ſerve as fodder for ſheep and goats in the winter; and thoſe ſtalks which are too large might be uſed as fuel, after they had ſtripped them. Mr. Beckmann has found the carthamus ripen well at Gottingen, where the ſoil is ſandy. The ground ſhould be moderately dunged; and the plant neither tranſplanted nor watered.

" No uſe is made of the yellow ſubſtance of carthamus: but to extract that part, it is put into a bag and trodden in water, till no more colour can be preſſed out. The flowers, which were yellow, become reddiſh in this operation, and loſe nearly half their weight: it is in this ſtate they are uſed.

" The yellow ſubſtance might however be employed: and Mr. Poerner has made many experiments on the ſubject. (Vide *Chemiſche Verſuche und Bemerkungen zum Nutzen der Farbekunſt; dritter Theil.*) The principal reſults of his experiments were, that wool, without any preparation, takes from it a yellow colour, which is not permanent; but that which it takes after having been prepared with alum and tartar, though not very laſting, is better. Mr. Beckmann aſſerts, that cloth prepared with tartar, or with tartar and alum, acquires from it a good yellow colour; and that carthamus contains more yellow colouring matter than an equal weight of ſuſtic itſelf.

" To extract the red part of carthamus, and afterwards apply it on the ſtuff, recourſe is had to the property alkalies poſſeſs of diſſolving it; and it is precipitated by means of an acid. It has been found, that lemon-juice produces the fineſt colour. Mr. Beckmann ſays, that next to this, the ſulphuric acid produces the beſt effect, provided a proper quantity only be uſed."

CARWAR, a ſea-port of the peninſula of Hindooſtan, on the coaſt of Malabar. It was ſubject to Tippoo Sultan, regent of Myſore, and is ſixty miles S. by E. of Goa. Long. 74. 34. E. Lat. 15. 0. N.

CASA DEL CAMPO, a palace belonging to the king of Spain, ſeated on the weſt ſide of Madrid, oppoſite the caſtle on the other ſide of the river.

CASCO BAY, a bay on the eaſt of the province of Main, in New England, ſituated between Cape Elizabeth, and Cape Small Point. It is twenty-five miles wide; and is a beautiful bay, interſperſed with ſmall iſlands. Long. 69. 30. W. Lat. 44. 5 N.

CASBIN, or CASWIN, a conſiderable town of Perſia, in Irac Agemi, where ſeveral of the kings of Perſia have reſided. The houſes are below the ſurface of the earth. The air is ſubject to ſuch ſudden changes, from heat to cold, and the contrary, that it is very unwholeſome for ſtrangers. Nadir Shah built a palace here, incloſed by a wall a mile and a half in circumference; and the town is encircled by one four miles in circuit. It carries on a great trade, and is ſeated near the high mountain Elwend, where there are fine quarries of white marble, 180 miles north of Iſpahan. Long. 52. 16. E. Lat. 35. 30 N.

CASCHAW, or CASSOVIA, a town of Upper Hungary, on the river Horat, 115 miles north-eaſt of Buda. Long. 21. 25. E. Lat. 48. 46. N.

CASHGUR, a kingdom of Aſia, in Tartary, otherwiſe

called Little Bokharia; bounded on the north by the Calmucs and Monguls, on the eaſt by Thibet and the deſerts of Gobi, on the ſouth by Hindooſtan, from which it is ſeparated by the high mountains of Hindoo-ko, and on the weſt by Great Bukharia. This country is populous and fertile, but the air is cold, on account of the mountains. Here are rich mines of gold and ſilver, which the natives do not work, becauſe they are employed wholly in feeding cattle. The muſk-animals are found in this country; and they have ſeveral precious ſtones beſide diamonds.

CASHGUR, a town of Aſia, capital of a kingdom of the ſame name. It ſtands at the foot of the mountains, and enjoys a good trade with the neighbouring countries. The houſes are of ſtone, and very good. Both ſexes dreſs alike. Their complexion is ſwarthy, and they have all black hair, Long. 73. 25. E. Lat. 41. 30. N.

CASHNA, an extenſive empire in the centre of Africa, being part of the region called Soudan, by the Arabs, and Nigritia or Negroland by the Europeans. It is bounded on the north by the mountains of Eyre, which ſeparate it from Fezzan, and by a diſtrict of Zahara in the Deſert; on the ſouth by the Niger; and on the eaſt by the kingdom of Zamphara and the empire of Bornou. It reſembles Bornou much in climate, ſoil, and natural productions, and in the colour, genius, religion, and government of the people. The rains, indeed, are leſs violent than thoſe of Bornou. Its monkeys and parrots (but ſeldom ſeen in Bornou) are numerous and of various ſpecies. The common people are leſs courteous in Caſhna than in Bornou. A thouſand towns and villages are ſaid to be included in this empire, which, like Bornou, conſiſts of different tribes or nations, ſubject to the dominion of one ruling power.

CASHNA, the capital of the empire of Caſhna in Africa. It is 370 miles S. by W. of Meſurata, in 16. 20. N. lat.

CASSERTA, a magnificent palace of his Sicilian majeſty, ſixteen miles north of Naples. This immenſe building is of a rectangular form, 780 feet by 580; about 112 feet high, comprehending five habitable ſtories, which contains ſuch a number of apartments, as to accommodate the moſt numerous court, without any acceſſory buildings. The gardens are proportionably extenſive and magnificent.

CASSOVIA, a ſtrong town of Hungary, with the fineſt arſenal in that kingdom. It is near the river Horat, fifty-five miles north-eaſt of Agria. Long. 21. 25. E. Lat. 46.48. N.

CASTELLANE, a pleaſant town in France, in the department of the Lower Alps and late province of Provence. It is ſeated on the river Verdon, in a mountainous country, which, however, is fertile in corn and paſture. About a mile from the town, is a ſalt ſpring, from which the water iſſues in ſuch abundance as to turn the mill at the very ſource. Many of the ancient lords of Caſtellane were diſtinguiſhed among the Provençal poets, called Troubadours. It is twenty-ſeven miles S. by E. of Senez. Long. 6. 34. E. Lat. 43. 55. N.

CASTELLAZO, a town of Italy, in the duchy of Milan, remarkable for a battle fought between the French and Auſtrians in 1704. It is two miles eaſt of Alexandria. Long. 8. 50. E. Lat. 45. 3. N.

CASTELLON, a town of Spain, in Catalonia, five miles N.W. of Roſes. Long. 2. 58. E. Lat. 42. 18. N.

CASTELNAUDARY, a conſiderable town of France, in the department of Aude and late province of Languedoc, on an eminence, at the foot of which is the Royal Canal, which here forms a baſon about 3600 feet in circumference. Near this town, in 1632, Marſhal Schomberg defeated the army of Gaſton duke of Orleans, and took the unfortunate Montmorency priſoner. Caſtlenaudary is fifteen miles weſt of Carcaſſone. Long. 2. 0. E. Lat. 43. 19. N.

CASTELVETRO (*Encycl.*). Erroneouſly ſpelt CASTELVERTO.

CASTON, a town in Norfolk, with a market on Monday. It is ten miles N. by W. of Norwich, and 113 north-eaſt of London. Long. 1. 22. E. Lat. 52. 48. N.

CASTOR, a town of Lincolnſhire, with a market on Saturday. It is twenty miles north-eaſt of Lincoln, and 159 north of London. Long. 0. 9. W. Lat. 53. 30. N.

CASTRO, a town of South America, in Chili, capital of the iſland of Chiloe. It is 180 miles ſouth of Baldivia. Long. 75. 5. W. Lat. 42. 4. S.

CASTRO-DEL-REY, a town of Spain in the province of Galicia. Long. 3. 24. W. Lat. 43. 20. N.

CASTRO-MARINO, a town of Portugal, in Algarve. It is ſtrong by ſituation, and ſeated near the mouth of the Guadiana, fifty-five miles S. of Beja. Long. 7. 12. W. Lat. 37. 6. N.

CASTRO-VEREGNA, a town of South America, in Peru, remarkable for mines of ſilver, good tobacco, and wholeſome air. It is 125 miles ſouth-eaſt of Lima. Long. 74. 45. W. Lat. 12. 50. S.

CATACOUSTICS. See ACOUSTICS in this SUPPLEMENT.

CATHARINE I. Empreſs of Ruſſia, was raiſed to that dignity, from the condition of a menial ſervant, by the diſcerning Peter the Great, who married her in 1711. She attended the emperor in all his expeditions; and when he was ſurrounded by the Turks on the banks of the Pruth, his army was ſaved by her prudent advice. Peter afterwards never reſolved on any affair of conſequence without firſt conſulting her; ſucceſs attended him in every thing, and the court of Peterſburgh appeared in a new light. He inſtituted the order of St Catharine in her honour, which he gave her power to beſtow on ſuch of her ſex as ſhe judged proper; and, finally, appointed her his ſucceſſor. On the death of her huſband, ſhe took all proper means to ſecure the quiet, advance the civilization, and promote the general welfare, of her kingdom; and it is more than probable, that the late illuſtrious Empreſs Catharine II. conſidered her as a bright example: for Catharine I. eſtabliſhed the Academy of Sciences at Peterſburgh, now brought to ſuch perfection. She likewiſe increaſed the naval force of Ruſſia: and ſet on foot a deſign for diſcovering the north-eaſt paſſage to China. "The lenity of this princeſs (ſays Voltaire, in his Life of Peter the Great) was carried to a degree unparalleled in the hiſtory of any nation. She promiſed, that during her reign nobody ſhould be put to death; and ſhe kept her word: ſhe was the firſt ſovereign that ever ſhewed this reſpect to the human ſpecies. Malefactors were condemned to work in the mines, and other public works; a regulation not leſs prudent than humane, ſince their puniſhment was rendered of ſome advantage to the ſtate." She died on the 17th of May, 1727; leaving iſſue, Anne who married Frederic duke of Holſtein, and Elizabeth afterwards empreſs of Ruſſia.

CATHARINENSLAF, or ECATERRINENSLAF, one of the governments of the Ruſſian empire, being the new name of the extended government of Aſoph, which is now made to compriſe New Ruſſia and the Crimea. This government is divided into two provinces; namely, Catharinenſlaf, which includes New Ruſſia and the late government of Aſoph; and the province of Taurida, which includes the Crimea.

CATHARINENSLAF, the capital of the province of the ſame name, built by the late Empreſs of Ruſſia. It is ſeated near the ſpot where the river Kiltzin falls into the Samara. Its

name ſignifies, "The glory of Catharine;" and it is colonized by many Greeks and Armenians from Crim Tartary, and others of the nations who ſerved in the preceding war againſt the Turks. It is 178 miles N.E. of Cherſon. Long. 35. 15. E. Lat. 47. 23. N.

CATMANDU, the capital of Napaul, in Hindooſtan Proper, 445 miles E. of Delhi. Long. 84. 51. E. Lat. 28. 6. N.

CATOUCH, Cape, the N.E. promontory of Yucatan, in South America. Long. 86. 30. W. Lat. 22. 10. N.

CATTACK, or Cuttack, the capital of Oriſſa, a province of Hindooſtan, in the Deccan. It is a poſt of conſequence, as it lies on the only road between Bengal and the Northern Circars; and the poſſeſſion of the city and its dependencies gives the Berar rajah (a Mahratta prince) more conſequence in the eyes of the government of Bengal, than even his extenſive domain and central poſition in Hindooſtan. Cattack is ſeated on the river Mahanuddy, near its entrance into the bay of Bengal, and 220 miles S.W. of Calcutta. Long. 86. 1. E. Lat. 20. 51. N.

CATTARICK, a village, near Richmond, in the W. riding of Yorkſhire. It has a bridge over the river Swale, and there is a ſort of cataract near it, from which it ſeems to have derived its name. It appears to have been a great city in the time of the Romans, one of whoſe highways croſſed the river here. On the banks of it are the foundations of great walls, and a mount caſt up to a vaſt height. Many Roman coins and urns have been dug up here. The final deſtruction of this city was by the Danes.

CATTERTHUN (*Encycl.*). This Caledonian poſt is, by Mr. Pennant, deſcribed as of uncommon ſtrength. "It is (ſays he) of an oval form, made of a ſtupendous dike of looſe white ſtones, whoſe convexity, from the baſe within to that without, is 122 feet. On the outſide, a hollow, made by the diſpoſition of the ſtones, ſurrounds the whole. Round the baſe is a deep ditch, and below that about 100 yards, are veſtiges of another, that went round the hill. The area within the ſtony mound is flat; the axis, or length of the oval, is 436 feet, the tranſverve diameter 200. Near the eaſt ſide is the foundation of a rectangular building; and on moſt parts are the foundations of others ſmall and circular: all which had once their ſuperſtructures, the ſhelter of the poſſeſſors of the poſt: there is alſo a hollow, now almoſt filled with ſtones, the well of the place." There is another fortification, but of inferior ſtrength, in the neighbourhood. It it called the *Brown Catterthun*, from the colour of the ramparts, which are compoſed only of earth. It is of a circular form, and conſiſts of various concentric dikes. On one ſide of this riſes a ſmall rill, which, running down the hill, has formed a deep gully. From the ſide of the fortreſs is another rampart, which extends parallel to the rill, and then reverts, forming an additional poſt or retreat.

CAVENDISH (Margaret) ducheſs of Newcaſtle, famous for her voluminous productions, was born about the latter end of the reign of James I. and was the youngeſt ſiſter of Lord Lucas of Colcheſter. She married the Duke of Newcaſtle abroad in 1645; and on their return after the Reſtoration, ſpent the remainder of her life in writing plays, poems, with the life of her huſband, to the amount of about a dozen folios. "What gives the beſt idea of her unbounded paſſion for ſcribbling (ſays Mr. Walpole), was her ſeldom reviſing the copies of her works, leſt, as ſhe ſaid, it ſhould diſturb her following conceptions." She died in 1673.

CAUCASUS, one of the 41 governments into which the Ruſſian empire has been lately formed. It is divided into the two provinces of Aſtracan and Caucaſus, but is not yet ſubdivided into diſtricts. The province of Caucaſus is to compriſe the Cuban, and all that diſtrict to the E. and S. now in the poſſeſſion of Ruſſia, between the rivers Don and Cuban, and between the Black Sea and the Caſpian, extending as far as the confines of Georgia, and continually augmenting by the reduction and ſubmiſſion of the wandering hordes of Mount Caucaſus.

CAUNE, La, a ſmall town of France, in the department of Tarn and late province of Languedoc, ſeated near the mountains, where the river Agout has its ſource. It is 21 miles N.E. of Caſtres. Long. 2. 43. E. Lat. 43. 40. N.

CAUVERY, or Cavery, a conſiderable river of the peninſula of Hindooſtan, which riſes among the Ghauts, takes a S.E. direction through Myſore, and watering Seringapatam and Tanjore, enters the bay of Bengal, by ſeveral mouths, between Cuddalore and Tritchinopoly.

CAUSTICITY (*Encycl.*). The cauſticity of bodies depends entirely on the ſtate of the ſaline, and chiefly of the acid, matters they contain. When theſe acids happen to be at the ſame time much concentrated, and ſlightly attached to the matters with which they are combined, they are then capable of acting, and are corroſive or cauſtic. Thus fixed and volatile alkalies, although they are themſelves cauſtic, become much more ſo by being treated with quick-lime; becauſe this ſubſtance deprives them of much fat and inflammable matter, which binds and reſtrains the action of their ſaline principles. By this treatment, then, the ſaline principle is more diſengaged, and rendered more capable of action. Alſo all combinations of metallic matters with acids form ſalts more or leſs corroſive, becauſe theſe acids are deprived of all their ſuperabundant water, and are beſides but imperfectly ſaturated with the metallic matters. Nevertheleſs, ſome other circumſtance is neceſſary to conſtitute the cauſticity of theſe ſaline metalline matters. For the ſame quantity of marine acid, which, when pure and diluted with a certain quantity of water, would be productive of no harm, ſhall, however, produce all the effects of a corroſive poiſon, when it is united with mercury in *corroſive ſublimate*, although the ſublimate ſhall be diſſolved in ſo much water that its cauſticity cannot be attributed to the concentration of its acid. This effect is, by ſome chemiſts, attributed to the great weight of the metallic matters with which the acid is united: and this opinion is very probable, ſeeing its cauſticity is nothing but its diſſolving power, or its diſpoſition to combine with other bodies; and this diſpoſition is nothing elſe than attraction, which is one and the ſame thing as weight or gravitation.

The beſt method of *deſtroying the activity of corroſive ſublimate* taken into the ſtomach, is to give free and repeated doſes of a *ſolution of any alkaline ſalt*, as pot-aſh, or ſalt of tartar. By this means Dr. Houlſton ſucceeded, at Liverpool, in recovering a perſon who had ſwallowed half an ounce, with the intention of ſuicide.

CAUTERETS, a village of France, in the department of the Upper Pyrenées and late province of Bigorre, noted for its mineral water. It is 18 miles S.W. of Bagneres.

CAWOOD, a town in the E. riding of Yorkſhire, with a market on Wedneſday, 12 miles S. of York, and 186 N.W. of London. Long. 1. 0. W. Lat. 53. 47. N.

CAXTON, a town in Cambridgeſhire, with a market on Tueſday. It is 10 miles W by S. of Cambridge, and 49 N. of London. Long. 0. 10. W. Lat. 10. 0. N.

CAYA, a river of Portugal, which riſes near Portalegra, and running S.E. divides Spain from Portugal, and falls into the Guadiana, at Badajoz, in Spaniſh Eſtramadura.

CAYLUS (Count de) (*Encycl.*). We think it due to the memory of this extraordinary man to add to our original article the following particulars. The French Academy of

Painting and Sculpture adopted him an honorary member in the year 1731; and the count, who loved to realize titles, ſpared neither his labour, nor his credit, nor his fortune, to inſtruct, aſſiſt, and animate the artiſts. He wrote the lives of the moſt celebrated painters and engravers that have done honour to this illuſtrious academy; and, in order to extend the limits of the art, which ſeemed to have to move in too narrow a circle, he collected, in three different works, new ſubjects for the painter, which he met with in the works of the ancients.

Such was his paſſion for *antiquity*, that he wiſhed to have had it in his power to bring the whole of it to life again. He ſaw with regret, that the works of the ancient painters, which have been diſcovered in our times, are effaced and deſtroyed almoſt as ſoon as they are drawn from the ſubterraneous manſions where they were buried. A fortunate accident furniſhed him with the means of ſhewing us the compoſition and the colouring of the pictures of ancient Rome. The coloured drawings which the famous Pietro Sante Bartoli had taken there from antique pictures, fell into his hands. He had them engraved; and, before he enriched the king of France's cabinet with them, he gave an edition of them at his own expence. It is perhaps the moſt extraordinary book of antiquities that ever will appear. The whole is painted with a purity and preciſion that are inimitable: we ſee the livelineſs and the freſhneſs of the colouring that charmed the Cæſars. There were only 30 copies publiſhed; and there is no reaſon to expect that there will hereafter be any more.

Count de Caylus was engaged at the ſame time in an enterpriſe ſtill more favourable to Roman grandeur, and more intereſting to the French nation. Colbert had framed the deſign of engraving the Roman antiquities that are ſtill to be ſeen in the ſouthern provinces of France. By his orders Mignard the architect had made drawings of them, which Count de Caylus had the good fortune to recover. He reſolved to finiſh the work begun by Colbert, and to dedicate it to that great miniſter: and ſo much had he this enterpriſe at heart, that he was employed in it during his laſt illneſs, and warmly recommended it to M. Mariette.

In 1742 Count Caylus was admitted honorary member of the Academy of Belles-lettres; and then it was he ſeemed to have found the place for which nature had deſigned him. The ſtudy of literature now became his ruling paſſion; he conſecrated to it his time and his fortune; he even renounced his pleaſures, to give himſelf wholly up to that of making ſome diſcovery in the field of antiquity. But amidſt the fruits of his reſearch and invention, nothing ſeemed more flattering to him than his diſcovery of encauſtic painting. A deſcription of Pliny's, but too conciſe a one to give him a clear view of the matter, ſuggeſted the idea of it. He availed himſelf of the friendſhip and ſkill of M. Magault, a phyſician at Paris, and an excellent chemiſt; and by repeated experiments found out the ſecret of incorporating wax with divers tints and colours, and of making it obedient to the pencil. Pliny has made mention of two kinds of encauſtic painting practiſed by the ancients; one of which was performed with wax, and the other upon ivory, with hot punches of iron. It was the former that Count Caylus had the merit of reviving; and M. Muntz afterwards made many experiments to carry it to perfection.

In the hands of Count Caylus, literature and the arts lent each other a mutual aid. But it would be endleſs to give an account of all his works. He publiſhed about 40 diſſertations in the Memoirs of the Academy of Belles-lettres. The artiſts he was particularly attentive to; and to prevent their falling into miſtakes from an ignorance of coſtume, which the ableſt of them have ſometimes done, he founded a prize of 500 livres, the object of which is to explain, by means of authors and monuments, the uſages of ancient nations. In order that he might enjoy with the whole world the treaſures he had collected, he cauſed them to be engraved, and gave a learned deſcription of them in a work which he embelliſhed with 800 copper-plates.

The tomb erected to the honour of Count Caylus is to be ſeen in the chapel of St. Germain-l'Auxerrois, and deſerves to be remarked. It is perfectly the tomb of an antiquary. This monument was an ancient ſepulchral antique, of the moſt beautiful porphyry, with ornaments in the Egyptian taſte. From the moment he procured it, he had deſtined it to grace the place of his interment. While he awaited the fatal hour, he placed it in his garden, where he uſed to look upon it with a tranquil but thoughtful eye, and pointed it out to the inſpection of his friends.

The character of Count Caylus is to be traced in the different occupations which divided his cares and his life. In ſociety, he had all the franknefs of a ſoldier, and a politeneſs which had nothing in it of deceit or circumvention. Born independent, he applied to ſtudies which ſuited his taſte. His heart was yet better than his abilities. In his walks he uſed frequently to try the honeſty of the poor, by ſending them with a piece of money to get change for him. In theſe cafes, he enjoyed their confuſion at not finding him; and then preſenting himſelf, uſed to commend their honeſty, and gave them double the ſum. He ſaid frequently to his friends, "I have this day loſt a crown; but I was ſorry that I had not an opportunity of giving a ſecond. The beggar ought not to want integrity."

CEBU, one of the moſt ſoutherly of the Philippine iſlands in the Indian Ocean.

CEDAR CREEK, a water of James River in Virginia, in the county of Rockbridge. It is ſufficient, in the dryeſt ſeaſons, to turn a griſt-mill, though its ſource is not more than two miles above. But it is moſt remarkable for its natural bridge, which is certainly one of the moſt ſublime of Nature's works. It is on the aſcent of a hill, which ſeems to have been cloven through its length by ſome convulſion. The fiſſure, juſt at the bridge, is by ſome admeaſurements 270 feet deep, by others only 250. It is about 45 feet wide at the bottom, and 90 feet at the top. This of courſe determines the length of the bridge, and its height from the water. Its breadth in the middle is about 60 feet, but more at the ends, and the thickneſs of the maſs at the ſummit of the arch about 40 feet. A part of the thickneſs is conſtituted by a coat of earth, which gives growth to many large trees. The reſidue, with the hills on both ſides, is one ſolid rock of lime-ſtone. The arch approaches the ſemielliptical form; but the larger axis of the ellipſis, which would be the chord of the arch, is many times longer than the tranſverſe. Though the ſides of the bridge are provided in ſome parts with a parapet of fixed rocks, yet few men have reſolution to walk to them, and look over into the abyſs. You involuntarily fall on your hands and feet, creep to the parapet, and look over it. "Looking down from this height about a minute, gave me," ſays Mr. Jefferſon, "a violent headach. If the view from the top be painful and intolerable, that from below is delightful to the extreme. It is impoſſible for the emotions ariſing from the ſublime to be felt beyond what they are here: at the ſight of ſo beautiful an arch, ſo elevated, ſo light, and ſpringing as it were up to heaven, the rapture of the ſpectator is really indeſcribable! The fiſſure continuing narrow, deep, and ſtraight, for a conſiderable diſtance above and below the bridge, opens a ſhort but very pleaſing view of the North Mountain on one ſide,

and Blue Ridge on the other, at the diſtance, each of them, of about five miles." This bridge gives name to the county of Rockbridge, and affords a public and commodious paſſage over a valley, which cannot be croſſed elſewhere for a conſiderable diſtance.

CEDONGA, a town of the kingdom of Naples, with a biſhop's ſee, at the foot of the Apennines, 12 miles N.W. of Melfi. Long. 15 38. E. Lat. 41. 5. N.

CEDRIA, a reſinous liquor iſſuing from the great cedar tree, or cedar of Lebanon. The word is alſo written *cedrium*, and *cedrinum*.—Cedria, when good, yields a ſtrong ſmell, is tranſparent, and of a thick fatty conſiſtence; ſo that in pouring it out it does not fall too faſt or freely, but equally, drop by drop. It is poſſeſſed of two oppoſite qualities, *viz.* to preſerve dead bodies by its drying and conſuming ſuperfluous moiſture without damaging the ſolid parts, and to deſtroy the ſoft and tender parts of living bodies without exciting any pain. The cedria is properly the tear of the cedar; ſome call it the gum, others the pitch, of the cedar. The ſame denomination is alſo given to the *cedrelæon*, or oil of the cedars, which differs little from the reſin, except that it is of a thinner conſiſtence.

CEFALONIA, a conſiderable iſland of Greece, to the S. of Albania, and to the N.E. of the Morea. It is fertile in oil, and excellent muſcadine wine. The climate is hot, and there are bloſſoms on the trees throughout the winter. It is ſubject to the Venetians and the capital is of the ſame name. Long. 20. 36. E. Lat. 38. 22. N.

CEFALU, a town in Sicily, in the valley of Demona, with a caſtle, a harbour, and a biſhop's ſee. Long. 13. 58. E. Lat. 38. 25 N.

CELTIBERIA (anc. geog.) a county of the Hither Spain, along the right or ſouth-weſt ſide of the river Iberus: though ſometimes the greateſt part of Spain was called by the name of Celtiberia. The people were named *Celtiberi*, or the Celtæ ſeated on the Iberus. They were brave and warlike, their cavalry in particular was excellent. They wore a black and rough cloak, the ſhag of which was like goats' hair. Some of them had light bucklers like the Gauls; others hollow and round ones like thoſe of other nations. They all wore boots made of hair, and iron helmets adorned with creſts of purple colour. They uſed ſwords which cut on both ſides, and poniards of a foot long. Their arms were of an admirable temper, and are ſaid to have been prepared in the following manner: they buried their plates of iron under ground, where they let them remain till the ruſt had eaten the weakeſt part of the metal, and the reſt was conſequently hard and firm. Of this excellent iron they made their ſwords, which were ſo ſtrong and well tempered, that there was neither buckler nor helmet that could reſiſt their edge. The Celtiberians were very cruel towards their enemies and malefactors, but ſhewed the greateſt humanity to their gueſts. They not only cheerfully granted their hoſpitality to ſtrangers, who travelled in their country, but were deſirous that they ſhould ſeek protection under their roofs.

CEMENT (*Encycl.*). In July 1800 a patent was granted to Mr. John Baptiſt Denize, of Paris, chemiſt; for a new cement fit for various purpoſes. The inventor prefixes to the account of this diſcovery the following obſervations: "Convinced by repeated proofs," ſays he, "that the decay of mortars or cements in general uſe, occaſioned by the alternate or combined efforts of damp or dry weather, was owing chiefly to the bad choice and imperfect preparation of the matters they are compoſed of; that their difficulty in adhering with any ſtrength to various materials indifferently, but particularly to wood, to preſerve it from rottenneſs and worms, and to iron, to prevent its growing ruſty, was owing to the want of viſcoſity and clammineſs to reſiſt air, and to the water and ſalts which conſtitute their glutinous quality; and perſuaded therefore that ſubſtances of a more fixed and identical nature, combined and glued together by a viſcous body, unalterable in itſelf, and yet ſufficiently unctuous and penetrating, ſo as to incorporate eaſily with the various objects on which it might be applied, would, on the contrary, form a compoſition the more uſeful and valuable as it would then poſſeſs qualities entirely oppoſite, I applied myſelf in the reſearch of that object; and, after repeated eſſays (of which I ſhall hereafter give an account, as belonging to the ſubject), I ſucceeded in finding out the peculiar nature, proportions, and preparation, of theſe ſubſtances; the exact combination of which aſcertains definitively the utility of my proceedings.

"*Indication of fixed matters.*—The materials which I employ in preference to thoſe of which I ſhall afterwards give a liſt, agreeable to my foregoing obſervations, are, viz. Firſt, all the various ſpecies of ſcorious matters, metallic ſcums, or droſs of iron, and generally all other kinds of remnants or file duſt found in forges and founderies, containing a great deal of metallic ſubſtances, adulterated by the effect of combuſtibles, principally iron, in very great quantities; or, inſtead of thoſe various ſubſtances, old iron reduced to the ſame ſtate by calcination, and pulverized by the effect of heat and charcoal; and all kinds of metallic duſt and filings more or leſs reduced to that ſtate; and in general every other produce of nature or of art in which metallic ſubſtances, eſpecially iron, are found in a ſtate of calcination, and chiefly carbonate. Secondly, all volcanic products, called aſhes of volcanoes, and lava; particularly thoſe which are reduced to the greateſt ſtate of attenuation, ſuch as pozzolana and pumice-ſtone. Inſtead of thoſe volcanic matters, one may almoſt as effectually employ ochres, and other ferruginous earth, particularly yellow oxide of iron (as painters make uſe of), or reddiſh-brown oxide, when calcined by the ſame degree of heat as that of a potter's kiln, or at leaſt ſufficient to reduce thoſe ſubſtances to a ſtate of demi-vitrification; or what remains after the diſtillation of acid nitre, by the means of bolar earth, cleared of that acid by a ſtrong calcination, and mixed with ſulphat of iron, equally diſſolved by the ſame means, and known in commerce by the name of caput mortuum, of aqua fortis, and of colcothar; or alſo all aſhes produced from the incineration of vegetables, eſpecially thoſe of pit-coal, and charcoal of the hardeſt wood, from the identity of nature which ſubſiſts particularly between that ſpecies of aſhes and the above-mentioned volcanic matters; or thoſe various terreous and metallic particles which it has been proved by analizing that the above-mentioned lava and aſhes were compoſed of; ſuch for inſtance, as ſilex, or quartz, that hard vitrifiable earth alumine, or pure clay lime, or chalky clay, magneſia, and barytes, or terra-ponderoſa, and manganeſe, or any other metallic particle, eſpecially iron; the whole mixed in proportions, more or leſs conformable to thoſe which conſtitute the volcanic and vegetable aſhes which I mentioned before, and calcined the ſame as ochres by a degree of heat ſufficient to bring thoſe particles more or leſs to that ſtate in which they are by nature found, contained in thoſe two kinds of produce; and in general all other combinations, whether natural or artificial, which, from the proportions and identity, or analogy of their terreous and metallic particles with thoſe I have already mentioned, could produce the ſame effects; in this I comprehend, therefore, not only the various matters deſcribed in the liſt, ſubjoined to this ſpecification, by reaſon of their being compoſed of the particles alluded to, but which I partly exclude from the compoſition of this cement, on account of the defects which I have found in them; but alſo, all

other kinds of compoſitions whatever, of a nature more or leſs analogous with thoſe I have juſt now deſcribed. Thirdly, pit-coal of a flat hard nature, and that kind particularly which has a brightneſs in it like Kendal, or Cannel, coal: and fourthly, glaſs, or flint ſtone.

"*Indication of glutinous matters.*—Firſt, ſublimated ſulphur: ſecondly, bitumen, made of pit-coal; in lieu of it either of thoſe ſubſtances that derive therefrom, claſſed in the following order, viz. petrol, mineral, pitch, naphta, aſphaltos, or any other modification of pit-coal bitumen, equally proper to replace ſaid ſubſtances; thirdly, tallow-pitch, known alſo under the name of pitch-roſin, and white-roſin, and, in ſhort, every kind of reſinous ſubſtance, whether natural or factitious, more or leſs analogous in its conſiſtence and effects to the above ones; ſuch as pitch, and tar, and every other produce of that kind: and, fourthly, that mucilage produced by the decoction of linſeed, after it has been boiled ſufficiently to a degree of conſiſtence of about twice the thickneſs of the white of an egg. Inſtead of that mucilage, that of any other ſeed, plant, or animal ſubſtance ſuſceptible of producing the ſame, or the equivalent, either of themſelves or by the effect of their combination; or ſuch mucilage as might be made out of various kinds of indigenous or exotic gums, whether reſinous or not, with meal and feculum and other ſimilar ſubſtances: or one may uſe alſo linſeed oil, or any other kind of oil, or greaſe, of a deſiccative and mucilaginous nature, ſuch as is extracted from poppies, nuts, pinks, &c.; or other vegetable and animal oils or greaſe, that are not by nature deſiccative, but which may be rendered ſo by their combination with other ſubſtances compoſed of deſiccative principles, ſuch as the various kinds of gums, and wax, ſpermaceti, oils of turpentine, or thoſe matters from which they are extracted; oxides and acids, or any other deſiccative ſubſtance whatever.

"*Preparation of fixed matters.*—In order better to impregnate thoſe fixed matters with the gluten which is to combine and unite them together, they muſt be firſt prepared as follows: viz. the droſs of iron, the pozzolana, and pumice-ſtone, or the other kinds of metallic ſcums and volcanic matters, muſt be well cleared of all ſaline, terreous, ſulphureous, ſtony, or thoſe particles extraneous to them, and reduced to a powder as fine as that of well-calcined aſhes; and the aſhes which might be ſubſtituted to the above-mentioned volcanic products, or thoſe terreous and metallic particles which I alſo indicated as a ſubſtitute to theſe, muſt be calcined till they become white, provided they have not already undergone that operation by fire; then waſhed in lye, to extract by theſe two operations the ſulphats and ſalts which might be mixed with them, and afterwards well dried and ſifted. With regard to pit-coal, glaſs, or flint-ſtone, they muſt alſo be reduced to a very fine powder like that of aſhes, and ſifted afterwards.

"*Preparation of the gluten*—Take ſublimated ſulphur in the proportion of one-eighth more or leſs to the quantity or volume of cement which you intend to make, mix with it one-third more or leſs of pit-coal bitumen, then let it diſſolve on a ſlow gradual fire till it inſenſibly riſe up in momentary bubbles; ſtir the mixture during that time, and when it is completely diſſolved take it off the fire and add to it, whilſt you continue to ſtir, one-third more or leſs of black pitch; then ſet it on the ſame ſlow fire again till it has riſen up gradually as before; take it then once more off the fire, and add one-twentieth more or leſs of the total weight of fixed and glutinous matters, compoſed of a mixture of two equal portions of good tallow, or any other hard greaſe, and of white clear roſin or wax, and mix then the whole on the ſame fire again till it is perfectly diſſolved and combined together; or in order to render the cement more fluid, and thereby more eaſy of application, to the one-eighth in volume (not in weight) of ſublimated ſulphur well diſſolved, with the one-third of pit-coal bitumen, add one-third part, in volume alſo, compoſed of one-ſixth part of good tallow melted together; and after you have well mixed the whole on the fire, add one more third part, in volume alſo, compoſed equally of one ſixth part of pit-coal bitumen well mixed together whilſt cold; (*a ſixth part of ſome other ſubſtance appears to be omitted*); or inſtead of this a ſame third part, in volume always, of linſeed oil, or of any other deſiccative oil, and laſtly one more third part compoſed of two portions, equal in weight, of black pitch and of roſin melted together: and after you have equally well mixed theſe matters with the reſt, and ſtirred the whole on a ſlow fire for a while ſufficient to unite and combine them perfectly together, uſe this bituminous compoſition, or the one preceding, in the manner indicated hereafter.

"*Compoſition of the cement.*—To either of the two glutinous compoſitions above mentioned, made perfectly liquid by fire, add at ſeveral times, in order the better to combine them together, the following proportions of fixed matters, well mixed and ſifted together: viz. three-fourths in volume (not in weight) of droſs of iron, one-eighth of pozzolana, and one-eighth of pumice-ſtone, or the ſame quantity of two ſubſtances the moſt analogous to thoſe volcanic matters, ſuch as I have mentioned as ſubſtitutes for them, one-eighth of pit-coal before named, and one-eighth of glaſs or flint-ſtone; let the whole boil on a fire ſufficiently great to keep thoſe materials in a ſtate of fuſion, but not ſo much as to cauſe the volatile principles to evaporate, which muſt be guarded againſt. Stir now and then ſo as to bring the fixed matters up from the bottom to the ſurface in order to combine them better, and after three or four times boiling, for that cement made with the firſt kind of glutinous compoſition, or double that time for that made with the other kind, make a trial of it by laying ſome of it on wood, and paſſing the trowel with which you ſtir hard over it, to judge whether and how much it requires longer to be boiled. One ſees that it is done, when after being laid on the wood it becomes hard as it gets cold, and that though ſtill warm it does not ſtick to the hand, with which you muſt therefore preſs hard upon it. If one ſhould delay too long to make that trial, the cement might be boiled too much, which would then take from its viſcoſity, and would make it neceſſary to remedy this by the addition of one-twentieth part of the weight of it, more or leſs, according to the degree of its adulteration, of either tallow, bitumen, or pitch. But if the cement does not poſſeſs the above properties when that trial is made, it muſt then be boiled, ſtirring it always till it has acquired the ſame. In general the more equal the fire is, the better will the cement be, provided the volatile principles do not evaporate. It would on that account be adviſable to boil that compoſition by the heat reſulting from boiling water and in an uncovered veſſel, for by that means this compoſition would be rendered (even ſhould a great proportion of glutinous principles be added thereto) extremely compact, and as hard as it may be wiſhed, without depriving it (for all that) of thoſe unctuous and penetrating qualities which render it ſo valuable.

"*Manner of employing the cement.*—It is firſt broken in ſmall pieces, then you add to it one-fortieth part, more or leſs, of its weight of good tallow, or other hard greaſe, or inſtead of them not quite a fortieth of black pitch, aſphaltos, roſin, or wax, or only half that proportion of pit-coal bitumen, mineral pitch, naphta, or ſome deſiccative oil: but if it was intended to employ that cement (eſpecially that made with leſs glutinous principles) for the purpoſe of joining or cementing more quickly, it would then be proper to add one half more than

the fortieth part of the above-mentioned matters. The whole is then melted and liquified for a quarter of an hour in an earthen veſſel, or one of caſt iron, whilſt you continue to ſtir it on a ſlow fire, or what would be better, on the heat of boiling water, the ſame as it is done for glue; after which you take that compoſition from the bottom of the veſſel whilſt you ſtill continue to ſtir, and make the application of it immediately. It is neceſſary to obſerve, that when the cement appears to become too dry, from its long continuance on the fire, one muſt then add to it a ſmall portion of the matters before mentioned, in order to give it that unctuous quality again, and to keep it ſo in that ſtate during the time that you make uſe of it. Experience will however better teach what proportion of theſe matters will be required occaſionally, and their choice.

"*Secondary methods of making this cement.*—As the compoſition of this cement may be varied by the different choice and proportions of glutinous matters relatively to the more or leſs fixed nature of the others, and by the boiling it for more or leſs time, as I have myſelf aſcertained the ſame by many experiments (for inſtance, by the compoſition and application of that cement without the uſe of fire), I reſerve to myſelf the privilege of thoſe various modifications, as being a direct practice of that ſame theory and appertaining neceſſarily to this invention. With regard to the various ſubſtances which I uſed in my different eſſays, and which I found leſs proper for the compoſition of this cement, they are as follow; viz. charcoal and ſoot, and even glaſs flint, whether calcined or not, potter's earth, brick, tile, ſlate, clay, marl, the various ſpecies of gravel or ſandy ſtones, lime or calx, plaſter, ſand, oyſter-ſhells, or any other ſhells when thoſe ſubſtances are uſed excluſively or in too great proportions."

CENADA, an ancient town in Italy, in the marquiſate of Treviſana, with a biſhop's ſee. It is 18 miles N. of Trevigio. Long. 12. 26. E. Lat. 46. 2. N.

CENIS, a mountain, which is a part of the Alps, and ſeparates the marquiſate of Suſa from the Morianne.

CENU, a town in South America, in Terra Firma, eight miles S. of Carthagena. Long. 75. 24. W. Lat. 10. 19. N.

CERDAGNA, a ſmall diſtrict, partly of Spain in Catalonia, and partly of France, in the department of the Eaſtern Pyrenées and late province of Rouſſillon. Puycerda is the capital in Spain, and Mount Louis in France.

CERINTHUS, a hereſiarch, contemporary with the apoſtles, aſcribed the creation not to God, but to angels. He taught that Jeſus Chriſt was the ſon of Joſeph, and that circumciſion ought to be retained under the goſpel. He is looked upon as the head of the converted Jews, who raiſed in the church of Antioch the tumult of which St. Luke has given the hiſtory in the 15th chapter of the Acts. Some authors aſcribe the book of the Apocalypſe to Cerinthus; adding, that he put it off under the name of St. John, the better to authoriſe his reveries touching Chriſt's reign upon earth: and it is even certain that he publiſhed ſome works of this kind under the title of *Apocalypſe*. See APOCALYPSE.

CERNEY, NORTH, a village in Glouceſterſhire, near the Downs, where Cirenceſter races are run. In an adjacent field is a camp of conſiderable extent. It is four miles from Cricklade.

CHABLAIS, a province of Savoy, bounded on the N. by the lake of Geneva, on the E. by Valais, on the S. by Faucigny, and on the W. by the republic of Geneva. Thonon is the capital.

CHABLIS, a town of France, in the department of Yonne and late province of Burgundy, remarkable for white wines. It is fifteen miles from Auxerre. Long. 3. 59. E. Lat. 47. 42. N.

CHACKTOOLE BAY, a bay in Norton Sound, diſcovered by Captain Cook in 1778. It is expoſed to S. and S.W. winds. Long. 162. 47. W. Lat. 64. 31. N.

CHAIS-DIEU, a town of France, in the department of Upper Loire and late province of Velay. Its late Benedictine abbey was much celebrated. It is twelve miles E. of Brioude. Long. 3. 4. E. Lat. 45. 15. N.

CHAMB, a town of Germany, in the circle of Bavaria, capital of a county of the ſame name, and ſeated on the river Chamb, 37 miles N.E. of Ratiſbon. Long. 12. 55. E. Lat. 49. 14. N.

CHAMBORT, a late royal palace in France, nine miles E. of Blois. It was built by Francis II. and from the number and trifling minuteneſs of its parts, has been compared to a houſe of cards. It ſtands in a park, 21 miles in circumference; but has no gardens. The ſtyle of this ſtructure is Gothic, and it is built of free-ſtone. King Staniſlaus reſided here nine years; and it was the retreat of Marſhal Saxe, who died here in 1750.

CHAMOND, a town of France, in the department of Rhone and Loire and late province of Lyonois, with a caſtle, on the river Giez, ſeventeen miles from Lyons. Long. 4. 55. E. Lat. 45. 29. N.

CHANCHA, a rich town of Egypt, five miles from Cairo, at the entrance of the deſert which leads to Mount Sinai.

CHANDA, a conſiderable city of Berar, in the Deccan of Hindooſtan, ſubject to the chief of the eaſtern Mahrattas. It is ſeated on a branch of the Godavery, ſeventy miles S. of Nagpour. Long. 79. 40. E. Lat. 20. 10. N.

CHANMANNING, a city of Thibet, in Aſia, which has been the reſidence of the grand lama. It is about 130 miles W. of Laſſa. Long. 89. 45. E. Lat. 31. 0. N.

CHANNERAY, a village of Roſsſhire, in Scotland, near the frith of Murray, formerly a biſhop's ſee. It is thirty miles W. of Elgin, the fine cathedral of which town is called Channeray church, it having been intended, it is ſaid, to be built here.

CHAPARANG, or DSAPRONG, a conſiderable city of Thibet in Aſia, ſeated on the ſouthern head of the Ganges, not far weſtward from the lake Manſaroar. Long. 78. 42. E. Lat. 34. 0. N.

CHARADE (*Encycl.*). The exerciſe of charades, if not greatly inſtructive, is at leaſt innocent and amuſing. At all events, as it has made its way into every faſhionable circle, and has employed even Garrick, it will ſcarcely be deemed unworthy of attention. Indeed moſt that have appeared in the papers under this title, are not only deſtitute of pleaſantry, but formed in general of words utterly unfit for the purpoſe. They have therefore been treated with the contempt they deſerved. In trifles of this nature inaccuracy is without excuſe. The following examples are at leaſt free from this blemiſh:

I.

My *firſt*, however here abuſed,
Deſigns the ſex alone;
In Cambria, ſuch is cuſtom's pow'r,
'Tis Jenkin, John, or Joan.
My *ſecond* oft is loudly call'd,
When men prepare to fiſt it:
It's name delights the female ear;
Its force, may none reſiſt it!
It binds the weak, it binds the ſtrong,
The wealthy, and the poor;
Still 'tis to joy a paſſport deem'd,
For ſullied fame a cure:
It may inſure an age of bliſs,
Yet miſ'ries oft attend it;
To fingers, ears, and noſes too,
Its various lords commend it.

My *whole* may chance to make one drink,
Though vended in a fiſh-ſhop;
'Tis now the monarch of the ſeas,
And has been an archbiſhop. *Her-ring.*

II.

My *firſt* is plowed for various reaſons, and grain is frequently buried in it to little purpoſe. My *ſecond*, is neither riches nor honours; yet the former would generally be given for it, and the latter is often taſteleſs without it. My *whole* applies equally to ſpring, ſummer, and autumn, and winter; and both fiſh and fleſh, praiſe and cenſure, mirth and melancholy, are the better for being in it. *Sea-ſon.*

III.

My *firſt*, with the moſt rooted antipathy to a Frenchman, prides himſelf, whenever they meet, upon ſticking cloſe to his jacket. My *ſecond* has many virtues, nor is it its leaſt that it gives name to my firſt. My *whole*, may I never catch! *Tar-tar.*

IV.

My *firſt* is one of England's prime boaſts; it rejoices the ear of a horſe, and anguiſhes the toe of a man. My *ſecond*, when brick, is good; when ſtone, better; when *wooden*, beſt of all. My *whole* is famous alike for rottenneſs and tin. *Corn-wall.*

V.

My *firſt* is called bad or good,
May pleaſure or offend ye;
My *ſecond*, in a thirſty mood,
May very much befriend ye.
My *whole*, tho' ſtyled "a cruel word,"
May yet appear a kind one;
It often may with joy be heard,
With tears may often blind one. *Fare-well.*

VI.

My *firſt* is equally friendly to the thief and the lover, the toper and the ſtudent. My *ſecond* is light's oppoſite: yet they are frequently ſeen hand in hand; and their union, if judicious, gives much pleaſure. My *whole*, is tempting to the touch, grateful to the ſight, fatal to the taſte. *Night-ſhade.*

CHARCOS, Los, a province of South America, in Peru. It has the fineſt ſilver mines in the world. La Plata is the capital. See POTOSI.

CHARD, a town in Somerſetſhire, with a market on Monday. It is ſeated on the ſide of a hill, ſix miles W. of Crewkerne, and 141 W. by S. of London. Long. 3. 18. W. Lat. 50. 52. N.

CHARENTE, a department of France, which includes the late province of Angoumois. It is named from a river, which riſes in Limoſin, runs by Angouleſme and Saintes, and falls into the bay of Biſcay. Angouleſme is the capital.

CHARENTE, LOWER, a department of France, which conſiſts of the two late provinces of Aunus and Saintonge. Saintes is the capital.

CHARITE, LA, a town of France, in the department of Nievre and late province of Nivernois. It ſtands between a hill and the Loire, over which is a ſtone bridge. Its ſituation on the road from Paris to Lyons, and the canal of Briare, has made its trade very briſk. Here are forges for converting the iron in the neighbourhood into ſteel, a woollen manufactory, and another for arms, helmets, pinchbeck buckles, ſteel buttons, and hardware in general. Here is a very pretty publie walk. The ſuburb in which it is ſituated, is a kind of iſland, which forms about a fourth of the town. The ſtone bridge communicating with it was ruined by the melting of the ice in 1789. The moſt remarkable edifice in this town is the priory of the late Benedictine Cluniſtes. When we conſider the vaſt riches and prerogatives of this monaſtery (the prior commendatory of which was temporal lord of the town) we ſhould not forget, at the ſame time, that, in a ſeaſon of ſcarcity, the whole town has ſubſiſted upon the bounty of this abbey; and hence it derives its name. It is fifteen miles N. of Nevers.

CHARITY, a term applied to certain benevolent inſtitutions whoſe modes of aſſiſting the poor are incapable of any more appropriate deſignation. Thus we have CHARITIES for lying-in women, for convaleſcents, for deſtitute females, &c. The following is an account of a charity for the relief of lying-in women and ſick perſons, at Tottenham in Middleſex.

In Auguſt 1791, eight ladies of this pariſh united in a plan for the relief of their poor neighbours during the time of lying-in. They began their undertaking by ſubſcribing three ſhillings and ſixpence each, for the purchaſe of linen, and afterwards appointed one of their number treaſurer and manager; and in order to ſupply a fund for the purpoſe of allowing five ſhillings towards the payment of a midwife, and ſix ſhillings for a nurſe for each patient, they agreed to contribute ſixpence a-piece weekly. The plan being approved, met with encouragement, and the number of ſubſcribers annually increaſed. The following ſtatement of the number of perſons annually benefited by the charity is a clear demonſtration of its ſucceſs and progreſs. There were relieved in ſeven years from 1791, 416 perſons.

The ſociety finding that the ſick ſtood as much in need of aſſiſtanee as lying-in women, and deſirous of rendering the inſtitution as uſeful as poſſible, determined to extend the benefit to either, without diſtinction; and the funds having been ſince conſiderably increaſed, it has been reſolved to provide a large number of bags of linen; and the manager is authoriſed to lend them, as long as the caſe requires, to all ſick perſons who are in want, throughout the pariſh, where the diſeaſe is not of an infectious kind.

The following are the regulations and rules of the charity.

That a ſet of linen be lent to every lying-in woman, or ſick perſon, that receives a ticket from any ſubſcriber, for one month; ſuch ſet containing one pair of ſheets, twelve napkins, one bed-gown, and one ſhirt.—That eleven ſhillings be paid to ſuch lying-in woman towards defraying the expences of a midwife and a nurſe.—That the ſame ſum be laid out for each ſick perſon, according to their wants, either in procuring neceſſary food, coals, or medicines; or, at the diſcretion of the governeſs, to be paid them in a weekly allowance.—And that one of the ſubſcribers be appointed by the reſt, to preſide over, and manage the affairs of the charity, liable to the control of the annual meeting of ſubſcribers.

Every ſubſcriber to pay three ſhillings and ſixpence upon admiſſion into the ſociety, towards the purchaſe of linen; and afterwards to continue to pay ſixpence per week, to be collected annually.—Every ſubſcriber to receive a ticket inſcribed with the name, every ſix months, from the governeſs, which ſuch ſubſcriber may diſpoſe of to any object reſiding in the pariſh, whether lying-in or ſick, who ſhall appear deſerving of the bounty.—Every patient that receives a ticket ſhall preſent it to the governeſs, that the name may be ſet down for admiſſion.—If the patient be a lying-in woman, the ticket to be returned to her; that when taken ill, ſhe may ſend it to the governeſs for a bag of linen.—No linen to be delivered without a ticket, or previous to the woman's indiſpoſition.—None, but married women can receive a lying-in ticket.—No woman to keep the linen longer than a month, without leave from the governeſs, who ſhall have a diſcretionary power of prolonging the time, in caſe of unuſual circumſtanees.—Every woman to return the linen clean, and right in number.—Any woman neglecting to obſerve theſe rules, to be incapable of receiving any future benefit from the charity.—The governeſs is empowered to lend bags of linen to perſons of good cha-

racter, who have been diſappointed of obtaining tickets, if there be a ſufficient quantity to ſupply the patients. *This is a means of conſiderably extending the benefits of the inſtitution.*—None ſhall receive preſentations to this charity but ſuch as reſide in the pariſh, without regard to their being a pariſhioner.—There ſhall be an annual meeting of the ſubſcribers on the firſt of May; at which time the ſubſcriptions are to be collected.—Thoſe who are prevented from attending perſonally, are requeſted to ſend their ſubſcriptions, in order to ſave trouble.—It is earneſtly requeſted, that the ſubſcribers will be careful that the objects of their bounty do not ſuffer under any infectious diſeaſe.—Sick perſons whoſe diſeaſes are infectious, ſuch as ſmall-pox, fevers, &c. can only receive the appointed ſum, without being aſſiſted with linen.

The utility of this plan has already recommended it to the inhabitants of ſeveral other places. Charities ſimilar in deſign, though varying in ſome particulars, have been eſtabliſhed, among other places, at Cambridge, Ipſwich, Colcheſter, Needham, Halſtead, Stoke Newington, Edmonton, Cheſhunt, Ware, Hertford, Woodford, Wanſtead, and Walthamſtow.

The moſt obvious advantages of this mode of adminiſtering charity, are, that the relief is beſtowed at a time when it is particularly wanted, and when the occaſion of that neceſſity diſables the ſufferer from earning the means of procuring a ſupply: that aſſiſtance is given to a great number of perſons at a very ſmall expence; for, excluſive of thoſe who receive tickets, which entitle them to the whole benefit of the inſtitution, the comfort of change of linen in the time of ſickneſs is enjoyed by numbers, whoſe utmoſt frugality does not enable them to keep a ſufficient ſtock for that purpoſe: and that it affords relief, but by no means precludes the neceſſity of induſtry and provident care againſt a day of trouble.

Nor let it be eſteemed the leaſt of its excellencies, that it induces women of ſuperior rank to become acquainted with the temporary, as well as the habitual, diſtreſſes of their poor neighbours; that it invites them to viſit thoſe to whom they have given their tickets; and perſonally to inſpect the abodes of poverty. If the judgment of the poor may be thought worthy of conſideration, there are but few plans, upon ſo ſmall a ſcale of expence, which afford them ſuch an acceptable relief.

Charity-*Schools* (*Encycl.*). The nature of theſe ſchools in general is well known, and has been ſtated under School; but we conceive it to be of ſome importance to notice the improvements of which theſe ſeminaries have been found capable, and this will appear from the following account of the extenſion of the benefits of the charity-ſchools at Cheſter.

The income of the blue-coat-ſchool at Cheſter had for ſeveral years been applied to the maintenance and education of thirty boys, who were admitted at nine years of age, and kept in the houſe for four years. This proviſion had proved to be extremely inadequate to its object; the greater number of the poor of that city being left entirely deſtitute of inſtruction. In 1783 the truſtees adopted a beneficial extenſion of the charity: and in the courſe of that and of the enſuing year, they opened a day-ſchool, in a wing of the hoſpital, for the inſtruction of 120 boys in reading, writing, and accounts. This they call the *green-ſchool*, from the circumſtance of each of the boys wearing a green bonnet. Two maſters were engaged, one at 35l. the other at 30l. a-year; and they have proved quite equal to the care of the 120 boys. The whole expence of teaching theſe boys, including their bonnets, &c. is not more than eighty guineas, or 14s a-year, each.

In order to provide for this expence, the truſtees diminiſhed the number of boys in the blue-coat-ſchool from 30 to 25; and at the ſame time extended the benefit of that ſchool to a great increaſe of objects, by reducing the time of continuance to two years, and by ſelecting the beſt behaved and moſt deſerving boys of the *green-ſchool* for all the vacancies in the *blue-coat-ſchool*; ſo that twelve or fourteen of the beſt boys of the former ſchool are annually placed upon the foundation: the conſequence of which is, that there is hardly any poor boy in that city, but may obtain a place in the blue-coat-ſchool, if he perſeveres in a courſe of induſtry and good behaviour.

This is of the greateſt importance; as it extends the benefit, not only of inſtruction, but of (what is much more efficacious) emulation and example, to almoſt every lad in Cheſter. The boys are now admitted at nine years of age into the green-ſchool, upon the nomination of the ſubſcribers, who appoint ſcholars in rotation, according to the amount of their contributions to the charity. At the end of two years theſe boys are publicly examined for the blue-coat-ſchool: after which, if their merit does not entitle them to one of the vacancies on the foundation, they remain in the green-ſchool two years more; and are then diſmiſſed at an age proper to be placed out in ſervice. But if their progreſs has been ſuch as to entitle them to a vacancy in the blue-coat-ſchool, they are clothed and maintained there for two years, and at the expiration of that period, if they have made a competent progreſs in reading, writing, and accounts, and (in caſe the ſea is their object) in navigation, they are placed out, with an apprentice fee of three pounds each, in huſbandry, the ſea-ſervice, or in ſome uſeful trade or occupation.

Upon the former plan the funds of this charity provided, in ten years, an education for ſeventy-five children: in the preſent mode, beſides the increaſed motives for good behaviour and attention, 362 poor children of Cheſter receive an education during the ſame period. This has been attended with no additional expence: the degree of benefit, however, far exceeds any thing that could have been attained upon the former ſyſtem; for the terms of ſucceeding to the blue-coat-ſchool, offered equally to all, ſupplies that ſtimulating incentive to human exertion, without which the beſt-framed eſtabliſhments loſe their vital principle, and degenerate into viſionary and noxious theory.

Similar attention has been paid to the female children in that town. It had been aſcertained by Dr. Haygarth, and ſome others, who were in the habit of viſiting the habitations of the poor of Cheſter, that the girls there, as in many other towns, were extremely deſtitute of uſeful employment; and that thoſe from nine to thirteen years of age, in one pariſh, three-fourths could not ſew at all, and not one of them ſo well as to make a ſingle article of dreſs. They were equally ignorant of knitting and ſpinning; and ſo unſkilful in the common occupations of life, as to be diſqualified for domeſtic ſervants, and for moſt other offices in ſociety, and to have very few means of earning an honeſt livelihood.

It was calculated that four ſchools of forty girls each, to be taught for four years, from the age of nine to thirteen years, in addition to a ſchool already exiſting for maintaining and educating eight girls, would nearly provide for all the poor girls in Cheſter, who were unemployed, of a proper age for inſtruction, and in want of charitable aid for their education. It was therefore propoſed that the girls ſhould change their ſchool every year, and (beſides their being taught to read in all the ſchools, and attending the pariſh church twice on Sunday) that they ſhould learn in the firſt year to knit, in the ſecond to ſpin, in the third to ſew, and in the fourth to waſh and get up linen; the four ſchools being placed near the centre of the city, ſo that the ſcholars might, without inconvenience, go each year to a different ſchool. In this manner it was calculated that, in the whole, the education of forty-two girls would be annually completed.

The knitting, ſpinning, and ſewing ſchools had, from the time of their eſtabliſhment in 1787, been regularly attended; and no difficulty had occurred in ſupplying work for the knitters and ſpinners, though there had ſome at firſt as to the ſewing-ſchool. In procuring employment for the ſchool for waſhing and getting up linen, there has been very great difficulty; and in conſequence this part of the plan was ſoon given up. The ſchools are now reduced to two, one for knitting, the other for ſewing; theſe are very well ſupplied with work, and the children continue there for two years.

On their firſt appearance at ſchool, the children come in but ill clothed, and not well behaved; but, in a ſhort time, by their induſtry, and by the co-operating benevolence of the ladies who viſit the ſchool, they are not only improved in behaviour, but are ſupplied with uniform gowns and pettieoats, as well as with ſeveral other articles of dreſs; all their clothes, except ſhoes and ſtockings, being made at the ſewing-ſchool.

The ſubſcriptions were at firſt limited to five ſhillings each; though, among the more opulent, ſeveral perſons of the ſame family were admitted as ſubſcribers. They are at preſent not ſubject to limitation; and liberal donations have been made for ſupplying books, wheels, forms, and for other expences. A conſiderable benefit has accrued from connecting theſe girl-ſchools in ſome degree with the Sunday-ſchools of Cheſter:—for, as an encouragement to good behaviour, the moſt deſerving girls in the Sunday-ſchools are regularly elected into the working-ſchools. This has a powerful and extenſive effect in improving the morals and behaviour of all the girls in the Sunday-ſchools, and with them of almoſt all the female children in Cheſter.

It is not an unreaſonable or unfounded preſumption, that the extenſion of the ſchools at Cheſter will operate to improve the riſing generation, in ſkill, induſtry, honeſty, economy, ſobriety, and in all thoſe virtues which reſult from a proper and religious education, and which can contribute to an uſeful and happy life.—There are very few of theſe virtues that do not principally depend on education, and on the ſeeds ſown in the mind during the early period of life. A very able writer has obſerved, that "drunkenneſs is the vice of an uncultivated mind:" and, in truth, with very few exceptions, this vice, in all its beaſtly deformity, will be found to be moſt prevalent among the ignorant and uninformed; among thoſe who have had no means of improving or appreciating their faculties, and who, in reſpect of mental and moral improvement, can be placed but little above the brute creation.

In all thoſe moral virtues, which are of ſuch ineſtimable value through life—of induſtry and ſkill we ſay nothing, for it is obvious that inſtruction and habit are their vital principle—but in moral virtues, in fidelity, truth, juſtice, and integrity, every attainment is caſual and accidental, all improvement deceitful and uncertain, except that which originates in principle, and whoſe baſis firmly reſts on the ſure ground of a religious education.

The abſurd prejudices that have exiſted againſt extending the common and general benefits of education to the children of the poor, and the extraordinary ſuppoſition, that an uneducated and neglected boy will prove an honeſt and uſeful man,—that a youth of ignorance and idleneſs will produce a mature age of induſtry and virtue,—are now in great meaſure exploded. Switzerland, and Scotland, and the northern counties of England, where the education and occupation of youth are particularly attended to, afford very gratifying evidence of the contrary poſition. The individuals of thoſe counties are not only more induſtrious and more thriving, but, of all parts of Europe, peculiarly exempt from criminal habits.

If the revenues of all our charity-ſchools were applied as advantageouſly as thoſe of the blue-coat-ſchool, and the other ſchools at Cheſter, it is probable that the funds would be ſufficient to give to every individual in England, the ſame advantages of early inſtruction and good habits, as are enjoyed by our northern neighbours, and by the inhabitants of Switzerland. In order to produce this effect, ſome exiſting prejudices againſt removing ancient abuſes, and (we are ſorry to add) ſome degree of intereſt or patronage in the continuance of thoſe abuſes, muſt be given up; and the enquiry muſt be fairly and impartially entered into, how the good effects of every charity may be beſt attained, and moſt widely extended, without injuſtice to its original objects. There is hardly any charitable fund in England to which the example of Cheſter may not in ſome degree apply, and by the application of which, children may not be enabled to acquire thoſe early and principal habits of life, without which wealth and power (and even liberty itſelf) are to the poſſeſſors of but little value; too frequently the ſource of ungoverned paſſions and criminal habits; pernicious at the ſame time to other members of ſociety, and deſtructive to the welfare and exiſtence of the community.

CHARLES-LE-GROS, emperor of the Weſt in 881, king of Italy and Suabia, memorable for his reverſe of fortune; being dethroned at a diet held near Mentz, by the French, the Italians, and the Germans, in 887: after which he was obliged to ſubſiſt on the bounty of the archbiſhop of Mentz. He died in 888.

CHARLES V. (emperor and king of Spain), was ſon of Philip I. archduke of Auſtria, and of Jane queen of Caſtile. He was born at Ghent, February 24, 1500, and ſucceeded to the crown of Spain in 1517. Two years afterwards he was choſen emperor at Francfort after the death of Maximilian his grandfather. He was a great warrior and politician: and his ambition was not ſatisfied with the kingdoms and provinces he poſſeſſed; for he is ſuppoſed, with reaſon, to have aſpired at univerſal empire. He is ſaid to have fought 60 battles, in moſt of which he was victorious. He took the king of France (Francis I.) priſoner, and ſold him his liberty on very hard terms: yet afterwards, when the people of Ghent revolted, he aſked leave to paſs through his dominions; and though the generous king thus had him in his power, and had an opportunity of revenging his ill-treatment, yet he received and attended him with all pomp and magnificence. He ſacked Rome, and took the Pope priſoner; and the cruelties which his army exerciſed there are ſaid to have exceeded thoſe of the northern barbarians. Yet the pious emperor went into mourning on account of this conqueſt; forbad the ringing of bells; commanded proceſſions to be made, and prayers to be offered up, for the deliverance of the Pope his priſoner; yet did not inflict the leaſt puniſhment on thoſe who treated the holy father and the holy ſee with ſuch inhumanity. He is accuſed by ſome Romiſh writers of favouring Lutheran principles, which he might eaſily have extirpated. But the truth is, he found his account in the diviſions which that ſect occaſioned; and he for ever made an advantage of them, ſometimes againſt the Pope, ſometimes againſt France, and at other times againſt the empire itſelf. He was a great traveller, and made 50 different journeys into Germany, Spain, Italy, Flanders, France, England, and Africa. Though he had been ſucceſsful in many unjuſt enterpriſes, yet his laſt attempt on Metz, which he beſieged with an army of 100,000 men, was very juſt and very unſucceſsful.

Vexed at the reverſe of fortune, which ſeemed to attend his latter days, and oppreſſed by ſickneſs, which unfitted him any longer for holding the reins of government with ſteadineſs, or to guide them with addreſs, he reſigned his dominions to his brother Ferdinand and his ſon Philip; and retreated to the monaſtery of St. Juſtus, near Placentia, in Eſtremadura.

When Charles entered this retreat, he formed ſuch a plan of life for himſelf as would have ſuited a private gentleman of moderate fortune. His table was neat, but plain; his domeſtics few; his intercourſe with them familiar; all the cumberſome and ceremonious forms of attendance on his perſon were entirely aboliſhed, as deſtructive of that ſocial eaſe and tranquillity which he courted in order to ſooth the remainder of his days. As the mildneſs of the climate, together with his delivery from the burdens and cares of government, procured him at firſt a conſiderable remiſſion from the acute pains of the gout, with which he had been long tormented, he enjoyed, perhaps, more complete ſatisfaction in this humble ſolitude than all his grandeur had ever yielded him. The ambitious thoughts and projects which had ſo long engroſſed and diſquieted him, were quite effaced from his mind. Far from taking any part in the political tranſactions of the princes of Europe, he reſtrained his curioſity even from an enquiry concerning them; and he ſeemed to view the buſy ſcene which he had abandoned with all the contempt and indifference ariſing from his thorough experience of its vanity, as well as from the pleaſing reflection of having diſentangled himſelf from its cares.

Other amuſements, and other objects, now occupied him. Sometimes he cultivated the plants in his garden with his own hands; ſometimes he rode out to the neighbouring wood on a little horſe, the only one that he kept, attended by a ſingle ſervant on foot. When his infirmities confined him to his apartment, which often happened, and deprived him of theſe more active recreations, he either admitted a few gentlemen, who reſided near the monaſtery, to viſit him, and entertained them familiarly at his table; or he employed himſelf in ſtudying mechanical principles, and in forming curious works of mechaniſm, of which he had always been remarkably fond, and to which his genius was peculiarly turned. With this view he had engaged Turriano, one of the moſt ingenious artiſts of that age, to accompany him in his retreat. He laboured together with him in framing models of the moſt uſeful machines, as well as in making experiments with regard to their reſpective powers; and it was not ſeldom that the ideas of the monarch aſſiſted or perfected the inventions of the artiſt. He relieved his mind at intervals with ſlighter and more fantaſtic works of mechaniſm, in faſhioning puppets, which, by the ſtructure of internal ſprings, mimicked the geſtures and actions of men, to the no ſmall aſtoniſhment of the ignorant monks, who, beholding movements which they could not comprehend, ſometimes diſtruſted their own ſenſes, and ſometimes ſuſpected Charles and Turriano of being in compact with inviſible powers. He was particularly curious with regard to the conſtruction of clocks and watches; and having found, after repeated trials, that he could not bring any two of them to go exactly alike, he reflected, it is ſaid, with a mixture of ſurpriſe as well as regret on his own folly, in having beſtowed ſo much time and labour in the more vain attempt of bringing mankind to a preciſe uniformity of ſentiment concerning the intricate and myſterious doctrines of religion.

But in what manner ſoever Charles diſpoſed of the reſt of his time, he conſtantly reſerved a conſiderable portion of it for religious exerciſes. He regularly attended divine ſervice in the chapel of the monaſtery every morning and evening; he took great pleaſure in reading books of devotion, particularly the works of St. Auguſtine and St. Bernard; and converſed much with his confeſſor, and the prior of the monaſtery, on pious ſubjects. Thus did Charles paſs the firſt year of his retreat in a manner not unbecoming a man perfectly diſengaged from the affairs of this preſent life, and ſtanding on the confines of a future world, either in innocent amuſements which ſoothed his pains, and relieved a mind worn out with exceſſive application to buſineſs; or in devout occupations, which he deemed neceſſary in preparing for another ſtate.

But, about ſix months before his death, the gout, after a longer intermiſſion than uſual, returned with a proportional increaſe of violence. His ſhattered conſtitution had not ſtrength enough remaining to withſtand ſuch a ſhock. It enfeebled his mind as much as his body; and from this period we hardly diſcern any traces of that ſound and maſculine underſtanding which diſtinguiſhed Charles among his contemporaries. An illiberal and timid ſuperſtition depreſſed his ſpirit. He had no reliſh for amuſements of any kind. He endeavoured to conform, in his manner of living, to all the rigour of monaſtic auſterity. He deſired no other ſociety than that of monks, and was almoſt continually employed in chanting with them the hymns of the miſſal. As an expiation for his ſins, he gave himſelf the diſcipline in ſecret with ſuch ſeverity, that the whip of cords which he employed as the inſtrument of his puniſhment, was found, after his deceaſe, tinged with his blood. Nor was he ſatisfied with theſe acts of mortification, which, however ſevere, were not unexampled. The timorous and diſtruſtful ſolicitude which always accompanies ſuperſtition, ſtill continued to diſquiet him, and depreciating all that he had done, prompted him to aim at ſomething extraordinary, at ſome new and ſingular act of piety that would diſplay his zeal, and merit the favour of Heaven. The act on which he fixed was as wild and uncommon as any that ſuperſtition ever ſuggeſted to a diſordered fancy. He reſolved to celebrate his own obſequies before his death. He ordered his tomb to be erected in the chapel of the monaſtery. His domeſtics marched thither in funeral proceſſion, with black tapers in their hands. He himſelf followed in his ſhroud. He was laid in his coffin with much ſolemnity. The ſervice for the dead was chanted; and Charles joined in the prayers which were offered up for the reſt of his ſoul, mingled his tears with thoſe which his attendants ſhed, as if they had been celebrating a real funeral. The ceremony cloſed with ſprinkling holy water on the coffin in the uſual form, and, all the aſſiſtants retiring, the doors of the chapel were ſhut. Then Charles roſe out of the coffin and withdrew to his apartment, full of thoſe awful ſentiments which ſuch a ſingular ſolemnity was calculated to inſpire. But either the fatiguing length of the ceremony, or the impreſſion which this image of death left on his mind, affected him ſo much, that next day he was ſeized with a fever. His feeble frame could not long reſiſt its violence; and he expired on the 21ſt of September, after a life of 58 years ſix months and 21 days.

Charles XII. King of Sweden, was born in 1682. By his father's will, the adminiſtration was lodged in the hands of the Queen-dowager Eleonora with five ſenators, till the young prince was 18: but he was declared major at 15, by the ſtates convened at Stockholm. The beginning of his adminiſtration raiſed no favourable ideas of him, as he was thought both by Swedes and foreigners to be a perſon of mean capacity. But the difficulties that gathered round him, ſoon afforded him an opportunity to diſplay his real character. Three powerful princes, Frederic king of Denmark, Auguſtus king of Poland and elector of Saxony, and Peter the Great, czar of Muſcovy, preſuming on his youth, conſpired his ruin almoſt at the ſame inſtant. Their meaſures alarmed the council, they were for diverting the ſtorm by negociations; but Charles, with a grave reſolution that aſtoniſhed them, ſaid, "I am reſolved never to enter upon an unjuſt war, nor to put an end to a juſt one but by the deſtruction of my enemies. My reſolution is fixed: I will attack the firſt who ſhall declare againſt me; and when I have conquered him, I

may hope to ſtrike a terror into the reſt." The old counſellors received his orders with admiration; and were ſtill more ſurpriſed when they ſaw him on a ſudden renounce all the enjoyments of a court, reduce his table to the utmoſt frugality, dreſſed like a common ſoldier, and, full of the ideas of Alexander and Cæſar, propoſe thoſe two conquerors for his models in every thing but their vices. The King of Denmark began by ravaging the territories of the Duke of Holſtein. Upon this, Charles carried the war into the heart of Denmark; and made ſuch a progreſs, that the King of Denmark thought it beſt to accept of peace, which was concluded in 1700. He next reſolved to advance againſt the King of Poland, who had blocked up Riga. He had no ſooner given orders for his troops to go into winter-quarters, than he received advice, that Narva, where Count Horne was governor, was beſieged by an army of 100,000 Muſcovites. This made him alter his meaſures, and move towards the czar; and at Narva he gained a ſurpriſing victory, which coſt him not above 2000 men killed and wounded. The Muſcovites were forced to retire from the provinces they had invaded. He purſued his conqueſts till he penetrated as far as where the diet of Poland were ſitting; when he made them declare the throne of Poland vacant, and elected Staniſlaus their king: then making himſelf maſter of Saxony, he obliged Auguſtus himſelf to renounce the crown of Poland, and acknowledge Staniſlaus by a letter of congratulation on his acceſſion. All Europe was ſurpriſed with the expeditious finiſhing of this great negociation, but more at the diſintereſtedneſs of the King of Sweden, who ſatisfied himſelf with the bare reputation of this victory, without demanding an inch of ground for enlarging his dominions. After thus reducing the King of Denmark to peace, placing a new king on the throne of Poland, having humbled the Emperor of Germany, and protected the Lutheran religion, Charles prepared to penetrate into Muſcovy in order to dethrone the czar. He quickly obliged the Muſcovites to abandon Poland, purſued them into their own country, and won ſeveral battles over them. The czar, diſpoſed to peace, ventured to make ſome propoſals; Charles only anſwered, "I will treat with the czar at Muſcow." When this haughty anſwer was brought to Peter, he ſaid, "My brother Charles ſtill affects to act the Alexander, but I flatter myſelf he will not in me find a Darius." The event juſtified him: for the Muſcovites, already beaten into diſcipline, and under a prince of ſuch talents as Peter, entirely deſtroyed the Swediſh army at the memorable battle of Pultowa, July 8, 1709; on which deciſive day Charles loſt the fruits of nine years' labour, and of almoſt 100 battles! The king, with a ſmall troop, purſued by the Muſcovites, paſſed the Boriſthenes to Oczakow in the Turkiſh territories; and from thence, through deſert countries, arrived at Bender; where the Sultan, when informed of his arrival, ſent orders for accommodating him in the beſt manner, and appointed him a guard. Near Bender, Charles built a houſe, and intrenched himſelf; and had with him 1800 men, who were all clothed and fed, with their horſes, at the expence of the grand-ſignior. Here he formed a deſign of turning the Ottoman arms upon his enemies; and is ſaid to have had a promiſe from the vizier of being ſent into Muſcovy with 200,000 men. While he remained here, he inſenſibly acquired a taſte for books: he read the tragedies of Corneille and Racine; with the works of Deſpreaux, whoſe ſatires he reliſhed, but did not much admire his other works. When he read that paſſage in which the author repreſents Alexander as a fool and a madman, he tore out the leaf. He would ſometimes play at cheſs: but when he recovered of his wound, he renewed the fatigues in exerciſing his men; he tired three horſes a-day; and thoſe who courted his favour were all day in their boots. To diſpoſe the Ottoman Porte to this war, he detached about 800 Poles and Coſaques of his retinue, with orders to paſs the Neiſter, that runs by Bender, and to obſerve what paſſed on the frontiers of Poland. The Muſcovite troops, diſperſed in thoſe quarters, fell immediately upon this little company, and purſued them even to the territories of the grand-ſignior. This was what the king expected. His miniſters at the Porte excited the Turks to vengeance; but the Czar's money removed all difficulties, and Charles found himſelf in a manner priſoner among the Tartars. He imagined the ſultan was ignorant of the intrigues of his grand-vizier. Poniatowſky undertook to make his complaints to the grand-vizier. The ſultan, in anſwer, ſome days after, ſent Charles five Arabian horſes, one of which was covered with a ſaddle and houſing of great riches; with an obliging letter, but conceived in ſuch general terms as gave reaſon to ſuſpect that the miniſter had done nothing without the ſultan's conſent: Charles, therefore, refuſed them. Poniatowſky had the courage to form a deſign of depoſing the grand-vizier; who accordingly was deprived of his dignity and wealth, and baniſhed. The ſeal of the empire was given to Numan Cuproughly: who perſuaded his maſter that the law forbad him to invade the czar, who had done him no injury; but to ſuccour the King of Sweden as an unfortunate prince in his dominions. He ſent his majeſty 800 purſes, every one of which amounted to 500 crowns, and adviſed him to return peaceably to his own dominions. Charles rejected this advice, threatening to hang up the baſhaws, and ſhave the beards of any Janiſaries who brought him ſuch meſſages; and ſent word that he ſhould depend upon the grand-ſignior's promiſe, and hoped to reenter Poland as a conqueror with an army of Turks. After various intrigues at the Porte, an order was ſent to attack this *head of iron*, as he was called, and to take him either alive or dead. He ſtood a ſiege in this houſe, with forty domeſtics, againſt the Turkiſh army; killed no leſs than 20 Janiſaries with his own hand; and performed prodigies of valour on a very unneceſſary and unwarrantable occaſion. But the houſe being ſet on fire, and himſelf wounded, he was at laſt taken priſoner and ſent to Adrianople; where the grand-ſignior gave him audience, and promiſed to make good all the damages he had ſuſtained. At laſt, after a ſtay of above five years, he left Turkey; and, having diſguiſed himſelf, traverſed Wallachia, Tranſylvania, Hungary, and Germany, attended only by one perſon; and in 16 days' riding, during which time he never went to bed, came to Stralſund at midnight, November 21, 1714. His boots were cut from his ſwollen legs, and he was put to bed; where, when he had ſlept ſome hours, the firſt thing he did was to review his troops, and examine the ſtate of the fortifications. He ſent out orders that very day, to renew the war with more vigour than ever. But affairs were now much changed: Auguſtus had recovered the throne of Poland; Sweden had loſt many of its provinces; and was without money, trade, credit, or troops. The kings of Denmark and Pruſſia ſeized the iſland of Rugen; and beſieged him in Stralſund, which ſurrendered; but Charles eſcaped to Carlſcroon. When his country was threatened with invaſion by ſo many princes, he, to the ſurpriſe of all Europe, marched into Norway with 20,000 men. A very few Danes might have ſtopped the Swediſh army; but ſuch a quick invaſion they could not foreſee. Europe was yet more at a loſs to find the czar ſo quiet, and not making a deſcent upon Sweden, as he had before agreed with his allies. This inaction was the conſequence of one of the greateſt deſigns, and at the ſame time the moſt difficult, of any that were ever formed by the imagination of man. In ſhort, a ſcheme was ſet on foot for a reconciliation with the

czar; for replacing Staniſlaus on the throne of Poland; and ſetting James the Second's ſon upon that of England, beſide reſtoring the Duke of Holſtein to his dominions. Charles was pleaſed with theſe grand ideas, though without building much upon them, and gave his miniſter leave to act at large. In the mean time, Charles was going to make a ſecond attempt upon Norway in 1718; and he flattered himſelf with being maſter of that kingdom in ſix months: but he was killed at Frederieſhall, a place of great ſtrength and importance, which is reckoned to be the key of that kingdom, as he was examining the works.—This prince experienced the extremes of proſperity and of adverſity, without being ſoftened by the one, or diſturbed for a moment at the other; but was a man rather extraordinary than great, and fitter to be admired than imitated. He was honoured by the Turks for his rigid abſtinence from wine, and his regularity in attending public devotion. In religion he was a Lutheran, and a ſtrong believer in predeſtination. He wrote ſome obſervations on war, and on his own campaigns from 1700 to 1709; but the MS. was loſt at the unfortunate battle of Pultowa

CHARLES CAPE, a promontory of N. America, on the S.W. part of the ſtrait entering into Hudſon's Bay. Long. 75. 15. W. Lat. 62. 10. N

CHARLTON, a village in Kent, on the edge of Blackheath, on the brow of an eminence that commands a fine view of the Thames. It is famous for an annual fair held here on St. Luke's day; it is called Horn Fair; horn wares of all kinds are ſold; the mob wear horns on their heads; and all that licentiouſneſs prevails which its name imports. Tradition traces the origin of this fair to the time of King John, who, being detected in an amour here, was obliged, it is ſaid, to purchaſe his ſafety of the injured huſband, by a grant of all the land from this place to Cuckold's Point; and he eſtabliſhed the fair as the tenure. In this pariſh, on Blackheath, is Morden College, a noble inſtitution for decayed merchants, founded by Sir John Morden, Bart. a Turkey merchant, ſeveral years before his death, which happened in 1708.

CHARLEVILLE, a borough of Ireland, in the county of Cork, 30 miles N. of Cork. Long. 8. 30. W. Lat. 52. 23. N.

CHARLEVILLE, a handſome town of France, in the department of the Ardennes and late province of Champagne. The ſtreets are ſtraight, and the houſes of an equal height. Here is a magnificent ſquare, and in the centre a handſome fountain. It is ſeated on the Meuſe, near Mezieres, from which it is ſeparated by a bridge and a cauſeway; 15 miles N.W. of Sedan, and 115 N.E. of Paris. Long. 4. 45. E. Lat. 49. 50. N.

CHARLEY, a town of Lancaſhire, with a market on Tueſday. It is ſeated near the ſpring-head of a rivulet called Chor, not far from the river Yarrow; ſix miles S.E. of Preſton, and 203 N.W. of London. Long. 2. 45. W. Lat. 53. 38. N.

CHARMES, a town of France, in the department of the Voſges, and late province of Lorrain, ſeated on the Moſelle, over which is a handſome bridge. It is eight miles E. of Mirecourt. Long. 6. 17. E. Lat. 48. 21. N.

CHARNWOOD, or CHARLEY FOREST, a rough open tract in the N.W. part of Leiceſterſhire, and in the neighbourhood of Bardon Hills

CHAROLLES, a town of France, in the department of Saone and Loire. It has a ruinous caſtle, and is ſeated on the river Reconce, 24 miles W.N.W. of Macon. Long. 4. 24. E. Lat. 46. 28. N.

CHASE, or CHACE, is alſo a place of retreat for deer and wild beaſts (*Encycl.*). The following hiſtory of the Engliſh chaſes is given by Mr. Pennant: "At firſt the beaſts of chaſe had this whole iſland for their range; they knew no other limits than the ocean, nor confeſſed any particular maſter. When the Saxons had eſtabliſhed themſelves in the heptarchy, they were reſerved by each ſovereign for his own particular diverſion: hunting and war, in thoſe uncivilized ages, were the only employ of the great; their active, but uncultivated minds, being ſuſceptible of no pleaſures but thoſe of a violent kind, ſuch as gave exerciſe to their bodies, and prevented the pain of thinking.

"But as the Saxon kings only appropriated thoſe lands to the uſe of foreſts which were unoccupied, ſo no individuals received any injury: but when the conqueſt had ſettled the Norman line on the throne, this paſſion for the chaſe was carried to an exceſs, which involved every civil right in a general ruin: it ſuperſeded the conſideration of religion even in a ſuperſtitious age: the village-communities, nay even the moſt ſacred edifices, were turned into one vaſt waſte, to make room for animals, the objects of a lawleſs tyrant's pleaſure. The new foreſt in Hampſhire is too trite an inſtance to be dwelt on; ſanguinary laws were enacted to preſerve the game; and in the reigns of William Rufus, and Henry I. it was leſs criminal to deſtroy one of the human ſpecies than a beaſt of chaſe. Thus it continued while the Norman line filled the throne; but when the Saxon line was reſtored under Henry II. the rigour of the foreſt laws was immediately ſoftened.

"When our barons began to form a power, they claimed a vaſt, but more limited, tract for a diverſion that the Engliſh were always fond of. They were very jealous of any encroachments on their reſpective bounds, which were often the cauſe of deadly feuds: ſuch a one gave cauſe to the fatal day of *chevy-chace*; a fact which, though recorded only in a ballad, may, from what we know of the manners of the times, be founded on truth: not that it was attended with all the circumſtances which the author of that natural but heroic compoſition hath given it; for, on that day, neither a *Percy* nor a *Douglas* fell: here the poet ſeems to have claimed his privilege, and mixed with this fray ſome of the events of the battle of *Otterbourne*.

"When property became happily more divided by the relaxation of the feodal tenures, theſe extenſive hunting-grounds became more limited; and as tillage and huſbandry increaſed, the beaſts of chaſe were obliged to give way to others more uſeful to the community. The vaſt tracts of land, before dedicated to hunting, were then contracted; and, in proportion as the uſeful arts gained ground, either loſt their original deſtination, or gave riſe to the invention of *parks*. Liberty and the arts ſeem coeval; for when once the latter got footing, the former protected the labours of the induſtrious from being ruined by the licentious ſportſman, or being devoured by the objects of his diverſion: for this reaſon, the ſubjects of a deſpotic government ſtill experience the inconveniences of vaſt waſtes, and foreſts, the terrors of the neighbouring huſbandmen; while in our well-regulated monarchy very few chaſes remain. The Engliſh ſtill indulge themſelves in the pleaſures of hunting; but confine the deer-kind to parks, of which England boaſts of more than any other kingdom in Europe. The laws allow every man his pleaſure; but confine them in ſuch bounds as prevents them from being injurious to the meaneſt of the community. Before the Reformation, the prelates ſeem to have guarded ſufficiently againſt this want of amuſement, the ſee of Norwich, in particular, being poſſeſſed, about that time, of thirteen parks.

CHATEL-CHALONS (*Encycl.*), erroneouſly ſpelt CHATER-CHALONS.

CHATILLON-LES-COMBES, a town in the department of Ain and late province of Breſſe, twelve miles W. of Bourg.

CHATILLON-SUR-INDRE, a town of France, in the department of Indre and late province of Berry, ten miles S. of Loches. Long. 0. 55. E. Lat. 47. 22. N.

CHATILLON-SUR-MARNE, a town of France, in the department of Marne and late province of Champagne, ſeventeen miles S. of Rheims. Long. 4. 5. E. Lat. 48. 58. N.

CHATOQUE, Lake, a lake of North America, in the ſtate of New York. It is the ſource of the river Conawongo, which runs into the Allegany. The lower end of it, whence the river proceeds, is in lat. 42. 10. N. From the N.W. of this lake to Lake Erie is nine miles.

CHATTESWORTH, a village in Derbyſhire, near the river Derwent, in the Peak, and reckoned one of its wonders. Here is the magnificent ſeat of the Duke of Devonſhire. It is ſix miles from Cheſterfield.

CHAUMONT, a town of France, in the department of Oiſe and late province of the Iſle of France, thirty miles N.W. of Paris. Long. 2. 7 E. Lat. 49. 18. N.

CHEADLE, a town in Staffordſhire, with a market on Saturday. It is ſeated in the moſt fertile part of the moorlands, twelve miles N.E. of Stafford. Long. 1. 56. W. Lat. 53. 0. N.

CHEAM, a village in Surrey; of which it is remarkable, that, between the years 1581 and 1624, of ſix of its rectors ſucceſſively, five became biſhops. Adjoining to this pariſh, is the ſite of the village of Codinton, or Cudington, near which Henry VIII. built the palace of Nonſuch, ſo much celebrated, by Camden and Hentzner, for its magnificence. It was a favourite reſidence of Queen Elizaheth; but being granted by Charles II. to the Ducheſs of Cleveland, ſhe pulled down the houſe, and diſparked the land. Cheam is thirteen miles S. by W. of London.

CHEBUKTO Harbour, in North America, near Halifax, in Nova Scotia. Long. 63. 18. W. Lat. 44 45. N.

CHEDDER, a large village of Somerſetſhire, famous for its cheeſes, which are the next beſt to Stilton cheeſe in England, and as large as thoſe of Cheſhire. It is three miles E. of Axbridge. Long. 2. 57. W. Lat. 51. 13. N.

CHEDWORTH, a village of Glouceſterſhire, four miles S.W. of North Leach, through which the river Coſn runs to Fairford. It is ſituated on the declivity of two hills. In this pariſh, in 1760, a Roman bath was diſcovered. The Roman Foſſe lies about two miles N.W. of this ſpot. There is a tumulus on a hill near this bath, with a remarkably large ſtone ſet upright on the top of it, on the removal of which great quantities of human bones were diſcovered.

CHEESE (*Encycl.*). Every country has places noted for this commodity: thus Cheſter and Glouceſter cheeſe are famous in England; and the Parmeſan cheeſe is in no leſs repute abroad, eſpecially in France. This ſort of cheeſe is entirely made of ſweet cow-milk: but at Rochefort in Languedoc, they make it of ewes' milk; and in other places it is uſual to add goats' or ewes' milk in a certain proportion to that of the cow. Parmeſan is made in cheeſes of 60, 80, 100, and even 180 pounds weight; the ſize depends on the number of cows in the poſſeſſion of the farmer: thoſe which weigh 60 or 80 pounds are conſidered moſt commodious for ſale.

In warm weather, and when there is plenty of milk, they make cheeſe every day: in winter the milk will keep, and the cheeſe is only made every other day. In ſummer, the evening's milk is ſkimmed the next morning, that of the morning at about three o'clock in the afternoon, when the evening's milk is ſkimmed again, both are mixed together, and the farmer immediately proceeds to manufacture his cheeſe.

All the milk intended for one boiling is put together in a large copper cauldron, large enough to contain 1000 pounds, three feet five inches deep, and nearly of the form deſcribed in the figure. The cauldron is ſuſpended by its handle on a wooden crane, ſo that it can be taken from the fire and replaced at pleaſure. The fire-place forms a kind of ſtove, between which and the cauldron the flame blazes freely; but the ſtove is open on one ſide, to leave a paſſage for the cauldron when it becomes neceſſary to turn it. The hearth, and even the bottom of the cauldron, are below the level of the earth, that the perſon employed in making the cheeſe may with eaſe plunge his hands when neceſſary to the very bottom.

When the milk is in the cauldron, the fire is kindled, the milk is heated to the temperature of about forty degrees, and kept ſtirring from the top to the bottom, in order that the temperature may be equally diſtributed through all parts of the maſs. While the milk is thus heating, the cream is churned into butter.

When the milk has attained the proper temperature, the cauldron is removed from the fire, and a large wooden ſkreen is placed for the purpoſe of preventing the milk from receiving any further heat from the fire, and that no motion may be created by it in any part of the maſs. They then wait five or ſix minutes to afford time for the calming of any internal motion, occaſioned by the different temperatures of the ſeveral ſtrata of milk; and when the whole is in a ſtate of calm, the rennet is infuſed in the following manner.

They have, in a little veſſel, a leaven, compoſed of milk curdled in the ſtomach of a calf, wheat-flour, and ſalt, all fermented together. Of this they take a ſmall lump, about the ſize of a walnut, and tie it up in the corner of a napkin, which is plunged into the milk and ſqueezed out with the hand. The linen retains, like a ſieve, all the ſubſtances in the rennet which will not diſſolve; and when theſe ſubſtances only are left, the napkin is withdrawn, and the milk well ſtirred that the rennet may be equally diſtributed; that done, the whole maſs is left to curdle without diſturbance. In this interval they finiſh churning the butter.

In three quarters of an hour, or an hour, the milk is curdled, which is made apparent when, on taking up ſome of it with a wooden ſpoon, at different places in the ſurface, it is perceived to have loſt its fluidity. Then they take away the ſkreen, and replace the cauldron on the fire, to heat the milk anew, and carry its temperature to fifty degrees. The motive for this ſecond heating is, to facilitate the ſeparation of the curd, as hereafter mentioned. During the time it is on the fire it is kept continually ſtirring, for the purpoſe of dividing it. The kind of boiling which it now undergoes renders the curd more denſe, and increaſes its ſpecific weight. They then let it cool a little, and take away about a quarter of the thin milk, that the remainder may with leſs difficulty acquire the temperature of fifty degrees. They then keep ſtirring it continually, that all the curd may be divided into very ſmall lumps. When the proper temperature is attained, they throw in a few pinches of ſaffron, for the mere purpoſe of colouring the cheeſe.

At this period the operation becomes extremely critical. The heating not only enables the maſſes of curd to adhere to each other, in the ſame manner as it hardens the white of eggs, but it enables the curd to ſeparate itſelf from the milk after the maſs is formed. It is probable that there is a nice limitation to be obſerved in this reſpect, which muſt not be exceeded, for the perſon employed in making of the cheeſe now frequently takes up handfuls of the curd, which he ſqueezes ſtrongly together to aſcertain whether it has acquired a proper conſiſtency. When he is ſatisfied in this reſpect, the cauldron is again withdrawn from the fire, and the ſkreen replaced, or the fire is extinguiſhed with water.

When the maſs is no longer ſtirred, the curd ſoon precipitates itſelf. Then with large wooden veſſels they take out

almoſt all the thin milk, and throw over the reſt about two pailfuls of cold water, to decreaſe the heat, and permit the workman to thruſt in his hands. Then, holding by his thighs to the brim of the veſſel, he bends himſelf in, to reach the bottom with his hands; he quickly gathers all the curd together to one ſide of the cauldron, and paſſes a cloth under the curd, which he gathers together, graſping the four corners of the cloth. This maſs is very heavy, and he could not draw it out immediately, but the aſſiſtants pour into the cauldron the milk they had previouſly taken out, and this enables him to raiſe, without much difficulty, the maſs of curd to the ſurface. He then carries it away in the cloth, and places it in a round wooden form, without bottom, ſtanding on an even ſolid table.

All this operation requires great readineſs in the ſervice, and even a great degree of habit; for the power of adheſion which the curd has acquired makes it harden ſpeedily, and if it were permitted to aſſume a bad ſhape it would never afterwards loſe it.

When the curd is placed in the form, the cheeſe has already acquired firmneſs, and will reſiſt a ſtrong preſſure of the finger; it hardens very rapidly, and, without any external compreſſion, ſqueezes out, by its own power of contraction, the greater part of the thin milk which is yet contained in it. The effect of this faculty would be to give the cheeſe a ſpherical form; but to flatten it at the ends, they place over it a round plate of wood, and a heavy ſtone. Thus it is left for the night; it cools, throws off the thin milk, and aſſumes the form it is intended to retain.

On the morrow they place a layer of ſalt on one of the flat ſides of the cheeſe; the next day they turn it, and ſalt the oppoſite ſurface; and continue this alternate operation for forty days, when the ſalt will melt no longer. The uſe of this operation is not only to ſalt but to dry the cheeſe, that is, to extract from it all the milk which may have remained after the cheeſe had become cool, and could no longer contract itſelf.

When, after about forty days, the cheeſe has acquired the neceſſary qualities for keeping and ſale, they ſcrape it with a flexible knife to take off the little ſoft incruſtation on the ſurface, ſo that the ſoft cheeſe is ſeen on every ſide; the ſurface is then perfectly ſleek, and they varniſh it with a ſlight layer of linſeed-oil; finally, they give to the convex ſurface only a red tint, made from vegetable ſubſtances alone, and the cheeſe is fit for ſale.

The thin milk which has been replaced in the cauldron ſtill contains a conſiderable quantity of curd, and even ſome ſerous parts, which, though they did not curdle at firſt, ought not to be loſt. The cauldron is replaced on the fire, and freſh rennet put into the milk; by theſe means a ſufficient quantity of curd is obtained to make an inferior ſort of cheeſe for family conſumption. The milk which ſtill remains ſerves to feed the live ſtock. See plate 20.

Cheese-*Rennet*. See Gallium.

CHEIRANTHUS, stock-gilliflower, or *Wallflower*; a genus of the ſiliquoſa order, belonging to the tetradynamia claſs of plants. The ſpecies are thirteen, but the following three are moſt worthy of notice: 1. The *cheiri* or common wallflower, with ligneous, long, rough roots; an upright, woody, abiding ſtalk, divided into many erect angular branches, forming a buſhy head from one to two feet high, cloſely garniſhed with ſpear-ſhaped, acute, ſmooth leaves, and all the branches terminating in long erect ſpikes of numerous flowers, which in different varieties are yellow, bloody, white, &c. 2. The *incanus*, or hoary cheiranthus, with ligneous, long, naked, white roots; and upright, ſtrong, woody, abiding ſtem, from one to three feet high, branchy at top, adorned with long, ſpear-ſhaped, obtuſe, hoary leaves; and the top of the ſtalk and all the branches terminated by erect ſpikes of flowers from one to two or three feet long, of different colours in different varieties. 3. The *annuus*, or ten-weeks-ſtock, with an upright, woody, ſmooth ſtalk, divided into a branchy head, twelve or fifteen inches high, garniſhed with ſpear-ſhaped, blunt, hoary leaves, a little indented, and all the branches terminated by long erect ſpikes of numerous flowers of different colours in different varieties.—The two firſt ſorts are very hardy evergreen biennials or perennials; but the laſt is an annual plant, ſo muſt be continued by ſeed ſown every year; and even the two firſt, notwithſtanding their being perennial, degenerate ſo much in their flowers after the firſt year, that it will be proper alſo to raiſe an annual ſupply of them. The ſeeds are to be ſaved only from the plants with ſingle flowers; for the double ones bring no ſeeds to perfection. The ſeeds are to be choſen from ſuch flowers as have five, ſix, or more petals, or from ſuch as grow near to the double ones. They may be ſown in the full ground in the ſpring, and may be afterwards tranſplanted. When fine doubles of the two firſt kinds are obtained, they may be multiplied by ſlips from the old plants.

CHEITORE, or Oudipour, one of the principal of the Rajpoot ſtates, in Hindooſtan Proper. It conſiſts, in general, of high mountains, divided by narrow valleys; or of plains environed by mountains, acceſſible only by narrow paſſes or defiles: in reality, one of the ſtrongeſt countries in the world; yet having an extent of arable land ſufficient for the ſupport of a numerous population, and bleſſed with a mild climate, being between the 24th and 28th degrees of N. latitude: in fine, a country likely to remain for ever in the hands of its preſent poſſeſſors, and to prove the aſylum of the Hindoo religion and cuſtoms. "Notwithſtanding," ſays Major Rennell, "the attacks that have been made upon it by the Gaznavide, Pattan, and Mogul emperors, it has never been more than nominally reduced. Some of the fortreſſes, with which the country abounds, were indeed taken: but the ſpirit of independent nations does not reſide in fortreſſes, nor are they to be conquered with them. Accordingly, every war on theſe people, even by Aurungzebe, ended in a compromiſe, or defeat, on the ſide of the aſſailants." The country, however, is now tributary to the Mahrattas.

Cheitore, or *Oudipour*, a town, in a province of the ſame name, in Hindooſtan Proper. It was the capital of the Rana, or chief prince of the Rajpoots, in the days of his greatneſs; and was a fortreſs and city of great extent, ſituated on a mountain; but it has been in ruins ſince the time of Aurungzebe in 1681. It is 120 miles S. by E. of Nagpour. Long. 74. 56. E. Lat. 25. 21. N.

CHEKAO, in natural hiſtory, the name of an earth found in many parts of the Eaſt Indies, and ſometimes uſed by the Chineſe in their porcelain manufactures. It is a hard and ſtony earth; and the manner of uſing it is this: they firſt calcine it in an open furnace, and then beat it to a fine powder. This powder they mix with large quantities of water: then ſtirring the whole together, they let the coarſer part ſubſide; and pouring off the reſt yet thick as cream, they leave it to ſettle, and uſe the matter which is found at the bottom in form of a ſoft paſte, and will retain that humidity a long time. This ſupplies the place of the earth called *hoache*, in the making of that elegant ſort of china-ware which is all white, and has flowers which ſeem formed by a mere vapour within its ſurface. The manner of their uſing it is this: they firſt make the veſſel of the common matter of the manufacture; when this is almoſt dry, they

paint upon it the flowers, or whatever other figures they pleaſe, with a pencil dipt in this preparation of the chekao; when this is thoroughly dry, they cover the whole veſſel with the varniſh in the common way, and bake it as uſual. The conſequence is, that the whole is white: but the body of the veſſel, the figures, and the varniſh, being three different ſubſtances, each has its own particular white; and the flowers being painted in the fineſt white of all, are diſtinctly ſeen through the varniſh upon the veſſel, and ſeem as if traced by a vapour only. The hoache does this as well as the chekao; and has beſides this the quality of ſerving for making the porcelain ware either alone, or in the place of kaolin: the chekao has not this property, nor any other ſubſtance beſides this hoache, which appears to be the ſame with our ſteatites or ſoap-rock.

CHEKE (Sir John), a celebrated ſtateſman, grammarian, and divine, of an ancient family in the Iſle of Wight, was born at Cambridge in the year 1514, and educated at St. John's College in that univerſity; where, after taking his degrees in arts, he was firſt choſen Greek lecturer, and in 1540 profeſſor of that language, with a ſtipend of 40l. a-year. In this ſtation he was principally inſtrumental in reforming the pronunciation of the Greek language, which, having been much neglected, was imperfectly underſtood. About the year 1543 he was incorporated maſter of arts at Oxford, where, we are told, he had ſtudied for ſome time. In the following year he was ſent to the court of King Henry VIII. and appointed tutor for the Latin language, jointly with Sir Anthony Cooke, to Prince Edward, about which time he was made canon of the college newly founded in Oxford; wherefore he muſt have now been in orders. On the acceſſion of his royal pupil to the crown, Mr. Cheke was firſt rewarded with a penſion of 100 marks, and afterwards obtained ſeveral conſiderable grants from the crown. In 1550 he was made chief gentleman of the privy-chamber, and was knighted the following year; in 1552, chamberlain of the exchequer for life; in 1553, clerk of the council; and ſoon after ſecretary of ſtate and privy-counſellor. But theſe honours were of ſhort duration. Having concurred in the meaſures of the Duke of Northumberland for ſettling the crown on the unfortunate Jane Grey, and acted as her ſecretary during the nine days of her reign, on the acceſſion of Queen Mary, Sir John Cheke was ſent to the Tower, and ſtript of the greateſt part of his poſſeſſions. In September 1554 he obtained his liberty, and a licence from her majeſty to travel abroad. He went firſt to Baſil, thence to Italy, and afterwards returned to Straſburg, where he was reduced to the neceſſity of reading Greek lectures for ſubſiſtence. In 1556 he ſet out in an evil hour to meet his wife at Bruſſels: but, before he reached that city, he was ſeized by order of King Philip II. hoodwinked, and thrown into a waggon; and thus ignominiouſly conducted to a ſhip, which brought him to the Tower of London. He ſoon found that religion was the cauſe of his impriſonment; for he was immediately viſited by two Romiſh prieſts, who piouſly endeavoured to convert him, but without ſucceſs. However, he was at laſt viſited by Fleckenham; who told him from the queen, that he muſt either comply or burn. This powerful argument had the deſired effect; and Sir John Cheke accordingly complied in form, and his lands, upon certain conditions, were reſtored: but his remorſe ſoon put an end to his life. He died in September 1557, at the houſe of his friend Mr. Peter Oſborne in Wood-ſtreet, London, and was buried in St. Alban's church. He left three ſons, the eldeſt of whom, Henry, was knighted by Queen Elizabeth. He wrote, 1. A Latin tranſlation of two of St. Chryſoſtom's Homilies. Lond. 1543, 4to. 2. The Hurt of Sedition. Lond. 1549, 1576, 1641. 3. Latin tranſlation of the Engliſh communion ſervice. Printed among Bucer's opuſcula. 4. De pronunciatione Græcæ. Baſil, 1555, 8vo. 5. Several letters publiſhed in his life by Strype; and a great number of other books.

CHEKIANG, a maritime province of China, to the W. of Pekin, one of the moſt fertile and trading provinces of that empire. It is interſperſed with mountains, fruitful fields, rivers, and canals. The inhabitants are famous for making gold and ſilver brocaded ſilks, which are very cheap; for they breed quantities of ſilk-worms. In the lakes of this country is to be found the golden fiſh, well known for its beauty, as alſo a tree which produces tallow. It contains eleven large cities, ſeventy-ſeven towns, and many populous villages.

CHE-KYANG, or TSEKIAN, a province of the empire of China, formerly the reſidence of the Chineſe monarchs, and one of the moſt conſiderable in the whole empire. It is bounded on the ſouth by Fo-kyen; on the north and weſt, by Kyang-nan, and Kyang-ſi; and on the eaſt by the ſea. It extends itſelf from the 27th to the 31ſt degree of north latitude, and from 116° to almoſt 120° of eaſt longitude, according to the meridian of Paris. The climate of it is ſerene and healthy, and the inhabitants very numerous, amounting, according to their regiſters, to 4,525,700 men. The country is exceedingly rich and fertile, beautifully variegated with well-cultivated mountains, fruitful valleys and plains; ſo that there is not a ſpot which is not turned to the beſt advantage. It is interſected by a multitude of rivers and canals; the laſt cut wide and deep, and lined on both ſides with hewn ſtone. The plains on both ſides have a communication with each other by a vaſt number of bridges, ſo that one may travel through the whole province either by land or water. A vaſt quantity of ſilk is manufactured in this province; which is here finer, more rich and curiouſly wrought with gold and ſilver, than in any other; and yet is ſo cheap, that a good ſilk ſuit will coſt leſs than one of the moſt ordinary cloth in Europe. The tribute of ſilk paid to the emperor is ſaid to amount to 370,466 pounds raw, and 2574 wrought, beſides ſome other quantities of the fineſt, ſent as a preſent to the court by the imperial barges. The province hath eleven capital cities, or cities of the firſt rank, and ſeventy-ſeven of the ſecond and third rank; beſides eighteen fortreſſes, moſt of them upon the ſea-coaſts, and large and populous enough to paſs in other countries for conſiderable cities. The inhabitants are ingenious, polite, and courteous to ſtrangers, but very ſuperſtitious.

CHELIDONIUM, CELANDINE, and HORNED or PRICKLY POPPY; a genus of the monogynia order, belonging to the polyandria claſs of plants. There are ſix ſpecies, none of which are remarkable for their beauty; but one of them, *viz.* the majus, is an article in the materia medica. It grows on old walls, among rubbiſh, and in waſte ſhady places. The herb is of a blueiſh-green colour; the root of a deep red; and both contain a gold-coloured juice: their ſmell is diſagreeable, the taſte ſomewhat bitteriſh, very acrid, burning and biting the mouth; the root is the moſt acrid. The juice takes off warts; cures tetters, ring-worms, and the itch; and, diluted with milk, it conſumes opake white ſpots on the eye.—Horſes, cows, goats, and ſwine, refuſe to eat the herb.

CHELIDONIUS LAPIS, in natural hiſtory, a ſtone ſaid by the ancients to be found in the ſtomachs of young ſwallows, and greatly cried up for its virtues in the falling-ſickneſs; but, from their deſcription, it appears to be only a

ſpecies of lycodontes, or bufonitæ. See LYCODONTES, and BUFONITÆ.

CHELM, a town of Poland, capital of a palatinate of the ſame name. It is ſituated in the province of Red Ruſſia. E. long. 23. 30. N. lat. 51. 25.

CHELMSFORD, the county town of Eſſex, ſituated on the river Chelmer, in E. long. 30. N. Lat. 51. 40. It ſends two members to parliament.

CHELONE, in botany, a genus of the angioſpermia order, belonging to the didynamia claſs of plants. There are three ſpecies, *viz.* the Glabra, the Hirſuta, and the Penſtemon. They are natives of North America; and are herbaceous flowery perennials, with upright ſtalks two feet high, decorated with ſpear-ſhaped leaves, and beautiful ſpikes of monopetalous, ringent flowers, red, roſe-coloured, blue, and purple. They flower from September to November, and are ſometimes ſucceeded by ripe ſeeds in this country. They are very hardy plants, and may be propagated by ſeeds ſown in any ſoil or ſituation; but the two firſt multiply ſo faſt by their creeping roots, that the ſeeds are ſeldom regarded.

CHELSEA, a fine village ſituated on the northern bank of the river Thames, a mile weſtward of Weſtminſter, remarkable for a magnificent hoſpital of invalids and old decrepit ſoldiers; and a pleaſure-houſe, called Ranelagh, to which a great deal of fine company reſort in ſummer.

CHELTENHAM, or CHILTENHAM. See CHILTENHAM.

CHELUM, a river of Hindooſtan Proper, being the weſternmoſt of the five eaſtern branches of the river Indus. It riſes above Caſhmere, waters that city, and flowing through the province of the ſame name, in a S.E. direction, unites with the Indus below Moultan. This river is the famous Hydaſpes of Alexander.

CHEMISE, in fortification, the wall with which a baſtion, or any other bulwark of earth, is lined for its greater ſupport and ſtrength: or it is the ſolidity of the wall from the talus to the ſtone-row.

Fire-CHEMISE, a piece of linen cloth, ſteeped in a compoſition of oil of petrol, camphor, and other combuſtible matters, uſed at ſea to ſet fire to an enemy's veſſel.

CHEMISTRY (*Encycl.*). In p. 479 of that article ſome mention is made of Mr. Woulfe's improvement in the receiver for diſtillation. To that as well as to what has been offered in this ſupplement under the article ACID, we wiſh to add the deſcription of a chymical apparatus reſembling that of Woulfe, and requiring no lute, by Mr. Girard. The ingenious apparatus of Woulfe, to which modern chemiſtry is ſo highly indebted, being attended with ſome ſlowneſs in the operation to which it is applied, the means of ſimplifying it have long been ſought, and various forms have been contrived to produce this apparatus hermetically cloſed, and without lute. Theſe, in general, are too difficult in the execution; but that offered by Girard to the National Inſtitute of Paris may be put together or diſmounted in a few ſeconds, and appears to be applicable to all circumſtances.

In this conſtruction nothing more is required, but to cauſe the bottles or veſſels to be made at the glaſs-houſe with one of the necks A, provided with an internal AB, which is welded in the neck itſelf, by means of a projection or prominence in the glaſs, ſee plate II. fig. 1. The oppoſite neck is firſt drawn out into a point or thin tube as uſual; but afterwards, inſtead of breaking it off near the veſſel to accommodate it to the ſubſequent fittings, it is left of the full length, and bended in ſuch a manner that it terminates in the arc of a circle, which can be introduced into the tube AB. It is unneceſſary to remark, that the tube AB, and the neck which is to be introduced, muſt have the ſame curvature. This condition is very eaſily obtained by bending the tubes and the necks on the ſame cylinder of earth or wood.

It may here be readily underſtood, that the back or neck of the firſt bottle being introduced into the tube of the ſecond, and paſſing further inwards than its extremity, and the interior tubes of each bottle being immerſed in water, no gas can iſſue from the firſt veſſel but by paſſing through its neck, and riſing in the ſecond through the aſcertained fluid.

Fig. 2. repreſents another apparatus of Woulfe, which may be ſubſtituted inſtead of the other in caſe the operator reſide at a diſtance from a glaſs-houſe. It is compoſed of wide-mouthed tubulated bottles. A tube is taken rather thick, and wide enough to contain another. In the upper part of this tube an enlargement muſt be made by blowing, and this part is to be fitted into the neck by grinding, in the ſame manner as ſtoppers are uſually adjuſted.

Another tube is then taken which can enter into the other with eaſe and freedom of motion The extremity A of this tube is to be ground in the ſame manner, that it may be fitted in the neck of another bottle, and it is bended into the uſual curve ABC. It is thus introduced into the tube EF, fig. 3. and the lower extremity D is turned upwards. Fig. 2. ſhews the manner of adjuſting the apparatus, and it may be ſeen that it is hermetically cloſed, where the lower part of the large tube is plunged in the water.

The bending or curvature of the tubes and necks of the bottles is intended, as may be readily conceived, merely to anſwer the purpoſe of directing the bubbles of the gas which eſcape from the tube, ſo that they may not again enter the orifice from which they eſcaped. It is, therefore, unneceſſary in an apparatus of any conſiderable magnitude, in which the neck is made to project an inch or more beyond the lower opening of the tube, for in this caſe the bubbles neceſſarily paſs clear of this aperture.

Fig. 4 alſo exhibits another conſtruction of this apparatus.

If an apparatus compoſed of a very long ſeries of bottles were employed, there would be reaſon to fear that the gas contained in the firſt veſſel, having a very ſtrong reſiſtance to overcome, might cauſe the fluid of this firſt bottle to riſe in the tub and eſcape; but it would be very eaſy to remedy this inconvenience, either by uſing veſſels of different ſizes, or by putting a leſs quantity of fluid in the firſt than in the ſucceeding veſſels.

The neceſſity of diſtilling the *oxygenated muriatic acid* on a large ſcale, has given riſe to the invention of different kinds of apparatus more or leſs convenient. Some of theſe have been ſpoken of under the article BLEACHING. Berthollet has propoſed matraſſes with bent tubes, which convey the oxygenated muriatic acid to the pneumatic tub, in which the bubbles, traverſing the water, are forced, by means of an agitator, to combine more or leſs with it. Pajot de Charmes recommends the uſe of tubulated retorts; but, beſides theſe veſſels being too dear, they do not anſwer the propoſed end, ſince a portion of ſulphuric acid not decompoſed, and which injuries the proceſs, always paſſes into the water.

C. Widner, at Jouay, has arranged his apparatus in ſuch a manner as to loſe the leaſt gas poſſible during the condenſation: he receives the gas under a capſule inverted at the bottom of the apparatus; above theſe are two *tours de gouttière* alſo inverted, then another capſule above theſe; then two more *tours de gouttière*, and then another capſule, which terminates the apparatus. The diſpoſition of this tub is ſuch, that he places around in his laboratory ſeveral diſtilling apparatuſes, which are going at the ſame time.

Apparatuſes conſtructed on ſimilar principles are alſo in uſe at Glaſgow and Mancheſter. Bourboulon-de-Bonneul has

likewiſe invented an apparatus conſiſting of ſeveral matraſſes, ranged as in an aqua-fortis manufactory, the tubes of which are conveyed into a chamber containing concentrating tubs. His apparatus for the bleaching of paper is very ingenious, and deſerves to be deſcribed. In the laſt place, others have arranged five or ſix large caſks, like Woulfe's apparatus, in ſuch a manner as to make each caſk perform the functions of a tubulated flaſk. The bleachers in Ireland employ a kind of leaden alembic capable of containing forty gallons of water; a capacity more than ſufficient to contain the charge, and to favour the ſwelling which takes place by the reciprocal action of the matters during the diſtillation. This alembic (ſee Plate 20.), of a conic form, and having a very broad baſe, reſts in a balnæum mariæ, in order that it may be ſubjected to progreſſive heat; and the neck is of ſuch a height, that any ſulphuric acid which happens to riſe may fall back. The cover is perforated to afford a paſſage to the handle of an agitator, which ſerves to ſtir the matters at the bottom of the alembic: this agitator is of iron as well as its arms; but the iron is covered with a pretty thick plate of lead, that the acid may not attack it; the handle goes through a leather collar, to prevent the eſcape of the gas. The ſulphuric acid, diluted with water, is introduced into the leaden apparatus by means of a ſmall glaſs or leaden funnel, the tube of which is bent to guard againſt the reaction of the gas. The apparatus is alſo furniſhed with a condenſer, into which the gas is made to paſs. This veſſel has ſeveral ſhelves and an agitator. The latter goes through a leather collar in the top of the condenſer, paſſes down through the ſhelves, and is furniſhed with arms between each of the ſhelves; by which means the gas in its aſcent is expoſed to the action of the liquid in a ſtate of great agitation, and has a long way to travel through it. (See the plate.) Mr. O'Reilly ſpeaks of an apparatus which, in his opinion, is free from thoſe faults which generally attend an apparatus of lead, which always becomes oxidated, and is at length deſtroyed. "This apparatus," ſays he, "conſiſts of a ſeries of conical matraſſes with long necks, furniſhed with bent funnels as well as tubes, both of glaſs, which are conveyed into a common reſervoir This reſervoir ought to be perforated in ſuch a manner as to leave room for the introduction of a tube of a larger ſize (two inches), communicating with the firſt condenſing caſk or cylinder, made of white wood, twenty inches in diameter, bound round by hoops made tight with ſcrews, and completely water-proof. Care muſt be taken to cover theſe hoops with a coating of japan, as it is called, or with oil paint, to prevent the oozings of the liquor from ruſting them. The height of this cylinder muſt be ſeven or eight feet, and even more, if poſſible, in order to increaſe the preſſure; and ought to have placed over it a large two-necked bottle deprived of its bottom, or a glaſs bell with two necks cemented to the upper edge of the cylinder. In one of theſe necks the large tube of the reſervoir is introduced, and made to deſcend to the bottom of the cylinder. The air bubbles, as they are diſengaged, being forced to traverſe the fluid under a preſſure equal to the height of the column of water, will combine with it until it be ſaturated; the ſecond is alſo furniſhed with a leaden tube, the orifice of which is below the ſurface of the water; the ſuperabundant gas paſſes through this tube, and, deſcending into the ſecond cylinder of wood, ſimilar in all reſpects to the preceding, ſaturates the water in it:—a third cylinder may be added, if judged neceſſary. By this arrangement the ſmalleſt portion of the gas cannot eſcape: care muſt be taken to apply a leaden cock at the bottom of each cylinder, in order to draw off the bleaching liquor as it is formed.

"The reſiduums, after the diſtillation of the oxygenated muriatic acid, may be ſold to earthen-ware manufacturers to be employed as a glazing for their coarſe articles. The manganeſe contained in it gives it a blackiſh appearance, like that of bronze, which is far from being diſagreeable to the eye. I have employed this glazing ſeveral times by way of trial; firſt fuſing it with ſand in a potter's furnace, throwing it into cold water to facilitate its diviſion, and grinding it in a mill in order that it might be diffuſed in water. This glazing is attended with the advantage of being free from thoſe dangerous qualities ſo common in all preparations made from the oxides of lead; but the moſt important object is the extraction of the ſoda from the ſulphate of ſoda, which is formed in great quantity by the proceſs, and remains in the reſiduum of the diſtillation.

"The firſt point is, to convert the ſulphate of ſoda into an alkaline ſulphuret. Malhearbe and Athenas have ſucceeded in this, by employing iron as the intermediate ſubſtance: they mixed one part of charcoal duſt with nine parts of the ſulphate of ſoda, and expoſed the mixture to the heat of a reverberating furnace: when the ſulphuret entered into combuſtion, they added from three to five parts of old iron rendered as ſmall as poſſible; and the whole being fuſed together, they obtained black paſte, compoſed of iron, ſoda, ſulphate of iron, &c. This mixture was lixiviated, and filtered through a baſket filled with lime: it was then evaporated to dryneſs, and the reſiduum was calcined in a reverberated furnace. When ſoda of a ſuperior quality is required, the waſhing and calcination muſt be repeated.

"Dizé and Le Blanc decompoſed the ſulphate of ſoda, by means of the carbonate of lime, in order to neutrallize the alkali, by ſaturating it, at a very high temperature, with carbonic acid. Their proceſs conſiſts in taking two parts of ſulphate of ſoda, dried to deprive it of its water of cryſtallization, two parts of well-ground chalk (carbonate of lime), and one part of charcoal powder, mixing them well in a muffled mortar, and then bringing the mixture to a white heat in a reverberated furnace: when the matter is fuſed it is ſtirred till the ſulphur is conſumed, and the ebullition and the jet of the flame produced by the hydrogen gas have ceaſed to appear. It is then taken from the furnace, and it may be lixiviated to obtain the ſoda very pure. In whatever manner the ſulphate is decompoſed, this object merits the greateſt attention at bleach-fields, on account of the conſiderable degree of œconomy which reſults from the different manipulations. The ley of oxygenated muriatic acid will be obtained at little or no expence by bleachers, when they ſeriouſly ſet about extracting the ſoda from the ſulphate formed during the diſtillation."

In whatever manner the muriatic acid gas may be diſtilled, the great object is to ſaturate the water with this aëriform fluid. Its action in bleaching is always ſtronger when employed alone than when in the ſtate of combination with ſalts or earths, as in the ſubſequent operations. The volatility of the acid, however, is ſuch, and the loſs of the gas ſo enormous, that, when the thread of cloth is immerſed, there is diſſipated of it a quantity which may be eſtimated at about a *third*, at leaſt, of the whole gas. The mixture of potaſh, indeed, renders the liquor inodorous; but beſides this ſalt is expenſive, and greatly weakens the deterſive quality of the liquor.

Mr. Rudd, of Mancheſter, has invented an apparatus for bleaching cloth, exceedingly ſimple in its conſtruction, of ſmall expence, and which contains the liquor in ſuch a manner as to prevent the eſcape of the oxygenated muriatic acid gas. A conſideration of no leſs importance in the arrangement of this apparatus is, the impoſſibility of the vapour injuring the health of the workmen.

CHENSI, a province in the N.W. part of China. It contains eight cities of the firſt rank, and 106 of the ſecond and third, beſides many forts on the great wall. The air is to ſtrangers temperate, and the inhabitants more civil and affable than others in the northern parts. The ſoil is fertile, and abounds in wheat and millet. They have alſo rhubarb, honey, wax, muſk, cinnabar, and coal-mines. They have a great number of deer, bears, wild bulls, and an animal reſembling a tiger, whoſe ſkin is very curious. There are alſo muſk-goats, and bats as large as hens, beſide two or three other ſorts of animals quite unknown in Europe.

CHER, a department of France, including part of the late province of Berry. It receives its name from the river Cher, which riſes in Auvergne, and watering Tours, &c. falls into the Loire, five miles above the mouth of the Indre. Bourges is the capital.

CHERSON, the capital of New Ruſſia, in the government of Catharinenſlaf. It is a new town, erected by the Empreſs Catharine II. on the north bank of the river Dnieper, 10 miles below the mouth of the Ingulec. It is not yet very large; but the church and many of the houſes are built of ſtone, in a pretty taſte. It is intended to be the principal mart of all the commodities of export and import. It has a dock for the conſtruction of large veſſels, from which ſeveral men-of-war and merchant ſhips have been already launched. It is ſupplied with fuel by reeds only, of which there is an inexhauſtible foreſt in the ſhallows of the Dnieper, oppoſite the town. Rails, and even temporary houſes, are made of them. They are tall and ſtrong, and afford ſhelter to various kinds of aquatic birds, ſome of which are very beautiful. The fortifications are made, and the plantations formed, by malefactors, who amount to ſome hundreds. In 1787 the empreſs made a triumphant journey to this capital, and here met the Emperor Joſeph II. Her intention, it is ſaid, was to be crowned here queen of Taurica, and empreſs of the Eaſt. But the deſign, whatever it was, did not take place; and Catharine was content to have inſcribed over one of the gates of the city, "Through this gate lies the road to Byzantium" In this place, in 1790, the celebrated Mr. Howard, ſo well known for his plans of reform of the different hoſpitals and priſons of Europe, fell a victim to his indefatigable humanity. Cherſon is 50 miles E. of Oczakow. Long. 33. 10. E. Lat. 46. 5. N.

CHERZ, an ancient town of Poland, in Maſovia, 15 miles from Warſaw. Long. 21. 8. W. Lat. 52. 1. N.

CHESHAM, a town in Bucks, with a market on Wedneſday. It is 12 miles S.E. of Aileſbury, and 29 W. by N. of London. Long. 0. 36. W. Lat. 51. 42. N.

CHESTER, West, the capital of the county of Cheſter, in Pennſylvania. It is ſeated on the Delaware, and has a fine harbour. Long. 75. 27. W. Lat. 39. 54. N.

CHIARENZA, a ſea-port of Turkey in Europe, in the Morea, oppoſite the iſland of Zante. Long. 21. 35. E. Lat. 37. 50. N.

CHIARO-MONTE, a town of Sicily, on a mountain, 25 miles W. of Syracuſe. Long. 14. 59. E. Lat. 37. 3. N.

CHIAVENNA, Laghetto di, a ſmall lake of the country of the Griſons, in Switzerland, near the town of the ſame name. The views of this lake are extremely wild and magnificent; ſurrounded as it is by barren rocks, craggy, and riſing into ſpires ſprinkled with ſnow. The baſes of theſe dreadful precipices are loſt in the dead and overſhadowed water, dangerous on account of its malignant vapours, and affording no aſylum, ſcarcely a landing-place, to the crews of thoſe frail boats, which are caught unwarily in the violent ſtorms to which it is ſubject.

CHIEMSEE, a lake of Germany, in Bavaria, which contains a town of the ſame name, where there is a biſhop's ſee. The iſland in which it ſtands is 17 miles in circumference, and lies 22 miles W.S.W. of Saltzburg.

CHIERI, a fortified town of Piedmont, ſeated on the declivity of a hill, in a pleaſant country, bounded on all ſides by hills covered with vines. It is eight miles E. of Turin.

CHIETI, a town of the kingdom of Naples, capital of Abruzzo Citeriore, with an archbiſhop's ſee. It is ſeated on a mountain near the river Peſcara, eight miles S.W. of Peſcara. Long. 15. 7. E. Lat. 42. 20. N.

CHIGWELL, a village in Eſſex, near Epping Foreſt. Here is a free ſchool, founded by Archbiſhop Harſnett, who had been vicar of this place. He was buried in the church; and his grave-ſtone was adorned with his figure in braſs, in his pontifical robes. This, for the better preſervation of it, has been fixed on the pedeſtal in the chancel. Chigwell is 10 miles N.E. of London.

CHIHIRI, or Port-cheer, a town in Arabia Felix, with a harbour. It carries on a conſiderable trade. Long. 49. 25. E. Lat. 14. 40. N.

CHILKA, a lake in the Deccan of Hindooſtan, which bounds the five Circars on the N. It lies on the coaſt of the bay of Bengal, and ſeems the effect of the breach of the ſea over a flat ſandy ſurface, whoſe elevation was ſomething above the level of the country within. It communicates with the ſea by a very narrow but deep opening, and is ſhallow within. It is 40 miles long from N.E. to S.W. and, in moſt places, 12 or 15 wide, with a narrow ſlip of ground between it and the ſea. It has many inhabited iſlands in it. On the N.W. it is bounded by a ridge of mountains, a continuation of that which extends from the Mahanuddy to the Godavery River, and ſhuts up the Circars toward the continent. To thoſe who ſail at ſome diſtance from the coaſt, this lake has the appearance of a deep bay; the ſlip of land not being viſible.

CHIMAY, a town of France, in the department of the North and late province of Hainault. It is ſeated on the river Blanche, 20 miles S.S.W. of Charleroy. Long. 4. 15. E. Lat. 50. 0. N.

CHIMLEIGH, a town in Devonſhire, with a market on Wedneſday. It is almoſt ſurrounded by the river Dart, and is 21 miles N.N.W. of Exeter. Long. 3. 53. W. Lat. 50. 57. N.

CHIMNEY (*Encycl.*). In the deſcription of the Staffordſhire fire-place, the reference ſhould have been to Plate 88 inſtead of 89.

CHIMNEY-SWEEPER, a miſerable little wretch, ſcarcely human in his appearance or pretenſions, employed in the drudgery of diſlodging the ſoot from the chimneys of his employers. Of all the labours of the London Society for bettering the condition of the poor, none deſerve more encomium than the methods taken to reſcue this neglected and deſpiſed claſs of beings from perdition. We ſhall here give ſome account of what has been done, from their ſecond volume of Reports. In Auguſt, 1798, a ſunday ſchool, eſtabliſhed at Kingſton, was extended to the relief and inſtruction of the chimney-ſweepers' boys in that place. They are, indeed, few in number, but they had been left (as in moſt parts of England thoſe unfortunate boys are) without the means of cleanlineſs or of education, and without either example or inſtruction to induce religious or moral habits at that age which, wherever juſtice is done to the human character, ought to be the ſeaſon of preparation for life.

They had been not only deſtitute of inſtruction, but in ſome degree, of clothing; and, when unemployed, were left

to wander, almoſt in a ſtate of nature, excluded from the advantages of rational and Chriſtian beings.—In order that they might be in proper condition to appear in the ſchool, a lady of the neighbourhood, diſtinguiſhed as much by her benevolence as her rank, clothed each of theſe poor objects in the following manner.

A jacket and pair of trowſers of coarſe blue cloth	0	10	6
Two ſhirts	0	7	0
A pair of ſhoes	0	4	0
A hat	0	2	3
	£.1	3	9

Beſides this ſhe ſent to each chimney-ſweeper's houſe,

A ſtraw paillaſſe	1	2	0
A pair of blankets	0	17	0
A waſhing tub	0	6	6
	£.2	5	6

and a weekly allowance of a quarter of a pound of ſoap.

The boys are always improving in their reading, and ſome of them are now beginning to read in the New Teſtament. They are acquiring habits of cleanlineſs and attention, and their manners and morals are already very greatly improved.

This ſchool, or rather the part that reſpects chimney ſweepers' boys, is under the direction of a committee of eight perſons, together with a maſter and miſtreſs appointed by them, in Brick-lane, Kingſton.

Observations.—The above is ſtated for the conſideration of the inhabitants of country towns; where a ſimilar proviſion for theſe unfortunate objects might be very uſefully and effectually made, with very little expence or trouble. The remedy is ſo ſimple, and ſo eaſily applied, that the example needs only be given to be gradually adopted in moſt country towns in England.

To afford that degree of attention and relief, in London, which theſe boys are entitled to, in policy, as well as in juſtice, the proviſions to be made for them will be rather more complicated, and will require ſome conſideration. But there is no great difficulty in what is to be done. Protection and education during the period of apprenticeſhip, and the means of livelihood when that period expires at the age of ſixteen, are all the eſſential parts of the plan. If theſe were attained, even in a qualified degree, the general condition of a chimney-ſweeper's boy would not be a ſituation of more ſuffering and diſadvantage, than that of perſons in many other ſituations in life; and not ſubject to more hardſhip or danger, than the initiation into that dignified and honourable profeſſion, from which the Britiſh nation does now derive ſo much ſecurity, and ſuch diſtinguiſhed glory; and in which the firſt families in this country are deſirous of inſcribing their children.

It would produce a material improvement in the condition of the chimney-ſweeper's boy, and the character of the trade, if the practice of crying the ſtreets was entirely diſcontinued, and if families could be induced, as in other trades, to employ thoſe maſters, *whoſe characters are known in the neighbourhood.* There is nearly as much reaſon for ſending round the bricklayer's lad with his hod of mortar and a few bricks, ſcreaming his maſter into that employment which neither his ſituation nor character would otherwiſe given him any pretenſion to, as the loading with his bag and implements of trade, a little child already ſuffering by dirt, hunger, cold, and the want of domeſtic comfort; and ſending him to diſturb the ſtreets by his cries, till ſome unknown perſon calls him in, and employs him in his trade. How much better would it be that reſpectable men, like the benevolent Mr. Porter (to whoſe ſuggeſtions the country are indebted for the inſtitution of the ſociety of of maſter chimney-ſweepers, which we ſhall preſently notice), ſhould be ſettled in every neighbourhood; their characters and conduct known; and that any orders for employment ſhould be ſent the day before, ſo that the maſter might arrange his boys' time for the enſuing day, in the ſame manner, and with the ſame regularity, as in other trades; inſtead of their being exhauſted and deſtroyed, in the very act of applying for employment. If, indeed, it were in the power of every maſter to ſhew ſuch boys as Mr. Porter's, we ſhould have a ſucceſſion of hardy and intrepid lads formed for the navy, and for thoſe ſituations in which early habits of activity and enterpriſe are abſolutely neceſſary.

It has been a principal object of Mr. Porter's life, that boys apprenticed to his trade ſhould in future be protected and ſecured from thoſe diſeaſes, hardſhips, and dangers, for which he, by extraordinary energy of mind and body, and by the mercy of God, has been eminently preſerved. With this view he has prepared, in concert with ſome others of his trade, a plan for its regulation; a brief detail of which will employ the remainder of this paper.

Mr. Porter commences his ſtatement by a general approbation of the act for the relief of climbing boys, as far as the proviſions extend; but obſerves, that thoſe proviſions are not complied with by a majority of the maſters in the trade, either as to the clothing, lodging, or food of their apprentices:—That ſuffering and hardſhip are not neceſſarily incident to the trade, but ariſe merely from the want of proper internal regulations, which would ſoon remedy the evil. Their diſtreſs, however, when they quit their maſters, at the expiration of their apprenticeſhip, on attaining the age of 16 years, requires ſome contributory aſſiſtance from the public; they being then without money, without friends, and without the means or capacity of occupation. To provide a general ſyſtem of relief, it is contrived, that the maſters in the metropolis ſhall (with the contribution of an annual guinea from honorary members) form themſelves into a friendly ſociety for the protection of climbing boys during their apprenticeſhips; and for raiſing a fund to place out in occupations, at the age of 16, the boys of any of the members: the buſineſs of the ſociety to be conducted by a committee, which ſhall be elected by and out of the honorary and other members; and from which a ſub-committee of maſters ſhall be appointed to inſpect the bedding, clothing, and accommodation, of the apprentices of all maſters belonging to the ſociety, and to report whether they are comformable to their indentures of apprenticeſhip, and to the regulations of the act; and to hear any complaints of the boys, to enquire as to apprenticeſhips, and to apply to the magiſtrates in thoſe caſes where the act of parliament remains unexecuted.

Such is the outline of a plan, which the ſociety have ſince given more at length; and for the furtherance of which, by contributing as honorary members, the humanity, policy, and juſtice, of the public, have been reſorted to with ſome degree of ſucceſs.

The nature of this humane inſtitution will be beſt underſtood by the following copy of the articles of agreement, of the 19th of March, 1800, between ſeveral maſter chimney-ſweepers within the liberties of Weſtminſter and the Holborn diviſion of the county of Middleſex, for forming a friendly ſociety for the protection and inſtruction of their apprentices.

1ſt. It is hereby agreed that the ſaid maſter chimney-ſweepers do form themſelves into a friendly ſociety, for the protection and inſtruction of climbing boys during their apprenticeſhip; and to raiſe a fund, with the aſſiſtance of the honorary members of the ſaid ſociety, to give premiums with them to other trades, when their terms as chimney-ſweepers

ſhall expire; in order to enable them to become uſeful to themſelves and the community, and alſo to promote the general intereſt and credit of the trade.

2d. That all chimney-ſweepers above 21 years of age, being houſekeepers within the liberties of Weſtminſter and county of Middleſex, and having one or more apprentices, be eligible as members of this ſociety, and after election capable of being admitted, when they ſhall have ſigned theſe articles; and that the ſaid ſociety do conſiſt of ſuch members, ſo elected and admitted, and of ſuch honorary members as are hereinafter mentioned.

3d. That this ſociety do annually elect ſix members, maſters in the trade, and ſix of the honorary members hereinafter mentioned, to be a committee, with the preſident, four vice-preſidents, and treaſurer, to conduct the affairs thereof: and that they meet at ſuch hour and place as they ſhall from time to time appoint; and that any three of them conſtitute a board for the diſpatch of buſineſs.

4th. That a general meeting of this ſociety be held at two o'clock preciſely, on the firſt Wedneſday in the months of January, April, July, and October, in every year, to conſider and approve the meaſures of the committee, and for other purpoſes.

5th. That this ſociety do elect, by ballot, ſome member thereof to be treaſurer, to receive the ſubſcriptions, &c. of the members; which treaſurer do give a ſecurity to ſuch amount as the committee ſhall direct; and do pay all ſubſcriptions and other monies received, into the banking-houſe of the ſociety, to be entered with the names of the ſeveral ſubſcribers, ſo as it may all paſs through that account.

6th. That the committee have full permiſſion, at all reaſonable times of the day, to inſpect the bedding, clothing, &c. of all apprentices belonging to the members of this ſociety, to ſee whether they be according to the tenor of the indenture of ſuch apprentices, and conformable to the regulations contained in the act of parliament, and alſo that they do make report thereof to the ſociety at their general meetings.

7th. That it is the duty of every member of the committee, at all times, to hear the complaints of any apprentice in the trade, within the liberties of Weſtminſter and county of Middleſex, and to ſummon before a magiſtrate any maſter or miſtreſs who may violate the act of parliament made for the relief of climbing boys.

8th. That the ſociety do place out each boy, who ſhall complete the whole term of his apprenticeſhip as a chimney-ſweeper, to ſome other trade, not a chimney-ſweeper, from the period when he ſhall be 16 years of age until he attain the age of 21; provided he does not enter into an engagement to continue with his maſter, or ſome other maſter of the trade, being a member of this ſociety, during that time; and that the ſociety do give a premium, not exceeding 10l., for that purpoſe.

9th. That this ſociety give a gratuity, not exceeding 10l. to every perſon whoſe apprenticeſhip, as a chimney-ſweeper, ſhall expire after the 1ſt day of July, 1800, in caſe he ſhall from that time continue in the ſea ſervice, or as an articled ſervant to a member or members of this ſociety, from the age of 16 to the age of 21; and that ſuch gratuity be paid him within three months after his attaining the age of 21.

10th. That this ſociety do take ſecurity from any perſon, to whom they may give a premium with an apprentice, that ſuch apprentice ſhall not follow the trade or buſineſs of a chimney-ſweeper, before he be 21 years of age.

11th. That this ſociety will countenance no perſon whatſoever who ſhall have been on his own hands, or out of employ, any ſix months, from 16 to 21 years of age, except from ſuch cauſe as the committee ſhall think reaſonable.

12th. That this ſociety give premiums to none but apprentices of the members of this ſociety; but that it do, in other caſes, lend its friendly aid to all chimney-ſweepers' apprentices.

13th. That at any time when the money in the hands of the treaſurer ſhall amount to 20l. he ſhall place the ſame, in the name of the ſociety, in the banking houſe of Meſſrs. Dorſet, Johnſon, and Co. bankers, in New Bond-ſtreet, or at ſuch other banking-houſe as the ſociety, or the committee, may appoint.

14th. That all orders for the payment of money on account of the ſociety, be ſigned by the chairman and two of the committee, at a general quarterly meeting.

15th. That every member in the trade, on admiſſion into this ſociety, pay the ſum of 10s. 6d. and from the day of ſuch admiſſion pay the ſum of 1s. per month, for every apprentice he or ſhe may keep: ſuch payment to be made once in every three months: and in caſe he or ſhe ſhall leave any arrears unpaid, for more than three months after the time ſuch reſpective ſum or ſums ſhall become due (he or ſhe having had one calendar month's notice thereof), that then he or ſhe ſhall be expelled the ſociety, and the money paid by them forfeited for the benefit of the general fund.

16th. That all perſons, not in the trade, contributing one guinea, or more, annually, or paying ten guineas at once to the funds of the ſociety, be honorary members, and have a right to vote at all meetings thereof.

17th. That this ſociety do annually chooſe a preſident, four vice-preſidents, a treaſurer, and twelve other members of the committee, for conducting the affairs of the ſociety, at their general meeting, at two o'clock preciſely, on the firſt Wedneſday of the month of April, in every year; and (her Royal Highneſs the Ducheſs of Glouceſter having been elected and declared the patroneſs of the ſociety, and Mrs. Montague the vice-patroneſs, and the Lord-biſhop of Durham the preſident of the ſociety for the enſuing year) that the ſociety do meet on the firſt Wedneſday in the month of April next, to elect four vice-preſidents, a treaſurer, and ſix honorary members, and ſix members in the trade, to be, with the preſident, a committee for the enſuing year.

18th. That nothing be admitted as a law of this ſociety, unleſs it be propoſed at one meeting of the committee, approved of by the next, and confirmed at a general quarterly meeting of the ſociety.

19th, and laſtly. That the amount of all fines awarded by a magiſtrate to any member of this ſociety, for any tranſgreſſion againſt the act of parliament made for the relief of climbing boys, be paid into the hands of the treaſurer for the general purpoſes of the ſociety; and that the expences of any complaint or proceedings before a magiſtrate, by order of the committee, be paid out of the funds of the ſociety. In witneſs whereof the ſaid parties have hereunder ſigned their reſpective names, the day and year firſt above written.

Theſe articles have been ſigned by eighteen of the principal maſters in the trade, and fifty-ſix chimney-ſweepers' boys have been thereby placed under the care of the ſociety; an example that we hope will be followed in other places.

CHINEY, a town of the Auſtrian Netherlands, on the confines of the biſhopric of Liege, eight miles E. of Dinant. Long. 4. 57. E. Lat. 50. 18. N.

CHINSURA, a neat and pretty large town of Hindooſtan Proper, in Bengal. It is a ſettlement of the Dutch, and is ſeated on the river Hoogly, nearly midway between Chandernagore, and the old town of Hoogly. It is very diſtinguiſhable at a conſiderable diſtance, and has a handſome appearance. It contains ſeveral good houſes, and a church, with a little mole projecting into the river.

CHIRK, a village S. of Wrexham, in Denbighſhire. It had formerly two caſtles, on the top of a hill, one of which

is ſtill entire in many parts, and ſeems to have been a magnificent ſtructure.

CHISLEHURST, a village of Kent, near Bromley. Here is Camden Place, the ancient ſeat of the Earl of Camden, and the reſidence of the celebrated antiquary of that name, who died here. Chiſlehurſt was alſo the birth-place of Sir Nicholas Bacon and Sir Francis Walſingham. It is 11 miles S.E. of London.

CHISME, a ſea-port of Natolia, on the ſtrait that parts the continent from the iſle of Scio. It was anciently called Cyſſus, was celebrated by the great victory which the Romans gained here over the fleet of Antiochus, in the year 191 B. C. and has been recently diſtinguiſhed by the total deſtruction of the Turkiſh fleet by the Ruſſians in 1770.

CHISWICK, a village in Middleſex, on the Thames. Here is Chiſwick-houſe, a celebrated villa of the Duke of Devonſhire, built by the Earl of Burlington, after a deſign of Palladio. In the church yard is a monument to the memory of Hogarth, with an epitaph by Garrick. Chiſwick is five miles W. by S. of London.

CHITRO, a town of Turkey in Europe, on the bay of Salonichi; the place where the mother, wife, and ſon of Alexander, were murdered by Caſſander; and where Perſeus king of Macedonia was defeated by the Romans. Long. 22. 35. E. Lat. 40. 20. N.

CHITTEDROOG, a town of the peninſula of Hindooſtan, in the kingdom of Myſore, 117 miles N. by W. of Seringapatam. Long. 76. 15. E. Lat. 14. 5. N.

CHIVALRY (*Encycl.*). In addition to what has already been offered under this article, ſome obvious circumſtances of agreement between the heroic and Gothic manners may be worth the reader's attention:

1. The military enthuſiaſm of the barons, is but of a piece with the fanaticiſm of the heroes. Hence the ſame particularity of deſcription in the accounts of battles, wounds, deaths, in the Greek poet, as in the Gothic romance. Hence that minute curioſity in the diſplay of their dreſſes, arms, and accoutrements. The minds of all men being occupied with warlike images and ideas, were much gratified by thoſe details which appear cold and unaffecting to modern readers.

We hear much of knight-errants encountering giants, and quelling ſavages, in books of chivalry. Theſe giants were oppreſſive feudal lords, and every lord was to be met with, like the giant, in his ſtrong-hold or caſtle. Their dependents of a lower form, who imitated the violence of their ſuperiors, and had not their caſtles, but lurking places, were the ſavages of romance. The greater lord was called a giant for his power; the leſs, a ſavage, for his brutality.

Another terror of the Gothic ages, was monſters, dragons, and ſerpents. Their ſtories were received in thoſe days for ſeveral reaſons: 1. From the vulgar belief of enchantments: 2. From their being reported on the faith of eaſtern tradition, by adventurers from the holy land: 3. In ſtill later times from the ſtrange things told and believed on the diſcovery of the new world.

In all theſe reſpects, Greek antiquity reſembles the Gothic. For what are Homer's Læſtrigons and Cyclops, but bands of lawleſs ſavages, with each of them a giant of enormous ſize at their head? And what are the Grecian Bacchus, Hercules, and Theſeus, but knights-errant, the exact counterparts of Sir Launcelot, and Amadis de Gaul?

3. The oppreſſions which it was the glory of the knights to avenge, were frequently carried on, as we are told, by the *charms and enchantments of women*. Theſe charms, we may ſuppoſe, are often metaphorical; as expreſſing only the blandiſhments of the ſex. Sometimes they are taken to be real, the ignorance of thoſe ages acquieſcing in ſuch conceits. And are not theſe ſtories matched by thoſe of Calypſo and Circe, the enchantreſſes of the Greek Poet?

4. Robbery and piracy were honourable in both: ſo far were they from reflecting any diſcredit on the ancient or modern *redreſſers of wrongs*. What account can be given of this, but that, in the feudal times, and in the early days of Greece, when government was weak, and unable to redreſs the injuries of petty ſovereigns, it would be glorious for private adventurers to undertake this work; and, if they could accompliſh it in no other way, to pay them in kind by downright plunder and rapine?

5. Baſtardy was in credit with both. They were extremely watchful over the chaſtity of their own women; but ſuch as they could ſeize upon in the enemies' quarter, were lawful prize. Or if, at any time, they tranſgreſſed in this ſort at home, the fault was covered by an ingenious fiction. The offſpring was reputed divine. Their greateſt heroes were the fruit of goddeſſes approached by mortals; juſt as we hear of the doughtieſt knights being born of fairies.

6. With the greateſt fierceneſs and ſavageneſs of character, the utmoſt generoſity, hoſpitality, and courteſy, was imputed to the heroic ages. Achilles was at once the moſt relentleſs, vindictive, implacable, and the friendlieſt of men. We have the very ſame repreſentation in the Gothic romances. As in thoſe lawleſs times, dangers and diſtreſſes of all kinds abounded, there would be the ſame demand for compaſſion, gentleneſs, and generous attachments to the unfortunate, thoſe eſpecially of their own clan, as of reſentment, rage, and animoſity againſt their enemies.

7. Again, the martial games celebrated in ancient Greece, on great and ſolemn occaſions, had the ſame origin, and the ſame purpoſe, as the tournaments of the Gothic warriors.

8. Laſtly, the paſſion for adventures, ſo natural in their ſituation, would be as naturally attended with the love of praiſe and glory. Hence the ſame encouragement, in the old Greek and Gothic times, to panegyriſts and poets. In the affairs of religion and gallantry, indeed, the reſemblance between the hero and the knight is not ſo ſtriking. But the religious character of the knight was an accident of the times, and no proper effect of his civil condition. And that his devotion for the fair ſex ſhould ſo far ſurpaſs that of the hero, is a confirmation of the ſyſtem here advanced. For the conſideration had of the females in the feudal conſtitution, will of itſelf account for this deference. It made them capable of ſucceeding to fiefs, as well as the men. And does not one ſee, on the inſtant, what reſpect and dependence this privilege would draw upon them?

It was of mighty conſequence who ſhould obtain the favour of a rich heireſs. And though, in the ſtrict feudal times, ſhe was ſuppoſed to be in the power and at the diſpoſal of her ſuperior lord, yet this rigid ſtate of things did not laſt long. Hence we find ſome diſtreſſed damſel was the ſpring and mover of every knight's adventure. She was to be reſcued by his arms, or won by the fame and admiration of his proweſs. The plain meaning of all which was this: That as, in theſe turbulent times, a protector was neceſſary to the weakneſs of the ſex, ſo the courteous and valorous knight was to approve himſelf fully qualified for that purpoſe.

It may be obſerved, that the two poems of Homer were intended to expoſe the miſchiefs and inconveniences ariſing from the political ſtate of Old Greece: the *Iliad*, the diſſenſions that naturally ſpring up among independent chiefs; and the *Odyſſey*, the inſolence of their greater ſubjects, more eſpecially when unreſtrained by the preſence of their ſove-

reign. And can any thing more exactly reſemble the condition of the feudal times, when, on occaſion of any great enterpriſe, as that of the cruſades, the deſigns of the confederate Chriſtian ſtates were perpetually fruſtrated, or interrupted at leaſt, by the diſſenſions of their leaders; and their affairs at home as perpetually diſtreſſed and diſordered by the rebellious uſurpations of their greater vaſſals? Jeruſalem was to the European, what Troy had been to the Grecian princes.

CHIVAS, a town of Piedmont, which has been ſeveral times taken and retaken. It is ſo advantageouſly ſituated near the river Po, that it is the key of Italy. It is 12 miles N.E. of Turin. Long. 7. 47. E. Lat. 45. 13. N.

CHIUSI, an epiſcopal town of Italy, in Tuſcany, poorly peopled, on account of the unwholeſome air, 35 miles S.E. of Sienna. Long. 10. 52. E. Lat. 43. 0. N.

CHIUTAYE, a town of Turkey in Aſia, capital of Natolia Proper, and the reſidence of the Grand-ſignior before the taking of Conſtantinople. It is ſeated on the river Ayala, 75 miles E. of Burſa. Long. 30. 47. E. Lat. 39. 30. N.

CHOCZIM, a town of Moldavia, on the Dnieſter. It was taken by the Ruſſians and Auſtrians in 1788, but reſtored to the Turks at the ſubſequent peace. It is 110 miles N.W. of Jaſſy. Long. 26. 25. E. Lat. 48 46. N.

CHOISEY, a village of France, in the department of Oiſe, and late province of the Iſle of France. It is three miles from Compiegne, on the river Aiſne, in the fine foreſt of Compiegne, on which account here was a handſome royal hunting palace.

CHOLET, a town of France, in the department of Maine and Loire, and late province of Anjou, with a caſtle, 170 miles S.W. of Paris. Long. 0. 45. W. Lat. 47. 10. N.

CHONAT, an epiſcopal town of Hungary, capital of a country of the ſame name, on the Merich, 25 miles E. of Segedin. Long. 21. 4. E. Lat. 46. 20. N.

CHORGES, a town of France in the department of the Upper Alps, and late province of Dauphiny, burnt by the Duke of Savoy in 1692. It is 10 miles E. of Gap. Long. 6. 23. E. Lat. 44. 35. N.

CHOWLE, a ſmall town of the Deccan of Hindooſtan, on the coaſt of Malabar. It has a harbour for ſmall veſſels, and is fortified. It belongs to Portugal, and was formerly noted for its fine embroidered quilts and a good trade. It is 15 miles S. of Bombay. Long. 72. 45. E. Lat. 18. 42. N.

CHRISTIANOPLE, a ſtrong ſea-port of Sweden, on the Baltic, and capital of Blekingen. It is 13 miles N.E. of Carleſcroon. Long. 15. 47. E. Lat. 56. 26. N.

CHRISTIANBURG, a fort of Africa, on the Gold Coaſt of Guinea, ſubject to the Danes. Long. 1. 55. E. Lat. 4. 10. N.

CHRONOLOGY (*Encycl.*). We record the following events in continuation of our former article:

1796 Amboyna taken by the Engliſh.—Amberg taken by the French.—Severe engagement between the Auſtrians and French at Lodi, in which the latter behaved moſt gallantly, and were ſucceſsful.—Siege of Mantua raiſed by the French.—Swiſs independence aboliſhed by the French after a moſt gallant reſiſtance.—Ceylon ſurrendered to the Engliſh.—Corſica having put herſelf under the protection of England, was relinquiſhed to the French.—Minorca taken by the Engliſh.—Peace with France concluded by Naples and Sardinia.—War between England and Spain.

1797 A trilithon and ſome upright portions of Stonehenge fell after a froſt.—Bank of England prohibited by government from paying in ſpecie.—Their 20s. and 2l. notes iſſued, and large quantities of ſtamped dollars brought into circulation.—The king's proceſſion to St. Paul's church, to return thanks for a ſeries of victories obtained by the Engliſh navy.—The moſt formidable mutiny ever known, and at a moſt critical period, in the Britiſh fleets at the Nore and at Portſmouth, headed by a deſperado of the name of Parker, afterwards hanged with ſeveral others.—Penny pieces, of copper, firſt iſſued.—Revolution effected in Venice by the French.—Corfu ſeized by the French.—A contemptible French force landed in Wales.—Mantua ſurrendered to the French.—Trinidad taken by the Engliſh.—War between Auſtria and France terminated by the peace at Leoben.—Ciſalpine republic founded by the French.—Ireland firſt invaded by the French republicans.—Venice ceded to Auſtria by the French.

1798 Two millions and a half voluntarily contributed in Britain to ſupport the war againſt the French.—Lewis XVIII. the French pretender, retired to Peterſburgh.—The Pope driven out of Rome by the French, who brought about a revolution.—Piedmont relinquiſhed by its ſovereign to the French.—Aleſſandria taken poſſeſſion of by the French.—The gates and ſluices of the canal at Bruges blown up by the Engliſh, who, prevented from re-embarking by tempeſtuous weather, after a ſevere reſiſtance, were made priſoners.—Malta and Egypt ſeized by a French force under Bonaparte.—Ireland in a ſtate of rebellion, invaded by the French, who afterwards ſurrendered themſelves priſoners.—Turin entered by the French.—War renewed between France, Naples, and Sardinia.—Habeas Corpus act ſuſpended.—Inoculation of the cow-pox diſcovered and firſt practiſed in England.—Export of Britiſh manufactured goods 34 millions in value.—The national debt of England 397,087,674l.

1799 Coin in circulation forty-four millions.—Corſica relinquiſhed by England and repoſſeſſed by the French.—The volunteer corps of London and its vicinity reviewed by the king.—Pope Pius VI. died a priſoner in France.—Acre preſerved againſt repeated aſſaults of the French army in Egypt under Bonaparte, by Sir Sidney Smith.—Aleſſandria, Ancona, and other places in Italy, ſurrendered by the French to the Auſtro-Ruſſian army.—Tippoo Saib defeated and ſlain near Periapatam by the Engliſh.—The French republicans driven out of Italy by the Ruſſian army under Suwarrow.—The French diſpoſſeſſed of Corfu by the Ruſſians.—Holland unſucceſsfully invaded by the Britiſh army under the Duke of York.—Leghorn entered by the French.—Naples taken by the French, and afterwards recovered.—The Dutch navy in the Texel ſurrendered to the Britiſh fleet under Admiral Mitchell.—Seringapatam ſtormed by the Engliſh under General Harris, and Tippoo Sultaun ſlain.—Tuſcany ſeized and afterwards evacuated by the French.—Turin abandoned by the French.—War renewed between France and Auſtria.—Zurich evacuated by the French.—Income taxed in the Britiſh dominions.

1800 Ireland united to Great Britain.—Bread one ſhilling and ten-pence halfpenny the quartern loaf in London.—9,774 French Emigrants, clergy and laity,

in England.—The Royal Inſtitution of Great Britain founded by charter.—Ineffectual conſpiracy againſt the life of the Firſt Conſul of France.—War between France and Auſtria in Italy terminated, and was followed by the treaty of Luneville.—Mr. Jefferſon elected Preſident of the United States of America.—The Britiſh army, under Sir Ralph Abercromby, landed at Aboukir, under prodigious diſadvantages, and completely routed the "*invincible* legion" of Bonaparte.—Paul I. emperor of Ruſſia, died.—War declared by Spain againſt Portugal.—A gallant and ſucceſsful attack made on Copenhagen by a diviſion of the Engliſh fleet in the Baltic, under Lord Nelſon.—Hanover entered by the Pruſſian troops.—St. Euſtatia ſurrendered to a Britiſh force.—A treaty of peace between Spain and Portugal ſigned at Badajos.—The differences between England and Ruſſia adjuſted, and a convention ſigned.—The French, at Cairo, capitulated to the army under General Hutchinſon.—A ſignal victory, gained over a greatly ſuperior force, of French and Spaniſh ſhips, near Algeſiras.—A dreadful hurricane at Barbadoes.—Madeira taken poſſeſſion of by a Britiſh force.—Alexandria, with the whole of the French forces, ſurrendered to the Britiſh and Turkiſh forces.—The French Emigrant biſhops required by the Pope to ſurrender their ſees to Bonaparte.—Preliminaries of Peace ſigned between England and France.—Peace between France and Portugal proclaimed at Paris.—Preliminaries of peace ſigned between France and Turkey.—A new conſtitution, after the French faſhion, given to Holland.—The new conſtitution of Switzerland overthrown by a French party as not ſufficiently conforming to the views of the Firſt Conſul.—Hanover evacuated by Pruſſia.—A dreadful inundation in Italy.—The intercourſe between England and France re-eſtabliſhed by Act of Parliament.

CHUDLEIGH, a town of Devonſhire, with a market on Saturday. It is ſeated near the river Teigne, nine miles S.W. of Exeter, and 183 W. by S. of London. Long. 3. 39. W. Lat. 50. 38. N.

CHUNAR, a fort of Hindooſtan Proper, in the province of Allahabad. It is ſeated on the Ganges, twenty miles above Benares, and is built on a rock, which is fortified all round by a wall, and towers at various diſtances. At the end, overlooking the river, is ſituated the citadel, which has formerly been ſtrong. This fort is ſaid to be of the higheſt antiquity, and originally built by the Hindoos. In the citadel is an altar, conſiſting of a plain black marble ſlab, on which the tutelary deity of the place is traditionally ſuppoſed to be ſeated at all times, except from ſun-riſe till nine in the morning, when he is at Benares; during which time, from the ſuperſtition of the Hindoos, attacks may be made with a proſpect of ſucceſs. Chunar has always been conſidered as a poſt of great conſequence on the Ganges, from its inſulated ſituation, projecting forward to a great extent, and being of conſiderable height. It was unſucceſsfully attempted by the Engliſh in 1764: the next year, it was ſurrendered to them: they reſtored it to the Nabob of Oude at the ſubſequent peace; but, in 1772, it was finally ceded to the Engliſh, by that prince, in exchange for Allahabad. At this place is kept the magazine of ammunition and artillery for the brigade at Cawnpore. It is 385 miles N.W. of Calcutta. Long. 83. 50. E. Lat. 25. 10. N.

CHUNAUB, or JENAUE, a river of Hindooſtan Proper, one of the five eaſtern branches of the Indus. It runs through Caſhmere and Lahore, between the Chelum and the Rauvee. It is united with both theſe rivers at ſome diſtance above Moultan; and, at their confluence with the Indus, twenty miles W. of Moultan, they form a ſtream as large as that river. The Chunaub is the Aceſines of Alexander.

CHURCH (*Encycl.*). To what has been ſaid under this head it may not be improper to add the following repreſentation of the ſtate of the Church of England.

The religion of a country always engages the cloſe attention of the enquiring obſerver. The government, laws, manners, and even literature of a people are often greatly affected by the nature and influence of their religious ſyſtem. This obſervation forcibly applies to the country in which we live; and, therefore, a particular examination of the ſtate of religion, or the exact condition of its national church, and that of the different ſects which are removed from it, muſt be not only amuſing, but uſeful. It is unneceſſary to give an hiſtorical retroſpect of the reformation in England, of the progreſs of the Anglican church from its eſtabliſhment to the preſent time. Few perſons are unacquainted with theſe points who have paid any attention to our national hiſtory. In two material articles only did our firſt reformers differ from their brethren on the Continent: I mean in adopting a national liturgy, and preſerving the epiſcopal government of the church. Theſe objects produced diſſenters, who, from their hatred of popery, wanted to be as diſſimilar to the church of Rome as poſſible. They pretended that their only motive for diſſent was a deſire of greater purity in church order and worſhip; and thence the name of *puritans* was given to them, which afterwards was loſt in the term *nonconformiſts*, on account of their pertinaciouſly refuſing the terms of conformity to the church. Within the laſt century, they have uſually been called proteſtant diſſenters, a moderate appellation, ſanctioned by acts of parliament, and originally given at the time of the revolution, when the act of toleration was juſtly extended to them.

That revolution had a wonderful and extenſive effect upon the church of England. Some of her moſt exemplary prelates, and moſt learned clergy, were thruſt out from her ſervice, becauſe they could not bring their conſciences to digeſt a new oath in violation of that which they had before ſolemnly and repeatedly taken. The convocation alſo, or that right which the clergy had for ſo many ages enjoyed, of meeting at the ſame time with parliament, to conſult upon the ſtate of the church, was taken away, or ſo far reduced as to become inſignificant. From that period the eccleſiaſtical body loſt its corporate powers, and fell into the general maſs of ſociety almoſt undiſtinguiſhed, except by being expoſed to peculiar calumny and contempt. Infidelity aroſe under the patronage of the higheſt perſonages, and the word *prieſtcraft* was invented by men of wit, in order to ſtigmatiſe all religion. Plays, novels, poems, and pictures, uſually exhibited the figure of a *parſon* in ſome contemptible manner, with a view to bring the order itſelf, and the religion of which they were miniſters, into popular diſeſteem. It muſt be admitted, that the clergy were in a conſiderable degree the authors of their own diſgrace, by adopting, in general, what was called a ſyſtem of *moderation*, or a dereliction of the conſtituent principles and doctrines of the church. Too many of our moſt eminent divines, obſerving what ſtrain of preaching, and what kind of opinions and conduct, beſt ſuited the men in power, gave way to the ſtream which led to elevated ſtations, rather than adhere to a ſyſtem which they ſaw growing every day more and more unfaſhionable. The reader, unacquainted with the fact,

would almoſt queſtion the truth of the aſſertion, that men who were not only known to have been adverſe to the radical principles of the church of England, but had even written books againſt them, were advanced to high ſtations, and puſhed on from one degree of preferment to another, as far as their own moſt ſanguine wiſhes could aſpire. While, on the other hand, their ableſt antagoniſts, the ſoundeſt and beſt of our divines, were ſuffered to remain in obſcurity, unnoticed and unrewarded. It is an incontrovertible fact, and there is no reaſon for ſuppreſſing or qualifying it, that in the two reigns immediately preceding the preſent, a marked countenance was given to the latitudinarian divines of the eſtabliſhment. We would not be underſtood to mean, that all who were elevated to epiſcopal thrones, or other dignities, were exactly of this deſcription, but they were too generally ſuch. The conſequence of this was, that the character of the church of England loſt ground conſiderably, becauſe it was obſerved that her miniſters generally ſlighted, or openly oppugned, her principal doctrines. The ſtyle of preaching adopted in almoſt all pulpits was alike dry and unedifying; and the ſubjects diſcuſſed ſuch as might with equal propriety have graced the mouth of a heathen moraliſt as a chriſtian miniſter. Hence it was that thoſe perſons who had better conceptions of religion than the generality, and began to form ſerious notions upon Chriſtianity, abandoned the churches, and betook themſelves to the meeting-houſes, where ſome regard was paid to the doctrines of the Goſpel. At that period the diſſenting intereſt flouriſhed, becauſe the greater part of its teachers adhered to the doctrinal principles of the reformation; and every man who has right ſentiments of the importance of religious worſhip will wiſh to go where he can beſt be edified. Religious inſtruction and moral inſtruction are two diſtinct things; where the former is rightly enforced and explained, the latter follows as a natural inference. But if morals only are inculcated, religion may be conſidered as an article either abſolutely unneceſſary, or as merely indifferent. In this ſtate of things ſcepticiſm and ſectarianiſm ſpread themſelves around with a powerful and extended force. Many great men ſaw the evil, but being inattentive to the cauſe, they failed in applying the proper remedy. Dr. Gibſon, the worthy biſhop of London, in his paſtoral letters, expreſſed himſelf with great energy and propriety on the increaſe of infidelity and licentiouſneſs; but though he had the hand of an acute anatomiſt, he had not ſufficient diſcernment to mark among the various ſources the grand ſeat of the malady. About this time a ſect of men aroſe, who, in the moſt irregular manner, but with the beſt intentions, produced a change in the religious aſpect of the country, which has continued to the preſent day. We allude to the riſe of the methodiſts at Oxford, of whom, and their proceedings, we ſhall ſay no more in this place, than that by calling the attention of men to the doctrinal principles of religion as the only effectual ground of moral practice, they met with uncommon ſucceſs. They aſſerted, and with truth, that the clergy of the church of England had almoſt totally rejected the articles which they had ſubſcribed, and profeſſed their reſolution to preach. Theſe men juſtly maintained that in chriſtianity *faith* was as neceſſary as *practice*, and that the latter is not truly religious unleſs it reſults from the former. So far the methodiſts were warranted by the church of which they were members, but in many other particulars they acted very reprehenſibly. However, the progreſs they made, and the zeal which they manifeſted, opened the eyes of many divines of the eſtabliſhment, and they became convinced of the neceſſity of preaching the peculiar doctrines of chriſtianity as laid down in the confeſſion of the church of England. At firſt theſe worthy men met with conſiderable oppoſition from their brethren, and contempt from thoſe who arrogated to themſelves the high-ſounding, but frivolous, appellation of rational Chriſtians. Theſe divines were ſtigmatiſed with the nickname of *Hutchinſonians*, becauſe they reſpected ſome of the opinions of *John Hutchinſon*, a philoſopher of an extraordinary caſt, but who was no ſectariſt. Hutchinſon was a great admirer of the Hebrew ſcriptures, and in the warmth of his admiration thought he had diſcovered in them all the principles of philoſophy. He ſaw that the great mathematical philoſophers of his time were either oppoſers of, or corrupters of, the chriſtian truth, and this led him to adopt a ſyſtem of ſcriptural philoſophy, which, in his judgment, was clearly revealed in the writings of Moſes. Whether he was right we ſhall not ſtay to enquire, but certain it is, that by bringing the ſtudy of the Hebrew ſcriptures into repute, the man did an inеſtimable ſervice to the cauſe of Chriſtianity. Some Oxford divines were drawn by the writings of Hutchinſon to ſtudy what had been too long neglected; and being zealous lovers of the church of England, they diſtinguiſhed themſelves by a firm adherence to her conſtituent principles and doctrines. They did not, like the *methodiſts*, erect a ſeparate ſect, although, like them, they ſuffered much obloquy from their brethren, and were counted little better than madmen by the world. Much contempt was thrown upon them even in their own univerſity; and that of Cambridge, jealous of her philoſophical and mathematical honours, treated theſe upſtarts with moſt virulent animoſity. It may be proper here to obſerve, that the controverſy ſet on foot by the profound Warburton, in his Divine Legation, induced many to ſtudy the Hebrew ſcriptures, and this led them to the writings of Hutchinſon, who certainly ſtruck out many lights of admirable utility to the biblical ſtudent. The principal of thoſe who adopted Hutchinſon's opinions were Mr. George Horne (afterwards the ſeraphic biſhop of Norwich), Dr. Patten, Dr. Wetherall (now dean of Hereford), Mr. William Jones, the late worthy rector of Nayland, and author of numerous publications, and Mr. William Romaine, whoſe praiſe is in all the churches. All theſe luminaries ſhone forth at Oxford, and by their example brought many theological ſtudents to a more rational direction of their academical labours. But Cambridge was not without ſome diſtinguiſhed perſons of the ſame ſtamp, the principal of whom was the late learned and truly primitive divine Mr. John Parkhurſt. The contumely which firſt attended the revivers of primitive learning and religion at length grew weak, for the world ſaw that the objects of it were not only moſt exemplary in their lives, but ſcriptural in their religious views, and peculiarly edifying in their public labours. Their example ſtimulated others to exert themſelves as zealous and active miniſters of the church; and in the preſent reign men of this deſcription have met with liberal encouragement from the higher powers. The jejune, ſlimſy, moral harangues, which had for ſo long a period diſgraced the pulpits of the national churches, have been generally diſcarded. Our prelates have directed their clergy to preſerve and manifeſt a doctrinal conſiſtency. Hence it has happened that the diſſenting intereſt has declined, and the churches which were wont to be empty are now crowded. Even the *methodiſts* have found it neceſſary to their intereſt to retain the liturgy of the church of England in their chapels, and the general appearance of conformity to its ceremonies, in order to preſerve their congregations. Great attempts have been made during the reign of his preſent majeſty to ſhake the foundations of the church, and the number and weight of her adverſaries once appeared to be exceedingly formidable.

The firſt direct attack was made in 1772 by the petitioning clergy to effect an abolition of ſubſcription to the thirty-nine articles. The ſtruggle made on this occaſion was very ear-

neſt, but the attempt proved abortive, and the church preſerved her beſt ſecurity. The dereliction of her ancient confeſſion would be the loſs of her moſt diſtinguiſhing and excellent characteriſtic. A trial was afterwards made in 1790, to procure a repeal of the corporation and teſt acts, in which the enemies of the national church were again foiled.

At preſent ſhe appears to have little room for fear, provided the public peace is ſecured, and ſhe is kept from any of thoſe plauſible innovations, which intriguing minds know ſo well how to mould and colour, and adapt to popular fancy, in order to effect their ſecret purpoſe. This ſhews how vigilant the governors and other friends of the eſtabliſhment ought to be over her internal and external condition. Every thing ſhould be done to encourage a learned and evangelical miniſtry. The people at large are obſerved to be pleaſed with divines of this deſcription. This is a ſpirit which ſhould be encouraged, and nothing can do it ſo effectually as giving countenance to men who are warm and animated in the cauſe of ſound Chriſtianity. But peculiar care ſeems to be neceſſary not to admit into the church offices a body of ſelf-ſufficient enthuſiaſtic ſectarics. Many lay-preachers who have flouriſhed away in conventicles, have conceived an ambitious deſire to get into the church, and it is to be lamented that, from want of ſufficient enquiry on the part of our biſhops, they have too often ſucceeded. This has brought an odium upon our eſtabliſhment in many inſtances; and as it is an evil which ſtill ſubſiſts, the caution cannot be too ſtrongly or particularly enforced. At a time when the diſſenting intereſt is evidently declining, little doubt can be entertained but that many of its miniſters will endeavour to ſhelter themſelves under the broad wing of the eſtabliſhment. Men who have their private advantage at heart, will not, on account of ſmall ſcruples, neglect an opportunity of preferment. But it is the duty of thoſe who are at the head of the church to guard againſt the intruſion of intereſted pretenders. Some doubts may be entertained whether it is proper to admit to the pulpit and to the altar of the eſtabliſhed church, men who have long been in habits of oppoſing her welfare, and weakening her influence; but if ſuch an opinion ſhould be thought too excluſive, it is not too much to aſſert, that ſuch admiſſions ought only to take place on ſtrict proof of ſincere, affectionate, and diſintereſted attachment to the national eſtabliſhment; with candour, and a diſplay of talents calculated to aid the influence of the church, to weaken her enemies, and inſpire and ſtrengthen her real friends.

Catholic Church (*Encycl.*). Of the various religious bodies oppoſed to the church of England, the Roman-catholics are entitled to the firſt place on account of their antiquity. The time was, when their church was proudly dominant in this land; and when England formed one of the moſt valuable jewels in the tiara. Providence, which uſually produces the moſt important and extenſive benefits from the moſt trifling and unlikely incidents, effected the deſtruction of the pontifical authority by the inſtrumentality of its moſt zealous defender. The inſtant that the Pope put a barrier in the way of Henry VIII. to hinder him from repudiating his conſort, and marrying Anne Boleyne, this haughty monarch, who had hitherto approved himſelf a dutiful ſon of the church, reſented the affront and ſhook off the papal yoke. A reformation begun from ſuch motives, could not well be otherwiſe than violent. Sanguinary laws were enacted againſt all the advocates of the Pope's ſupremacy; and the monaſtic orders being annihilated, their lands were diſtributed among the rapacious courtiers. It cannot be ſuppoſed that ſuch a ſtupendous change could take place without irritating the minds of thoſe who were attached to the ancient ſuperſtition, eſpecially at a time when goſpel light was but feeble, when prieſtly abſolutions were looked upon as the cleanſers of guilt, and the prayer of the church as effectual paſſports to heaven. It was natural enough for the catholics to feel a reſentment at the uſage they had met with, and for the clergy to labour earneſtly in making converts. Nor is it to be wondered at that ſome ſtruggles were made by them to regain their loſt influence, and to reſtore the church which they had ſeen deſpoiled and mutilated. For this earneſtneſs and zeal, the character of the age, and the circumſtances in which they ſtood, may furniſh ſome excuſe; but it muſt be admitted that they manifeſted a ſpirit for which no plea can poſſibly be allowed; formed conſpiracies of ſo atrocious a nature that all the ingenuity of man cannot palliate them; and had recourſe to ſubterfuges to carry on their ſchemes, irreconcileable to any ſyſtem of morality, however weak or corrupted. In proportion as knowledge increaſed, the number of Roman-catholics leſſened; and as the ſpread of truth was great during the eighteenth century, the intereſts of popery rapidly ſunk. It muſt be allowed that other cauſes have concurred to produce this declenſion. The deſire of civil diſtinctions and military employments led many perſons to renounce the creed of their anceſtors, and to embrace, at leaſt nominally, the profeſſion of proteſtantiſm. Others, having imbibed the faſhionable philoſophy of the French ſceptics, ſoon threw off a religion which was not only troubleſome, but in many reſpects degrading; as giving an authority to prieſts over the mind, which cannot but be very offenſive to libertine ſpirits. To theſe circumſtances we may well aſcribe the low ſtate into which the church of Rome has fallen with reſpect to this country. There can be little room to apprehend that ever the Roman-catholic profeſſion will riſe to a more diſtinguiſhed appearance, or that its followers will become more numerous. Such fears were once indulged, and that by men from whom more liberality of ſentiment might have been expected. A ſlaviſh obedience to prieſtly authority can never take place among perſons poſſeſſing the advantages of even a common education, unleſs they have imbibed that principle with their mother's milk. The ſlighteſt acquaintance with the ſacred writings will keep men from receiving doctrines and ceremonies which are foreign to the divine word; and if they have a turn for ſcepticiſm, we may well ſuppoſe them ſtill further remote from the ſuperſtitions of popery; on every ground, therefore, we may conclude, that the preſent waning of the church of Rome will end in a total obſcuration. It is obſervable, that ſome of the ableſt members of that church in this country are poſſeſſed of a truly liberal ſpirit. The catholic clergy in England are divided into two claſſes—the rigid and the moderate. The former maintain all the dogmata of Pope Pius's creed; all the deciſions of the Tridentine council, without any abatement or qualification; and hold the authority of the pope to be ſupreme in all caſes, and over all perſons: they moreover reject from ſalvation, or the communion of Chriſt, all who do not belong to their particular church; in ſhort, theſe catholics (improperly ſo termed), diſregarding every principle of genuine benevolence, look down upon other Chriſtians either with contempt or pity. The fact is, theſe perſons do act with moſt conſiſtency; becauſe, if their church is infallible, which muſt be the fundamental principle of their creed, they dare not differ from the deciſions which the aforeſaid council has laid down; and all that is here ſtated, is perfectly agreeable to that council. However, there are not wanting many catholics, who call themſelves diſſenters, that hold different ſentiments; and limit, in the firſt place, the pope's authority merely to ſpiritual matters; and even in theſe they will hardly allow him an abſolute freedom from error. After this grand conceſſion, it is not to be wondered at that theſe perſons ſhould give up many other articles. For inſtance, they ad-

mit the ſalvability of heretics and heathens dying unbaptiſed; they plead for a general interpretation of the ſacred word; they deny the doctrine of tranſubſtantiation in a groſs ſenſe; they wiſh to have the cup allowed to the laity; and give up many other matters of no little moment in the great difference between the Roman and Proteſtant churches. This party is viſibly increaſing, and that more particularly, in proportion as the general ſtrength of the papal power decreaſes abroad; the natural conſequence of which muſt be, that the number of Roman-catholics will ſuffer a rapid diminution. When we conſider the influence of ſuch men as Mr. Huſſey, Dr. O'Leary, and Mr. Berington, we can have little doubt but that even doctrinal popery will ultimately ſink into nothing.

The outworks of their cauſe have been abandoned as untenable and uſeleſs; and as they no longer lay the ſcriptures under a ſort of interdict, but readily allow the laity to ſtudy them, the proteſtant intereſt muſt riſe in conſequence. Infidelity tends greatly to ſhake down the towers and battlements of the Roman church, but the knowledge of truth will ſap its very foundations. It may be accounted among ſome of the prodigies of this wonderful period, that a prieſt of the Roman communion ſhould have undertaken a tranſlation of the ſcriptures into the vulgar tongue, in the preface and notes to which, he poſitively denies the inſpiration of the writers. Dr. Geddes has far outdone Dr. Prieſtley in this reſpect. The Socinian champion, not knowing how to combat the authority of St. Paul, had recourſe to this ſubterfuge, that he was not always under the divine direction, and that in many places he was an "inconcluſive reaſoner," becauſe the doctor did not approve of his argument. Here, however, the doctor was merely ſerving the cauſe of his ſect; but Dr. Geddes has not ſuch partialities. He gives up the authority of his church and his infallibility at once, by placing the ſacred writings on a footing with the profane. Nay, he does not ſcruple to ſay, that the hiſtorians of the Bible are inferior, as writers, to Thucydides and Livy. What would have been the outcry if a clergyman of the church of England had advanced ſuch aſſertions, and that too in a new verſion of the ſacred books? Would the biſhops have been to blame if they had taken particular notice of the writer? The man who endeavours to undermine the ſacred ſcriptures can make but a ſorry miniſter of the goſpel. With what face can a man addreſs his congregation, and confirm his arguments by an appeal to a book which they look upon as divine, and he regards as human? Were ſuch a caſe to happen in our church, it would be a matter of complaint if the perſon ſo offending ſhould be permitted to exerciſe his miniſtry. And yet we do not find that public diſapprobation of his conduct or ſentiments has been made by Dr. Geddes's ſuperiors and brethren. His undertaking and dreadful conceſſions tend to do more injury to revealed religion, than the impudent ribaldry of the ignorant Paine. It therefore by no means redounds to the honour of the Roman-catholic clergy, that they have ſuffered Dr. Geddes's daring attempt to injure their church in particular, and Chriſtianity in general, without ſome open manifeſtation of their diſpleaſure. God forbid that perſecution, in any degree, ſhould have an apologiſt, but the adminiſtration of juſtice is not perſecution, and every ſociety ought to declare againſt any of its members, who, by his writings, attacks the principles upon which that ſociety is founded. If the church is all, and the Bible nothing, this behaviour of Dr. Geddes is not culpable; but if it is the faith of the Roman-catholic church (as we have no doubt it is), that though the church is infallible, the Scriptures were written by inſpiration, then this ſilence with reſpect to one of their own body is highly cenſurable. We have dwelt the longer on this particular, becauſe it forms a curious article in the hiſtory of the Engliſh Roman-catholic church. We ſee, hence, what aſtoniſhing changes the lapſe of a century produces, and particularly a revolution ſo extenſive as that of France. The Roman church has been wounded in her vitals; and though we pity the baſe treatment of the venerable Pius VI. and the undeſerved ſufferings of the Gallican clergy, yet it is impoſſible for a Proteſtant not to ſee in all this a direction ſuper-human. The ſacred predictions have been unfolded herein, and are evidently fulfilling every day; ſo that the infidelity by which this is in a great part accompliſhed, muſt ſtagger and fall before the irreſiſtible evidence of prophecy.

The author of the Purſuits of Literature, and ſome other writers, have complained of the encouragement which has been given to the Roman-catholic clergy in this country. But this is unmanly and ungenerous. There can be little reaſon to apprehend that popery will gain converts in this enlightened kingdom, and the catholics themſelves can have no inducement to prompt them to make ſuch. They can have no hopes of ſeeing their church recovering its ancient ſplendour, ſince even in Italy itſelf, the peculiar ſeat of its glory, the energy of their religious orders is extinguiſhed. The fall of the Jeſuits was the prelude to the deſtruction of the papal power, which followed very faſt upon that memorable event.

The generous treatment which the perſecuted clergy of France have met with here, cannot but affect their natures, and their long reſidence among us muſt have ſoftened down what prejudices they may have once had againſt our religion. Should peace and order be reſtored in their country, a mutual good-will between the two nations muſt be the conſequence, and then Proteſtantiſm there will greatly flouriſh. Infidelity is but of temporary duration. Men may be pleaſed with it for a ſhort ſeaſon, while their paſſions are violently exerciſed; but in the cool hour of reflection, and at thoſe periods when ſtrength of mind is requiſite, they will have recourſe to religion, if it is calculated to ſupport them, and is within their reach. We ſee, therefore, much ground for expecting a great outſpread of religious truth over ſcepticiſm, hereſy, and ſuperſtition of every kind; nor is it, perhaps, too much to ſay, that this change will be materially affected by the extenſive influence of our own country.

CHURCH-STRETTON, a town of Shropſhire, with a market on Thurſday. It is fourteen miles S. of Shrewſbury. Long. 2. 46. W. Lat. 52. 32. N.

CHURCHILL FORT, on the E. ſide of Hudſon's Bay, in North America, the moſt northerly of thoſe belonging to that company. Long. 94. 3. W. Lat. 58. 48. N.

CHURN (*Encycl.*). The inferiority of the churns in common uſe has induced ſeveral ingenious mechanics to exert their ſkill in contriving others, that would render the proceſs of making butter leſs tedious and expenſive. Of theſe we have already given ſome proofs, particularly in the deſcription of Mr. Bowler's improved churn. We ſhall here preſent the reader with an account of a butter-churn, conſtructed on a new principle, by Mr. Harland, of Fenchurch-ſtreet, London.

The barrel-churn, delineated in Plate 20, is moved by the intervention of a multiplying wheel, to moderate its too violent motion. The head of the crank in the mortiſe (in the handle) effects the rotatory motion of the barrel with great facility. And if the barrel be fixed, and the axis (in the inſide), to which the daſhers are attached, be made to turn, the butter will be more ſpeedily formed. A fly-wheel is alſo affixed, by means of which the agitation of the cream is neceſſarily performed in a more uniform manner; and, conſequently, the butter will be more perfectly ſeparated from the whey.

As butter is often made in ſmall quantities, and the vertical motion of the common churn is extremely fatiguing, we con-

ſider theſe methods of applying the powers of mechaniſm, as valuable improvements. Hence we preſume to recommend the preceding improved butter-churn to be generally introduced; for the facility and expedition, with which butter is thus obtained, will amply compenſate the additional expence.

If a pump-churn be employed, it may be plunged a foot deep in a tub of cold water, and remain there during the whole time of churning, which will harden the butter in a conſiderable degree. This operation may be much facilitated by pouring into the churn a ſmall quantity of diſtilled vinegar, which will produce butter in the courſe of one hour. Thoſe who make uſe of a pump-churn, ſhould endeavour to keep up a regular motion of the machine; and by no means admit any perſon to aſſiſt them, unleſs from abſolute neceſſity: for, if the churning be irregularly performed, the butter will in winter go back; and, if the agitation be more quick and violent in ſummer, it will cauſe the butter to ferment, and thus to acquire a very diſagreeable flavour.—Where there are many cows, a barrel-churn is preferred; but unleſs it be kept very clean, the bad effects of it will be ſoon diſcovered in the butter. Particular care ſhould alſo be taken to place it in a proper temperature, according to the change of the ſeaſon; that is, to fix it in a warmer ſituation in the winter, and in the ſummer to expoſe it to a free current of air.

CHUSAN, an iſland on the E. coaſt of China, where the Eaſt-India company had once a factory. Long. 124. 0. E. Lat. 30. 0. N.

CIAMPA, a kingdom of Aſia, bounded on the E. and S. by the Indian Ocean, on the N. by Cochin-China, and on the W. by Cambodia.

CILICIA (*Encycl.*). According to Joſephus, Cilicia was firſt peopled by Tarſhiſh the ſon of Javan, and his deſcendents, whence the whole country was named *Tarſis*. The ancient inhabitants were in proceſs of time driven out by a colony of Phœnicians, who, under the conduct of *Cilix*, firſt ſettled in the iſland of Cyprus, and from thence paſſed into the country which, from the leader, they called *Cilicia*. Afterwards, ſeveral other colonies from different nations ſettled in this kingdom, particularly from Syria and Greece; whence the Cilicians in ſome places uſed the Greek tongue, in others the Syriac; but the former greatly corrupted by the Perſian, the predominant language of the country being a dialect of that tongue. We find no mention of the kings of Cilicia after their ſettlement in that country, till the time of Cyrus, to whom they voluntarily ſubmitted, continuing ſubject to the Perſians till the overthrow of that empire; but governed to the time of Artaxerxes Mnemon, by kings of their own nation. After the downfal of the Perſian empire, Cilicia became a province of that of Macedon; and, on the death of Alexander, fell to the ſhare of Seleucus, and continued under his deſcendants till it was reduced to a Roman province by Pompey. As a proconſular province, it was firſt governed by Appius Claudius Pulcher; and after him by Cicero, who reduced ſeveral ſtrong holds on Mount Amanus, in which ſome Cilicians had fortified themſelves, and held out againſt his predeceſſor. It was on this occaſion that the diviſion, formerly mentioned, into Trachæa and Campeſtris, took place. The latter became a Roman province; but the former was governed by kings appointed by the Romans, till the reign of Veſpaſian, when the family of Tracondementus being extinct, this part alſo made a province of the empire, and the whole divided into Cilicia *Prima*, Cilicia *Secunda*, and Iſauria; the firſt took in all Cilicia Campeſtris, the ſecond the coaſt of Cilicia Trachæa, and the laſt the inland parts of the ſame diviſion. It is now a province of Aſiatic Turkey; and is called *Caramania*, having been the laſt province of the Caramanian kingdom which held out againſt the Ottoman race.

That part of Cilicia called by the ancients *Cilicia Campeſtris*, was, if we believe Ammianus Marcellinus, one of the moſt fruitful countries of Aſia; but the weſtern part equally barren, though famous, even to this day, for an excellent breed of horſes, of which 600 are yearly ſent to Conſtantinople for the eſpecial uſe of the grand-ſignior. The air in the inland parts is reckoned wholeſome; but that on the ſea-coaſt very dangerous, eſpecially to ſtrangers.

The rivers of any note are the Pyramus, which riſes on the north ſide of mount Taurus, and empties itſelf into the Mediterranean between Iſſus and Magaraſus; the Cydnus ſprings from the Antitaurus, paſſes through Tarſus, and diſembogues itſelf into the Mediterranean. It is famous for the rapidity of its ſtream, and the coldneſs of its waters, which proved very dangerous to Alexander the Great.

CIMBRI (*Encycl.*). This ancient Celtic nation, about 113 years before Chriſt, left their peninſula with their wives and children; and joining the Teutones, a neighbouring nation, took their journey ſouthward in queſt of a better country. They firſt fell upon the Boii, a Gauliſh nation ſituated near the Hercynian foreſt. Here they were repulſed, and obliged to move nearer the Roman provinces. The republic being then alarmed at the approach of ſuch multitudes of barbarians, ſent an army againſt them under the conſul Papirius Carbo. On the approach of the Roman army, the Cimbri made propoſals of peace. The conſul pretended to accept it; but having thrown them into a diſadvantageous ſituation, treacherouſly attacked their camp. His perfidy was rewarded as it deſerved; the Cimbri ran to arms, and not only repulſed the Romans, but, attacking them in their turn, utterly defeated them, and obliged the ſhattered remains of their forces to conceal themſelves in the neighbouring foreſts. After this victory, the Cimbri entered Tranſalpine Gaul, which they quickly filled with ſlaughter and deſolation. Here they continued five or ſix years, when another Roman army under the conſul Silanus marched againſt them. This general met with no better ſucceſs than Carbo had done. His army was routed at the firſt onſet; in conſequence of which, all Narbonne Gaul was expoſed at once to the ravages of theſe barbarians.

About 105 years before Chriſt, the Cimbri began to threaten the Roman empire itſelf with deſtruction. The Gauls marched from all parts with a deſign to join them, and to invade Italy. The Roman army was commanded by the proconſul Cæpio, and the conſul Mallius; but as theſe two commanders could not agree, they were adviſed to ſeparate, and divide their forces. This advice proved the ruin of the whole army. The Cimbri immediately fell upon a ſtrong detachment of the conſular army commanded by M. Aurelius Scaurus, which they cut off to a man, and made Scaurus himſelf priſoner. Mallius being greatly intimidated by this defeat, deſired a reconciliation with Cæpio, but was haughtily refuſed. He moved nearer the conſul, however, with his army, that the enemy might not be defeated without his having a ſhare in the action. The Cimbri, by this movement, imagining the commanders had made up their quarrel, ſent ambaſſadors to Mallius with propoſals of peace. As they could not help going through Cæpio's camp, he ordered them to be brought before him; but finding they were empowered to treat only with Mallius, he could ſcarce be reſtrained from putting them to death. His troops, however, forced him to confer with Mallius about the propoſals ſent by the barbarians: but as Cæpio went to the conſul's tent againſt his will, ſo he oppoſed him in every thing; contradicted with great obſtinacy, and inſulted him in the groſſeſt manner. The deputies on their return acquainted their countrymen that the miſunderſtanding between the Roman commanders ſtill ſubſiſted; upon which the Cimbri attacked the camp of Cæpio, and the Gauls

that of Mallius. Both were forced, and the Romans ſlaughtered without mercy. Eighty thouſand citizens and allies of Rome, with 40,000 ſervants and ſutlers, periſhed on that fatal day. In ſhort, of the two Roman armies only ten men, with the two generals, eſcaped to carry the news of ſo dreadful a defeat. The conquerors deſtroyed all the ſpoil, purſuant to a vow they had made before the battle. The gold and ſilver they threw into the Rhone, drowned the horſes they had taken, and put to death all the priſoners.

The Romans were thrown into the utmoſt conſternation on the news of ſo terrible an overthrow. They ſaw themſelves threatened with a deluge of Cimbri and Gauls, numerous enough to over-run the whole country. They did not, however, deſpair. A new army was raiſed with incredible expedition; no citizen whatever who was fit to bear arms being exempted. On this occaſion alſo, fencing-maſters were firſt introduced into the Roman camp, by which means the ſoldiers were ſoon rendered in a manner invincible. Marius, who was at that time in high reputation on account of his victories in Africa, was choſen commander, and waited for the Cimbri in Tranſalpine Gaul: but they had reſolved to enter Italy by two different ways; the Cimbri over the eaſtern, and the Teutones and other allies over the weſtern Alps. The Roman general therefore marched to oppoſe the latter, and defeated the Ambrones and Teutones with great ſlaughter. The Cimbri, in the mean time, entered Italy, and ſtruck the whole country with terror. Catulus and Sylla attempted to oppoſe them; but their ſoldiers were ſo intimidated by the fierce countenances and terrible appearance of theſe barbarians, that nothing could prevent their flying before them. The city of Rome was now totally defenceleſs; and, had the Cimbri only marched briſkly forwards, they had undoubtedly become maſters of it; but they waited in expectation of being joined by their allies the Ambrones and Teutones, not having heard of their defeat by Marius, till the ſenate had time to recal him to the defence of his country. By their order he joined his army to that of Catulus and Sylla; and upon that union was declared commander-in-chief. The Roman army conſiſted of 52,300 men. The cavalry of the Cimbri were no more than 15,000, but their foot ſeemed innumerable; for, being drawn up in a ſquare, they are ſaid to have covered thirty furlongs. The Cimbri attacked the Romans with the utmoſt fury; but, being unaccuſtomed to bear the heats of Italy, they ſoon began to loſe their ſtrength, and were eaſily overcome. But they had put it out of their power to fly; for, that they might keep their ranks the better, they had, like true barbarians, tied themſelves together with cords faſtened to their belts, ſo that the Romans made a moſt terrible havock of them. The battle was therefore ſoon over, and the whole day employed only in the moſt terrible butchery. An hundred and twenty thouſand were killed on the field of battle, and 60,000 taken priſoners. The victorious Romans then marched to the enemy's camp; where they had a new battle to fight with the women, whom they found more fierce than even their huſband's had been. From their carts and waggons, which formed a kind of fortification, they diſcharged ſhowers of darts and arrows on friends and foes without diſtinction. Then they firſt ſuffocated their children in their arms, and afterwards put an end to their own lives. The greateſt part of them hanged themſelves on trees. One was found hanging at a cart with two of her children at her heels. Many of the men, for want of trees and ſtakes, tied ſtrings in running knots about their necks, and faſtened them to the tails of their horſes, and the horns and feet of their oxen in order to ſtrangle themſelves that way; and thus the whole multitude was deſtroyed.

The country of the Cimbri, which, after this terrible cataſtrophe, was left a mere deſert, was again peopled by the Scythians; who, being driven by Pompey out of that vaſt ſpace between the Euxine and the Caſpian ſea, marched towards the north and weſt of Europe, ſubduing all the nations they met with in their way. They conquered Ruſſia, Saxony, Weſtphalia, and other countries as far as Finland, Norway, and Sweden. It is pretended that Wodin their leader traverſed ſo many countries, and endeavoured to ſubdue them only with a view to excite the people againſt the Romans; and that the ſpirit of animoſity which he had excited operated ſo powerfully after his death, that the northern nations combined to attack it, and never ceaſed their incurſions till it was totally ſubverted.

CIMBRISHAM, a ſea-port of Schonen, in Sweden. Long. 15 30. E. Lat. 56. 40. N.

CIRCARS, Northern, five provinces on the bay of Bengal. They were originally denominated *Northern* from their poſition in reſpect to Madras, on which they depend. Of theſe Circars, Cicacole, Rajamundry, Ellore, and Condapilly, are in the poſſeſſion of the Engliſh; and Guntoor belongs to the Nizam of the Deccan. The firſt four occupy the ſea-coaſt, from the Chilka Lake, on the confines of Cattack, to the N. bank of the Kiſtna; forming a narrow ſlip of country 350 miles long, and from 26 to 75 broad. It is eaſily defenſible againſt an Indian enemy, having mountains and extenſive foreſts on one ſide, and the ſea on the other; the extremities only being open. Its greateſt defect is in point of relative ſituation to Bengal and Madras, it being 350 miles from the firſt, and 250 from the latter; ſo that the troops deſtined to protect it cannot be depended on, for any preſſing ſervice that may ariſe in either preſidency. The Engliſh Circars had been ceded to the French, by the Nizam of the Deccan, in 1753; but they were conquered by Colonel Clive in 1759, and now produce an annual revenue of 360,000l. That of Guntoor is 70,000l.

CIRCUMDUCTION, in Scots law. When parties in a ſuit are allowed a proof of allegeances; after the time limited by the judge for taking that proof is elapſed, either party may apply for circumduction of the time of proving; the effect of which is, that no proof can afterwards be brought, and the courſe muſt be determined as it ſtood when circumduction was obtained.

CIRENZA (*Encycl.*), erroneouſly ſpelt Ciremza.

CITTADELLA, a ſea-port and capital of Minorca, on the W. ſide of that iſland. Long. 3. 34. E. Lat. 39. 54. N.

CITTA-DI-CASTELLO, a populous town of Italy, capital of a county of the ſame name, in Umbria, with a biſhop's ſee. It is ſeated on the river Tiber, twenty-ſeven miles S.W. of Urbino. Long. 12. 18. E. Lat. 43. 32. N.

Citta-nuova, a town of Italy, in the marquiſate of Ancona, ſeated on the ſea-ſhore, and containing ſixteen churches and convents, within its walls, beſides fifteen without. It is ten miles from Loretto. Long. 13. 46. E. Lat. 43. 16. N.

Citta-nuova, a ſmall ſea-port of Iſtria, in the territory of Venice, with a biſhop's ſee, ſixty miles E. of Venice. Long. 14. 2. E. Lat. 45. 36. N.

Citta-nuova-cottonera, a fortified town in the iſland of Malta, including the port of St. Margarita.

Citta-vittoriosa, or Il borgo, a ſtrong town in the iſland of Malta, ſeated on a narrow neck of land in the harbour, to the left of Valetta, from which, on each ſide of the town, runs a broad canal incloſing the town, and forming an excellent harbour. It is defended by the caſtle of St. Angelo, on a high rock, joined to the town by a bridge. Long. 14. 34 E. Lat. 35. 54. N.

CIVITA, Turchino (*Encycl.*). On the ſouth-eaſt ſide of Civita Turchino runs the ridge of a hill which unites it to

Corneto. This ridge is at leaſt three or four miles in length, and almoſt entirely covered with artificial hillocks, called by the inhabitants *monti roſſi*. About twelve of theſe hillocks have at different times been opened; and in every one of them have been found ſeveral ſubterranean apartments cut out of the ſolid rock. Theſe apartments are of various forms and dimenſions: ſome conſiſt of a large outer room, and a ſmall one within; others of a ſmall room at the firſt entrance, and a large one within: others are ſupported by a column of the ſolid rock left in the centre, with openings on every part. The entrance to them all is by a door about five feet high, by two and a half broad. Some of them have no light but from the door, while others ſeem to have had a ſmall light from above, through a hole of a pyramidal form. Many of theſe apartments have an elevated port that runs all round the wall, being a part of the rock left for that purpoſe. The moveables found in theſe apartments conſiſt chiefly of Etruſcan vaſes of various forms: in ſome indeed have been found ſome plain ſacrophagi of ſtone, with bones in them. The whole of theſe apartments are ſtuccoed, and ornamented in various manners: ſome indeed are plain; but others, particularly three, are richly adorned, having a double row of Etruſcan inſcriptions running round the upper part of the walls, and under them a kind of frieze of figures in painting: ſome have an ornament under the figures, which ſeems to ſupply the place of an architrave. The paintings ſeem to be in freſco; and in general reſemble thoſe which are uſually ſeen upon Etruſcan vaſes; though ſome of them are perhaps ſuperior to any thing as yet ſeen of the Etruſcan art in painting. In general they are ſlight, but well conceived; and prove, that the artiſt was capable of producing things more ſtudied and better finiſhed; though in ſuch a ſubterraneous ſituation, the delicacy of a finiſhed work would in a great meaſure have been thrown away. It is probable, however, that among the immenſe number of theſe apartments that yet remain to be opened, many paintings and inſcriptions may be found ſufficient to form a very uſeful and entertaining work.

CLAIR, St. a lake of North America, half way between the lakes Huron and Erie, about ninety miles in circumference. It receives the waters of the great lakes Superior, Michigan, and Huron, and diſcharges them through the ſtrait called Detroit, into lake Erie.

CLAMECI, a town of France, in the department of Nievre and late province of Nivernois. Before the late revolution, the chapel of an hoſpital in the ſuburb was the proviſion for the biſhopric of Bethlehem, founded in 1180, when Guy count of Nevers gave an aſylum, in this place, to a Latin biſhop of Bethlehem, who had been driven from the Holy Land by the Saracens. Clameci is ſeated at the confluence of the Beuvron and Yonne, 112 miles S. by E. of Paris. Long. 3. 36. E. Lat. 47. 28. N.

CLAPHAM, a village in Surrey, containing many handſome villas, which chiefly ſurround a beautiful common. In the old pariſh church, divine ſervice is performed at funerals only; an elegant new church having been erected on the common, but without an adjoining cemetery. Clapham is three miles S.W. by S. of London.

CLARA, St. a ſmall iſland of South America, in Peru, in the bay of Guiaquil, ſeventy miles S.W. of Guiaquil. Long. 82. 20. W. Lat. 2. 20. S.

CLARENDON, a village three miles E. of Saliſbury, where Henry II. ſummoned a council of the barons and prelates, in 1164, who enacted the laws called the Conſtitutions of Clarendon; and here were two palaces built by King John.

CLARENS, or Chatillard, a village of Switzerland, in the Pays de Vaud, celebrated as the principal ſcene of Rouſſeau's Eloiſe. It is delightfully ſituated, not far from Vevay, on an eminence, whoſe gentle declivity ſlopes gradually toward the lake of Geneva. It commands a view of that majeſtic body of water, its fertile borders, and the bold rocks and Alps of Savoy. The adjacent ſcenery conſiſts of vineyards, fields of corn and paſture, and rich groves of oak, aſh, and Spaniſh cheſnut trees. "Although the ſituation and environs," ſays Mr Coxe, "harmoniſe with the animated ſcenery in the Eloiſe of Rouſſeau, yet the caſtle by no means accords with the deſcription in the ſame work. The traveller ſees an oblong building with ancient towers and a penthouſe roof; in the inſide, a large hall that looks like a priſon; and the whole bears rather the antiquated appearance of a feudal manſion, inhabited by ſome turbulent baron, than the reſidence of the elegant and impaſſioned Julia."

CLARIONETTE, or Clarinet, a kind of trumpet made of box-wood, whoſe tube is narrower and its tone acuter than that of the common trumpet. A patent was lately granted to Meſſrs. Goulding and Co. of Pall-Mall, for an improved clarinet. The patentees line the inſtrument with a tinned braſs tube calculated to preſerve the wood and improve the tone. To remedy the inconvenience from the leatherings of the keys being ſpoiled and out of order, they line the holes with a metal tube, ground to perfect flatneſs at the outſide orifice, and rendered air-tight by a properly contrived ſtopper.

CLARKE (Samuel), D. D. a preacher and writer of conſiderable note in the reign of Charles II. was, during the inter-regnum, and at the time of the ejection, miniſter of St. Bennet Fink in London. In November 1660, he, in the name of the Preſbyterian miniſters, preſented an addreſs of thanks to the king for his declaration of liberty of conſcience. He was one of the commiſſioners of the Savoy; and behaved on that occaſion with great prudence and moderation. He ſometimes attended the church as a hearer and communicant; and was much eſteemed by all that knew him, for his great probity and induſtry. The moſt valuable of his numerous works are ſaid to be his Lives of the Puritan Divines and other perſons of note, twenty-two of which are printed in his martyrology: the reſt are in his Lives of ſundry Eminent Perſons in this latter Age, folio; and in his Marrow of Eccleſiaſtical Hiſtory, in folio and quarto. He died in 1680.

Clarke (Samuel), the ſon of the former, was fellow of Pembroke-hall, in Cambridge; but was ejected from his fellowſhip for refuſing to take the engagements, as he was alſo afterwards from his rectory of Grendon in Buckinghamſhire. He applied himſelf early to the ſtudy of the Scriptures; and his annotations on the Bible, printed together with the ſacred text, is highly commended by Dr. Owen, Mr. Baxter, and Dr. Calamy. He died in 1701, aged ſeventy-five.

CLAUBERGE (John), a learned profeſſor of philoſophy and divinity at Duiſburg, was born at Solingen in 1622. He travelled into Holland, France, and England, and in each country obtained the eſteem of the learned. The Elector of Brandenburg gave him public teſtimonies of his eſteem. He died in 1665. His works were printed at Amſterdam in two volumes 4to. The moſt celebrated of theſe is his treatiſe entitled *Logica vetus et nova*, &c.

CLAUDE (John), a Proteſtant divine, born in the province of Angenois in 1619. Meſſ. de Port Royal uſing their utmoſt endeavours to convert M. de Turenne to the Catholic faith, preſented him with a piece calculated to that end, which his lady engaged Mr. Claude to anſwer; and his performance gave riſe to the moſt famous controverſy that was ever carried on in France between the Roman-catholics and Proteſtants. On the revocation of the edict of Nantz, he retired to Holland, where he met with a kind reception, and was honoured with a conſiderable penſion by the Prince of Orange. He died in 1687; and left a ſon Iſaac Claude, whom he lived to ſee

miniſter of the Walloon church at the Hague, and who publiſhed ſeveral excellent works of his deceaſed father.

Claude, St. a handſome town of France, in the department of Jura and late province of Franche Comté, with a biſhop's ſee. It is ſeated between three high mountains, on the river Liſon, and owes its origin to a celebrated abbey, built in the year 425, in this then barren and uninhabited country. This abbey had the pious privilege of legitimating baſtards, and could confer nobility and pardon criminals, till the year 1742, when it was erected into a biſhopric, and its Benedictine monks were metamorphoſed into noble canons. The cathedral is extremely elegant. Great numbers of pilgrims have flocked hither, to viſit the remains of the body of St. Claude, which they pretend are yet uncorrupted. In this city are many public fountains with large baſins. It is 35 miles N.W. of Geneva. Long. 6. 18. E. Lat. 46. 24. N. From Mount St. Claude, which forms part of Mount Jura, is a fine proſpect over Switzerland and Savoy, the lake and town of Geneva, and the Pays de Vaud.

CLAUDIANUS (Claudius) (*Encycl.*). It is not agreed of what country he was a native; but he came to Rome in the year of Chriſt 395, when he was about thirty years old; and there inſinuated himſelf into Stilicho's favour; who being a perſon of great abilities both for civil and military affairs, though a Gothic by birth, was ſo conſiderable a perſon under Honorius, that he may be ſaid for many years to have governed the weſtern empire. Stilicho afterwards fell into diſgrace, and was put to death; and it is more than probable that the poet was involved in the misfortunes of his patron, and ſeverely perſecuted in his perſon and fortunes by Hadrian, an Egyptian by birth, who was captain of the guards to Honorius, and ſucceeded Stilicho. There is reaſon, however, to think that he roſe afterwards to great favour; and obtained ſeveral honours both civil and military. The Princeſs Serena had a great eſteem for Claudian, and recommended and married him to a lady of great quality and fortune in Lybia. There are a few little poems on ſacred ſubjects, which through miſtake have been aſcribed by ſome critics to Claudian; and ſo have made him be thought a Chriſtian. But St. Auſtin, who was contemporary with him, expreſsly ſays, that he was a Heathen. The time of Claudian's death is uncertain, nor do we know any further particulars of his life than what are to be collected from his works, and which we have already related above. He is thought to have more of Virgil in his ſtyle than all the other imitators of that poet.

CLAUDIUS I. Roman emperor, *A. D.* 41. The beginning of his reign was very promiſing; but it was ſoon diſcovered that little better than an ideot filled the throne, who might eaſily be made a tyrant: accordingly he became a very cruel one, through the influence of his empreſs, the infamous Meſſalina: after her death, he married his niece Agrippina, who cauſed him to be poiſoned to make way for Nero, *A.D.* 54.

Claudius II. (Aurelius), ſurnamed *Gothicus*, ſignalized himſelf by his courage and prudence under the reigns of Valerian and Julian; and on the death of the latter was declared emperor in 268. He put to death Aureolus, the murderer of Galienus; defeated the Germans; and in 269 marched againſt the Goths, who ravaged the empire with an army of 300,000 men, which he at firſt haraſſed, and the next year entirely defeated: but a contagious diſeaſe, which had ſpread through that vaſt army, was caught by the Romans; and the emperor himſelf died of it a ſhort time after, aged fifty-ſix. Pollio ſays that this prince had the moderation of Auguſtus, the virtue of Trajan, and the piety of Antoninus.

CLEAR, Cape, a promontory of a little iſland on the S. of Ireland. Long. 11. 10. W. Lat. 51. 18. N.

CLEBURY, a town of Shropſhire, with a market on Thurſday. It is ſeated on the river Rea, twenty-eight miles S.E. of Shrewſbury. Long. 2. 23. W. Lat. 52. 21. N.

CLEMENS Romanus, biſhop of Rome, where he is ſaid to have been born; and to have been fellow-labourer with St. Peter and St. Paul. We have nothing remaining of his works that is clearly genuine, excepting one epiſtle, written to quiet ſome diſturbances in the church of Corinth; which, next to holy writ, is eſteemed one of the moſt valuable remains of eccleſiaſtical antiquity.

Clemens *Alexandrinus*, ſo called to diſtinguiſh him from the former, was an eminent father of the church, who flouriſhed at the end of the ſecond and beginning of the third centuries. He was the ſcholar of Pantænus, and the inſtructor of Origen. The beſt edition of his works is that in two vols. folio, publiſhed in 1715 by Archbiſhop Potter.

CLEMENT V. (Pope), the firſt who made a public ſale of indulgences. He tranſplanted the holy ſee to Avignon in France; greatly contributed to the ſuppreſſion of the knights templars; and was author of a compilation of the decrees of the general councils of Vienna, ſtyled *Clementines*. He died in 1314.

Clement VII. (Julius de Medicis), Pope, memorable for his refuſing to divorce Catharine of Arragon from Henry VIII.; and for the bull he publiſhed upon the king's marriage with Anne Boleyn; which, according to the Roniſh authors, loſt him England. He died in 1534.

Clement XIV. (Francis Laurentius Ganganelli), the late pope's predeceſſor, was born at St. Angelo in the duchy of Urbino, in 1705; and choſen pope, though not yet a biſhop, in 1769; at which time the ſee of Rome was involved in a moſt diſagreeable and dangerous conteſt with the houſe of Bourbon. His reign was rendered troubleſome by the colliſion of parties on the affairs of the Jeſuits; and it is pretended that his latter days were embittered by the apprehenſions of poiſon. Though this report was probably apocryphal, it is ſaid that he often complained of the heavy burthen which he was obliged to bear; and regretted, with great ſenſibility, the loſs of that tranquillity which he enjoyed in his retirement when only a ſimple Franciſcan. He was, however, fortunate in having an opportunity, by a ſingle act, to diſtinguiſh a ſhort adminiſtration of five years in ſuch a manner as will ever prevent its ſinking into obſcurity. His death was immediately attributed to poiſon, as if an old man of ſeventy, loaded with infirmities and diſorders, could not quit the world without violence. His proceedings againſt the Jeſuits furniſhed a plauſible pretence for this charge; and the malevolence of their enemies embelliſhed it with circumſtances. It even ſeems as if the miniſters of thoſe powers who had procured their diſſolution did not think it beneath them to countenance the report; as if falſehood was neceſſary to prevent the revival of a body which had already ſunk in its full ſtrength, under the weight of real miſconduct. The charge was the more ridiculous, as the pontiff had undergone a long and painful illneſs, which originally proceeded from a ſuppreſſion of urine, to which he was ſubject; yet the report was propagated with the greateſt induſtry: and though the French and Spaniſh miniſters were preſent at the opening of his body, the moſt horrible circumſtances were publiſhed relative to that operation. It was confidently told that the head fell off from the body, and that the ſtench poiſoned and killed the operators. It availed but little that the operators ſhewed themſelves alive and in good health, and that the ſurgeons and phyſicians proved the falſehood of every part of the report. Clement XIV. appears to have been a man of a virtuous character, and poſſeſſed of conſiderable abilities. He died much regretted by his ſubjects.

CLEOBULUS, ſon of Evagoras, and one of the Grecian ſages; he was valiant, a lover of learning, and an enemy to vice. Flouriſhed about 560 years before Chriſt.

CLERAC, or CLAIRAC, a town of France, in the department of Lot and Garonne, and late province of Guienne. It is ſeated on the river Lot, ten miles from Agen. Long. 0. 33. E. Lat. 44. 20. N.

CLERGY, BENEFIT OF. This ancient privilege having been treated too conciſely in our original article, we here propoſe to treat the ſubject more at length.

After trial and conviction of a criminal, the judgment of the court regularly follows, unleſs ſuſpended or arreſted by ſome intervening circumſtance; of which the principal is *benefit of clergy:* a title of no ſmall curioſity as well as uſe; and concerning which, therefore, it may not be improper to enquire, 1. Into its original, and the various mutations which this privilege of the clergy has ſuſtained; 2. To what perſons it is to be allowed at this day; 3. In what caſes; 4. The conſequences of allowing it.

I. Clergy, the *privilegium clericale*, or (in common ſpeech) the benefit of clergy, had its original from the pious regard paid by Chriſtian princes to the church in its infant ſtate, and the ill uſe which the popiſh eccleſiaſtics ſoon made of that pious regard. The exemptions which they granted to the church were principally of two kinds: 1. Exemption of places conſecrated to religious duties from criminal arreſts; which was the foundation of ſanctuaries: 2. Exemption of the perſons of clergymen from criminal proceſs before the ſecular judge in a few particular caſes; which was the true original and meaning of the *privilegium clericale.*

But the clergy increaſing in wealth, power, honour, number, and intereſt, ſoon began to ſet up for themſelves; and that which they obtained by the favour of the civil government, they now claimed as their inherent right, and as a right of the higheſt nature, indefeaſible, and *jure divino.* By their canons, therefore, and conſtitutions, they endeavoured at, and where they met with eaſy princes, obtained, a vaſt extenſion of thoſe exemptions; as well in regard to the crimes themſelves, of which the liſt became quite univerſal, as in regard to the perſons exempted, among whom were at length comprehended, not only every little ſubordinate officer belonging to the church or clergy, but even many that were totally laymen.

In England, however, although the uſurpations of the pope were very many and grievous, till Henry VIII. totally exterminated his ſupremacy, yet a total exemption of the clergy from ſecular juriſdiction could never be thoroughly effected, though often endeavoured by the clergy: and therefore, though the ancient *privilegium clericale* was in ſome capital caſes, yet it was not univerſally, allowed. And in thoſe particular caſes, the uſe was, for the biſhop or ordinary to demand his clerks to be remitted out of the king's courts as ſoon as they were indicted: concerning the allowance of which demand there was for many years a great uncertainty; till at length it was finally ſettled in the reign of Henry VI. that the priſoner ſhould firſt be arraigned; and might either then claim his benefit of clergy by way of declinatory plea, or, after conviction, by way of arreſt of judgment. This latter way is moſt uſually practiſed, as it is more to the ſatisfaction of the court to have the crime previouſly aſcertained by confeſſion or the verdict of a jury; and alſo it is more advantageous to the priſoner himſelf, who may poſſibly be acquitted, and ſo need not the benefit of his clergy at all.

Originally the law was held that no man ſhould be admitted to the benefit of clergy, but ſuch as had the *habitum et tonſuram clericalem.* But, in proceſs of time, a much wider and more comprehenſive criterion was eſtabliſhed; every one that could read (a great mark of learning in thoſe days of ignorance and her ſiſter ſuperſtition) being accounted a clerk, or *clericus*, and allowed the benefit of clerkſhip, though neither initiated in clerkſhip, nor trimmed with the holy tonſure. But when learning, by means of the invention of printing, and other concurrent cauſes, began to be more generally diſſeminated than formerly; and reading was no longer a competent proof of clerkſhip, or being in holy orders; it was found that as many laymen as divines were admitted to the *privilegium clericale:* and therefore by ſtatute 4 Hen. VII. c. 13. a diſtinction was once more drawn between mere lay ſcholars, and clerks that were really in orders. And, though it was thought reaſonable ſtill to mitigate the ſeverity of the law with regard to the former, yet they were not put upon the ſame footing with actual clergy; being ſubjected to a ſlight degree of puniſhment, and not allowed to claim the clerical privilege more than once. Accordingly the ſtatute directs, that no perſon, once admitted to the benefit of clergy, ſhall be admitted thereto a ſecond time, until he produces his orders: and, in order to diſtinguiſh their perſons, all laymen who are allowed this privilege, ſhall be burned with a hot iron in the brawn of the left thumb. This diſtinction between learned laymen and real clerks in orders was aboliſhed for a time by the ſtatutes 28 Hen. VIII. c. 1. and 32 Hen. VIII. c. 3.; but is held to have been virtually reſtored by ſtatute 1 Edw. VI. c. 12. which ſtatute alſo enacts, that lords of parliament and peers of the realm may have the benefit of their peerage, equivalent to that of clergy, for the firſt offence (although they cannot read, and without being burnt in the hand), for all offences then clergyable to commoners, and alſo for the crimes of houſebreaking, highway-robbery, horſe-ſtealing, and robbing of churches.

After this burning, the laity, and before it the real clergy, were diſcharged from the ſentence of the law in the king's courts, and delivered over to the ordinary, to be dealt with according to the eccleſiaſtical canons. Whereupon the ordinary, not ſatisfied with the proofs adduced in the profane ſecular court, ſet himſelf formally to make a purgation of the offender by a new canonical trial; although he had been previouſly convicted by his country, or perhaps by his own confeſſion. This trial was held before the biſhop in perſon, or his deputy; and by a jury of twelve clerks: and there, firſt, the party himſelf was required to make oath of his own innocence; next, there was to be the oath of twelve compurgators, who ſwore they believed he ſpoke the truth; then, witneſſes were to be examined upon oath, but on behalf of the priſoner only; and laſtly, the jury were to bring in their verdict upon oath, which uſually acquitted the priſoner; otherwiſe, if a clerk, he was degraded, or put to penance. A learned judge in the beginning of laſt century remarks, with much indignation, the vaſt complication of perjury and ſubornation of perjury in this ſolemn farce of a mock trial: the witneſſes, the compurgators, and the jury, being all of them partakers in the guilt: the delinquent party alſo, though convicted in the cleareſt manner, and conſcious of his own offence, yet was permitted, and almoſt compelled, to ſwear himſelf not guilty; nor was the good biſhop himſelf, under whoſe countenance this ſcene was tranſacted, by any means exempt from a ſhare of it. And yet, by this purgation, the party was reſtored to his credit, his liberty, his lands, and his capacity of purchaſing afreſh, and was entirely made a new and an innocent man.

This ſcandalous proſtitution of oaths, and the forms of juſtice, in the almoſt conſtant acquittal of felonious clerks by purgation, was the occaſion, that, upon very heinous and notorious circumſtances of guilt, the temporal courts would not truſt the ordinary with the trial of the offender, but delivered

over to him the convicted clerk, *abſque purgatione faciendo:* in which ſituation the clerk convict could not make purgation; but was to continue in priſon during life, and was incapable of acquiring any perſonal property, or receiving the profits of his lands, unleſs the king ſhould pleaſe to pardon him. Both theſe courſes were in ſome degree exceptionable; the latter perhaps being too rigid, as the former was productive of the moſt abandoned perjury. As therefore theſe mock trials took their riſe from factious and popiſh tenets, tending to exempt one part of the nation from the general municipal law, it became high time, when the reformation was thoroughly eſtabliſhed, to aboliſh ſo vain and impious a ceremony.

Accordingly the ſtatute 18 Eliz. c. 7. enacts, that, for the avoiding ſuch perjuries and abuſes, after the offender has been allowed his clergy, he ſhall not be delivered to the ordinary as formerly; but, upon ſuch allowance, and burning of the hand, he ſhall forthwith be enlarged and delivered out of priſon; with proviſo, that the judge may, if he thinks fit, continue the offender in gaol for any time not exceeding a year. And thus the law continued unaltered for above a century; except only, that the ſtatute 21 Jac. I. c. 6. allowed, that women convicted of ſimple larcenies under the value of 10s. ſhould (not properly have the benefit of clergy, for they were not called upon to read, but) be burned in the hand, whipped, or ſtocked, or impriſoned for any time not exceeding a year. And a ſimilar indulgence by the ſtatutes 3 and 4 W. and M. c. 9. and 4 and 5 W. and M. c. 24. was extended to women guilty of any clergyable felony whatever; who were allowed once to claim the benefit of the ſtatute, in like manner as men might claim the benefit of clergy, and to be diſcharged upon being burned in the hand, and impriſoned for any time not exceeding a year. All women, all peers, and all male commoners who could read, were therefore diſcharged in ſuch felonies abſolutely, if clerks in orders; and for the firſt offence upon burning in the hand, if lay; yet all liable (except peers), if the judge ſaw occaſion, to impriſonment not exceeding a year. And thoſe men who could not read, if under the degree of peerage, were hanged.

Afterwards, indeed, it was conſidered, that education and learning were no extenuations of guilt, but quite the reverſe; and that if the puniſhment of death for ſimple felony was too ſevere for thoſe who had been liberally inſtructed, it was, *à fortiori*, too ſevere for the ignorant alſo. And thereupon, by ſtatute 5 Anne, c. 6. it was enacted, that the benefit of clergy ſhould be granted to all thoſe who were entitled to aſk it, without requiring them to read by way of conditional merit. And, experience having ſhewn that ſo univerſal a lenity was frequently inconvenient, and an encouragement to commit the lower degrees of felony; and that though capital puniſhments were too rigorous for theſe inferior offences, yet no puniſhment at all (or next to none, as branding or whipping) was as much too gentle; it was enacted by the ſame ſtatute, 5 Anne, c. 6. that when any perſon is convicted of any theft or larceny, and burnt in the hand for the ſame, he ſhall, at the diſcretion of the judge, be committed to the houſe of correction or public work-houſe, to be there kept to hard labour for any time not leſs than ſix months, and not exceeding two years; with a power of inflicting a double confinement in caſe of the party's eſcape from the firſt. And it is alſo enacted by the ſtatutes 4 Geo. I. c. 11. and 6 Geo. I. c. 23. that when any perſons ſhall be convicted of any larceny, either grand or petit, or any felonious ſtealing or taking of money or goods and chattels, either from the perſon or the houſe of any other, or in any other manner, and who by the law ſhall be entitled to the benefit of clergy, and liable only to the penalties of burning in the hand, or whipping, the court, in their diſcretion, inſtead of ſuch burning in the hand, or whipping, may direct ſuch offenders to be tranſported to America for ſeven years; and if they return, or are ſeen at large in this kingdom within that time, it ſhall be felony without benefit of clergy.

In this ſtate does the benefit of clergy at preſent ſtand; very conſiderably different from its original inſtitution: the wiſdom of the Engliſh legiſlature having, in the courſe of a long and laborious proceſs, extracted, by a noble alchemy, rich medicines out of poiſonous ingredients; and converted, by gradual mutations, what was at firſt an unreaſonable exemption of particular popiſh eccleſiaſtics, into a merciful mitigation of the general law with reſpect to capital puniſhments.

From the whole of this detail, we may collect, that however, in times of ignorance and ſuperſtition, that monſter in true policy may for a while ſubſiſt, of a body of men reſiding in a ſtate, and yet independent of its laws, yet when learning and rational religion have a little enlightened men's minds, ſociety can no longer endure an abſurdity ſo groſs, as muſt deſtroy its very fundamentals. For, by the original contract of government, the price of protection by the united force of individuals, is that of obedience to the united will of the community. This united will is declared in the laws of the land: and that united force is exerted in their due, and univerſal, execution.

II. We are next to enquire, to what perſons the benefit of clergy is to be allowed at this day: and this muſt chiefly be collected from what has been obſerved in the preceding article. For, upon the whole, we may pronounce, that all clerks in orders are, without any branding, and of courſe without any tranſportation (for that is only ſubſtituted in lieu of the other), to be admitted to this privilege, and immediately diſcharged, or at moſt only confined for one year; and this as often as they offend. Again, all lords of parliament, and peers of the realm, by the ſtatute 1 Edw. VI. c. 12 ſhall be diſcharged in all clergyable and other felonies provided for by the act without any burning in the hand, in the ſame manner as real clerks convict: but this is only for the firſt offence. Laſtly, all the commons of the realm, not in orders, whether male or female, ſhall, for the firſt offence, be diſcharged of the puniſhment of felonies, within the benefit of clergy, upon being burnt in the hand, and ſuffering diſcretionary impriſonment; or, in caſe of larceny, upon being tranſported for ſeven years, if the court ſhall think proper.

III. The third point to be conſidered is, for what crimes the *privilegium clericale*, or benefit of clergy, is to be allowed. And it is to be obſerved, that neither in high treaſon, nor in petit larceny, nor in any mere miſdemeanors, it was indulged at the common law: and therefore we may lay it down as a rule, that it was allowable only in petit treaſon, and capital felonies; which for the moſt part became legally entitled to this indulgence, by the ſtatute *de clero*, 25 Edw. III. ſtat. 3. c. 4. which provides, that clerks convict for treaſon or felonies, touching other perſons than the king himſelf or his royal majeſty, ſhall have the privilege of holy church. But yet it was not allowed in all caſes whatſoever: for in ſome it was denied even in common law, viz. *inſidiatio viarum*, or lying in wait for one on the highway; *depopulatio agrorum*, or deſtroying and ravaging a country; and *combuſtio domorum*, or arſon, that is, burning of houſes; all which are a kind of hoſtile acts, and in ſome degree border upon treaſon. And further, all theſe identical crimes, together with petit treaſon, and very many other acts of felony, are ouſted of clergy by particular acts of parliament.

Upon the whole, we may obſerve the following rules. 1. That in all felonies, whether new created, or by common law, clergy is now allowable, unleſs taken away by act of par-

ſiament. 2. That where clergy is taken away from the principal, it is not of courſe taken away from the acceſſory, unleſs he be alſo particularly included in the words of the ſtatute. 3. That when the benefit of clergy is taken away from the offence (as in caſe of murder, buggery, robbery, rape, and burglary), a principal in the ſecond degree, being preſent, aiding and abetting the crime, is as well excluded from his clergy as he that is a principal in the firſt degree: but, 4. That where it is only taken away from the perſon committing the offence (as in the caſe of ſtabbing, or committing larceny in a dwelling-houſe), his aiders and abettors are not excluded, through the tenderneſs of the law, which hath determined that ſuch ſtatutes ſhall not be taken literally.

IV. Laſtly, We are to enquire what the conſequences are to the party, of allowing him this benefit of clergy. We ſpeak not of the branding, impriſonment, or tranſportation; which are rather concomitant conditions, than conſequences, of receiving this indulgence. The conſequences are ſuch as affect his preſent intereſt, and future credit and capacity: as having been once a felon, but now purged from that guilt by the privilege of clergy; which operates as a kind of ſtatute pardon. And we may obſerve, 1. That, by his conviction, he forfeits all his goods to the king; which, being once veſted in the crown, ſhall not afterwards be reſtored to the offender. 2. That, after conviction, and till he receives the judgment of the law by branding or the like, or elſe is pardoned by the king, he is, to all intents and purpoſes, a felon; and ſubject to all the diſabilities and other incidents of a felon. 3. That, after burning or pardon, he is diſcharged for ever of that, and all other felonies before committed, within the benefit of clergy; but not of felonies from which ſuch benefit is excluded: and this, by ſtatutes 8 Eliz. c. 4. and 18 Eliz. c. 7. 4. That, by the burning, or pardon of it, he is reſtored to all capacities and credits, and the poſſeſſion of his lands, as if he had never been convicted. 5. That what is ſaid with regard to the advantages of commoners and laymen, ſubſequent to the burning in the hand, is equally applicable to all peers and clergymen, although never branded at all. For they have the ſame privileges, without any burning, to which others are entitled after it.

CLERY, a village in France, nine miles S.W. of Orleans, once famous for the pilgrimages to our lady of Clery. Here was the tomb of that monſter Lewis XI. who appeared, in white marble, as the ſaint and the patriot king!

CLEYBROOK, Great and Little, two villages in Leiceſterſhire, on the N.W. ſide of Lutterworth, ſuppoſed to have been a part of Cleyceſter, ſituated one mile to the W. which was a flouriſhing city of the Romans, and where their bricks and coins have been frequently found.

CLIFFE, a town of Northamptonſhire, with a market on Tueſday; 30 miles N.E. of Northampton, and 88 N.N.W. of London. Long. 0. 37. W. Lat. 52. 33. N.

CLIFTON, a village of Weſtmoreland, three miles from Penrith, remarkable for a ſkirmiſh between the king's forces and the rebels in 1745, in which the latter had the advantage.

Clifton, a village in Glouceſterſhire, near Briſtol, noted for the hot-well in its neighbourhood, upon the Lower Avon, at the foot of St. Vincent's rock.

CLISSA, a fort of Dalmatia, taken from the Turks by the Venetians. It is ſeated on a craggy mountain, near which is a narrow valley between two ſteep rocks, through which the road lies from Turkey to Dalmatia. It is ſix miles N. of Spalatto. Long. 17. 31. E. Lat. 44. 10. N.

CLISSON, a town of France, in the department of Lower Loire and late province of Bretagne, on the river Seure, 12 miles S. of Nantz. Long. 1. 28. W. Lat. 47. 1. N.

CLITHERO, a borough in Lancaſhire, with a market on Saturday. It is ſeated near Pendil Hill, and is 36 miles S.E. of Lancaſter, and 213 N.N.W. of London. Long. 2. 21. W. Lat. 53. 54. N.

CLOSET, a well-known convenience in a houſe; calculated to depoſit ſafely ſmall articles of domeſtic economy, or conſumption, till they are wanted for uſe.

Water-Closet, a modern invention, by means of which the vileſt of animal functions may be performed in a decent and cleanly manner, and without giving offence to the feelings of others. The following is the ſpecification of the patent granted to Mr. Binns, of Great Barlow-ſtreet, Mary-le-bone, for a machine or apparatus, anſwering the ſeveral purpoſes of a portable water-cloſet, a bidet, and eaſy chair, which together are compriſed in one third of the ſpace or room occupied by portable water-cloſets now in uſe; and which, from its lightneſs and ſize, is particularly calculated for travelling or for camps or ſhips.

"The object of my invention," ſays Mr. Binns, "is, to remove the complaint made againſt a portable water-cloſet (heretofore invented and manufactured by me), on account of its being too bulky for frequent removals, and to increaſe the utility of theſe machines, by the addition of a bidet-pan. In my former portable-cloſets, the back, encloſing the water-ciſtern, was vertically fixed upon the ſeat or lower part of the caſe; in my preſent invention, the back ſhuts down upon the ſeat in the manner of a lid, and thus not only reduces its ſize to one-third of the dimenſions of the former ones, but alſo renders it more convenient for travelling, and leſs liable to be injured. This important advantage of folding down the back of the cloſet upon the ſeat, I obtain by different means, viz.

"Firſt, By a ſcrew-jointed tube, as particularly delineated in figs. 6 and 7 (ſee Plate 21.). This tube conſiſts of two angular parts, made of braſs or any other proper materials: the end of one part is inſerted and ſecured in the bottom of the water ciſtern, and the end of the other part is attached to the baſin, in the common way of manufacture. The two parts of the tube are firmly connected, by the one ſcrewing into the other, as may be ſeen in the above-mentioned figures, and ſerve as a joint for the back to turn upon, in being folded down upon the ſeat. When the back of the cloſet is raiſed, the ſcrew of the tube is perfectly cloſe or home, the extremity of the female ſcrew preſſing againſt a ſmall collar of leather which ſurrounds the ſhoulders of the male ſcrew; but when the back is folded down upon the ſeat, the ſcrew, as being the joint or hinge, relaxes a quarter turn.

"Secondly, By a jointed tube varying from the above, only in being a cock-joint inſtead of a ſcrew, as deſcribed in fig. 7.

"Thirdly, By a ſliding-jointed tube of two parts, each forming a curve of a quarter of a circle, as repreſented in fig. 5, where the back of the cloſet is ſhewn in the progreſs of being ſhut down upon the ſeat, to exhibit more clearly the manner in which the tube acts. The two parts of the tube are joined to the ciſtern and baſin as the preceding ones, but not ſo advantageouſly, for this tube cannot act as a joint or hinge, and requires an accuracy in the manufacture. The above three jointed tubes are applicable to many kinds of machinery.

"Fourthly, By a leather or other flexible or jointed tube, attached to the bottom of the water-ciſtern and to the ſide of the baſin. The object of my invention may alſo be obtained, by varying and differently combining the ſeveral means hereinbefore deſcribed; but I prefer the firſt or ſcrew-jointed tube, which includes more advantages than can be derived from any of the other methods. Theſe tubes I generally manufacture in braſs, or in what is known by the name of cock-metal. The manner in which the bidet-pan is added to the cloſet, is

ſo ſimple and obvious, as ſcarcely to require any other explanation than a reference to figs. 3, 4, and 8. The rim at each end of the bidet-pan reſts on the front and back edge of the ſeat of the cloſet, immediately over the baſin, and is ſupplied with water from the cloſet ciſtern, either by a ſeparate aqueduct from the ciſtern, or by the ſame channel through which the water is admitted into the cloſe baſin; and for this purpoſe an aperture is made in the upper part of the back end of the bidet-pan, ſufficiently large to admit the fan of the pan leading into the baſin. The latter method I deem beſt. The pans I uſually manufacture in copper, and japan them; but they may be made of other materials, though none are, in my opinion, ſo well adapted to the purpoſe as japanned copper

"In the figures which are annexed to elucidate this ſpecification, I have exhibited and deſcribed the whole cloſet, which contains many parts that are not new, and cannot be conſidered as included in my preſent patent. The parts which I claim as my invention, and for which the patent is granted, are the folding down of the back of the cloſet upon the ſeat, or by having the back to engage and diſengage, whereby the back may be laid down on the ſeat; or by folding or laying down the back of the cloſet upon the ſeat in any manner whatſoever: but more particularly by the different means herein-before deſcribed; the ſcrew-jointed tube; the cock jointed tube; the ſliding tube; the tube made of leather, or any other flexible material; the application of the bidet pan to the water-cloſet, and the arms or handles to make it ſerve as an eaſy chair. Theſe arms or handles are in two parts, joined by a ſcrew near the angle; and one part of the arm, when joined or ſcrewed together, is attached or fixed to the ſeat of the cloſet, and the other to the back by means of ſliding faſtenings; by which means theſe arms are made to engage and diſengage, for the different purpoſes the cloſet may be uſed for; and alſo for the convenience of packing in the internal part of the cloſet in travelling."

Explanation of the figures.—Fig. 1. A ſide view of the water-cloſet with the back ſhut down.

Fig. 2. A ſide view of the cloſet, with the back raiſed and ſecured by two braſs arms which ſlide into the back and ſeat: for conveniency in packing, theſe arms ſeparate at the angle or elbow. On this ſide of the bottom of the cloſet is ſhewn the door which is opened whenever the ſoil pan is removed.

Fig. 3. The ſame view on an enlarged ſcale. The ſide of the caſe is omitted for the purpoſe of exhibiting the mechaniſm. *a*. The frame or caſe containing the mechaniſm. *b*. The water-ciſtern in the back of the cloſet. *c*. The lever which raiſes the valve *f*, for the purpoſe of admitting water through the jointed tube into the baſin or bidet-pan. This lever is raiſed either by drawing up the handle *d*, on the ſeat, or by preſſing the thumb on the extremity of the lever, as appears more plainly at *e*, in fig. 4. In doing the former, not only water is admitted into the baſin or bidet, but alſo the water in the baſin is at the ſame time diſcharged into the ſoil-pan below, by means of the tumbler *e*, which opens a valve at the bottom of the baſin; but a preſſure on the lever at the top of the back produces only a ſingle motion for diſcharging water out of the ciſtern. *g*. The ſcrew-jointed tube more particularly deſcribed in figs. 6 and 7. *h*. The bidet-pan, which reſts at each end upon the edge of the ſeat over the baſin (ſee alſo figs. 4 and 8). *i*. The cloſet baſin. *j*. The water-pipe. *k*. The ſtench-trap. *l*. The ſoil-pan which contains the foul water, &c diſcharged by the baſin. The mouth of this pan is cloſely attached to the pipe at the bottom of the trap, by the angular lever *m*, which is raiſed and ſecured by the braſs ſpring catch *n*. When the pan is to be removed, a ſlight preſſure on the knob of the catch diſengages the lever, and the pan which is ſupported by it. In drawing out the ſoil-pan to diſcharge its contents, a lid is ſecured on the mouth of it to prevent the eſcape of any offenſive effluvia in the removal. *o*. The fan at the end of the pipe or tube for admitting water into the baſin and bidet-pan. *p*. The top of the back is a lid, which is opened whenever the ciſtern is ſupplied with water. The other parts of the figure are either too obvious or too well known to require explanation.

Fig. 4. A view of the ſeat of the cloſet, and of the top of the back when the lid is open. *q*. The aperture through which the water is poured into the ciſtern. *r*. The ſpring of the lever *e*. *s*. The braſs plate affixed to the lower part of the ſcrew jointed tube, and which is ſecured to the ſeat by four ſcrews as a joint. The other references are explained by the ſame letters in fig. 3.

Fig. 5. A ſection of the ſliding curved tube. *a*. The lower or external part of the tube, which is attached to the baſin. *b*. The upper or internal part of the tube, inſerted in the bottom of the ciſtern. *c*. Theſe lines delineate the bottom and front ſide of the water-ciſtern. *d*. An outline of the fore-part of the back, and of the ſeat of the cloſet. *e*. The joint which connects the back of the cloſet with the ſeat. *f*. A collar of leather, againſt which the ſhoulder of the upper part of the tube and the extremity of the lower one preſs, when the tube is cloſed by the back of the cloſet being erect. *g*. The valve in the upper or internal part of the tube, for retaining the water in the ciſtern. *h*. The leather lining to the valve. *i*. The ſcrew which binds the leather to the valve. *j*. A wire to regulate the valve in its motions. In the upper part of this wire is affixed another, which communicates to the lever at the top of the water-ciſtern. *k*. A fixed bar in which the regulator of the valve moves.

Fig. 6. A vertical ſection of the ſcrew-jointed tube. *l*. A braſs plate affixed to the lower part of the tube, and which is ſcrewed down upon the ſeat, as appears in fig. 4. The other references are explained by thoſe of the preceding figure.

N. B. This ſection is not in a direct line, but a combination of three, as ſhewn by the tranſverſe dotted lines in the following figure.

Fig. 7. A horizontal ſection of the ſcrew or cock-jointed tube. *m*. The vertical dotted lines point out the variation, in connecting the two parts of the tube by a cock-joint inſtead of a ſcrew. The other references are explained by thoſe in figs. 5 and 6.

In this ſection the upper part of the tube is more highly coloured than the lower one, for the purpoſe of delineating more obviouſly the outline of the two parts.

Fig. 8. A vertical view of the back part of the bidet-pan when fixed, as in fig. 4.

1. The upper part of the edge of the ſeat of the cloſet above the bidet-pan.

2. The rim of the end of the bidet-pan reſting on the edge of the ſeat, which for that purpoſe is levelled from the dotted line upwards.

3. The water-pipe or tube at the back of the fan.

4. The fan which diſperſes the water from all parts of its curvature; an improvement by which the bottom as well as the ſides are completely waſhed.

5. The edges of the aperture in the back part of the bidet-pan, for admitting the fan. The ſides of the aperture cloſely join to the internal ſurface of the back, and thus include the ſtyle of the fan in the bidet pan, when it is placed upon the ſeat of the cloſet, as repreſented in fig. 4.

There are water-cloſets on other principles, but the above ſeems to be calculated for every convenience that can be required.

CLOCUD, or Clun, a town of France, four miles from Laſs,

ſeated on the river Seine. Here was lately a magnificent royal palace, gardens, caſcade, &c.

CLOVIS I. the real founder of the French monarchy. For he was the firſt conqueror of the ſeveral provinces of Gaul poſſeſſed before his time by the Romans, Germans, and Goths: theſe he united to the then ſcanty dominions of France, removed the ſeat of government from Soiſſons to Paris, and made this the capital of his new kingdom. He died in 511, in the 46th year of his age, and 31ſt of his reign.

CLUSE, a town of Savoy, in the territory of Faucigny; ſeated on the river Arve, 22 miles S.E. of Geneva. Long. 6. 29. E. Lat. 45. 57. N.

CLWYD, a celebrated vale of Denbighſhire, extending from its upper end to the ſea above 20 miles; its breadth varying from three to eight, according to the approach or receſs of the high mountains incloſing it, through which, in different parts, are gaps formed by nature for entrances. This delightful ſpot is in a high ſtate of cultivation, even far up the aſcent of the hills, and is full of towns, villages, and gentlemen's ſeats. A river of the ſame name runs along this vale, the inhabitants of which are remarkable for retaining their vivacity to a very late period of life.

CLWYD, a river of Denbighſhire, which riſes in the middle of the county, and taking a compaſs to the S.E. turns to the N.W. and having entered Flintſhire, falls into the Iriſh Sea.

CLYDESDALE, a wild diſtrict in the S. part of Lanerkſhire in Scotland. Amid the mountains here, particles of gold have ſometimes been found waſhed down by the rains and ſtreams of water; but this tract is chiefly remarkable for producing metals of inferior worth. "Nothing," ſays Mr. Pennant, "can equal the gloomy appearance of the county round. Neither tree, nor ſhrub, nor verdure, nor picturesque rock, appears to amuſe the eye. The ſpectator muſt plunge into the bowels of theſe mountains for entertainment." The veins of lead lie moſtly N. and E. and their thickneſs, which ſeldom exceeds 40 feet, varies greatly in different parts. The ſcanty paſture here feeds ſome ſheep and cattle; but thoſe in the neighbourhood of the mines, ſometimes periſh by drinking the water in which the lead ore has been waſhed; for this ore communicates a deleterious quality to the water, though that liquid acquires no noxious taint from remaining in leaden pipes and ciſterns, unleſs the water contain an acid.

COADUNATÆ (*Encycl.*). Erroneouſly ſpelt COADUNATE.

COALS (*Encycl.*). To what has been ſaid under that article, we wiſh to add the following obſervations and experiments on the formation and properties of pit-coal, by Mr. Eglesfield Smith.

"Pit-coal," ſays he, "is a black, compact, brittle, and inflammable ſubſtance; of a moderate hardneſs, and laminated ſtructure, more or leſs ſhining, but incapable of taking any great degree of poliſh. It is generally found below the ſurface of the earth, where it lies in nearly horizontal ſtrata, ſometimes many yards thick. When diſtilled it yielded the following products:

"One hundred ounces of pit-coal, diſtilled in a ſtrong heat, gave fourteen ounces and a half of liquid, and fifty-nine ounces of cinder; the reſt was evolved in the form of an air, which, caught in bladders and glaſſes, upon examination ſeemed to be in part compoſed of true hydrogene, as it inflamed and went off with a degree of exploſion when mixed with the atmoſpheric air; whether azotic or other gas was evolved at the ſame time I could not determine.

"The liquid obtained from the coal by diſtillation had its ſurface covered with an empyreumatic oil, which ſeemed more or leſs fluid according to the degree of heat uſed in the diſtillation.

"In the middle of the receiver was a reddiſh fluid of an acid taſte, and which ſeemed loaded with oil. At the bottom was found a thick tenacious ſubſtance like tar.

"I ſhall now endeavour to prove that pit-coal is a vegetable ſubſtance oxygenated to a certain degree. But how the immenſe mountains of this ſubſtance which are found in the bowels of the earth are formed cannot eaſily be conceived: they cannot be produced by the decay of a few foreſts upon its ſurface, which they ſay have been buried by earthquakes or other changes which have taken place in it; a cauſe more proportionate to the magnitude of the effect is required.

"From the prints of ſhells and fiſhes which are found in the different ſtrata of coal, its formation has been evidently ſubmarine, and it is to the ſea that we are to look for the immenſe produce of vegetable matter which is required for its formation. This, together with what is brought into it by rivers, being broken by the waves and currents, and heaped together, is covered with ſand, and becomes decompoſed.

"Wood, when it has been buried under the ſurface of the earth for a length of time, acquires the hardneſs and brittleneſs of pit-coal in a great degree; and we often find pieces of coal which have the annular lines of the wood ſtrongly marked upon them. A piece of oak, when dried and diſtilled, produced the following reſults, which will be found to be nearly the ſame with thoſe obtained from the pit-coal, though differing in their qualities.

"An hundred ounces of the heart of the oak, when dried, produced on diſtillation thirty-nine ounces of liquid, and thirty-four of charcoal, the reſt being diſſipated in the form of inflammable air.

"On the ſurface of the liquid floated an oil nearly the ſame as that obtained from the pit-coal. The liquid had an acid taſte, and turned ſlips of paper, tinged blue by the purple radiſh, to a red colour. At the bottom of the receiver was found a tenacious ſubſtance, the ſame as was produced from the pit-coal, only differing in being more fluid. Other woods yielded the ſame ſubſtances, but the harder the wood it yielded more of the oil; and that oil was more or leſs thick according to the degree of heat uſed in the diſtillation.

"The following experiments will ſhew further how nearly pit-coal and wood are allied to each other.

"I took half an ounce of pit-coal, and having reduced it to a fine powder, poured upon it two ounces of the oil of turpentine: by applying to it a heat a little above that of boiling water, I diſſolved the whole into a maſs or fluid like that of tar, but more tranſparent.

"I then took an ounce of charcoal, and treated it in the ſame manner, but I found it would not diſſolve, but remained ſwimming in ſmall particles in the fluid. I added to the fluid forty drops of ſulphuric acid, and ſtill no ſolution took place. I then poured into it a quarter of an ounce of ſtrong nitrous acid, and a violent inflammation enſued. This mixture I afterwards kept in a ſand-bath of moderate heat for near half an hour, and upon examination I found the reſidue quite diſſolved, and reſembled that procured from the pit-coal ſo much, that it was impoſſible to diſtinguiſh the one from the other. I treated ſome pounded pit-coal in the ſame manner as I had done the charcoal, ſaving the circumſtance of putting it into the ſand-bath, and the only difference in the reſult was, that it reſembled pitch more than the former, being of a thicker conſiſtence.

"I then inflamed ſome oil of turpentine by means of the nitrous acid, and I found that the reſidue was a kind of tar, reſembling the reſidue obtained from the foregoing experiments. I ſhall endeavour to explain how theſe ſolutions took place.

"The *firſt* experiment was to try whether or not pit-coal was a bitumen, or a reſinous ſubſtance, which is proved by its being completely ſoluble in the oil of turpentine. The *ſecond*

experiment ſhews, that charcoal is an oxygenated wood, but not ſufficiently oxygenated to become ſoluble in the oil of turpentine, till by the addition of the nitrous acid it becomes completely ſoluble like bitumen and charcoal, and thereby ſhews that it nearly reſembles thoſe ſubſtances.

"The *third* experiment ſhews, that the nitrous acid does not alter pit-coal, otherwiſe than by thickening it.

"The *fourth* experiment ſhews, that oil of turpentine, when oxygenated to a high degree, becomes a ſort of bitumen, or rather petroleum.

"From the above we ſee how nearly wood and pit-coal are allied to each other; and that wood, when treated chemically, will yield the ſame products as pit-coal.

"I ſhall now ſhew how this proceſs takes place in the bowels of the earth. The quantities of vegetable matter which have been collected together, either by the violence of floods or other convulſions of nature, becoming in time covered with a vegetable ſward, which continues to increaſe until it entirely excludes the air, while lying in this ſtate undergoes a degree of fermentation, during which the vegetable matter attracts the oxygenating principle from the water, and becomes thereby highly oxygenated. The ſlowneſs of this proceſs gives the wood a greater degree of attraction for the oxygen, which is, perhaps, aſſiſted by the excluſion of the air. The inflammable principle of the water, or the hydrogen, is evolved, and forms that air which is ſo troubleſome to miners.

"Iron and ſulphur are formed during this decompoſition of vegetable matter, which accounts for the formation of pyrites, which are ſo often found in coal-mines.

"From the large quantities of inflammable air which are let looſe in the decompoſition of vegetable ſubſtances, we may, in ſome meaſure, account for the continual ſhowers which woody and marſhy countries are ſubject to, and why dry and ſandy countries are generally without them. Hence we may likewiſe account for thunder being ſo common in hot woody countries. In theſe countries, vegetables ſoon putrify and decay; and the large quantities of inflammable air which muſt be neceſſarily evolved during their decay, mixing with the oxygen of the air, and fired by electricity, explode and fall down in rain, and again ſerve for the growth and nouriſhment of plants. In this proceſs of vegetation the inflammable principle of the water is abſorbed by the plant, while the oxygen is evolved, and ſerves, by purifying the exhauſted atmoſphere, to ſupport animal life."

The combuſtion of this valuable fuel has been promoted, and its uſe economiſed, by a variety of excellent inventions. The following is the ſpecification of a patent granted to Mr. Chabannes, of Welbeck-ſtreet, London, for a machine for ſeparating coals, and a compoſition for making ſmall-coal into cakes or bricks to be uſed for fuel.

"Coals, conſiſting of great and ſmall mixed together, ſuch as are uſually bought in the pool in the river Thames for conſumption in the cities of London and Weſtminſter, and their environs, are to be diſcharged or thrown upon grates or gratings of the deſcription herein-after contained, which grates or gratings are to be fixed either horizontally or on an inclined plane; and, by means of ſuch diſcharge, and throwing of the ſaid coals, the ſmall coals will be ſeparated from the large. The grates or gratings are to be conſtructed either of wood or metal, and are to be of any length or breadth ſuited to the place where they are fixed, and to have bars at a diſtance from each other not leſs than a quarter of an inch, nor more than an inch and an half. The form of theſe grates or gratings is particularly deſcribed in Plate 22. The compoſition is to conſiſt of the ſmall coals ſo ſeparated as above mentioned from the large coals, and a ſmall quantity of earth, clay, cow-dung, tar, pitch, broken glaſs, ſulphur, ſaw-duſt, oil-cakes, tan, or wood, or of any other combuſtible ingredient, to be mixed together and ground with a wheel in water in a wooden veſſel. The compoſition, together with the water, is then to be conveyed by pipes, or any other conductor, into pits or holes of any dimenſions, made for that purpoſe, to be lined with tiles or bricks cemented together with water, except in the centre, where a drain or watercourſe is to be cut below the pit or hole, and ſuch drain or watercourſe is to be covered over with uncemented tiles, by which means the water will paſs off into the drain or watercourſe, and leave the compoſition in the pit or hole. The compoſition is then to be moulded into brick-cakes or balls, and put on a frame to dry; and when dry is fit for uſe as fuel."

Reference to the plate.—A. Plan of the grate or grating. B. Veſſel in which the coals are raiſed from the barge, and from whence they are thrown on the grate or grating to ſeparate them. C. The profile of the grate or grating with the coals running on it. D. is the ſtage where the ſmall coal is received.

COALLIER, a veſſel employed to carry coals from one port to another; chiefly from the northern parts of England to the capital, and more ſouthernly parts, as well as to foreign markets. This trade is known to be an excellent nurſery for ſeamen; although they are often found, from the conſtitution of their climate, not to be ſo well calculated for ſouthern navigation.

COB, a kind of mud-wall. In thoſe parts of England where ſtone is ſcarce, it is uſual to make walls and houſes of mud, or, as it is called in Devonſhire, *cob*; which is a compoſition of earth and ſtraw, wetted up ſomewhat like mortar, but well beat and trod together. When a wall is making, after being raiſed to a certain height, it is allowed time to pitch or ſettle before the work is reſumed. Some value themſelves on their ſkill in building with this compoſition; the price, when materials are found, is generally in Devonſhire 3s. per perch of 16½ feet; but a ſtone foundation coſts more. Houſes built with this, being covered with thatch, are very dry and warm: a cob-wall, if in a good ſituation, will laſt 50 or 60 years or more. When pulled down, they are uſed as manure, and new earth employed to rebuild with.

COBHAM, a village in Surrey, remarkable for Paine's Hill, the ſeat and beautiful gardens of the late Mr. Hopkins. Cobham is 19 miles S.W. by W. of London.

COCA, a town of Old Caſtile, in Spain, ſeated among mountains; and near it is a ſtrong caſtle for ſtate priſoners.

COCHEIM, a town in the electorate of Treves, formerly imperial; ſeated on the Moſelle, 25 miles S.W. of Coblentz. Long 7. 2. E. Lat. 50. 12. N.

COCHIN CHINA (*Encycl.*). Little of the hiſtory of this kingdom is known: what follows depends entirely on the credit of M. le Poivre, a French traveller.—About half a century before the French firſt arrived in theſe diſtant regions, a prince of Tonquin, as he fled from his ſovereign, by whom he was purſued as a rebel, had, with his ſoldiers and adherents croſſed the river, which ſerves as a barrier between Tonquin and Cochin-China. The fugitives, who were warlike and civilized men, ſoon expelled the ſcattered inhabitants, who wandered about without any ſociety or form of government, and founded a new kingdom, which ſoon grew rich and populous. During the reign of the firſt ſix kings, no nation could be happier than the Cochin-Chineſe. Their monarchs governed them as a father does his family, eſtabliſhing no laws but thoſe of nature, to which they themſelves were the firſt to pay obedience. They honoured and encouraged agriculture, as the moſt uſeful employment of mankind; and required from their ſubjects only a ſmall annual free-gift to defray the expence of their defenſive war againſt the Ton-

quineſe, who were their enemies. This impoſition was regulated by way of poll-tax, with the greateſt equity. Every man, able to till the ground, paid to the prince a ſmall ſum proportioned to the ſtrength of his conſtitution, and the vigour of his arm: and nothing more.

Cochin-China continued happy under theſe princes for more than a century; but the diſcovery of gold-mines put a ſtop to theſe mild regulations. Luxury immediately took place. The prince began to deſpiſe the ſimple habitation of his anceſtors, and cauſed a ſuperb palace to be built, a league in circumference, ſurrounded with a wall of brick on the model of that of Pekin, and defended by 1600 pieces of cannon. Not content with this, he would needs have a winter palace, an autumn palace, and a ſummer palace. The old taxes were by no means ſufficient to defray theſe expences; new ones were deviſed; and oppreſſion and tyranny every-where took place. His courtiers, to flatter their prince, gave him the title of the *king of heaven*, which he ſtill continues to aſſume. When ſpeaking of his ſubjects, he ſtyles them his *children*, but by no means behaves as if he was their father: for our author informs us, that he has ſeen whole villages newly abandoned by their inhabitants, who were haraſſed with toil and inſupportable exactions; the neceſſary conſequence of which was, that their lands returned to their former uncultivated ſtate.

M. le Poivre repreſents the Cochin-Chineſe as gentle, hoſpitable, frugal, and induſtrious. There is not a beggar in the country; and robbery and murder are abſolutely unknown. A ſtranger may wander over the kingdom from one end to the other (the capital excepted), without meeting with the ſlighteſt inſult. He will be every-where received with the moſt eager curioſity, but at the ſame time with the greateſt benevolence. A Cochin-Chineſe traveller, who has not money ſufficient to defray his expences at an inn, enters the firſt houſe of the town or village he arrives at, and waiting the hour of dinner, takes part with the family, and goes away when he thinks proper, without ſpeaking a word, or any perſon's putting to him a ſingle queſtion.

The country of Cochin-China is much of the ſame temperature with that of Tonquin; though rather milder, as lying nearer the ſea. Like Tonquin, it is annually overflowed, and conſequently fruitful in rice, which requires no other manure than the mud left by the inundations. They have ſugar-canes, and the ſame kinds of fruits common to other parts of India. The country produces no grapes, and therefore they drink a liquor brewed from rice. They have vaſt woods of mulberry-trees, which run up as faſt as our hemp. Their ſilk is ſtronger than that of China, but not ſo fine. They have the beſt timber in the world, particularly a ſort which abounds in the mountains, and is called the *incorruptible tree*; becauſe it never rots under earth or water, and is ſo ſolid that it ſerves for anchors. There are two kinds, black and red. The trees are very tall, ſtraight, and ſo big that two men can ſcarce fathom them. They have alſo, on the mountains of the Kemois, a tree of the moſt fragrant ſcent, which is ſuppoſed to be the ſame with lignum aloes. This, being reckoned the beſt product of the country, is engroſſed by the king, and is ſold from five to 16 ducats per pound. It is highly valued both in China and Japan, where the logs of it are ſold for 200 ducats a-pound, to make pillows for the king and nobility; and among thoſe Indians which continue to burn their dead, great quantities of it are uſed in the funeral piles. The young trees, called *aquila*, or eagle-wood, are every one's property, which makes the old ones, called *calamba*, ſo ſcarce and dear. They have oak, and large pines, for the building of ſhips; ſo that this country is of the ſame uſe to China, that Norway is to Britain. In general, they have the ſame kind of trees and plants that are to be met with in Tonquin. They have mines of gold, as well as diamonds; but the laſt they do not value ſo highly as pearl. They alſo eſteem their coral and amber very much. In all the provinces there are great granaries filled with rice, in ſome of which that grain is kept upwards of 30 years. One of the greateſt rarities in theſe parts, eſpecially in grand entertainments, is a ragout made of the eatable birds-neſts, which ſome ſay are found only in Cochin-China, and others in four iſlands that lie ſouth of its coaſt. See BIRDS-NESTS.

The merchants of Cambodia, Tonquin, China, Macao, Manila, Japan, and Malacca, trade to Cochin-China with plate, which they exchange for the commodities of the country. The Portugueſe are the moſt favoured here of any Europeans. The Cochin-Chineſe themſelves, not being inclined to travel, ſeldom fail out of ſight of their own ſhore, but purchaſe many trifles from foreigners at great rates, particularly combs, needles, bracelets, glaſs pendants, &c. They are very fond of our hats, caps, girdles, ſhirts, and other clothes; and, above all, ſet a value on coral. The country is ſaid to have 700 miles of coaſt, with many large inlets of the ſea, and above 60 convenient landing places; which, however, according to Captain Hamilton, are but ſeldom viſited by ſtrangers.

COCCINELLA (*Encycl.*). Under that head we have given the natural hiſtory of that valuable inſect called COCHINEAL; but having referred to it in our treatiſe on DYEING, it is highly neceſſary to ſpeak of its qualities in that reſpect. The following account is drawn from the celebrated Berthollet.

Two ſorts of cochineal are gathered at Mexico; the ſylveſtris, there known by the Spaniſh name of *grana ſylveſtra*, and the fine, or *grana fina*, called alſo Meſteque, from the name of a province of Mexico, and which are bred upon the nopal. The firſt is ſmaller, and covered with a cottony down, which increaſes its weight, with a ſubſtance which is uſeleſs in dyeing; an equal weight of it therefore gives leſs colour, and is of a lower price than the fine cochineal; but theſe diſadvantages are perhaps compenſated by its being reared with greater facility, and at leſs expence, and even by the effects of its down, which enables it the better to reſiſt rain and ſtorms.

The coccinella ſylveſtris, when bred upon the nopal, loſes part of its tenacity, and ſome of its cotton, and acquires double the ſize it has on the other ſpecies of opuntia. It is therefore probable that it would be improved by a continued attention to the rearing of it, and would approach more and more to the fine cochineal.

M. Thieri de Menonville was led by his patriotic ſpirit and perſonal courage, to expoſe himſelf to imminent danger, in going to obſerve the mode of rearing the cochineal in Mexico, in order to obtain from thence that valuable production, wherewith he might enrich the colony of St. Domingo. He brought back with him both ſpecies of cochineal, and nopals, the kind of opuntia which affords the beſt food for inſects.

Upon his return, he employed himſelf in the cultivation of the nopal and different kinds of opuntia, and in rearing the two ſpecies of cochineal; but death cut off that excellent citizen, and the fine cochineal ſoon periſhed.

When he returned to St. Domingo, he diſcovered the coccinella ſylveſtris upon a kind of opuntia called *perſchia*, or *patte de tortue*, which grows there. This diſcovery did not remain unprofitable: M. Bruley employed himſelf ſucceſsfully in rearing this ſpecies of cochineal; he communicated it to the Cercle des Philadelphes (now the Royal Society of Arts and Sciences at Cape Français), who do not loſe ſight of that object, and have publiſhed a poſthumous work of M. Thieri de Menonville, which contains very minute inſtructions

with regard to every thing that reſpects the cultivation of the nopal, and the other ſpecies of opuntia that may be ſubſtituted for it more or leſs ſucceſsfully, for breeding or rearing the cochineal.

Two months after the females which have been reſerved are ſown upon the nopal, the young cochineals are obſerved to iſſue from them; and then is the proper ſeaſon for gathering them: they are killed by immerſion in boiling water. The hot iron plates or ovens which are ſometimes employed may injure the cochineal by being too hot. When taken out of the water, they are carefully dried by free expoſure to the ſun. They loſe nearly two-thirds of their weight in drying.

When the fine cochineal is dry, it muſt be paſſed through a ſieve ſufficiently coarſe to allow it to go through, but capable of retaining the down and cotton of the larvæ of the males. Theſe are kept apart and ſold ſeparately, or with the coccinella ſylveſtris.

Fine cochineal, which has been well dried and properly kept, ought to be of a gray colour inclining to purple. The gray is owing to a powder which covers it naturally, a part of which it ſtill retains: the purple tinge proceeds from the colour extracted by the water in which it has been killed.

Cochineal will keep a long time in a dry place. Hellot ſays, that he tried ſome, one hundred and thirty years old, and found it produced the ſame effect as new.

It has been pretty generally ſuppoſed, that cochineal owes its colour to the nopal on which it lives, the fruit of which is red. But M. Thieri de Menonville obſerves, that the juice which ſupplies it with nutriment is greeniſh; and that it can live and propagate its ſpecies on ſuch kinds of opuntia as do not bear red fruit.

The decoction of cochineal is of a crimſon colour, inclining to violet. A ſmall quantity of ſulphuric acid made this liquor aſſume a red colour, inclining to yellow, and a ſmall quantity of a beautiful red precipitate was formed. Muriatic acid produced nearly the ſame change in the colour, but no precipitate. Solution of tartar changed the liquor to a yellowiſh red. A little precipitate of a pale red colour formed ſlowly: the ſupernatant liquor remained yellow, but on pouring in a little alkali, it became purple. The ſmall quantity of precipitate was quickly diſſolved by the alkali, and the ſolution was purple. Solution of tin formed a roſe-coloured precipitate with the yellow liquor.

Solution of alum brightened the colour of the infuſion, and gave it a redder hue: a crimſon precipitate was formed, and the ſupernatant liquor retained a crimſon colour, ſomewhat reddiſh. Alum and tartar mixed, produced a brighter colour, more lively, and inclining to a yellowiſh red. A precipitate was formed, but much leſs abundant, and much more pale, than in the preceding experiment. Solution of tin produced a copious ſediment of a beautiful red. The liquor remaining above it was as clear as water, and ſuffered no change of colour on adding alkali.

Having poured in a ſolution of tartar, and after that, ſolution of tin, a precipitate of a roſe colour inclining to black was formed more quickly than in the foregoing experiment; and, though ſolution of tin in exceſs was added, the ſupernatant liquor remained a little yellow.

Solution of muriat of ſoda rendered the colour ſomewhat deeper, but did not make the liquor turbid. Ammoniacal muriat gave a purple tinge, without occaſioning any precipitate. Sulphat of ſoda produced no perceptible change in the liquor.

Having boiled a little cochineal with half its weight of tartar, the liquor was more inclining to red, and had a colour much leſs deep than that obtained from an equal quantity of cochineal without tartar: but the former gave a more abundant precipitate with ſolution of tin, and its colour was more roſy: ſo that tartar favours the ſolution of the colouring part of the cochineal: for, though the colour of the ſolution is leſs deep, the precipitate produced from it by ſolution of tin, is of a deeper and more roſy hue. This experiment deſerves notice, in judging of the influence of tartar in dyeing ſcarlet.

Sulphat of iron formed a brown violet precipitate. The ſupernatant liquor remained clear, with a tinge of feuillemort. Sulphat of zinc formed a deep violet precipitate. The ſupernatant liquor remained clear and colourleſs. Acetite of lead produced a purple violet precipitate, leſs deep than the preceding. The ſupernatant liquor remained limpid. Sulphat of copper produced a violet ſediment, which formed ſlowly. The liquor remained clear, and of a violet colour.

If the extract which decoction of cochineal affords on evaporation be digeſted in alcohol, the colouring part diſſolves, and leaves a reſiduum of the colour of wine-lees, of which freſh alcohol cannot deprive it. This reſiduum, analyzed by fire, affords the common products of animal ſubſtances.

The alcohol of cochineal, leaves, on evaporation, a tranſparent reſiduum of a deep red, which, when dry, has the appearance of a reſin. This alſo, if diſtilled, yields the products of animal ſubſtances; which ſhews, that the colouring matter is an animal production.

Yet the decoction of cochineal does not eaſily putrefy, as ſome was kept more than two months, both in an open veſſel and in a bottle corked. At the end of that time, the former ſhewed no ſigns of putrefaction: the latter had a ſlight putrid ſmell. The firſt grew turbid in a few days, and left a brown violet ſediment on the filter: the ſecond preſerved its tranſparency a long time, and probably loſt it only from the effect of an incipient putrefaction, or rather of a ſlight combuſtion, produced by means of a little oxygen, probably united with the red particles of the cochineal. The colour of each had become crimſon: but that of the former was more weak, becauſe a greater part of the colouring matter had precipitated, in conſequence of the effects produced on it by the air, agreeably to the principles eſtabliſhed before.

M. Berthollet compared the coccinella ſylveſtris of Mexico, and ſome which had been cultivated at St. Domingo, and ſent over by Mr. Bruley, with the maſtique cochineal. The decoction of the ſylveſtris has the ſame hue as that of St. Domingo. This inclines more to crimſon than that of maſtique: but the precipitates obtained from it, either by ſolution of tin or by alum, are perfectly equal in colour to thoſe from the maſtique cochineal; and to theſe precipitates the ſtuffs with which they combine owe their colour.

To determine the proportion of colouring matter detained in decoctions of different cochineals, M. Berthollet employed oxygenated muriatic acid. Of each of the three cochineals above mentioned, he boiled an equal weight for an hour, rendering the circumſtances with regard to each as nearly ſimilar as poſſible. Having filtered the decoctions, he poured them into ſeparate graduated glaſs cylinders, and added to them oxygenated muriatic acid, from the ſame bottle, till they were all reduced to the ſame yellow hue. The quantities of acid which indicated the proportions of the colouring matter were found to be nearly as follows: for the cochineal of St. Domingo, eight; for the ſylveſtris, eleven; for the maſtique, eighteen.

It appears, then, that the cochineal of St. Domingo is not only greatly inferior to the maſtique, but even to the ſylveſtris of Mexico; and in fact it is much ſmaller and more downy; but theſe diſadvantages ought not to abate the zeal of thoſe who are engaged in its cultivation.

The obſervations of M. Thieri de Menonville have already proved, that the coccinella ſylveſtris loſes its down, and in-

creaſes in ſize, by a ſucceſſion of breeds carefully attended to, though at firſt he was obliged to uſe nopals not come to the proper growth. There is every reaſon to hope, therefore, that the St. Domingo cochineal may, by aſſiduous care, be brought to equal, or perhaps ſurpaſs, the ſylveſtris of Mexico: but ſhould it always remain inferior with reſpect to the quantity of its colouring matter, this would be by no means a ſufficient reaſon to neglect a ſubſtance ſo valuable in dyeing.

It has been ſeen, that the cochineal of St. Domingo is not inferior to the maſtique, as to the quality of its colour. If then the down with which it is covered prove detrimental, in operations on a large ſcale, to the beauty of ſcarlet, the luſtre of which is ſo eaſily injured, it might be advantageouſly employed either for ſcarlet in half grain or for crimſon, and other ſhades which are leſs delicate than that, which is the brighteſt of all colours.

To form an idea of the utility of which cochineal may be to St. Domingo, poſſeſſed of ſo many rich productions, is difficult. M. Thieri de Menonville conſiders it as a valuable reſource for thoſe parts of the iſland, the unfruitful ſoil of which is not adapted to the other produce; and for thoſe coloniſts who are unable to ſupport the expence attending the cultivation of other crops. Mr. Brulcy ſpeaks ſtill more favourably of the advantages to be expected from the culture of cochineal: but the Cercle des Philadelphes is more reſerved, and thinks, that the point is not yet to be decided upon.

The attempts that have been made deſerve ſo much the more to be purſued and encouraged, as they have for their object an important branch of commerce, and as enlightened induſtry has great advantages over ignorant indolence, it will be found leſs difficult perhaps to naturalize cochineal, at leaſt in hot countries, than it was to naturalize ſilk-worms.

A diſtinguiſhing characteriſtic between cochineal and madder, may be obſerved in the manner in which they are acted on by reagents. Both receive a yellow colour from acids: but if the colouring matter of cochineal be ſeparated by a ſubſtance which precipitates it from the acid liquor, it reappears, with its natural colour little altered; whilſt that of madder, treated in the ſame manner, retains a yellow or fawn tinge. Hence mordants abounding in acid, as ſolution of tin, are much more ſucceſsfully employed with cochineal than with madder. The cauſe of this probably is, that the colouring matter of madder united with oxyd of tin retains a portion of acid, whilſt that of cochineal combined with it retains none, or a much ſmaller quantity.

COCKER, a river which riſes in the S. of Cumberland, and flowing through the lakes of Buttermere, Cromack-water, and Lowes-water, joins the Derwent, below Cockermouth.

CODOGNO, a town of Italy, in the ducny of Milan, near the confluence of the Adda and Po, 33 miles E. of Pavia. Long. 10. 49. E. Lat. 45. 6. N.

COGGESHAL, a town in Eſſex, with a market on Saturday. It is ſeated on the river Blackwater, and has a manufactory of bays. It is 43 miles E.N.E. of London. Long. 0. 47. E. Lat. 51. 52. N.

COGNATE, in Scots law, any male relation through the mother.

COGNITIONIS CAUSA, in Scots law. When a creditor charges the heir of his debtor to enter, in order to conſtitute the debt againſt him, and the heir renounces the ſucceſſion, the creditor can obtain no decreet of conſtitution of that debt againſt the heir; but only a decreet ſubjecting the *hæreditas jacens*, or the eſtate which belonged to the debtor, to his diligence: and this is called a decreet *cognitionis cauſa*.

COHESION (*Encycl.*). This power was firſt conſidered by Sir Iſaac Newton as one of the properties eſſential to all matter, and the cauſe of all that variety we obſerve in the texture of different terreſtrial bodies. He did not, however, abſolutely determine that the power of coheſion was an immaterial one; but thought it might poſſibly ariſe, as well as that of gravitation, from the action of an ether. His account of the original conſtitution of matter is as follows: "It ſeems probable, that God in the beginning formed *matter* in ſolid, maſſy, impenetrable, moveable particles; of ſuch ſizes, figures, and other properties, and in ſuch proportion to ſpace, as moſt conduced to the end for which he formed them: and that theſe primitive particles being ſolid, are incomparably harder than any porous bodies compoſed of them; even ſo very hard as never to wear or break in pieces; no ordinary power being able to divide what God himſelf made one at the firſt creation. While the particles continue entire, they may compoſe bodies of one and the ſame nature and texture in all ages; but ſhould they wear away, or break in pieces, the nature of all things depending on them would be changed, Water and earth compoſed of old worn particles and fragments of particles, would not now be of the ſame texture with water and earth compoſed of entire particles in the beginning. And therefore, that nature may be laſting, the changes of corporeal things are to be placed in the various ſeparations and new aſſociations and motions of theſe permanent particles; compound bodies being apt to break, not in the midſt of ſolid particles, but where theſe particles are laid together and touch in a few points." It ſeems further, "That theſe particles have not only a *vis inertiæ*, accompanied with ſuch paſſive laws of motion as naturally reſult from that force; but alſo that they are moved by certain active principles, ſuch as that of gravity, and that which cauſeth fermentation and the coheſion of bodies. Theſe principles are to be conſidered not as occult qualities, ſuppoſed to reſult from the ſpecific forms of things, but as general laws of nature by which the things themſelves are formed; their truth appearing to us by phenomena, though their cauſe is not yet diſcovered."

The general law of nature, by which all the different bodies in the univerſe are compoſed, according to Sir Iſaac Newton, is that of attraction: *i. e.* "Every particle of matter has an attractive force, or a tendency to every other particle; which power is ſtrongeſt in the point of contact, and ſuddenly decreaſes, inſomuch that it acts no more at the leaſt ſenſible diſtance, and at a greater diſtance is converted into a repellent force, whereby the parts fly from each other. On this principle of attraction may we account for the coheſion of bodies, otherwiſe inexplicable.

"The ſmalleſt particles may cohere by the ſtrongeſt attractions, and compoſe bigger particles of weaker virtue; and many of theſe may cohere, and compoſe bigger particles, whoſe virtue is ſtill leſs; and ſo on for divers ſucceſſions, until the progreſſion end in the biggeſt particles, on which the operations in chemiſtry, and the colours of natural bodies, depend; and which, by cohering, compoſe bodies of a ſenſible magnitude. If the body is compact, and bends or yields inward to preſſure without any ſliding of its parts, it is hard and elaſtic; returning to its figure with a force ariſing from the mutual attraction of its parts. If the parts ſlide from one another, the body is malleable or ſoft. If they ſlip eaſily, and are of a fit ſize to be agitated by heat, and the heat is great enough to keep them in agitation, the body is fluid; and if it be apt to ſtick to things, it is humid; and the drops of every fluid affect a round figure by the mutual attractions of their parts, as the globe of the earth and ſea affects a round figure from the mutual attraction and gravity of its parts.

"Since metals diſſolved in acids attract but a ſmall quantity of the acid, their attractive force reaches but to a ſmall diſtance. Now, as in algebra, where affirmative quantities ceaſe, there negative ones begin; ſo in mechanics, where attraction ceaſes, there a repulſive virtue muſt ſucceed. That there really is ſuch a virtue ſeems to follow from the reflec-

tions and inflections of the rays of light; the rays being repelled by bodies in both theſe caſes without the immediate contact of the reflecting or inflecting body. The ſame thing ſeems alſo to follow from the emiſſion of light; a ray, as ſoon as ſhaken from off a body by the vibrating motion of the parts of the body, and got beyond the reach of attraction, being driven away with exceeding great velocity: for that force which is ſufficient to turn it back in reflection may be ſufficient to emit it. From the ſame repelling power it ſeems to be that flies walk upon the water without wetting their feet; that the object-glaſſes of long teleſcopes lie upon one another without touching; and that dry powders are difficultly made to touch one another ſo as to ſtick together, without melting them or wetting them with water, which, by exhaling, may bring them together.

"The particles of all hard homogeneous bodies which touch one another, cohere with a great force: to account for which, ſome philoſophers have recourſe to a kind of hooked atoms, which in effect is nothing elſe but to beg the queſtion. Others imagine, that the particles of bodies are connected by the reſt, *i. e.* in effect by nothing at all; and others, by conſpiring motions, *i. e.* by a relative reſt among themſelves. For myſelf, it rather appears to me, that the particles of bodies *cohere* by an *attractive force*, whereby they tend mutually to each other."

From this account of the formation and conſtitution of bodies, we can conclude nothing, except that they are compoſed of an infinite number of little particles, kept together by a *force* or power; but of what nature that power is, whether material or immaterial, we muſt remain ignorant till further experiments are made. Some of the Newtonian philoſophers, however, have poſitively determined theſe powers to be *immaterial*. In conſequence of this ſuppoſition, they have ſo refined upon attractions and repulſions, that their ſyſtems ſeem not far from downright ſcepticiſm, or denying the exiſtence of matter altogether. A ſyſtem of this kind we find adopted by Dr. Prieſtley, from Meſſrs. Boſcovich and Michell, in order to ſolve ſome difficulties concerning the Newtonian doctrine of light. "The eaſieſt method (ſays he) of ſolving all difficulties, is to adopt the hypotheſis of Mr. Boſcovich, who ſuppoſes that matter is not impenetrable, as has been perhaps univerſally taken for granted; but that it conſiſts of phyſical points only, endued with powers of attraction and repulſion in the ſame manner as ſolid matter is generally ſuppoſed to be: provided therefore that any body move with a ſufficient degree of velocity, or have a ſufficient *momentum* to overcome any powers of repulſion that it may meet with, it will find no difficulty in making its way through any body whatever; for nothing elſe will penetrate one another but *powers*, ſuch as we know do in fact exiſt in the ſame place, and counterbalance or over-rule one another. The moſt obvious difficulty, and indeed almoſt the only one that attends this hypotheſis, as it ſuppoſes the mutual penetrability of matter, ariſes from the idea of the nature of matter, and the difficulty we meet with in attempting to force two bodies into the ſame place. But it is demonſtrable that the firſt obſtruction ariſes from no actual contact of matter, but from mere powers of repulſion. This difficulty we can overcome; and having got within one ſphere of repulſion, we fancy that we are now impeded by the ſolid matter itſelf. But the very ſame is the opinion of the generality of mankind with reſpect to the firſt obſtruction. Why, therefore, may not the next be only another ſphere of repulſion, which may only require a greater force than we can apply to overcome it, without diſordering the arrangement of the conſtituent particles; but which may be overcome by a body moving with the amazing velocity of light.

"This ſcheme of the *immateriality of matter*, as it may be called, or rather the *mutual penetration of matter*, firſt occurred to Mr. Mitchell on reading *Baxter on the immateriality of the ſoul*. He found that this author's idea of matter was, that it conſiſted as it were of bricks cemented together with immaterial mortar. Theſe bricks, if he would be conſiſtent with his own reaſoning, were again compoſed of leſs bricks, cemented likewiſe by an immaterial mortar; and ſo on *ad infinitum*. This putting Mr. Mitchell upon the conſideration of the ſeveral appearances of nature, he began to perceive that the bricks were ſo covered with this immaterial mortar, that if they had any exiſtence at all, it could not poſſibly be perceived: every effect being produced, in nine inſtances of ten certainly, and probably in the tenth alſo, by this immaterial, ſpiritual, and penetrable mortar. Inſtead therefore of placing the world upon the giant, the giant upon the tortoiſe, and the tortoiſe upon he could not tell what, he placed the world upon itſelf."

Other philoſophers have ſuppoſed the powers both of gravitation and coheſion to be material; and to be only different actions of the etherial fluid, or elementary fire. In ſupport of this it hath been urged, that before we have recourſe to a ſpiritual and immaterial power as the cauſe of any natural phenomenon, we ought to be well aſſured that there is no material ſubſtance with which we are acquainted, that is capable of producing ſuch effects. In the preſent caſe, we are ſo far from having ſuch aſſurance, that the contrary is manifeſt to our ſenſes. One inſtance of this is in the experiment with the *Magdeburg hemiſpheres*, as they are called. Theſe are two hollow hemiſpheres of braſs, exactly fitted to one another, ſo as to form one globe when joined together, without admitting any air at the joining. In this ſtate, if the air within them is exhauſted by means of a pump, they will cohere with ſuch force, if they are five or ſix inches diameter, as to require a weight of ſome hundreds of pounds to ſeparate them. The preſſure of the atmoſphere, we ſee, is in this caſe capable of producing a very ſtrong coheſion: and if there is in nature any fluid more penetrating, as well as more powerful in its effects, than the air we breathe, it is poſſible that what is called the *attraction of coheſion* may ſomehow or other be an effect of the action of that fluid. Such a fluid as this is the element of fire. Its activity is ſuch as to penetrate all bodies whatever: and in the ſtate in which it is commonly called *fire*, it acts according to the quantity of ſolid matter contained in the body. In this ſtate, it is capable of diſſolving the ſtrongeſt coheſions obſerved in nature: but whatever is capable of diſſolving any coheſion, muſt neceſſarily be endued with greater power than that by which the coheſion is cauſed. Fire, therefore, being able to diſſolve coheſions, muſt alſo be capable of cauſing them, provided its power is exerted for that purpoſe. Nor will it ſeem at all ſtrange that this fluid ſhould act in two ſuch oppoſite ways, when we conſider the different appearances which it aſſumes. Theſe are three, *viz.* fire, or heat, in which it conſumes, deſtroys, and diſſolves: light, in which it ſeems deprived of all deſtructive or diſſolvent power, and to be the moſt mild, quiet, and placid being in nature. The third ſtate of this element is, when it becomes what is called the *electric fluid*; and then it attracts, repels, and moves bodies, in a vaſt variety of ways, without either burning or rendering them viſible by its light. In this ſtate it is not leſs powerful than in either of the other two; for a violent ſhock of electricity will diſplace and tear in pieces the moſt heavy and ſolid bodies. The ſeeming capricious nature of this fluid, however, probably renders it leſs ſuſpected as the cauſe of coheſion, than it otherwiſe would be, were the attractions regular and permanent, which we obſerve it to occaſion. But here we muſt obſerve, that the fluid has an exiſtence in all bodies before the experiments are tried

which make its effects visible to us, and was acting in them according to its settled and established laws. While acting in this manner it was perfectly invisible; and all we can do is, to produce some little infringement of these regular laws according to which it commonly acts. In some cases, however, the electrical attractions produced by art are found to be pretty permanent and strong. Thus, Mr. Symmer, in some experiments with silk stockings, found their attraction so strong, that it required upwards of 15 pounds weight to separate them from each other; and this attraction would continue for more than an hour. In plates of glass, too, he observed a remarkable cohesion when electrified. In the Philosophical Transactions for 1777, we find this hypothesis taken notice of, and in some measure adopted, by Mr. Henly. "Some gentlemen (says he) have supposed that the electric matter is the cause of the cohesion of the particles of bodies. If the electric matter be, as I suspect, a real elementary fire inherent in all bodies, that opinion may probably be well founded: and perhaps the soldering of metals, and the cementation of iron, by fire, may be considered as strong proofs of the truth of their hypothesis."

On this last hypothesis we must observe, that if the electric or any other fluid is supposed to be the cause of the attraction of cohesion universally, the particles of that fluid must be destitute of all cohesion between themselves; otherwise we should be at as great a loss to account for the cohesion of these particles, as for that of terrestrial matter. Philosophers, indeed, do not suppose any cohesion between the particles of the electric fluid themselves; it is generally believed that the particles of this fluid are repulsive of one another, though attracted by all other matter. If this is a fact, we cannot suppose the electric fluid to be the cause of cohesion. The probability or improbability of the hypothesis just mentioned must greatly depend on its being ascertained whether the particles of the electric fluid do really repel one another, and attract all other kinds of matter, or not; but for this we must refer to the article ELECTRICITY.

COIMBETTORE, a province and town of the peninsula of Hindoostan, in the kingdom of Mysore. It was taken by General Meadows, January 22, 1790, but retaken by a detachment of Tippoo Sultan's army, in October 1791, and confirmed to him by the peace of 1792. It is 100 miles S. by E. of Seringapatam. Long. 77. 10. E. Lat. 10. 5. N.

COIN (*Encycl.*), differs from money as the species from the genus. Money is any matter, whether metal, wood, leather, glass, horn, paper, fruits, shells, or kernels, which have currency as a medium in commerce. Coin is a particular species, always made of metal, and struck according to a certain process called coining.

The precise epocha of the invention of money is too ancient for our annals; and, if we might argue from the necessity and obviousness of the thing, must be nearly coëval with the world.

Whether coins be of equal antiquity, may admit of some doubt; especially as most of the ancient writers are so frequent and express in their mention of leathern-moneys, paper-moneys, wooden-moneys, &c. Some, however, notwithstanding this, are of opinion, that the first moneys were of metal: the reasons they give, are the firmness, neatness, cleanliness, durableness, and universality of metals; which, however, do rather conclude they ought to have been so, than that they actually were so.

In effect, the very commodities themselves were the first moneys, *i. e.* were current for one another by way of exchange; and it was the difficulty of cutting or dividing certain commodities, and the impossibility of doing it without great loss, that first put men on the expedient of a general medium. See EXCHANGE.

COLDING, a town of Denmark, in North Jutland, remarkable for its bridge, over which all the oxen and cattle pass, that go from Jutland into Holstein, and they pay a small toll. Here is a royal palace, containing a magnificent suite of 190 rooms, which have not been furnished since the time of Frederic III. The harbour is two miles in circumference, and deep enough for ships of the largest burthen. Colding, which is situated at the extremity of a bay of the Little Belt, is fifty miles S. by E. of Wiburg. Long. 10. 15. E. Lat. 55. 35. N.

COLDINGHAM, a barren heathy moor on the borders of Scotland. It is only remarkable for a convent formerly filled with most heroic nuns; who, to preserve themselves inviolate from the Danes, cut off their lips and noses; and thus rendering themselves objects of horror, were, with their Abbess Ebba, in 870, burnt in the monastery by the disappointed savages.

COLDSTREAM, a small market-town, on the Tweed (over which is a handsome bridge), in the county of Berwick, in Scotland. It had a famous monastery; and here General Monk raised the two battalions, now known by the name of the Coldstream Regiment of Guards. Long. 2. 5. W. Lat. 55. 36. N.

COLEBROOK DALE, on the banks of the Severn, in Shropshire, is a winding glen, between two vast hills, which break into various forms, being all thickly covered, and forming beautiful sheets of hanging woods. Here are the most considerable iron works in England. "The noise of the forges, mills, &c." says Mr. Young, "with all their vast machinery, the flames bursting from the furnaces, with the burning of coal, and the smoke of the limekilns, are altogether horribly sublime." Two bridges entirely made of cast-iron, which have been thrown over the Severn, give these scenes a still nearer resemblance to the ideas in romance. There is also, in the dale, a remarkable spring of fossil tar, or petroleum, which has yielded a vast quantity of that substance; but it is now much diminished. A work, for obtaining a similar kind of tar, from the condensed smoke of pit-coal, has been erected in the dale.

COLES (Elisha), author of the well-known Latin and English dictionary, was born in Northamptonshire about the year 1640; and was entered at Magdalen College, Oxford, which he left without taking a degree; and taught Latin to young people, and English to foreigners, in London, about the year 1663. He afterwards became an usher in Merchant-taylors' school; but for some great fault, no-where expressly mentioned, he was forced to withdraw to Ireland, from whence he never returned. He was, however, a good critic in the English and Latin tongues; and wrote several useful books of instruction in his profession.

COLESHILL, a town in Warwickshire, with a market on Wednesday. It is seated on the side of a hill, on the Coln, over which is a stone bridge. It is eleven miles N.W. of Coventry. Long. 1. 35. W. Lat. 52. 32. N.

COLESHILL, a village four miles W. of Rickmansworth, in Herts, and in a part of that county which is insulated in Bucks. It was the birth-place of the poet Waller.

COLFORD, a town of Gloucestershire, with a market on Tuesday. It is fourteen miles N. of Hereford. Long. 2. 40. W. Lat. 51. 48. N.

COLIGNI (Gaspard de), admiral of France, was born in 1516. He signalised himself in his youth, in the reigns of Francis I. and Henry II. and was made colonel of infantry and admiral of France in 1552. Henry II. employed him in the most important affairs; but after the death of that prince he embraced the reformed religion, and became the chief of the Protestant party: he strongly opposed the house of Guise,

and rendered this oppoſition ſo powerful, that it was thought he would have overturned the French government. On the peace made after the battles of Jarnac and Montcontour, Charles IX. deluded Coligni into ſecurity by his deceitful favours; and though he recovered one attempt on his life, when he attended the nuptials of the prince of Navarre, yet he was included in the dreadful maſſacre of the Proteſtants on St. Bartholomew's-day 1572, and his body treated with wanton brutality by a miſguided Popiſh populace.

COLLE, an epiſcopal town of Italy, in Tuſcany, ten miles N.W. of Sienna. Long. 11. 7 E. Lat. 43. 16. N.

COLLEGE (*Encycl.*). To the account of different colleges given in our original article, we have to add that of the

Veterinary College, the eſtabliſhment of which does honour to the preſent reign, reflects infinite credit on its patrons, and certainly merits the ſanction and ſupport which have been ſo liberally conferred upon it.

This college was founded in 1792, for the medical cure and treatment of horſes, and for the purpoſe of inſtructing pupils in veterinary medicinē and ſurgery.

Mr. St. Bel, an ingenious Veterinarian, who had diſtinguiſhed himſelf in France by his ſkill in the veterinary art, was appointed profeſſor, and the inſtitution was under the direction of a preſident and twenty-four governors, choſen from the nobility and gentlemen who were zealous in promoting ſo beneficial a plan. A forge and ſtabling for fifty horſes, with every convenience, were built at Pancras, about two miles on the north ſide of London. A handſome theatre was alſo erected, with a muſeum and diſſecting rooms for the purpoſe of giving lectures to the pupils, and teaching them practical anatomy. A medical committee of aſſiſtance was appointed, who undertook to examine the pupils, and grant them certificates when they had acquired ſufficient knowledge of the art, to enable them to practiſe it with ſucceſs.

The liberal ſupport afforded the inſtitution by the anatomical and medical profeſſors of London, does them great honour, and cannot be too warmly acknowledged by the pupils: they generouſly allow them to attend their lectures gratis, from which their progreſs is conſiderably promoted, and their knowledge greatly improved. The following is the preſent liſt of the committee who examine the pupils after their veterinary education is finiſhed, and alſo ſuggeſt or ſuperintend the experiments made at the college for the improvement of the art.

Dr. Fordyce	Dr. Baillie	Mr. Home
Mr. Cline	Mr. Abernethy	Mr. Houlſton
Mr. Cooper	Dr. Babington	and Dr. Relph.

M. St. Bel died ſoon after the college had been eſtabliſhed, and was ſucceeded by Mr. Coleman, who has greatly contributed to the improvement of the art, by his extenſive knowledge of anatomy and phyſiology, as well as by his attention to the pupils.

An annual ſubſcriber of two guineas has the privilege of ſending two horſes to the college when ſick or lame, where they receive every medical aſſiſtance that may be required, the proprietor paying only for keep. By paying twenty guineas at once, this advantage is made perpetual. For ſeveral years parliament has annually contributed to the ſupport of this inſtitution, and his majeſty has been pleaſed to grant commiſſions in the army to thoſe who qualify themſelves in the art, which has tended very materially to its promotion, as well as to render it reſpectable.

A conſiderable number of veterinary ſurgeons have been examined and approved of by the medical committee, who have granted to each a regular *diploma*, under which they now practiſe in different parts of the kingdom.

College *of Surgeons, London.* The Incorporated Company of Surgeons having by an accident loſt their charter, the different members were, in 1800, after ſome ſtruggles with an aſſociated body of ſurgeons practiſing pharmacy, re-united by a new charter, under the title of the *Royal College of Surgeons in London.* The new eſtabliſhment, though in ſome reſpects an improvement of the old ſyſtem, has, nevertheleſs, ſome of the defects of the latter.

COLLIER (Jeremy), a learned Engliſh nonjuring divine, born in 1650, and educated in Caius College, Cambridge. He had firſt the ſmall rectory of Ampton, near St. Edmund's Bury, in Suffolk; which in ſix years he reſigned, to come to London, in 1685, where he was made lecturer of Gray's-Inn: but the change of government that followed, ſoon rendered the public exerciſe of his function impracticable. He was committed to Newgate for writing againſt the revolution; and again, for carrying on a correſpondence which that change of events made treaſonable; but was releaſed both times, without trial, by the intervention of friends. It is obſervable that he carried his ſcruples ſo far, as to prefer confinement to the tacit acknowledgment of the juriſdiction of the court by accepting his liberty upon bail. Suitably to theſe principles, he next acted a very extraordinary part with two other clergymen of his own way of thinking, at the execution of Sir John Friend and Sir William Perkins for the aſſaſſination plot; by giving them ſolemn abſolution, and by impoſition of hands: abſconding for which, he continued under an outlawry to the day of his death in 1726. Theſe proceedings having put a ſtop to his activity, he employed his retired hours rather more uſefully in literary works. In 1698 he attempted to reform our theatrical entertainments, by publiſhing his Short view of the immorality and profaneneſs of the Engliſh ſtage; which engaged him in a controverſy with the wits of the time: but as Mr. Collier defended his cenſures not only with wit, but with learning and reaſon, it is allowed that the decorum obſerved, for the moſt part, by ſucceeding dramatic writers, has been owing to his animadverſions. He next undertook a tranſlation of Moreri's great Hiſtorical and Geographical Dictionary; a work of extraordinary labour, and which appeared in 4 vols. folio. After this he publiſhed An Eccleſiaſtical Hiſtory of Great Britain, chiefly of England, in two vols. folio; which is allowed to be written with great judgment, and even with impartiality. He was beſides engaged in ſeveral controverſies, which his conduct and writing gave riſe to, not material to mention. In Queen Anne's reign, Mr. Collier was tempted, by offers of conſiderable preferment, to a ſubmiſſion; but, as he was a nonjuror upon principle, he could not be brought to liſten to any terms.

COLLINS (Anthony), a polemical writer, born at Helſten near Hounſlow in the county of Middleſex in 1676, was the ſon of Henry Collins, a gentlemen of about 1500l. a-year. He was firſt bred at Eaton College, and then went to King's College, Cambridge, where he had for his tutor Mr. Francis Hare, afterwards biſhop of Chicheſter. He was afterwards a ſtudent of the Temple; but not reliſhing the law, ſoon abandoned that ſtudy. He was an ingenious man, and author of ſeveral curious books. His firſt remarkable piece was publiſhed in 1707, An Eſſay concerning the Uſe of Reaſon in Propoſitions, the Evidence whereof depends on human Teſtimony. In 1702 he entered into the controverſy between Mr. Clark and Mr Dodwell, concerning the immortality of the ſoul. In 1713 he publiſhed his diſcourſe on free-thinking; which made a prodigious noiſe. In 1715 he retired into the county of Eſſex, and acted as a juſtice of peace and deputy lieutenant for the ſame county, as he had done before for that of Middleſex and liberty of Weſtminſter. The ſame year he publiſhed a Philoſophical Eſſay concerning human Liberty. In 1718 he was choſen treaſurer of the county

of Eſſex; and this office he diſcharged with great honour. In 1724 he publiſhed his Hiſtorical and critical Eſſay on the 39 Articles. Soon after, he publiſhed his Diſcourſe of the Grounds and Reaſons of the Chriſtian Religion; to which is prefixed An Apology for free Debate and Liberty of Writing; which piece was immediately attacked by a great number of writings. In 1726 appeared his Scheme of literal Prophecy conſidered, in a View of the Controverſy occaſioned by a late Book entitled, A Diſcourſe of the Grounds, &c. In this diſcourſe he mentions a MS. diſſertation of his to ſhew the Sibylline oracles to be a forgery made in the times of the primitive Chriſtians, who, for that reaſon, were called *Sibylliſts* by the Pagans; but it never appeared in print. His Scheme of literal Prophecy was replied to by ſeveral writers; and particularly by Dr. John Rogers in his Neceſſity of divine Revelation aſſerted. In anſwer to which, our author wrote A Letter to the Reverend Dr. Rogers, on Occaſion, &c. His health began to decline ſome years before his death, and he was very much afflicted with the ſtone, which at laſt put an end to his life at his houſe in Harley-ſquare in 1729. He was interred in Oxford chapel, where a monument was erected to him, with an epitaph in Latin. His curious library was open to all men of letters, to whom he readily communicated all the aſſiſtance in his power; he even furniſhed his antagoniſts with books to confute himſelf, and directed them how to give their arguments all the force of which they were capable. He was remarkably averſe to all indecency and obſcenity of diſcourſe; and was, independent of his ſcepticiſm, a ſincerely good man.

Collins (John), an eminent accountant and mathematician, born in 1624, and bred a bookſeller at Oxford. Beſides ſeveral treatiſes on practical ſubjects, he communicated ſome curious papers to the Royal Society, of which he was a member, which are to be found in the early numbers of their Philoſophical Tranſactions: and was the chief promoter of many other ſcientifical publications in his time. He died in 1683; and about twenty-five years after, all his papers coming into the hands of the learned William Jones, eſq. F. R S. it appeared that Mr. Collins held a conſtant correſpondence for many years with all the eminent mathematicians; and that many of the late diſcoveries in phyſical knowledge, if not actually made by him, were yet brought forth by his endeavours.

COLLINA (*Encycl.*), placed erroneouſly between the articles Collatina and Collation.

COLLUMPTON, a town of Devonſhire, with a market on Thurſday. It is ſeated on a river near the ſea, ten miles N. of Exeter, and 150 W. by S. of London. Long. 3. 29. W. Lat. 50. 54. N.

COLN, a river of Eſſex, which riſes near Clare in Suffolk, and paſſing by Halſtead and Colcheſter, empties itſelf into the German Ocean, between Merſey Iſland and the main land. In the ſalt-water inlets and pools, at the mouth of this river, are bred the famous Colcheſter oyſters.

Coln, a river which riſes near Sevenhampton in Glouceſterſhire, flows S.E. to Fairford, and falls into the Thames at Lechlade.

Coln, a river which riſes in Herts, and dividing Middleſex from Bucks, fall into the Thames above Staines.

COLOMB, St. a town in Cornwall, with a market on Thurſday. It is ſeated on a hill, at the bottom of which is a river, which falls into the ſea at a ſmall diſtance. It is ten miles W. of Bodmin. Long. 4. 52. W. Lat. 50. 30. N.

COLOMBOTZ, a caſtle of Turkey in Europe, in Bulgaria, on a hill, under which is the ſtrong paſs of Urania.

COLOOR, a diamond mine of the peninſula of Hindooſtan, near the fort of Condavir, in the Guntoor Circar.

COLUBER (*Encycl.*), erroneouſly ſpelt Colubeb.

COLUMBANUS (St.), a Latin poet, was born in Ireland in 560. He retired from the world, and lived a ſolitary life in the mountains of Wales for ſome years. He next went over to France and built a monaſtery; but, being exiled from that country, he travelled to Italy, where he founded the abbey of Bobio, and died in it in 615.

COLUMNA, a town of the Ruſſian empire, in the government of Moſcow, with an archbiſhop's ſee; fifty miles S.E. of Moſcow. Long 38. 25. E. Lat. 55. 5. N.

COMACHIO, an epiſcopal town of Italy, in the Ferrareſe. The air is bad, for which reaſon it is inhabited by a few fiſhermen only. It is twenty-ſeven miles S.E. of Ferrara. Long. 12. 10. E. Lat. 44. 45. N.

Comachio, a lake of the Ferrareſe, in Italy, between the two mouths of the river Po, and about ten miles in circumference; but dry in ſeveral places. On one ſide of this lake the town of the ſame name is built.

COMANA, a ſea-port of South America, the capital of New Andaluſia, in Terra Firma. It is defended by a ſtrong caſtle. Long. 64. 29. W. Lat. 10. 10. N.

COMANAGOTTA, a town of South America, in Terra Firma, ten miles W. of Comana. Long. 64. 40. W. Lat. 10. 10. N.

COMB-ABBEY, a village in Warwickſhire, three miles from Coventry, once famous for a rich abbey. The church is demoliſhed, but the abbey, with ſome modern improvements, is the ſeat of Lord Craven.

COMB-MARTIN, a town of Devonſhire, with a market on Tueſday. It is ſeated on the Briſtol Channel, where it has an inlet which runs through the town. It is ſeven miles E. of Ilfracombe. Long. 4. 2. W. Lat. 51. 13. N.

COMBER, or Cumber (Thomas), an eminent divine, born at Weſtram in Kent, in 1645, was educated at Cambridge; created doctor of divinity; and, after ſeveral preferments in the church, was made dean of Durham. He was chaplain to Anne princeſs of Denmark, and to King William and Queen Mary. He was author of ſeveral works, viz. 1. A ſcholaſtical Hiſtory of the primitive and general Uſe of Liturgies. 2. A Companion to the Altar. 3. A brief Diſcourſe upon the Offices of Baptiſm, Cathechiſm, and Confirmation. He died in 1699, aged fifty-five.

COMENIUS (John Amos), a grammarian and Proteſtant divine, born in Moravia in 1592. He was eminent for his deſign to introduce a new method of teaching languages; for which purpoſe he publiſhed ſome eſſays in 1616, and had prepared ſome others, when the Spaniards pillaged his library, after having taken the city of Fulnec, where he was miniſter and maſter of the ſchool. Comenius fled to Leſna, a city of Poland, and taught Latin there. The book he publiſhed in 1631, under the title of *Janua Linguarum reſerata*, gained him a prodigious reputation, inſomuch that he was offered a commiſſion for regulating all the ſchools in Poland. The parliament of England deſired his aſſiſtance to regulate the ſchools in that kingdom. He arrived at London in 1641; and would have been received by a committee to hear his plan, had not the parliament been taken up with other matters. He therefore went to Sweden, being invited by a generous patron, who ſettled a ſtipend upon him that delivered him from the fatigues of teaching; and now he employed himſelf wholly in diſcovering general methods for thoſe who inſtructed youth. In 1657 he publiſhed the different parts of his new method of teaching. He was not only taken up with the reformation of ſchools, but he alſo filled his brain with prophecies, the fall of Antichriſt, Millenium, &c. At laſt Comenius took it into his head to addreſs Lewis XIV. of France, and to ſend him a copy of the prophecies of Drabicius; inſinuating that it was to this monarch God promiſed the empire of the world. He

became ſenſible at laſt of the vanity of his labours, and died in 1671.

COMETEAU (*Encycl.*). Erroneouſly ſpelt COMETEAN.

COMO, the largeſt lake in Italy, in the duchy of Milan. It is 88 miles in circumference, but is not above ſix miles over in any one part.

COMMANDINUS (Frederie), born at Urbino in Italy, and deſcended from a very noble family, in the 16th century. To a vaſt ſkill in the mathematies, he had added a great knowledge in the Greek tongue, by which he was well qualified to tranſlate the Greek mathematieians into Latin. Aecordingly he tranſlated and publiſhed ſeveral, which no writer till then had attempted; as Arehimedes, Apollonius, Euclid, &c.

COMMISSARY-COURT, in Scotland, a court originally conſtituted by the biſhops for executing in their name an uſurped juriſdiction; and was aneiently called the biſhop's-court, *curia Chriſtianitatis*, or conſiſtorial court. This court was modelled by Queen Mary at the reformation, and continues to this day.

COMMIXTION, in Scots law, is a method of aequiring property, by mixing or blending together different ſubſtances belonging to different proprietors.

COMMODIANUS (Gazæus), a Chriſtian author in the 4th century, who wrote a work in Latin verſe, entitled Inſtructions; the moral of whieh is excellent, but the verſe extremely heavy. M. Davies publiſhed a fine edition of it, in 1711, at the end of Minueius Felix.

COMMONTY, in Scots law, ſometimes ſignifies land belonging to two or more eommon proprietors; ſometimes a heath or muir though it ſhould belong in property to one, if there has been a promiſeuous poſſeſſion upon it by paſturage; and the act in 1695 mentions eommonties belonging in property to the king and the royal boroughs.

COMNENA (Ann) (*Encycl.*). Erroneouſly ſpelt COMMENA.

COMPIEGNE, a handſome town of France, in the department of Oiſe and late provinee of the Iſle of Franee. It is ſeated near an extenſive foreſt, at the confluenee of the Aiſne and Oiſe. Here is a palace, in whieh the kings of Franee often reſided. The Maid of Orleans was taken priſoner here in 1430. It is 45 miles N.E. of Paris. Long. 2. 55. E. Lat. 49. 25. N.

CONANT (Dr. John), a learned Engliſh divine, born in 1608. He took his degrees at Exeter College, Oxford; was, by the parliament, conſtituted one of the aſſembly of divines, though he ſeldom, if ever, ſat with them; and in 1657 was admitted vice-ehancellor of the univerſity. On the reſtoration he was one of the commiſſioners, and aſſiſted at the conferences in the Savoy: but was deprived by the act of uniformity: after eight years he was confirmed, and was made arch-deaeon of Norwich, and prebendary of Woreeſter. In 1686 he loſt his ſight; and died in 1693; leaving a number of admired ſermons, afterwards publiſhed in ſix volumes.

CONCAN, a low tract of country, on the W. eoaſt of the Deccan of Hindooſtan. From this tract riſes abruptly that ſtupendous wall of mountains ealled the Gauts. It is ſubject to the Mahrattas, and lies between 15° and 20° N. lat.

CONCATENATION, a term chiefly uſed in ſpeaking of the mutual dependence of ſecond eauſes upon each other.

CONDAVIR, a fort in the peninſula of Hindooſtan, the principal poſt of Guntoor, one of the five Northern Circars. It is ſtrongly ſituated on a mountain, 16 miles W. of Guntoor, and 20 from the S. bank of the Kiſtna.

CONDECEDO, a cape of North America, in Yueatan, 100 miles W. of Merida. Long. 91. 27. W. Lat. 20. 50. N.

CONDORE, the eapital of a number of iſlands, in the Indian Ocean, which lie in S. 40. N. lat. 60 miles S. by E. from the mouth of the river Cambodia. The mangoes grow on trees, as large as apple-trees: the fruit is of the ſize of a ſmall peach, and when ripe, has a pleaſant ſmell and taſte. Pickled mangoes are now well known in England. The inhabitants are ſmall in ſtature, well ſhaped, and of a dark olive complexion; their faces are long, with blaek ſtraight hair, ſmall blaek eyes, high noſes, thin lips, white teeth, and little mouths. They are very poor, and their ehief employment is getting tar out of the trees. When any ſhips arrive, they will bring their women on board and offer them to the ſailors. They have a little idol temple, built of wood, and thateh̃ed like their houſes, which are very mean. The Engliſh Eaſt-India eompany had a ſettlement here in 1702; but the faetors falling out with the natives, moſt of them were murdered, and the reſt driven thence in 1705. Long. 117. 26. E. Lat. 2. 40. N.

CONEOLENS, a town of France, in the department of Charente, and late province of Angoumois, on the river Vienne, 30 miles N.E. of Angouleſme. Long. 0. 43. E. Lat. 46. 55. N.

CONFUSION *of Tongues*. By this phraſe is generally underſtood that miraculous interpoſition of the Deity mentioned in the book of Geneſis, to cauſe mankind to deſiſt from their attempt to built the tower of Babel, and to make them ſeparate, and divide themſelves into different nations.

It hath been much diſputed whether there were more languages than one before the flood; and many arguments have been addueed by learned men on both ſides. This queſtion, however, it is eaſy to ſee, ean never be determined; but whether it was ſo or not, it is plain there muſt have been but one for ſome time after the flood, as all mankind were deſeended from one family. As to the confuſion of tongues and diſperſion of mankind, it is an event mentioned by profane as well as the ſacred hiſtorians. They write that mankind uſed one and the ſame language till the overthrow of the tower of Babylon; at which time a multiplieity of tongues was introdueed by the gods: whereupon wars enſued, and thoſe whoſe ſpeeeh happened to be intellible to one another, joined eompany, and ſeized the eountries they ehanced to light upon.

With regard to the manner, however, in which this confuſion was effected, there is a great variety of ſentiments. Several learned men, prepoſſeſſed with an opinion that all the different idioms now in the world did at firſt ariſe from one primitive language to whieh they may be reduced, and that the variety whieh we find among them is no other than what muſt naturally have taken place in ſo long courſe of time, have thenee been indueed to believe that there were no new languages formed at the confuſion, but that the moſt that was done at that time was only to ſet the builders of Babel at variance with one another by creating a miſunderſtanding among them. This ſome imagine to have been effected without any immediate influenee on their language; which ſeems contrary to the words and obvious intention of the ſaered hiſtorian. Others have imagined it brought about by a temporary confuſion of their ſpeeeh, or rather of their apprehenſions, cauſing them, while they continued together, and ſpake the ſame language, yet to underſtand the words differently. A third opinion is, that a variety of inflexions was introduced, and perhaps ſome new words, which diſturbed and perverted the former manner of expreſſion. But this, though it might oceaſion different dialects, yet could not ereate new languages; and ſeems not to anſwer the intention of Moſes, which was to inform us not only how mankind were at firſt diſperſed into ſo many nations, but to aecount for their different languages; a thing very difficult if not impoſſible to be done, without having reeourſe to the immediate interpoſition of divine power. For though time, intercourſe with foreign nations, commerce, the

invention and improvement of arts and ſciences, and the difference of climates, cauſe very conſiderable alteration in languages, yet the utmoſt effect we can imagine them to have will not come up to the point in queſtion. Upon the whole, therefore, it ſeems moſt probable, that on the confuſion at Babel there were new languages formed; and that theſe languages were the roots of all others that are, that have been, or that will be ſpoken while the world remains.

In what manner theſe new languages were formed, is a matter not eaſy to be determined. From the manner in which this event is related by Moſes, ſome have concluded that God effected it by immediately inducing an oblivion of their former tongue, and inſtantaneouſly infuſing others into their minds. The Jews imagined this to be done by the miniſtry of angels, 70 of whom deſcended with God, and were each of them ſet over a nation, to whom they taught a peculiar language; but that the anceſtors of the Jewiſh nation retained the primitive language. Others have ſuppoſed, that God did no more than cauſe them to forget their old language, leaving them to form new ones in the beſt manner they could: but this muſt have taken up ſome time, and could but ill have anſwered the neceſſities of mankind; and the way in which Moſes expreſſes himſelf ſeems to imply that it was done inſtantaneouſly.

As to the number of different languages formed at this time, we are no leſs in the dark than as to the manner in which they were formed. It is moſt probable, that the languages of the chief families were fundamentally different from each other, and that the ſub-languages or dialects within each branch, for the ſake of immediate intercourſe, had a mutual affinity, ſome more, and ſome leſs, according as they ſettled nearer or further from each other; which was ſufficient to bring about the deſigns of God, divide mankind into diſtinct ſocieties, and open a new ſcene of Providence, by which his wiſdom might diſplay itſelf in the government of the world.

CONGLETON, a town of Cheſhire, with a market on Saturday. It is ſeated on the river Dane, and a large mayor town, though it has nothing but a chapel of eaſe, the church being two miles diſtant. It has a manufactory of leather gloves; and a more conſiderable one in ſilk, there being a large ſilk-mill, which employs 700 hands. It is ſeven miles from Macclesfield, and 164 N.W. of London. Long. 2. 10. W. Lat. 53. 8. N.

CONGRUITY (*Encycl.*). In order to give a full view of the ſecondary relations, ſpoken of in our original article, we ſhall trace them through ſome of the moſt conſiderable primary relations. The relation of a part to the whole, being extremely intimate, demands the utmoſt degree of congruity; even the ſlighteſt deviation is diſguſtful.

Examples of congruity and incongruity are furniſhed in plenty by the relation between a ſubject and its ornaments. A literary performance intended merely for amuſement, is ſuſceptible of much ornament, as well as a muſic-room or a play-houſe; for in gaiety, the mind hath a peculiar reliſh for ſhow and decoration. The moſt gorgeous apparel, however improper in tragedy, is not unſuitable to opera-actors: the truth is, an opera, in its preſent form, is a mighty fine thing; but as it deviates from nature in its capital circumſtances, we look not for nature or propriety in thoſe which are acceſſory. On the other hand, a ſerious and important ſubject admits not much ornament; nor a ſubject that of itſelf is extremely beautiful: and a ſubject that fills the mind with its loftineſs and grandeur, appears beſt in a dreſs altogether plain.

To a perſon of a mean appearance, gorgeous apparel is unſuitable; which beſides the incongruity has a bad effect; or by contraſt it ſhews the meanneſs of appearance in the ſtrongeſt light. Sweetneſs of look and manner, requires ſimplicity of dreſs, joined with the greateſt elegance. A ſtately and majeſtic air requires ſumptuous apparel, which ought not to be gaudy, nor crowded with little ornaments. A woman of conſummate beauty can bear to be highly adorned, and yet ſhews beſt in a plain dreſs:

> ——————— For loveliness
> Needs not the foreign aid of ornament,
> But is when unadorn'd, adorned the moſt.
>
> *Thomſon's Autumn*, 208.

Congruity regulates not only the quantity of ornament, but alſo the kind. The ornaments that embelliſh a dancing-room ought to be all of them gay. No picture is proper for a church, but what has religion for its ſubject. All the ornaments upon a ſhield ought to relate to war; and Virgil, with great judgment, confines the carvings upon the ſhield of Æneas to the military hiſtory of the Romans: but this beauty is overlooked by Homer; for the bulk of the ſculpture upon the ſhield of Achilles, is of the arts of peace in general, and of joy and feſtivity in particular: the author of Telemachus betrays the ſame inattention, in deſcribing the ſhield of that young hero.

In judging of propriety with regard to ornaments, we muſt attend, not only to the nature of the ſubject that is to be adorned, but alſo to the circumſtances in which it is placed: the ornaments that are proper for a ball, will appear not altogether ſo decent at public worſhip: and the perſon ought to dreſs differently for a marriage-feaſt and for a burial.

Nothing is more intimately related to a man, than his ſentiments, words, and actions; and therefore we require here the ſtricteſt conformity. When we find what we thus require, we have a lively ſenſe of propriety: when we find the contrary, our ſenſe of impropriety is not leſs lively. Hence the univerſal diſtaſte of affectation, which conſiſts in making a ſhew of greater delicacy and refinement than is ſuited either to the character or circumſtances of the perſon.

Congruity and propriety, wherever perceived, appear agreeable; and every agreeable object produceth in the mind a pleaſant emotion: incongruity and impropriety, on the other hand, are diſagreeable; and of courſe produce painful emotions. Theſe emotions, whether pleaſant or painful, ſometimes vaniſh without any conſequence; but more frequently occaſion other emotions, which we proceed to exemplify.

When any ſlight incongruity is perceived, in an accidental combination of perſons or things, as of paſſengers in a ſtage-coach, or of individuals dining at an ordinary; the painful emotion of incongruity, after a momentary exiſtence, vaniſheth without producing any effect. But this is not the caſe of propriety and impropriety: voluntary acts, whether words or deeds, are imputed to the author; when proper, we reward him with our eſteem; when improper, we puniſh him with our contempt. Let us ſuppoſe, for example, a generous action ſuited to the character of the author, which raiſes in him and in every ſpectator the pleaſant emotion of propriety: this emotion generates in the author both ſelf-eſteem and joy; the former when he conſiders his relation to the action, and the latter when he conſiders the good opinion that others will entertain of him: the ſame emotion of propriety produceth in the ſpectators eſteem for the author of the action; and when they think of themſelves, it alſo produceth, by means of contraſt, an emotion of humility. To diſcover the effects of an unſuitable action, we muſt invert each of theſe circumſtances: the painful emotion of impropriety generates in the author of the action both humility and ſhame; the former when he conſiders his relation to the action, and the latter when he conſiders what others will think of him; the ſame emotion of impro-

priety produceth in the ſpectators contempt for the author of the action; and it alſo produceth, by means of contraſt, when they think of themſelves, an emotion of ſelf-eſteem. Here then are many different emotions, derived from the ſame action conſidered in different views by different perſons; a machine, provided with many ſprings, and not a little complicated. Propriety of action, it would ſeem, is a chief favourite of nature, when ſuch care and ſolicitude is beſtowed upon it. It is not left to our own choice; but, like juſtice, is required at our hands; and, like juſtice, is enforced by natural rewards and puniſhments: a man cannot, with impunity, do any thing unbecoming or improper; he ſuffers the chaſtiſement of contempt inflicted by others, and of ſhame inflicted by himſelf. An apparatus ſo complicated, and ſo ſingular, ought to rouſe our attention: for nature doth nothing in vain; and we may conclude with great certainty, that this curious branch of the human conſtitution is intended for ſome valuable purpoſe.

A groſs impropriety is puniſhed with contempt and indignation, which are vented againſt the offender by correſponding external expreſſions: nor is even the ſlighteſt impropriety ſuffered to paſs without ſome degree of contempt. But there are improprieties, of the ſlighter kind, that provoke laughter; of which we have examples without end, in the blunders and abſurdities of our own ſpecies: ſuch improprieties receive a different puniſhment, as will appear in what follows. The emotions of contempt and of laughter occaſioned by an impropriety of this kind, uniting intimately in the mind of the ſpectators, are expreſſed externally by a peculiar ſort of laugh, termed *a laugh of deriſion* or *ſcorn*. An impropriety that thus moves not only contempt but laughter, is diſtinguiſhed by the epithet of *ridiculous*; and a laugh of deriſion or ſcorn is the puniſhment provided for it by nature. Nor ought it to eſcape obſervation, that we are ſo fond of inflicting this puniſhment as ſometimes to exert it even againſt creatures of an inferior ſpecies: witneſs a turkeycock ſwelling with pride, and ſtrutting with diſplayed feathers; a ridiculous object, which in a gay mood is apt to provoke a laugh of deriſion.

We muſt not expect, that theſe different improprieties are ſeparated by diſtinct boundaries: for of improprieties, from the ſlighteſt to the moſt groſs, from the moſt riſible to the moſt ſerious, there are degrees without end. Hence it is, that in viewing ſome unbecoming actions, too riſible for anger, and too ſerious for deriſion, the ſpectator feels a ſort of mixed emotion, partaking both of deriſion and of anger; which accounts for an expreſſion, common with reſpect to the impropriety of ſome actions, that we know not whether to laugh or be angry.

It cannot fail to be obſerved, that in the caſe of a riſible impropriety, which is always ſlight, the contempt we have for the offender is extremely faint, though deriſion, its gratification, is extremely pleaſant. This diſproportion between a paſſion and its gratification, ſeems not conformable to the analogy of nature. In looking about for a ſolution, we muſt reflect upon what is laid down above, that an improper action not only moves our contempt for the author, but alſo, by means of contraſt, ſwells the good opinion we have of ourſelves. This contributes, more than any other article, to the pleaſure we have in ridiculing follies and abſurdities; and accordingly, it is well known, that they who put the greateſt value upon themſelves are the moſt prone to laugh at others. Pride, which is a vivid paſſion, pleaſant in itſelf, and not leſs ſo in its gratification, would ſingly be ſufficient to account for the pleaſure of ridicule, without borrowing any aid from contempt. Hence appears the reaſon of a noted obſervation, That we are the moſt diſpoſed to ridicule the blunders and abſurdities of others, when we are in high ſpirits; for in high ſpirits, ſelf-conceit diſplays itſelf with more than ordinary vigour.

With regard to the final cauſes of congruity, and impropriety; one, regarding congruity, is pretty obvious, that the ſenſe of congruity, as one principle of the fine arts, contributes in a remarkable degree to our entertainment. Congruity, indeed, with reſpect to quantity, coincides with proportion: when the parts of a building are nicely adjuſted to each other, it may be ſaid indifferently, that it is agreeable by the congruity of its parts, or by the proportion of its parts. But propriety, which regards voluntary agents only, can never be the ſame with proportion: a very long noſe is diſproportioned, but cannot be termed *improper*. In ſome inſtances, it is true, impropriety coincides with diſproportion in the ſame ſubject, but never in the ſame reſpect; for example, a very little man buckled to a long toledo: conſidering the man and the ſword with reſpect to ſize, we perceive a diſproportion; conſidering the ſword as the choice of the man, we perceive an impropriety.

The ſenſe of impropriety with reſpect to miſtakes, blunders, and abſurdities, is happily contrived for the good of mankind. In the ſpectators, it is productive of mirth and laughter, excellent recreation in an interval from buſineſs. But this is a trifle in reſpect of what follows. It is painful to be the ſubject of ridicule; and to puniſh with ridicule the man who is guilty of an abſurdity, tends to put him more upon his guard in time coming. Thus even the moſt innocent blunder is not committed with impunity; becauſe, were errors licenſed where they do no hurt, inattention would grow into a habit, and be the occaſion of much hurt.

The final cauſe of propriety as to moral duties, is of all the moſt illuſtrious. To have a juſt notion of it, the moral duties that reſpect others muſt be diſtinguiſhed from thoſe that reſpect ourſelves. Fidelity, gratitude, and the forbearing injury, are examples of the firſt ſort; temperance, modeſty, firmneſs of mind, are examples of the other: the former are made duties by the ſenſe of juſtice; the latter, by the ſenſe of propriety. Here is a final cauſe of the ſenſe of propriety, that muſt rouſe our attention. It is undoubtedly the intereſt of every man, to ſuit his behaviour to the dignity of his nature, and to the ſtation allotted him by Providence; for ſuch rational conduct contributes in every reſpect to happineſs, by preſerving health, by procuring plenty, by gaining the eſteem of others, and, which of all is the greateſt bleſſing, by gaining a juſtly-founded ſelf-eſteem. But in a matter ſo eſſential to our well-being, even ſelf-intereſt is not relied on: the powerful authority of duty is ſuperadded to the motive of intereſt. The God of nature, in all things eſſential to our happineſs, hath obſerved one uniform method: to keep us ſteady in our conduct, he hath fortified us with natural laws and principles, which prevent many aberrations, that would daily happen were we totally ſurrendered to ſo fallible a guide as is human reaſon. Propriety cannot rightly be conſidered in another light, than as the natural law that regulates our conduct with reſpect to ourſelves; as juſtice is the natural law that regulates our conduct with reſpect to others. We call propriety a law, not leſs than juſtice; becauſe both are equally rules of conduct that ought to be obeyed: propriety includes this obligation; for to ſay an action is proper, is in other words, to ſay, that it *ought* to be performed; and to ſay it is improper, is, in other words, to ſay that it ought to be forborne. It is this very character of *ought* and *ſhould* that makes juſtice a law to us; and the ſame character is applicable to propriety, though perhaps more faintly than to juſtice: but the difference is in degree only, not in kind; and we ought, without heſitation or reluctance, to ſubmit equally to the government of both.

But it muſt, in the next place, be obſerved, that to the ſenſe of propriety, as well as of juſtice, are annexed the ſanctions of rewards and puniſhments; which evidently prove the one to

be a law as well as the other. The ſatisfaction a man hath in doing his duty, joined with the eſteem and good-will of others, is the reward that belongs to both equally. The puniſhments alſo, though not the ſame, are nearly allied; and differ in degree more than in quality. Diſobedience to the law of juſtice, is puniſhed with remorſe; diſobedience to the law of propriety, with ſhame, which is remorſe in the lower degree. Every tranſgreſſion of the law of juſtice raiſes indignation in the beholder; and ſo doth every flagrant tranſgreſſion of the law of propriety. Slighter improprieties receive a milder puniſhment: they are always rebuked with ſome degree of contempt, and frequently with deriſion. In general, it is true, that the rewards and puniſhments annexed to the ſenſe of propriety, are ſlighter in degree than thoſe annexed to the ſenſe of juſtice: which is wiſely ordered, becauſe duty to others is ſtill more eſſential to ſociety, than duty to ourſelves; for ſociety could not ſubſiſt a moment, were individuals not protected from the headſtrong and turbulent paſſion of their neighbours.

CONINGTON, a village in Huntingdonſhire, near Stilton, at the head of the river which forms Ug-mere, Brick-mere, and Whittleſea-mere. It has the ruins of a caſtle; and in a pool, juſt by the village, was found the ſkeleton of a fiſh, near 20 feet long, in a perfect ſtate, ſix feet below the ſurface of the ground.

CONISTON MERE, a conſiderable lake of Lancaſhire, in the hundred of Furneſs. In affords plenty of char.

CONNER (Bernard), a learned phyſician, was born in the county of Kerry, in Ireland, about the year 1666. Having determined to apply himſelf to the ſtudy of phyſic, he went to France, and reſided ſome time in the univerſity of Montpellier. Afterwards he went to Paris; where he obtained great ſkill in medicine, anatomy, and chemiſtry. From thence he travelled toVenice, with the two ſons of the high-chancellor of Poland; and then taking a tour through great part of Germany, went to Warſaw, where he was made phyſician to King John Sobieſki. In 1695 he came to England, read a courſe of lectures in London and Oxford, and became member of the Royal Society and College of Phyſicians; afterwards, being invited to Cambridge, he read public lectures there, and made various experiments in chemiſtry. He has rendered himſelf memorable for a philoſophical and medical treatiſe in Latin, entitled, *Evangelium Medici*, i. e. "The Phyſician's Goſpel;" tending to explain the miracles performed by Chriſt, as natural events, upon the principles of natural philoſophy. He wrote alſo a hiſtory of Poland; and died in 1698, aged 32.

CONQUET, a handſome town of France, in the department of Finiſterre, and late province of Bretagne, with a good harbour and road. It is 12 miles W. of Breſt. Long. 4. 41. W. Lat. 48. 23. N.

CONRAD II. elected Emperor of Germany in 1004. He was obliged to take the field againſt moſt of the German dukes who had revolted from him; and he put Earneſt duke of Suabia under the ban of the empire. This being one of the earlieſt inſtances of ſuch a proſcription, the formula is inſerted here for its ſingularly. "We declare thy wife a widow, thy children orphans; and we ſend thee, in the name of the devil, to the four corners of the world." It was in the reign of this prince that the German fiefs became hereditary. He died in 1039.

CONRAD III. Emperor of Germany in 1138. The Duke of Bavaria oppoſed his election, and being put under the ban of the empire, and deprived of his duchy, he could not ſurvive his diſgrace. The margrave of Auſtria was ordered by the emperor to take poſſeſſion of Bavaria; but Welſti, uncle to the deceaſed duke, attacked him, and was defeated near the caſtle of Winſburgh; the battle fought upon this occaſion is famous in hiſtory, as having given riſe to the party-names of Guelphs and Gibbelines, afterwards aſſumed in Italy. The parole of the day with the Bavarians was *Welſti*, from the name of their general; that of the Imperialiſts *Werblingen*, from a ſmall village where Frederic duke of Suabia, their commander, had been nurſed: by degrees their names ſerved to diſtinguiſh the two parties; and the Italians, who could not accuſtom themſelves to ſuch rough words, formed from them their Guelphs and Gibbelines. He died in 1152.

CONRAD of Lichtenau, or Abbas Uſpergenſis, was author of an univerſal chronology from the creation to 1229, continued by an anonymous writer to Charles V. He collected a fine library, and died about the year 1240.

CONRADIN, or CONRAD *junior*, ſon of Conrad IV. was acknowledged emperor by the Gibbelines, who received him in triumph at Rome: but Pope Alexander IV. had publiſhed a cruſade againſt this orphan: and Urban VII. his ſucceſſor, gave the empire to Charles of Anjou, brother to Lewis IX. king of France: and the unfortunate youth, though powerfully ſupported, even by the Turks, loſt a battle, in which he was taken priſoner, and was beheaded, by order of his baſe opponent, publicly at Naples in 1229, in the 18th year of his age. In him ended the race of the dukes of Suabia, which had produced ſeveral kings and emperors.

CONSTANTINE, emperor of the Eaſt in 1002, left the care of the empire to his wife Helena, who loaded the people with taxes, and ſold all the offices in church and ſtate to the higheſt bidders; while the emperor employed himſelf in reading, writing, and the fine arts, till he became as good an architect and painter, as he was a bad prince. He wrote ſeveral biographical and geographical works, which would have done honour to his name, if he had not neglected his duty to compoſe them. He died in 959.

CONSTANTINE (Dracoſes), the ſon of Emmanuel Paleologus, was placed on the throne by Sultan Amurath in 1448. But Mahomet II. his ſucceſſor, reſolving to dethrone him, laid ſiege to Conſtantinople by ſea and land, and took it by aſſault in 1453, after it held out 58 days. The unfortunate emperor ſeeing the Turks enter the breaches, threw himſelf into the midſt of the enemy, and was cut to pieces; the children of the imperial houſe were maſſacred by the ſoldiers; and the women reſerved to gratify the luſt of the conqueror: and thus terminated the dynaſty of the Conſtantines, 1123 years after its eſtabliſhment at Conſtantinople.

CONSTANTINE (Robert), a learned phyſician, born at Caen, taught polite literature in that city; and acquired great reputation by his ſkill in the Greek language, in hiſtory, and in medicine. He died in 1603, aged 103. He wrote a dictionary in Greek and Latin, and other works, which are eſteemed.

CONSTANTINOW, a town of Poland, in Volhinia, on the river Selucza, 62 miles N.E. of Kaminieck. Long. 27. 20. E. Lat. 49. 58. N.

CONVALESCENT, a perſon in a progreſſive ſtate of recovery, after a fit of ſickneſs, by which his ſtrength and fleſh have been greatly reduced. The poor, who cannot, with propriety, be continued in the public hoſpitals after the diſeaſe is at an end, endure much diſtreſs on that account. In the year 1791 a ſociety was eſtabliſhed by ſome of the governors of the London hoſpital, for patients of that charity, whoſe relief was not within its general regulations. There had been many caſes of ſervants, artiſans, and labourers, who had received the benefit of the hoſpital; but, upon being diſcharged, had no ſervice or employment ready for them, or, if there had been ſuch, were not ſufficiently recovered, in point of health and ſtrength, to reſume their places or employment. There had been caſes of amputation or of ſome chirurgical operation, where the parties were diſabled from exerciſing

their former occupations. Some inſtances had occurred of young female patients, who by diſtreſs had been driven to pawn or ſell their clothing, and were peculiarly expoſed to temptation; of perſons whoſe families had been ſuffering for want of ſupport: of others belonging to remote parts of the kingdom, or to Ireland, who when diſcharged from the hoſpital, were, by lameneſs or weakneſs, rendered incapable of getting home without charitable aſſiſtance. There were ſome inſtances where the means of a journey to the charitable eſtabliſhment at Bath, or to the ſea, or the immediate ſupply of linen, of clothes, or of a truſs, might have ſaved a fellow-creature from diſtreſs, and reſtored him in health to his family.

For the relief of theſe, and of other perſons not within the proviſions of hoſpitals, the Samaritan Society was eſtabliſhed; and the following regulations were adopted, which we give at length, becauſe they may be of uſe in forming ſimilar ſocieties.—"1ſt. A donation of five guineas ſhall be a qualification for a member for life.—2d. A donation of one guinea ſhall be a qualification of an annual member.—3d. A general court ſhall be held half-yearly, on the laſt Wedneſdays in February and Auguſt, and ſhall conſiſt of not leſs than five members.—4th. A treaſurer, and a committee, to conſiſt of not leſs than twelve members beſides the treaſurer, ſhall be annually elected at the general court in February: two of the committee ſhall go out annually, and two other members be choſen in their place.—5th. A committee ſhall be held every Tueſday, at 12 o'clock; and ſhall conſiſt of not leſs than two members.—6th. Qualified perſons ſhall be propoſed at one committee, and voted for at the next.—7th. The committee ſhall appoint one or more viſitors; who ſhall make enquiries of the officers, or other perſons in the hoſpital, concerning the diſtreſsful circumſtances of the patients, and report to the next committee accordingly.—8th. No recommendation from any perſon whatever, whether a member of the ſociety or not, ſhall be regarded further than as it may be explanatory of the diſtreſs of the object under conſideration, and as it may thence aſſiſt the committee in their proceedings.—9th. The proceedings of the ſociety ſhall be exactly recorded; together with the names of all perſons relieved, their age, place of nativity, pariſh, occupation, whether they are married or ſingle, the ſtate of their family, or any circumſtance claiming the particular conſideration of the ſociety, as well as the relief granted.—10th. The names of, at leaſt, two members of the committee, by order of the committee, ſhall be ſubſcribed to drafts upon the treaſurer.—11th. An exact account of the receipts, diſburſements, and fund, of the ſociety, ſhall be laid before every committee; which ſhall audit and ſign the ſame, and ſend an abſtract thereof annually to every member.—12th. The treaſurer, and two other members, appointed at a general court, ſhall be truſtees for inveſtments in the funds.—13th. All legacies and donations, above one guinea, ſhall be added to the inveſted fund, which ſhall be inviolable.—14th. The expenditure of each year ſhall by no means exceed the annual income ariſing from the intereſt of the inveſted fund, and thoſe donations which do not exceed one guinea; nor ſhall any debts be incurred, ſo as to anticipate the receipts of the ſociety.—15th. Rules for the government of the ſociety, ſhall be approved by one general court, and confirmed by the next; the members being informed of every approved regulation, at leaſt ſix days before the general court, at which its confirmation will be conſidered.—16th. At general courts and committees, queſtions ſhall be determined by a majority, the chairman having a caſting vote; and if a ballot ſhould be demanded by two members, it ſhall be proceeded upon immediately.—17th. The treaſurer, the aſſembled committee, or any five members of the ſociety, ſhall have power to call extraordinary general courts."

The ſociety conſiſts of about 50 annual ſubſcribers of one guinea each, and about 70 members for life, who have given donations of 5 guineas each. From the firſt inſtitution of the ſociety in 1791, to 5th September, 1798, as many as 221 diſtreſſed perſons have been relieved, and put in a courſe of livelihood, who muſt otherwiſe have been driven to beggary, if not to criminal courſes, for ſubſiſtence.

In March 1795 the ſociety had the ſatisfaction to find that the good effects of this eſtabliſhment had been experienced by many poor patients in the London hoſpital; who, after they had been cured of their diſeaſes, and were in a ſtate of convaleſcence, had been ſupplied with neceſſaries, and enabled to return home, and renew their occupations. The benefit had not been leſs to their wives and families; to whom occaſional and ſeaſonable relief had been adminiſtered, during the ſickneſs and confinement of the patient. The utility and propriety of the charity ſeemed to be now unequivocally eſtabliſhed. The committee therefore determined to recommend it as an appendage not only to every hoſpital, but alſo to every county gaol; in the latter inſtance, as the means, not merely of preſerving delinquents from diſtreſs, but of reſtoring them to character, and to habits of occupation; there being frequent inſtances that perſons, though not yet confirmed in vicious courſes, might otherwiſe have been driven back to the commiſſion of crimes, for the mere protraction of exiſtence.

A circumſtance which contributed very much to the eſtabliſhment of this ſociety deſerves to be mentioned, as it exemplifies the caſes which have been relieved by it. One of the members of this ſociety paſſing along the Uxbridge road, obſerved a man of very decent appearance, reclined on a bank by the way ſide, with a pair of crutches near him. His account of himſelf was (and we have no reaſon whatſoever to queſtion the truth of it), "that he was a Glouceſterſhire manufacturer; that he had been a ſhort time in London, where he had the misfortune to break his leg, and had been admitted a patient into an hoſpital; that his leg had been very well ſet, and all proper care had been taken of him; and, upon his diſcharge that morning, ſome gentleman, he ſaid, had kindly given him a ſhilling, on part of which he had ſubſiſted ſo far; that he was going to his pariſh in Glouceſterſhire, but had not the means of paying for his carriage in the waggon." This ſtory was not related in vain.—We leave it to the reader's conſideration, what courſe of life remained to this poor man (had he not unexpectedly met with friendly aſſiſtance) but to beg,—to ſteal,—or to periſh.

Amidſt the great variety of charities, for which this age and kingdom are diſtinguiſhed, it is extraordinary, that the proviſion, which is the ſubject of this article, ſhould have experienced ſo little attention; and it is the more ſurpriſing, becauſe upon the firſt inſtitution of the charities, which were intended to provide for part of the inconveniences from the aboliſhing of monaſteries, the utility of ſuch an eſtabliſhment appears to have been ſtrongly impreſſed on the minds of the original projectors. In the declaration made to the privy-council, by the citizens of London, in the reign of Edward the Sixth, concerning the uſes to which Bridewell, and the two other great foundations of Chriſt's and St. Thomas's hoſpitals, were to be applied, one of the three objects of Bridewell is expreſſed to be, "for the ſore and the ſick when they be cured;" in order that they may be protected and employed until their entire recovery: and "not be ſuffered to wander as vagabonds in the commonwealth, as they had been accuſtomed."

This part, however, of the original intentions of the projectors of that inſtitution has not been yet carried into effect, as a committee of the governors of that hoſpital is now ſitting, for the purpoſe of enquiring "whether, and by what means, the eſtates and revenues of the houſe of Bridewell can be appropriated with greater effect than at preſent to the benefit of its original and proper objects." The following is a ſhort extract from three of a ſeries of propoſitions, made by one of the members of the committee, and ſince printed by their order, and entered as reſolutions on their minutes.

"That there are many deſerving and neceſſitous perſons, who, at the time of their being diſcharged from hoſpitals, are without the power of labour, or the means of ſupport; and who, for want of that eſtabliſhment which was one of the original objects of Bridewell, have been driven to ſolicit the charity of the public, as ſtreet beggars. That, ſuch is the infirmity of human nature, they who have firſt diſcovered a ſucceſsful and eaſy trade, are not likely, of themſelves, to diſcontinue it, and to return to a courſe of labour; and, if the pauper does not receive charitable relief in his diſtreſs, he is ſometimes induced to prey upon the public for his ſubſiſtence; and, to uſe the language of the rules of the houſe of Bridewell drawn up in 1557, *being ſet at liberty in the highways, is made of a ſick beggar a whole thief*.—Theſe perſons, it is to be obſerved, will require, and that only for a ſhort time, an aſylum, where, being many of them artiſans inſtructed in a trade, and almoſt all of them habituated to employment, their earnings would in general be more than what the coſt of their diet, if economically managed, would amount to: and there is reaſon to hope, that the number of perſons wanting this relief, would very ſoon be diminiſhed by the proper application of it; and that the hoſpitals in the metropolis would be thereby greatly relieved; as it is a known fact that many patients, for want of the means of *entire recovery* of health and ſtrength on quitting one hoſpital, have ſoon been obliged to apply for admiſſion even into another."

CONVERSANO, a town of the kingdom of Naples, with a biſhop's ſee, 10 miles from the gulf of Venice, and 12 S.E. of Bari. Long. 17. 6. E. Lat. 41. 20. N.

CONWAY, Vale of, a long and narrow tract of Carnarvonſhire. It is equally romantic and beautiful; affords rich paſturage, corn-fields, and groves; and forms a pleaſing contraſt to the bleak region of Snowdon frowning above it.

Conway, a river of North Wales, which flows through the vale of the ſame name, along the whole eaſtern border of Carnarvonſhire, and enters the Iriſh Sea at the town of Conway.

COOK'S River, a large river of North America, which flows into the N. Pacific Ocean. It was diſcovered by Captain Cook in 1778. As he left a blank for its name, it was filled up, after his death, by direction of the late Earl of Sandwich. This river was traced as high as lat. 61. 30. N. long. 150. 0. W. which is above 70 leagues from its mouth.

Cook's Strait, a ſtrait in the S. Pacific Ocean, dividing the two large iſlands of which New Zealand is compoſed: it is about four or five leagues broad.

COOPER (Samuel), a very eminent Engliſh miniature painter, born in 1609, and bred under the care of his uncle John Hoſkins. He derived, however, his principal excellence from a ſtudy of the works of Van Dyck, in whoſe time he lived; inſomuch that he was commonly ſtyled "Van Dyck in little." His pencil was chiefly confined to the head, in which with all its dependences, eſpecially the hair, he was inimitable; but if he deſcended lower, his incorrectneſs was notorious. He died in 1672; and his pieces are univerſally admired all over Europe, ſelling for incredible prices.—He had a brother, Alexander, likewiſe a good miniature painter, who became limner to Chriſtiana queen of Sweden.

Cooper (Thomas), a pious and learned prelate in the reign of Queen Elizabeth, was born at Oxford about the year 1517. He was educated in the ſchool adjoining to Magdalen College, of which he was a choriſter; where alſo, in 1539, he was elected probationer, and fellow in the following year. About the year 1546, quitting his fellowſhip, he applied himſelf to the ſtudy of phyſic, in 1556 took the degree of bachelor in that faculty, and practiſed as phyſician at Oxford. Being inclined to the Proteſtant religion, probably this was only a prudent ſuſpenſion of his final intentions, during the Popiſh reign of Queen Mary: for, on the acceſſion of Elizabeth, he reſumed the ſtudy of divinity; became a celebrated preacher, was made dean of Chriſt-church, and vice-chancellor of the univerſity, having accumulated the degrees of bachelor and doctor in divinity. In 1569 he was made dean of Glouceſter; and, the year following, biſhop of Lincoln: whence, in 1584, he was tranſlated to the ſee of Wincheſter; in which city he died on the 29th of April, 1594, and was buried in the cathedral there, on the ſouth ſide of the choir. The ſeveral writers who have mentioned Dr. Cooper, unanimouſly give him the character of an eloquent preacher, a learned divine, and a good man. He had the misfortune, while at Oxford, to marry a lady whoſe gallantries became notorious: nevertheleſs he would not be divorced from her; knowing that he could not live without a wife, he did not chooſe "to charge his conſcience with the ſcandal of a ſecond marriage."—He wrote, 1. the Epitome of Chronicles from the 17th year after Chriſt, to 1540, and thence after to 1560. 2. Theſaurus linguæ Romanæ et Britannicæ. This dictionary, which is an improvement upon Elyot's, was much admired by Queen Elizabeth, who thenceforward determined to promote the author. 3. A brief expoſition of ſuch chapters of the Old Teſtament as uſually are read in the church, at common prayer, on Sundays throughout the year. 4. An admonition to the people of England. 5. Sermons.

COOPER'S-HILL, a fine hill in Surrey, celebrated by Sir John Denham's poem of the ſame name. Its baſe extends along the edge of the famous Runnymead; its ſummit is crowned by the beautiful ſpot called Englefield-green; and it lies 19 miles W. by S. of London, on the road from Egham, through Windſor Great Park, to Reading.

COOS, an iſland in the Archipelago, 56 N.W. of Rhodes, ſubject to the Turks. Long. 27. 44. E. Lat. 37. 1. N.

COPILOWATS, a large town of Turkey in Europe, in Bulgaria. Long. 36. 35. E. Lat. 46. 40. N.

COPORIA, a town of Ingria, in the Ruſſian government of Peterſburg, at the mouth of a river of the ſame name. Long. 29. 0. E. Lat. 59. 34. N.

COQUET, a river of Northumberland, which croſſes the centre of that county, and enters the ſea at Warkworth. Celebrated for its ancient caſtle and hermitage.

CORAH, or Corahjehemabad, a ſmall city of Hindooſtan Proper, in the Doab, or country between the Ganges and Jumna, ſubject to the Nabob of Oude. It is 60 miles S.S.W. of Lucknow. Long. 79. 45. E. Lat. 26. 5 N.

CORAM (Captain Thomas), a gentleman remarkably diſtinguiſhed by his humanity, was born about the year 1668, and ſpent the early part of his life in the ſtation of maſter of a veſſel trading to our colonies. Afterwards reſiding in the eaſtern part of the metropolis, among ſeafaring people, where buſineſs often obliged him to come early into

the city and return late, he frequently ſaw young children expoſed in the ſtreets through the indigence or cruelty of their parents. This excited his compaſſion, and induced him to project the foundation of an hoſpital for foundlings. In this humane deſign he laboured with indefatigable diligence for ſeventeen years; and, by his application procured a number of the nobility and gentry to patroniſe and carry the ſcheme into execution, and at length obtained the royal charter for it. He was alſo highly inſtrumental in promoting the trade of America, by procuring a bounty upon naval ſtores imported from our colonies. He was likewiſe eminently concerned in ſetting on foot the colonies of Georgia and Nova Scotia. His laſt charitable deſign, in which he lived to make ſome progreſs, was a ſcheme for uniting the North-American Indians more cloſely to the Britiſh intereſt, by an eſtabliſhment for the education of Indian girls. In ſhort, he ſpent the greateſt part of life in labouring for the public, and experienced a fate too common in thoſe who devote their talents to ſuch laudable purpoſes; being at laſt indebted for ſubſiſtence to the voluntary ſubſcriptions of ſome public-ſpirited perſons, at the head of whom was the late Frederick prince of Wales. Captain Coram died in 1751: and was interred, at his own deſire, in a vault under the chapel of the Foundling Hoſpital.

CORBACH, a town of Germany, in the principality of Waldeck, ten miles N.W. of Waldeck. Long. 8. 58. E. Lat. 51. 20. N.

CORBECK, a town of the Auſtrian Netherlands, in Brabant, three miles S. of Louvain. Long. 4. 49. E. Lat. 50. 50. N.

CORBEIL, a town of France, in the department of Seine and Oiſe and late province of the Iſle of France, divided into two by the Seine, ſeventeen miles S. of Paris. Long. 2. 26. E. Lat. 48. 33. N.

CORBY, a town of Germany, on the confines of Weſtphalia, with a famous abbey, whoſe abbot is a ſovereign prince. It is ſeated upon the river Weſer. Long. 9. 30. E. Lat. 51. 50. N.

CORDOVA, a town of South America, in the province of Tucuman, with a biſhop's ſee, 180 miles from St. Jago. Long. 62. 5. W. Lat. 32. 10. S.

CORDUS (Valerius), a learned botaniſt, was the ſon of Ericius Cordus, a phyſician and poet of Germany. Having learnt the languages, he applied himſelf to the ſtudy of botany: in the proſecution of which, he examined the mountains of Germany, and travelled into Italy; but, being wounded in the leg by a kick of a horſe, died at Rome in 1544. He wrote Remarks on Dioſcorides, and other works.

CORINNA, a Grecian lady, celebrated for her beauty and poetic talents, was born at Theſſu, a city of Bœotia, and was the diſciple of Myrtis, another Grecian lady. Her verſes were ſo eſteemed by the Greeks, that they gave her the name of the lyric muſe. She lived in the time of Pindar, about 495 years before Chriſt; and is ſaid to have gained the prize of lyric poetry from that poet: but Pauſanias obſerves that her beauty made the judges partial.

CORITA, a town of Spain, in Leon, twenty-three miles E. of Salamanca. Long. 5. 49. W. Lat. 41. 5. N.

CORK (*Encycl.*). To our brief account of this city we add an extract from an account of a ſociety eſtabliſhed there for bettering the condition of the poor.

On the 22d of March, 1799, a meeting of ſome of the moſt reſpectable characters in Cork was held, for the purpoſe of forming a ſociety, in that city, for bettering the condition of the poor. It was preceded by an addreſs to the inhabitants of the city and neighbourhood of Cork, dated the 20th of February, referring to what has been done by the Engliſh ſociety, to the effects produced at Hamburgh, and to the unwearied and ſucceſsful labours of Count Rumford at Munich; and obſerving (what may be very general in its application) that the charities at Cork, by the mode of relief they have held out, have rather tended to encourage idleneſs and beggary, and have increaſed, inſtead of diminiſhing, the number of diſtreſſed objects in that place. Feeling the difficulties of the attempt, yet confiding in the axiom, that though all may not be effected, yet no well-directed effort of benevolence can be entirely loſt, the author, the Reverend Thomas Dix Hincks, propoſed the formation "of a ſociety, in imitation of that in London, but adapted to their own peculiar ſituation; hoping that by procuring, and, when approved of, recommending ſuch plans as have been found ſucceſsful in England, they may contribute to their adoption in that city and neighbourhood."

At the meeting, held on the 22d of March, it was reſolved, that the ſociety be immediately formed; and that the general object of it ſhould be to collect information reſpecting the circumſtances and ſituation of the poor in that city and neighbourhood, and the moſt effectual means of meliorating their condition; and to communicate this information to the public, in order than any comforts and advantages which the poor enjoy in other parts of the Britiſh empire, might be extended to that part in as great a degree as peculiar circumſtances will admit. And as it had been found impoſſible, notwithſtanding the large ſums beſtowed, to relieve all the diſtreſs that might occur in that large city, it appeared deſirable that particular attention ſhould be paid to all plans of economy, ſo as to extend the benefits of charitable inſtitutions to as great a number as poſſible.

It was further reſolved, that "the ſociety do ever keep in view the principle, that the beſt relief the poor can receive, is that which comes from themſelves; and that the moſt effectual method of improving their condition is by the encouragement of induſtry and prudence.—That the buſineſs of the ſociety be tranſacted by a committee choſen annually.—That this committee be impowered to correſpond with any other ſociety, having a ſimilar object; to purchaſe any books, which are calculated to give them information on the ſubject; and to print any plan which they think deſerving of the public attention.—That the committee be alſo impowered to offer ſuch rewards for good conduct, as the ſtate of the funds will admit, ſo as to awaken the attention of the poor, to what will promote their beſt intereſts.—That the committee conſiſt of a preſident, five vice-preſidents, and twenty-ſix members, including the treaſurer and ſecretary, to be choſen at an annual meeting of the ſubſcribers.—That no plan be printed, or any expence incurred, without the approbation of at leaſt five members of the committee aſſembled in a regular manner.—That the committee meet once each month for the tranſaction of buſineſs.—That a ſub-committee, choſen out of the general committee, and conſiſting of ſeven members of the general committee, do meet once a-week (that week excepted in which the general committee aſſembles), for the purpoſe of examining reports, and preparing plans for the inſpection of the general committee.—That every ſubſcriber be entitled to attend the meetings of the general or ſub-committee, and to give his opinion, but not to have a vote on the deciſion of any queſtion.—And that every member ſubſcribe half a guinea annually, to defray the expences of the ſociety."

The number of members already exceeds 120, and includes the moſt reſpectable inhabitants of the city of Cork. The Lord-biſhop of Cork is the preſident. The vice-preſidents are, Dr. Moylan (the titular biſhop of Cork), the Honourable Dean St. Lawrence, Sir Samuel Rowland, Mr. Serjeant Chatterton, and Mr. Anderſon.

One of their firſt objects is to encourage the eſtabliſhment

of friendly ſocieties, upon a general plan, which may require very few, if any, meetings of the ſubſcribers. For this purpoſe the increaſe of honorary members, and the holding out every poſſible advantage to the other members, have appeared to be neceſſary.

It is eſſential to the permanent peace and welfare of Ireland, to introduce among the poor in that kingdom a proper and uſeful ſyſtem of education,—habits of cleanlineſs,—a taſte for the comforts of life, as applied to food, habitation, and clothes;—and to promote the reciprocity of kindneſs and mutual good-will among the different claſſes of life; ſo as to give the maſs of the people more intereſt in the eſtabliſhed order of ſociety, and more incitement to induſtry and exertion, and to connect them by a cloſer and more ſecure bond with the welfare and happineſs of Ireland.

This can only be effected by the co-operation of the other ranks of ſociety in that kingdom: and ſuch a co-operation would be very greatly promoted by the formation of inſtitutions like that which reflects ſo much honour on the patriotiſm and public ſpirit of the city of Cork.

It muſt give infinite ſatisfaction to ſee a Proteſtant and a Roman-catholic biſhop uniting in a friendly and benevolent co-operation, for the religious and moral improvement, and for the temporal welfare and comfort, of their united flocks. If this example be followed throughout Ireland, it may produce the beſt effects, not only in meliorating the character and condition of the poor, but in removing religious prejudices, and in promoting Chriſtian charity, between the Catholics and Proteſtants in that country.

Another inſtitution well worthy of an account in this place is that of a friendly ſociety, formed in 1799, by the aſſiſtance of the Cork ſociety for bettering the condition of the poor.

The objects of this friendly ſociety are confined to a proviſionary fund for the ſupport of the ſubſcribing members in ſickneſs, and old age, and for their decent interment. Circumſtances have prevented the extenſion of it to widows and children. Perſons however of all ranks and deſcriptions, and of both ſexes, reſiding within the limits of the city of Cork, above the age of fifteen and under that of fifty, are admiſſible into this ſociety.

The ſubſcriptions are to be paid upon admiſſion, and during life to be continued monthly, by each member, as follows:

Under thirty years of age, -	1s. 1d.
Above thirty, and under forty,	1 4
Above forty, and under fifty,	1 9

Perſons who by their age would come within one of the two laſt claſſes, are admiſſible into that immediately below it, on payment of one guinea and a half upon admiſſion.

The funds of the ſociety are open to augmentation by the contributions of the benevolent, and by preſcribed forfeits in the members; viz. for neglect in payment of their monthly ſubſcription, three pence for the firſt, and ſix-pence halfpenny for the ſecond omiſſion—for ſoliciting charity, two ſhillings and eight-pence halfpenny—and for intoxication, whilſt receiving relief from the ſociety, three ſhillings and three pence.

As the funds of the ſociety are in the nature of ſhares, every member during ſickneſs is entitled to relief for each ſhare, and proportionably for half a ſhare, which he or ſhe ſhall have in the fund by a weekly allowance; and members above ſixty, preferring an annuity to weekly payments, in ſickneſs or infirmity, are entitled to progreſſive annuities during their natural lives, according to their ages. At ſixty years of age, to an annuity of five pounds;—at ſeventy years of age, of ſeven pounds ten ſhillings;—at eighty years, of ten pounds; and at the age of ninety years or upwards, to an annuity of twelve pounds a-year for life. In caſe of death, each member is entitled to a ſpecific ſum for the expence of his or her funeral.

The regulations of the ſociety ſtate exceptions to relief, and authoriſe excluſion from the ſociety. In the firſt caſe, among other ſpecified inſtances, no member ſhall be entitled to relief for any diſeaſe, diſtemper, or infirmity, which he or ſhe may have had, when admitted a member; nor for any diſtemper contracted by lewdneſs; nor for any lameneſs, misfortune, or accident, occaſioned by quarrelling, rioting, drunkenneſs, or gaming; nor if impriſoned on a charge of treaſon, or felony, until legally acquitted of the ſame.

The penalty of excluſion is inflicted on members who ſhall attempt to take any advantage, by diſſembling any ſickneſs or infirmity, or by uſing any kind of fraud towards the ſociety; or who ſhall neglect to pay his or her monthly payments for three ſucceſſive months, or, in caſe of default, the preſcribed forfeits; or who ſhall be a notorious drunkard or gambler; or who ſhall be criminally convicted. In any of which caſes the perſon is to forfeit his or her title or claim to any part of the funds of the ſociety.

Every perſon wiſhing to become a member of this ſociety, muſt produce a certificate of his or her character, according to a preſcribed rule: and every perſon admitted a member muſt, at the time of admiſſion, ſubſcribe an obligation, containing a promiſe and declaration, in all things well and truly to fulfil, keep, and obſerve, the rules, orders, and regulations of the ſociety, and to promote its intereſt to the utmoſt of his power.

The funds of the ſociety are veſted in truſtees, conſiſting of the preſident, vice-preſidents, and committee, for the time being, of the ſociety eſtabliſhed in the city of Cork, "for bettering the condition and increaſing the comforts of the poor." The direction of the ſociety is veſted in twenty-one perſons, to be appointed annually by the truſtees, from among the ſubſcribing members of the "ſociety for bettering the condition of the poor," or from among any other public inſtitution for the benefit of the poor, who, together with the treaſurer and honorary members of this friendly ſociety, are conſtituted the directors thereof.

The rules and regulations for the government of this ſociety are calculated effectually to guard againſt the inconveniences to which aſſociations of this nature are ſometimes liable. There are no meetings of the exiſting members; nor can the diſſolution of the ſociety, or any diſtribution of its funds, fraudulent in itſelf, and contrary to the true meaning of the regulations, take place, but under ſuch reſtrictions as exclude the poſſibility of any derangement of the ſociety, or the miſapplication of its funds. The regulations are equally calculated to provide for the health, and to ſecure and improve the morals and good conduct, of the members of the ſociety. A certificate of character is a preſcribed title for admiſſion. The regular payment of the monthly contributions is enforced by forfeits; whilſt the penalty of excluſion applies equally to prevent ſucceſſive failures in payment, and to check immoral conduct. In the reſpectability of the gentlemen who have voluntarily undertaken the office of truſtees and directors, the members of this friendly ſociety have a ſolid ſecurity, that their intereſts will be well managed, and the laws of the aſſociation duly enforced for the benefit of all the members.

We have given a place to theſe accounts in the hope of being the inſtruments of ſimilar good in other parts of a country where ſuch aſſociations are greatly wanted.

CORMENTIN, a fortreſs on the Gold Coaſt of Guinea, belonging to the Dutch. Below it is the town, which is large and populous. Long. 0. 15. W. Lat. 5. 30. N.

CORMERY, a town of France, in the department of Indre and Loire and late province of Touraine. It had recently a rich Benedictine abbey, and is ſeated on the Indre, eight miles from Tours. Long. 0. 28. E. Lat. 47. 30. N.

CORN (*Encycl.*). There are ſeveral ſpecies of corn, ſuch as wheat, rye and barley, millet and rice, oats, maize and lentils, peaſe, and a number of other kinds, each of which has its uſefulneſs. But of theſe ſcarcely any poſſeſs ſuch highly nutritive qualities as MAIZE or *Indian* CORN. See the article ZEA.

Count Rumford, in his fifth eſſay, publiſhed in 1796, took conſiderable pains to draw the attention of the public to this very important article of diet. Indian corn is produced in abundance and of the beſt quality in Britiſh America. It is capable of being ground into meal like any other grain, and in this ſtate admits of various kinds of culinary preparation. One ſimple and obvious way of uſing it is, to mix it with wheat, rye, or barley, in making bread; in which caſe the proportion of one-half may be employed. It makes an excellent and cheap family pudding, when mixed with molaſſes and a little ſalt*, and boiled in a bag; and may be enriched and accommodated to different taſtes by the intermixture of ſliced apples or ſmall fruits. If a good quantity is made at once, it may be very conveniently cut in ſlices and fried; theſe Indian puddings not being the worſe for ſeveral days' keeping.

Whether the making and vending this kind of pudding in its plain ſtate to the poor, along with meat ſoup, would be a means of rendering bread unneceſſary, or whether thickening the ſoup with Indian meal might be made to anſwer the ſame ſalutary purpoſe with leſs trouble, are ſubjects worthy of conſideration with thoſe who ſuperintend the public kitchens. As the Indian meal requires long boiling to free it from its raw taſte, the latter mode appears, in fact, to promiſe the greater advantages; though it is likely the poor themſelves would prefer "ſolid pudding," even at an additional charge, to a diet approaching ſo much to the fluid ſtate.

But the moſt economical way of preparing Indian meal appeared to be the ſtirring it into a quantity of water, ſo as to make haſty-pudding, in which ſtate it is eaten and univerſally approved in America, where its nutritious qualities are reckoned ſuperior even to thoſe of wheat. The manner in which this is done is the following:

A quantity of water, with an adequate proportion of ſalt diſſuſed in it, being put on the fire, repeated handfuls of Indian meal are gradually ſtirred into it, ſo as to make an uniform mixture. As the contents of the pot approach to a boiling ſtate they become thicker and thicker, and at laſt, by a due regulation of the proportion of meal, and conſtant ſtirring, the pudding becomes ſufficiently ſolid to keep the implement with which it is ſtirred, upright, when plunged into the middle of the kettle. Half an hour's further boiling finiſhes the proceſs.

This pudding, however, is ſcarcely ſavoury enough to make a meal without ſome kind of ſauce; and this perhaps may make it a leſs eligible mode of firſt introducing Indian corn to the notice of the poor as an article of diet. Count Rumford, indeed, who made the experiment, ſhews, by the following ſtatement, that, with even this diſadvantage, a comfortable meal may be made at the trifling expence of five farthings.

	Farthings
1 lb. 1½ oz. of pudding - -	2½
Sauce, conſiſting of butter, molaſſes, and vinegar	2 5/16

In Italy, where this kind of pudding is in great popular eſteem, it is very commonly eaten without any ſauce, under the name of *polenta*: ſurely the poor of this country, by gradual ſteps, and eſpecially by the example of their ſuperiors (which, by the way, is very material), may be led to avail themſelves of ſo great a benefit, and be taught to reliſh, in a country liable to occaſional deficiencies in the produce of grain, as well as to conſiderable temporary changes in the price of other neceſſaries of life, ſome of thoſe kinds of food which are known to be highly acceptable to the inhabitants of diſtant climates.

CORN-GRINDING *Machine*, an invention for which a patent has been granted to Mr. Barratt, of Gedling, in the county of Nottingham. In the ſpecification it is ſaid to be a more ſimple, conciſe, and cheap method of grinding corn, or other grain, than has been hitherto uſed. It is either moveable or immoveable, and intended to be worked by water, wind, horſes, hand, or otherwiſe.

"This mill," ſays the inventor, "may be conveniently erected in a garden or croft, wherever the wind has acceſs, and is ſo light as to be capable of being turned by the hand, or the ſails may occaſionally be affixed in a horizontal poſition to the upright ſhaft; and on taking down the ſhed over the mouth-hopper, the power of a horſe may be applied when the wind fails. It will perhaps be neceſſary, on this occaſion, to have the wheel A, Plate 22. fig. 1. enlarged, which may be readily effected by ſcrewing on an additional wheel in quadrants or octants, as may be preferred. The whole apparatus may be conveniently fixed on a centre, with a gudgeon at each end, to the gable end of a houſe, barn, or granery, a peculiar proviſion being planned in the ſails for that purpoſe. It will appear obvious, that its internal conſtruction is ſuited to any power which may be ſubſtituted for the ſails; and it will be ſuperfluous to hint to a workman, how hand-mills may be connected with the crown and ſpur-wheels at the ſame time to grind malt, ſplit beans, cut hay, ſtraw, &c.

"Fig. 1. A is a crown and ſpur wheel; it has three concentric circles, 1, 2, 3, with teeth adapted to the ſpur-wheel above, on the mill-ſhaft, the teeth in the ſecond being higher than the firſt, and in the third higher than the ſecond, to meet the elevation of the mill-ſhaft above the plane of the crown-wheel. Theſe circles are called the ſpeed-wheels, ſerving to increaſe the velocity of the ſtones, or to preſerve it when the velocity of the wind decreaſes. This wheel may be diſpenſed with, with one or two pair of ſtones, the nut on the ſpindle being made contrate inſtead of ſpur, and immediately connected with the ſpur-wheel, affixed to the axis of the mill by means of a ſliding box A (fig. 2.), and ſcrewed in its poſition by the ſcrew S (fig. 2.), by which it is adapted to each of the concentric circles, as the crown-wheel is required to move faſter or ſlower. C is the brake-wheel, which retards or ſtops the motion of the ſails by its friction with the wedge W. (See for its poſition on the axis fig. 2.) D is a circular plate of caſt-iron, belonging to, and being part of, the iron axis of the mill-ſhaft, or the upright axis of the crown-wheel. Upon this plate, on the continuation of the ſpindle (ſee *d*, fig. 2.), is placed the croſs fig. 4. to which it is faſtened by four ſcrews paſſing through the four holes of both; and the extremity of the arm of each ſail into which the ſaid croſs is inſerted at the ſlot *f* (fig. 3.), and ſecured by another ſcrew and moveable iron bandages. E is the gallows, which ſupports the gudgeon of the mill-ſhaft, which, moving on a centre at the ſmall end, permits the ſpur-wheel to be thrown in or out of gear by means of the wedge at the other end. The ſtones moved by the nut *s* are placed in a box in the frame G, fixed on a platform *m*, which, ſliding on the rails *n*, *n*, the ſpindle is thrown out of gear by the ſcrew H paſſing through the iron rod,

* Three pounds of Indian meal ſtirred into five pints of boiling water, with the addition of one ounce of ſalt and three fourths of a pound of molaſſes, the whole tied loſely in a bag and boiled ſix hours, makes ten pounds of pudding at an expence of leſs than 1d. per pound. See Count Rumford's 3d eſſay, p. 204.

which, by the ſcrew I, raiſes or depreſſes the bridge-tree. *a* is an iron axis, with ſmall wheels at each end, for turning a ſifting machine.

"Fig. 3. is the ſail-arm, into which, at the mortiſe *a*, is put the ſupporting arm D, at its end *b*, and ſcrewed by a peg: the fixed part of the ſail E falls into the ſlot C, and is kept in its poſition by the guards *d*, and a peg in the groove B. The two other fan-ſails F, F, ſlide on each ſide of the fixed one, moving on a centre at the narrow extremity, and, when expanded to the wind, are kept in their poſitions by pegs in the ſame groove catching in the notches at the other extremity: theſe ſails are made of thin boards. When the ſails are affixed to a gable-end, whence it will occaſionally be neceſſary to catch the wind on oppoſite ſides of the ſail, the ledge *e* is attached to each ſail-arm into the nicks, on which falls the ſpring *m* of the adjoining ſail, by which means the ſails are turned to oppoſite degrees of obliquity. The frame of the machinery, as depicted in the ſpecification, turns on caſtors, on a circular baſe."

The patentee has erected a mill, of the above deſcription, at his houſe at Gedling, near Nottingham, and has various models, open for the inſpection of ſuch perſons as may wiſh to ſee them. Theſe mills may be adapted to be worked either by rivulets or the wind: in the latter caſe they may be erected on the ſtem of a ſtanding tree, or the gable end or corner of a houſe, barn, or other building, in any of which ſituations the whole apparatus for grinding, &c. may be contained within the attic or other room.

The price of the above mills, adapted to gable ends, to work only one pair of grey ſtones, of not more than thirty inches diameter, is thirty-five guineas; if with a preparation for other machinery three guineas more. Thoſe to be erected on the ground, adapted either for wind or water, will be from forty-five to ſixty guineas; and if two pair of ſtones, dimenſions as above, from fifteen to twenty guineas extra; if of larger ſizes, the price will advance in proportion.

The mills on the ground may be made either portable or immoveable, on poſts, and when boarded forms a complete houſe, under the works, for the miller, and a receptacle for his flour.

Theſe mills, according to the ſize of the ſtones, will turn off as much work as any mills on the old conſtruction. The prices mentioned are excluſive of any water-works, carriage, or fixing.

CORNARIUS, or Haguenbot (John), a celebrated German phyſician, born at Zwickow in Saxony. His preceptor made him change his name of Haguenbot to that of Cornarius, under which he is moſt known. At twenty years of age he taught grammar, and explained the Greek and Latin poets and orators to his ſcholars; and at twenty-three, was licentiate in medicine. He found fault with moſt of the remedies provided by the apothecaries; and obſerving, that the greateſt part of the phyſicians taught their pupils only what is to be found in Avicenna, Rhaſes, and the other Arabian phyſicians, he carefully ſought for the writings of the beſt phyſicians of Greece, and employed about fifteen years in tranſlating them into Latin, eſpecially the works of Hippocrates, Aëtius, Æginetus, and a part of thoſe of Galen. Meanwhile he practiſed phyſic with reputation at Zwickow, Francfort, Marburg, Nordhauſen, and Gena, where he died of an apoplexy in 1558, aged fifty-eight. He alſo wrote ſome medicinal treatiſes; publiſhed editions of ſome poems of the ancients on medicine and botany; and tranſlated ſome of the works of the fathers, particularly thoſe of Baſil, and a part of thoſe of Epiphanius.

CORNET, a caſtle on the iſland of Guernſey. Long. 2. 40. W. Lat. 49. 30. N.

CORNETO, a town of Italy, in the patrimony of St. Peter, with a biſhop's ſee, ſeated on the river Marta, three miles E. of the ſea, and thirty-ſeven N.W. of Rome. Long. 11. 53. E. Lat. 42. 15. N.

CORNUS (*Encycl.*). The ſecond ſpecies, namely, the *cornus ſanguinea*, bloody-twig, or common dog-wood, hath been found capable of yielding an oil applicable to ſome uſeful purpoſes. The following account is taken from the Annales de Chimie.

"The *cornus ſanguinea* of Linnæus," ſays Citizen Marqueron, of Straſburg, who writes that article, "is a ſhrub ſo much eſteemed by ornamental gardeners, for embelliſhing clumps of trees, both on account of its beautiful form, and the fine red colour which its branches and leaves aſſume towards the cloſe of the ſummer, bears a berry, which, when ripe, is of a blackiſh colour, whoſe utility, both for the purpoſes of medicine and the arts, has never hitherto been properly eſtimated.

"The greaſy unctuous appearance which theſe berries exhibit when cruſhed between the fingers, led me to imagine that they might contain an oil, which certainly muſt poſſeſs ſome uſeful properties. Well perſuaded of this truth, that none of nature's productions are without their uſe, I prevailed upon Citizen Chevreuſe, botanical gardener at Molſheim, in the department of the Lower Rhine, where this ſhrub grows in great abundance, to collect a quantity of its berries.

"Ten kilogrammes of theſe berries were collected and ſpread out in a garret, not for the purpoſe of drying them, but in order that they might acquire a ſofter conſiſtence: in this ſtate they were reduced to a paſte, and ſubjected to the preſs, where, without the application of heat, two litres were obtained, of a greaſy unctuous liquid, poſſeſſing a degree of viſcidity ſimilar to that of oil, of a green, though very pellucid, colour; it was perfectly homogeneous, and exhibited all the phyſical properties of a real oil, without poſſeſſing either a diſagreeable ſmell or taſte, which determined Citizen Chevreuſe and me to eat a ſallad prepared with it, which we did ſeveral times without experiencing any bad effects from it. Theſe properties, however, not being ſufficient to demonſtrate that this liquid was really an oil, I undertook the taſk of ſubjecting it to various experiments, of which the reſult is as follows:

"A drop of this oily liquid, when let fall into a veſſel filled with water, extended itſelf over its ſurface in a very fine pellicle, which reflected the priſmatic colours.

"Wiſhing to know whether it were poſſible to deprive this oily ſubſtance of its green colour, I waſhed it with cold and hot water, the water being charged with ſulphate of alumine, powdered ſlate, charcoal-powder, &c. All theſe different means were of no effect, the liquids above mentioned did not receive any new tinge, and the green colour of the oil remained always the ſame.

"Alcohol was alſo employed. This menſtruum having aſſumed a greeniſh tinge, I imagined that I ſhould be able thereby to extract the colouring matter of the oily liquid; for which purpoſe I added a portion of this alcohol, tinged as above mentioned, to a certain quantity of water. The mixture immediately became white, and ſome drops of oil ſwam at the top. I evaporated, in a diſtilling apparatus, another portion of this coloured alcohol: the alcohol which I thus obtained was colourleſs, and there remained behind a quantity of oil, of the ſame colour as before: the alcohol therefore owed its colour only to the ſolution of a portion of the oil, and not to the ſeparation of the colouring principle.

"Sulphur combined completely with this oil: with the aid of caloric, there reſulted from this combination a real balſam of ſulphur, of a fine deep red colour, verging upon the brown and of an extremely fetid ſmell.

" Potaſh, ſoda, and ammonia, formed with this oil real ſoaps, poſſeſſing different degrees of ſolidity.

" The concentrated ſulphuric acid, combined with this oil, produced a real acid ſoap, of a yellowiſh colour, and the appearance of a reſin.

" The nitric and muriatic acids exhibited no perceptible operation upon the oil, when applied to it in the cold way, excepting that they aſſumed a ſlight greeniſh tinge.

" Nitric acid, when heated with this oil, cauſed it to aſſume a ſolid conſiſtence, and a yellow colour, perfectly reſembling that of yellow pomatum; during the ebullition there took place a conſiderable ſwelling in the maſs, an extrication of nitrous gas, &c. The theory of this operation being perfectly well known, it will be unneceſſary to explain it in this place.

" Not having been able to procure nitrous acid, it was impracticable for me to aſcertain the inflammability of this oil by the acids.

" By boiling for ſome time upon litharge, this oil acquired the ſiccative property, which rendered it fit for being employed in painting, a property which it poſſeſſed before its oxygenation, but in a leſs degree than afterwards.

" By continuing the ebullition, the oxyde of lead was diſoxydated, and entirely diſſolved; and the mixture acquired a conſiſtence and brown colour, perfectly reſembling that of the brown diachylon (*onguent de la mère*).

" I repeated the ſame experiment, taking care to add water, and conſtantly ſtir the liquid, in the manner which is practiſed in preparing the *diapalma* plaſter; by which means I obtained a ſubſtance of a good conſiſtence, and a colour perfectly reſembling that of the *Empl. de vigo cum mercurio:* this colour having made me believe that I had failed to obtain a plaſter, which I imagined ought to be of a whitiſh colour, I repeated the experiment ſeveral times with all poſſible attention; and every time I obtained a plaſter of the ſame colour. The theory of plaſters having been very well explained by Citizen Deyeux, it may be diſpenſed with in this place. I expoſed a quantity of this oil to the contact of the atmoſpherical air: after ſome time it was found to have acquired a ſomewhat greater degree of conſiſtence.

" The ſame experiment was repeated, but with the addition of water, and the obſervance of all the precautions directed by Citizen Berthollet: at the end of a month the oil had acquired a ſolid conſiſtence, and a white colour, ſimilar to that of wax.

" Wiſhing, finally, to know of what utility this oil might be for domeſtic purpoſes, I poured it into a lamp with cotton wicks, which being lighted threw out a bright light, without any perceptible ſmoke or ſmell: the ſame lamp, with wicks of the ſame kind, was ſucceſſively filled with oil of olives and rape ſeed oil; the latter burnt two hours, the olive-oil two hours and a quarter, and the oil of the *cornus ſanguinea* two hours and a half.

" If we add to theſe facts, the property of congealing, which belongs to this oil, we ſhall have all the characters of the oil of the *cornus ſanguinea*.

" From theſe experiments, which are all that I have had it in my power to make, I am authoriſed to conclude, that the oily juice obtained by expreſſion from the *cornus ſanguinea* is a real oil, poſſeſſing certain properties that may render it uſeful in the arts, commerce, and perhaps in medicine. I alſo think that it ought to be placed, according to Fourcroy's principles, in the ſecond claſs, which comprehends the ſiccative oils, which ſpeedily grow thick, are not congealed by the action of the cold, take fire with nitrous acid alone, and form with ſulphuric acid reſinous compoſitions.

CORO, a town of South America, in Terra Firma, ſeated at the bottom of the gulf of Venezuela, 50 miles W. of La Guaira. Long. 70. 0. W. Lat. 11. 0. N.

COROMANDEL (*Encycl.*). This eaſtern coaſt of the peninſula on this ſide the Ganges, is bounded on the north by Golconda, on the eaſt by the bay of Bengal, on the ſouth by Madura, and on the weſt by Biſnagar. This coaſt ſo much reſembles that of Orixa, that the Abbé Raynal chooſes to conſider them as one, and gives to both the general name of *Coromandel*. Here an exceſſive heat reigns from the beginning of May to the end of October. It begins at nine in the morning, and continues till nine in the evening. During the night it is allayed by a ſea-breeze from the ſouth-eaſt; and moſt commonly this refreſhing gale begins at three in the afternoon. The air is leſs inflamed during the reſt of the year, though in all ſeaſons it is very hot. It rains almoſt continually during the months of November and December. This immenſe tract is covered with a parched ſand for the extent of two miles, and ſometimes only one mile along the coaſt.

This country was at firſt neglected by the Europeans for many reaſons. It was ſeparated by inacceſſible mountains from Malabar, where theſe bold adventurers endeavoured to ſettle themſelves. Spices and aromatics, which were the principal objects of their attention, were not to be found there. In ſhort, civil diſſenſions had baniſhed from it tranquillity, ſecurity, and induſtry. At that period the empire of Biſnagar, to which this vaſt country was ſubject, was falling to ruin. The governments of Viſapour, the Carnatic, Golconda, and Orixa, threw off their dependence, and aſſumed the title of kings. Thoſe of Madura, Tanjore, Myſore, Gingi, and ſome others, likewiſe uſurped the ſovereign authority, though they retained their ancient title of *Naick*. This revolution had juſt happened when the Europeans appeared on the coaſt of Coromandel. The foreign trade was at that time inconſiderable; it conſiſted only of diamonds from Golconda, which were carried to Calicut and Surat, and from thence to Ormus or Suez, whence they were circulated through all Europe and Aſia. Maſſulipatan, the richeſt and moſt populous city of theſe countries, was the only market that was known for linens; they were purchaſed at a great fair annually holden there by the Arabian and Malayan veſſels that frequented that bay, and by caravans arrived from diſtant parts. The linens were exported to the ſame places with the diamonds. The fondneſs for the manufactures of Coromandel which began to prevail here, inſpired all the European nations trading to the Indian ſeas with the reſolution of forming ſettlements there. They were not diſcouraged either by the difficulty of conveying goods from the inland parts of the country, where there was no navigable river; by the total want of harbours, where the ſea, at one ſeaſon of the year, is not navigable; by the barrenneſs of the coaſts, for the moſt part uncultivated and uninhabited; or by the tyranny and fluctuating ſtate of the government. They thought that ſilver would be induſtriouſly ſought after; that Pegu would furniſh timber for building, and Bengal, corn for ſubſiſtence; that a proſperous voyage of nine months would be more than ſufficient to complete their ladings; and that by fortifying themſelves they ſhould be ſecure againſt the attacks of the weak tyrants that oppreſſed theſe countries.

The firſt European colonies were eſtabliſhed near the ſhore. Some of them obtained a ſettlement by force: moſt of them were formed with the conſent of the ſovereigns; and all were confined to a very narrow tract of land. The boundaries of each were marked out by a hedge of thorny plants, which was their only defence. In proceſs of time fortifications were raiſed; and the ſecurity derived from them, added to the lenity of the government, ſoon increaſed the number of coloniſts. The ſplendor and independence of theſe ſettlements ſeveral times raiſed the jealouſy of the princes in whoſe dominions they were formed; but their attempts to demoliſh

them proved abortive. Each colony increaſed in proſperity in proportion to the riches and the wiſdom of the nation that founded it. None of the companies that exerciſed an excluſive privilege beyond the Cape of Good Hope had any concern in the trade of diamonds. This was always left to private merchants, and by degrees fell entirely into the hands of the Engliſh, or the Jews and Armenians that lived under their protection. At preſent this grand object of luxury and induſtry is much reduced. The revolutions that have happened in Indoſtan have prevented people from reſorting to theſe rich mines; and the anarchy in which this unhappy country is plunged, leaves no room to hope that they will be again attended to. The whole of the commercial operations on the coaſt of Coromandel is confined to the purchaſe of cottons. The manufacturing of the white cottons bought there, differs ſo little from ours, that it would be neither intereſting nor inſtructive to enter into a minute deſcription of it. The proceſs uſed in making their printed cottons, which was at firſt ſervilely followed in Europe, has ſince been rendered more ſimple, and brought to greater perfection by our manufacturers. The painted cottons which are bought there, we have not yet attempted to imitate. Thoſe who imagine we have been prevented from undertaking this branch merely by the high price of labour among us, are miſtaken. Nature has not given us the wild fruits and drugs neceſſary for the compoſition of thoſe bright and indelible colours which conſtitute the principal merit of the Indian manufactures; nor has ſhe furniſhed us with the waters that ſerve to fix them. The Indians do not univerſally obſerve the ſame method in painting their cottons; either becauſe there are ſome niceties peculiar to certain provinces, or becauſe different ſoils produce different drugs for the ſame uſes. We ſhould tire the patience of our readers were we to trace the ſlow and painful progreſs of the Indians in the art of painting their cottons. It is natural to believe that they owe it to length of time, rather than to the fertility of their genius. What ſeems to authoriſe this conjecture is, that they have ſtopped in their improvements, and have not advanced a ſingle ſtep in the arts for many ages; whereas we have proceeded with amazing rapidity. Indeed, were we to conſider only the want of invention in the Indians, we ſhould be tempted to believe, that, from time immemorial, they have received the arts they cultivate from ſome more induſtrious nation; but when it is remembered that theſe arts have a peculiar dependence on the materials, gums, colours, and productions of India, we cannot but be convinced that they are natives of that country. It may appear ſomewhat ſurpriſing that cottons painted with all ſorts of colours ſhould be ſold at ſo moderate a price, that they are almoſt as cheap as thoſe that have only two or three. But it muſt be obſerved, that the merchants of the country ſell to all the companies a large quantity of cottons at a time; and that the demand for cottons painted with various colours makes but a ſmall article in their aſſortments, as they are not much eſteemed in Europe.

Though cottons of all ſorts are in ſome degree manufactured throughout the whole country of Indoſtan, which extends from Cape Cormorin to the banks of the Ganges; it is obſervable, that the fine ſorts are made in the eaſtern parts, the common ones in the centre, and the coarſe ones in the moſt weſtern parts. Manufactures are eſtabliſhed in the European colonies, and upon the coaſt: they are more frequent at the diſtance of five or ſix leagues from the ſea, where cotton is more cultivated, and proviſions are cheaper. The purchaſes made there are carried 30 or 40 leagues further into the country. The Indian merchants ſettled in the European factories have always the management of this buſineſs. The quantity and quality of the goods wanted are ſettled with theſe people: the price is fixed according to the patterns; and, at the time the contract is made, a third or a fourth part of the money agreed on is advanced. This arrangement is owing to the neceſſity theſe merchants themſelves are under of advancing money to the workmen, by the partners or agents who are diſperſed through the whole country; of keeping a watchful eye upon them, for fear of loſing what they have advanced; and of gradually leſſening the ſum, by calling for the cottons as faſt as they are worked off. Without theſe precautions, nothing could be depended on in an oppreſſive government, where the weaver cannot work on his own account, either becauſe his circumſtances will not permit, or becauſe he dares not venture to diſcover them for fear of exactions. The companies that have either ſucceſs, or good management, conſtantly keep the ſtock of one year in advance in their ſettlements. By this method they are ſure of having the quantity of goods they have occaſion for, and of the quality they chooſe, at the moſt convenient time: not to mention that their workmen and their merchants, who are kept in conſtant employment, never leave them. Such nations as want money and credit cannot begin their mercantile operations till the arrival of their ſhips. They have only five or ſix months at moſt to execute the orders ſent from Europe. The goods are manufactured and examined in haſte; and they are even obliged to take ſuch as are known to be bad, and would be rejected at any other time. The neceſſity they are under of completing their cargoes, and fitting out their veſſels before hurricanes come on, leaves no room for nicety of inſpection. It would be a miſtake to imagine that the country agents could be prevailed upon to order goods to be made on their account, in hopes of ſelling them without a reaſonable advantage to the company with whom they are engaged. For, beſides that the generality of them are not rich enough to embark in ſo large an undertaking, they would not be certain of finding their account in it. If the company that employ them ſhould be hindered by unforeſeen accidents from ſending the uſual number of ſhips, theſe merchants would have no vent for their commodities. The Indians, the form of whoſe dreſs requires different breadths and lengths from thoſe of the cottons fabricated for our uſe, would not purchaſe them; and the other European companies would be provided, or certain of being provided, with whatever the extent of their trade required, and their money enabled them to purchaſe. The plan of procuring loans, which was contrived to remedy this inconvenience, never has, nor can be uſeful. It has been a cuſtom, time immemorial, in Indoſtan, for every citizen who borrows money, to give a written inſtrument to his creditor. This deed is of no force in a court of judicature, unleſs it is ſigned by three witneſſes, and bears the day of the month, and the year when it was made, with the rate of intereſt agreed upon by the parties. If the borrower fails to fulfil his engagements, he may be arreſted by the lender himſelf. He is never impriſoned, becauſe there is no fear of his making his eſcape. He would not even eat, without obtaining leave of his creditor. The Indians make a three-fold diviſion of intereſt: one kind they call *vice*; another neither *vice* nor *virtue*; and a third, they ſay, is *virtue*. The firſt is four *per cent.* a month; the ſecond two; and the third one. The laſt is, in their opinion, an act of beneficence that only belongs to the moſt heroic minds. Yet, though the Europeans, who are forced to borrow, meet with this treatment, it is plain they cannot avail themſelves of the indulgence without being involved in ruin.

The foreign trade of Coromandel is not in the hands of the natives. In the weſtern part, indeed, there are Mahomedans known by the name of *Chalias*, who, at Naour, and Porto-Nuovo, ſend out ſhips to Acken, Merguy, Siam, and the Eaſtern coaſt. Beſides veſſels of conſiderable burthen employed in theſe voyages, they have ſmaller embarkations for the coaſting trade for Ceylon, and the pearl fiſhery. The Indians of

Maſſulipatan turn their attention another way. They import from Bengal white calicoes, which they dye or print, and ſell them again at the places from whence they had them, at 35 or 40 per cent. advantage. Excepting theſe tranſactions, which are of very little conſequence, the whole trade is veſted in the Europeans, who have no partners but a few Banians and Armenians ſettled in their colonies. The quantity of calicoes exported from Coromandel to the different ports of India, may be computed at 3500 bales. Of theſe the French carry 800 to Malabar, Mocha, and the Iſle of France; the Engliſh, 1200 to Bombay, Malabar, Sumatra, and the Philippine Iſlands; and the Dutch 1500 to their different ſettlements. Except 500 bales deſtined for Manila, each of the value of 100 guineas, the others are of ſuch an ordinary kind that they do not exceed 30 guineas at prime coſt; ſo that the whole number of bales do not amount to more than about 150,000l.

Coromandel furniſhes Europe with 9500 bales; 800 of which are bought by the Danes, 2500 by the French, 3000 by the Engliſh, and 3200 by the Dutch. A conſiderable part of theſe calicoes are dyed blue, or ſtriped blue and red for the African trade. The others are fine muſlins, printed callicoes, and handkerchiefs from Naſſulipatan, or Paliacate. It is proved by experience that each of theſe bales coſts only about 42l. ſterling; conſequently they ought to bring in to the manufactory where they are wrought, near 360,000l. The payments are not entirely made in ſpecie, either in Europe or Aſia; we give in exchange, cloths, iron, lead, copper, coral, and ſome other articles of leſs value. On the other hand, Aſia pays with ſpices, pepper, rice, ſugar, corn, and dates. All theſe articles taken together may amount to about 210,000l.; and from this calculation it follows, that Coromandel receives annually from Europe about 300,000l. in money. The Britiſh, who have acquired the ſame ſuperiority on this coaſt that they have elſewhere, have formed on it ſeveral ſettlements.

CORON, a ſea-port of Turkey in Europe, in the Morea. It is ſeated on a bay, 15 miles S.E. of Modon. Long. 21. 50. E. Lat. 36. 50. N.

CORPORATION (*Encycl.*). Having in that article noticed the ſeveral ſpecies of corporations, we here purpoſe to conſider, 1. How corporations in general may be created. 2. What are their powers, capacities, and incapacities. And, 3. How they may be diſſolved. We ſhall in this follow Judge Blackſtone.

I. Corporations, by the civil law, ſeem to have been created by the mere act, and voluntary aſſociation, of their members; provided ſuch convention was not contrary to law, for then it was *illicitum collegium*. It does not appear that the prince's conſent was neceſſary to be actually given to the foundation of them; but merely that the original founders of theſe voluntary and friendly ſocieties (for they were little more than ſuch) ſhould not eſtabliſh any meetings in oppoſition to the laws of the ſtate.

But in England the king's conſent is abſolutely neceſſary to the erection of any corporation, either implied or expreſsly given*. The king's implied conſent is to be found in corporations which exiſt by force of the common law, to which our former kings are ſuppoſed to have given their concurrence; common law being nothing elſe but cuſtom, ariſing from the univerſal agreement of the whole community. Of this ſort are the king himſelf, all biſhops, parſons, vicars, churchwardens, and ſome others; who, by common law, have ever been held (as far as our books can ſhew us) to have been corporations, *virtute officii*: and this incorporation is ſo inſeparably annexed to their offices, that we cannot frame a complete legal idea of any of theſe perſons, but we muſt alſo have an idea of a corporation, capable to tranſmit his rights to his ſucceſſors, at the ſame time. Another method of implication, whereby the king's conſent is preſumed, is as to all corporations by preſcription, ſuch as the city of London, and many others, which have exiſted as corporations, time whereof the memory of man runneth not to the contrary; and therefore are looked upon in law to be well created. For though the members thereof can ſhew no legal charter of incorporation, yet, in caſes of ſuch high antiquity the law preſumes there once was one; and that by the variety of accidents which a length of time may produce, the charter is loſt or deſtroyed. The methods by which the king's conſent is expreſsly given, are either by act of parliament or charter. By act of parliament, of which the royal aſſent is a neceſſary ingredient, corporations may undoubtedly be created: but it is obſervable, that moſt of thoſe ſtatutes which are uſually cited as having created corporations, do either confirm ſuch as have been before created by the king: as in the caſe of the college of phyſicians, erected by charter 10 Hen. VIII. which charter was afterwards confirmed in parliament; or, they permit the king to erect a corporation *in futuro* with ſuch and ſuch powers; as is the caſe of the bank of England, and the ſociety of the Britiſh fiſhery. So that the immediate creative act is uſually performed by the king alone, in virtue of his royal prerogative.

All the other methods therefore whereby corporations exiſt, by common law, by preſcription, and by act of parliament, are for the moſt part reducible to this of the king's letters patent, or charter of incorporation. The king's creation may be performed by the words "creamus, erigimus, fundamus, incorporamus," or the like. Nay it is held, that if the king grants to a ſet of men to have *gildam mercatoriam*, "a mercantile meeting or aſſembly," this is alone ſufficient to incorporate and eſtabliſh them for ever.

The king (it is ſaid) may grant to a ſubject the power of erecting corporations, though the contrary was formerly held: that is, he may permit the ſubject to name the perſons and powers of the corporation at his pleaſure; but it is really the king that erects, and the ſubject is but the inſtrument: for though none but the king can make a corporation, yet *qui facit per alium, facit per ſe*. In this manner the chancellor of the univerſity of Oxford has power by charter to erect corporations; and has actually often exerted it in the erection of ſeveral matriculated companies, now ſubſiſting, of tradeſmen ſubſervient to the ſtudents.

When a corporation is erected, a name muſt be given to it; and by that name alone it muſt ſue, and be ſued, and do all legal acts.

II. After a corporation is ſo formed and named, it acquires many powers and rights, which we are next to conſider. Some of theſe are neceſſarily and inſeparably incident to every corporation; which incidents, as ſoon as a corporation is duly erected, are tacitly annexed of courſe. As, 1. To have perpetual ſucceſſion. This is the very end of its incorporation: for there cannot be a ſucceſſion for ever without an incorporation; and therefore all aggregate corporations have a power neceſſarily implied of electing members in the room of ſuch as go off. 2. To ſue, or be ſued, implead, or be impleaded, grant or receive, by its corporate name, and do all other

* Cities and towns were firſt erected into corporate communities on the Continent, and endowed with many valuable privileges, about the 11th century (Robertſ. Cha. V. i. 30); to which the conſent of the feodal ſovereign was abſolutely neceſſary, as many of his prerogatives and revenues were thereby conſiderably diminiſhed.

acts as natural persons may. 3. To purchase lands, and hold them, for the benefit of themselves and their successors: which two are consequential to the former. 4. To have a common seal. For a corporation, being an invisible body, cannot manifest its intentions by any personal act or oral discourse: it therefore acts and speaks only by its common seal. For, though the particular members may express their private consents to any act, by words, or signing their names, yet this does not bind the corporation: it is the fixing of the seal, and that only, which unites the several assents of the individuals, who compose the community, and makes one joint assent of the whole. 5. To make by-laws or private statutes for the better government of the corporation; which are binding upon themselves, unless contrary to the laws of the land, and then they are void. But no trading company is with us allowed to make by-laws, which may affect the king's prerogative, or the common profit of the people, under penalty of 40l. unless they be approved by the chancellor, treasurer, and chief justices, or the judges of assize in their circuits: and, even though they be so approved, still, if contrary to law, they are void. These five powers are inseparably incident to every corporation, at least to every corporation *aggregate*: for two of them, though they may be practised, yet are very unnecessary to a corporation *sole*: *viz.* to have a corporate seal to testify his sole assent, and to make statutes for the regulation of his own conduct.

Corporations have a capacity to purchase lands for themselves and successors; but they are excepted out of the statute of wills; so that no devise of lands to a corporation by will is good; except for charitable uses, by statute 43 Eliz. c. 4. which exception is again greatly narrowed by the statute 9 Geo. II. c. 36. And also, by a great variety of statutes, their privilege even of purchasing from any living granter, is much abridged; so that now a corporation, either ecclesiastical or lay, must have a licence from the king to purchase, before they can exert that capacity which is vested in them by the common law: nor is even this in all cases sufficient. These statutes are generally called the statutes of *mortmain*. See MORTMAIN.

The general duties of all bodies politic, considered in their corporate capacity, may, like those of natural persons, be reduced to this single one;—that of acting up to the end or design, whatever it be, for which they were created by their founder.

III. How corporations may be dissolved. Any particular member may be disfranchised, or lose his place in the corporation, by acting contrary to the laws of the society, or the laws of the land: or he may resign it by his own voluntary act. But the body politic may also itself be dissolved in several ways: which dissolution is the civil death of the corporation: and in this case their lands and tenements shall revert to the person, or his heirs, who granted them to the corporation: for the law doth annex a condition to every such grant, that if the corporation be dissolved, the granter shall have the lands again, because the cause of the grant faileth. The grant is indeed only during the life of the corporation; which may endure for ever: but, when that life is determined by the dissolution of the body politic, the granter takes it back by reversion, as in the case of every other grant for life. The debts of a corporation, either to or from it, are totally extinguished by its dissolution; so that the members thereof cannot recover, or be charged with them, in their natural capacities: agreeably to that maxim of the civil law, "*si quid universitati debetur, singulis non debetur; nec, quod debet universitas, singuli debent.*"

A corporation may be dissolved, 1. By act of parliament, which is boundless in its operations. 2. By the natural death of all its members, in cases of an aggregate corporation. 3. By surrender of its franchises into the hands of the king, which is a kind of suicide. 4. By forfeiture of its charter, through negligence or abuse of its franchises; in which case the law judges that the body politic has broken the condition upon which it was incorporated, and thereupon the incorporation is void. And the regular course is to bring an information in nature of a writ of *quo warranto*, to enquire by what warrant the members now exercise their corporate power, having forfeited it by such and such proceedings. The exertion of this act of law, for the purposes of the state, in the reigns of King Charles and King James II. particularly by seizing the charter of the city of London, gave great and just offence; though, perhaps, in strictness of law, the proceedings in most of them were sufficiently regular: but the judgment against that of London was reversed by act of parliament after the revolution; and by the same statute it is enacted, that the franchises of the city of London shall never more be forfeited for any cause whatsoever. And, because by the common law corporations were dissolved, in case the mayor or head officer was not duly elected on the day appointed in the charter, or established by prescription, it is now provided, that for the future no corporation shall be dissolved upon that account; and ample directions are given for appointing a new officer, in case there be no election, or a void one, made upon the charter or prescriptive day.

CORRADINI *de Sezza* (Peter Marcelinus), a learned civilian and cardinal, born at Sezza in 1658, acquired the esteem and confidence of Clement XI. and died at Rome in 1743. He was the author of a learned and curious work entitled Verus Latium profanum & sacrum, 2 vols. folio; and a history of Sezza, in 4to.

CORRADO (Sebastian), an Italian grammarian of the 16th century, taught the Greek and Latin tongues at Reggio, where he formed an academy of polite literature; and at length removed to Bologna, in order to be professor of those languages. He wrote several works, the most esteemed of which are, Questura in qua Ciceronis Vita refertur, an excellent performance; and, De Linguâ Latinâ. He died in 1556.

CORREGIO, a town of Italy, capital of a territory of the same name, in the duchy of Modena, with a castle, 9 miles N.E. of Reggio. Long. 11. 12. E. Lat. 44. 46. N.

CORREZE, a department of France, containing the late province of Limosin. Tulles is the capital.

CORSHAM, or COSHAM, a town in Wilts. The Saxon king, Ethelred, had a palace here. Edmund earl of Cornwall, in the reign of Edward I. obtained a charter for a market; and the inhabitants still enjoy some privileges granted them by Richard, his predecessor. Their chief support is the woollen manufacture, here being some considerable clothiers. This place is four miles S.W. of Chippenham.

CORSICA, an island in the Mediterranean, 88 miles in length, and 40 in breadth. The air is unwholesome, and the land hilly, full of stones, and poorly cultivated; however, the valleys produce wheat, and the hills, olives, figs, grapes, almonds, and chesnuts. They have horses also, of a fiery nature. There are mines of iron, and a great deal of fish and coral on the coast. In the middle, is the mountain Gradaccio, where there are two lakes near each other, whence proceed the two principal rivers. A ridge of mountains divides the island into two parts, the N. and S. The capital is Bastia. It belonged to the Genoese; but the natives having been for many years in revolt against them, that

ſtate ſurrendered its right to France, of which Corſica is now a department. Long. 9. 0. E. Lat. 42. 0. N.

CORSOER, a town of Denmark, on the W. ſide of the Iſle of Zealand, on a ſmall peninſula, on the Great Belt, which ſeparates Zealand from Funen. It has a good harbour for light veſſels, and is defended by a citadel. Long. 11. 12. E. Lat 55. 12. N.

CORSTORPHIN, a village of Scotland, three miles W. of Edinburgh, ſituated on the declivity of a beautiful hill, and noted for its cream.

CORTE, a town of Corſica, with a ſtrong caſtle, 27 miles S.W. of Baſtia.

CORTIS, a town of Germany, in the biſhopric of Liege, 10 miles N.E. of Ramillies. Long. 4. 59. E. Lat. 50. 46. N.

CORVO, the ſmalleſt iſland of the Azores, having only about 600 inhabitants, who cultivate wheat and feed hogs. Long. 31. 5. W. Lat. 39. 42. N.

CORYATE (Thomas), a very extraordinary perſonage, who ſeems to have made himſelf famous by his whimſical extravagancies, was the ſon of a clergyman, and born at Oldcombe in Somerſetſhire in 1577. He acquired Greek and Latin at Oxford; and coming to London, was received into the houſehold of Henry prince of Wales. If Coryate was not over-witty himſelf, he got acquainted with the wits of that time, and ſerved to exerciſe their abilities, having more learning than judgment. He was a great peripatetic; for, in 1608, he took a long journey on foot; and after he returned, publiſhed his travels under the following ſtrange title, *Crudities haſtily gobbled up in five months Travels in France, Savoy, Italy, Rhetia, Helvetia, ſome parts of High Germany, and the Netherlands*, Lond. 1611, 4to. In 1612 he ſet out again, with a reſolution to ſpend ten years in travelling: he went firſt to Conſtantinople; and after travelling over a great part of the Eaſt, died of a flux at Surat in the Eaſt-Indies. Some of the accounts of his peregrinations are to be found in the accounts of Purchas's Pilgrimages.

CORYVREKAN, a dangerous whirlpool on the W. coaſt of Scotland, between the iſle of Scarba and the N. point of that of Jura. It is ſo named from a young Daniſh prince, who periſhed in this place. As the tide advances, this unfathomable gulf, of which the dreadful vortex extends above a mile in circuit, begins to boil up; and, at full ſea, its numerous eddies form watery pyramids, which riſe into the air, and burſting with the noiſe of thunder, whiten the ſubjacent waves with foam. Many ſmaller whirlpools and rapid currents are found in the neighbourhood; dangerous, however, to thoſe only who are ſtrangers to the coaſt.

COSLIN, a town of Germany, in Pruſſian Pomerania, 10 miles E. of Colberg.

COSNE, a town of France, in the department of Nievre, and late province of Nivernois. Anchors for ſhips are forged here; and its cutlery and gloves are much eſteemed. It is ſeated at the confluence of the Loire and Noain, 88 miles S. of Paris. Long. 3. 6. E. Lat. 47. 23. N.

COSSIMBAZAR, a ſmall city of Hindooſtan Proper, in Bengal. It has been at all times the reſidence of the different European factors; this being the centre of their trade. It is ſeated on an iſland in the weſtern arm of the Ganges, 110 miles N. of Calcutta. Long. 85. 22. E. Lat. 23. 40. N.

COSTAGNAZZAR, the higheſt mountain of Turkey in Europe, in Romania, anciently called Hæmus.

COSTUME (*Encycl.*). Thoſe antiquaries who have treated of the ancient Iriſh *coſtume*, ſhould have conſulted the old French ſatiriſt, the Sieur d'Auvray, in whoſe work, entitled the Banquet des Muſes, ou Recueil de toutes les Satyres, Yambes, Macarades, &c." (Rouen, duod. 1623), among many other curious paſſages, are the following alluſions to the *mantles* of the true or aboriginal Hibernians:

> " Il jugeoit à l'œil et au pas
> Les filles d'amoreux appas,
> Comme les Laquais aux mandilles,
> Aux mantes les vrays Irelandois,
> Aux chapeaux longs les Albanois,
> Et les Eſpagnols aux roupilles."—p. 324.
>
> " Un chapelet pour avoir bonne grace,
> Un peliſſon, un capot d' Ilandois," &c.—p. 336.

On the ſubject of our old Engliſh dreſſes, one of the moſt curious paſſages we recollect, is to be found in a work where few readers would expect it:—Fuller's Piſgah-Sight of Paleſtine: folio, 1662; book 4. ch. 6. Speaking of the various habits and ornaments of the Jews, he noticed the changes they underwent, and in a digreſſion, ſays, " For inſtance, it would poſe a good antiquary to deſcribe the exact faſhion of *harlots, gits, haketons, paltocks, tabards, court-pies, chevefailes*, and *gipſers*: barbarous names, which may ſeem to carry a ſpell or conjuration in the mention of them. Yet all theſe were kinds of garments commonly uſed in England, ſome four hundred years ago. Yea, pride, playing in all ages upon conceited opinions of decency, hath infinitely varied the faſhion of all apparel; cuſtome of our anceſtors appearing antick to us, as our faſhion (perchance) will ſeem incredible to poſterity. Who would believe that ever our Engliſh, ſome four hundred yeares ſince, wore ſhooes ſnouted and picked more than a finger long, crooking upwards (called crackowes), reſembling the devil's clawes, which were faſtened to the knees with chains of gold, and ſilver? Or, that about the reign of King Henry the Fifth, men grew ſo exceſſive in that kind, that it was fain to be ordered by proclamation, that none *ſhould wear* their ſhooes *broader at the toes than ſix inches?*"

COTE D'OR, a department of France, containing part of the late province of Burgundy. Dijon is the capital.

COTELERIUS (John-Baptiſt), fellow of the Sorbonne, and king's Greek profeſſor, was born at Niſmes in Languedoc in 1627. He made a collection of the fathers who lived in the apoſtolic age, which he publiſhed at Paris in two volumes folio in 1672; all reviewed and corrected from ſeveral MSS. with a Latin tranſlation and notes. He alſo publiſhed *Monumenta Eccleſiæ Græcæ*, in 3 vols. being a collection of Greek tracts out of the king's and M. Colbert's libraries, and which had never been publiſhed before: to theſe he added a Latin tranſlation and notes. He intended a further proſecution of this work; but his intenſe ſtudies broke his conſtitution, and deprived him of life in 1686. Beſides his great ſkill in languages and eccleſiaſtical antiquities, Cotelerius was remarkable for his probity and candour.

COTES (Roger), an excellent mathematician of the 18th century. He early diſcovered an inclination to the mathematics; and, at 17 years of age, was admitted a penſioner of Trinity College, Cambridge. In 1706 he was appointed profeſſor of aſtronomy in the profeſſorſhip founded by Dr. Plume, archdeacon of Rocheſter, being choſen the firſt in that chair for his great merit and learning. In the year 1713, at the requeſt of Dr. Richard Bentley, he publiſhed at Cambridge, in quarto, a ſecond edition of Sir Iſaac Newton's "Principia," with all the improvements which the author had annexed thereto; to which he prefixed an excellent *Preface*. He prepared ſeveral uſeful books for the public; and wrote *A Deſcription of the great Meteor* which appeared on the 6th of March, 1716, publiſhed

in the Philoſophical Tranſactions. He lived but a little while to carry on the diſcourſes for which he was eminently qualified: dying in the prime of his age in 1716, to the great regret of all the lovers of the ſciences.

COTES DU NORD, a department of France, ſo named from its northerly maritime poſition, and containing part of the late province of Bretagne. St. Brieux is the capital.

COTTAGER, the loweſt deſcription of peaſant in England; ſo called from his uſual reſidence being in a COT, or COTTAGE, ſituated on ſome waſte, or by the road ſide.

During the late ſcarcity, various efforts were made by the ſociety in London for bettering the condition of the poor (ſee SOCIETY, *Supp.*), to aſſiſt this uſeful claſs of agricultural labourers, many of whom were burthened with large families. From their REPORTS we extract the following account of a cottage and garden near Tadcaſter, by Thomas Barnard, eſq.

"Two miles from Tadcaſter," ſays he, "on the left-hand ſide of the road to York, ſtands a beautiful little cottage, with a garden, that has long attracted the eye of the traveller. The ſlip of land is exactly a rood, incloſed by a cut quick hedge; and containing the cottage, fifteen apple-trees, one green-gage, and three wineſour plum-trees, two apricot-trees, ſeveral gooſeberry and currant buſhes, abundance of common vegetables, and three hives of bees; being all the apparent wealth of the poſſeſſor. The ſingular neatneſs and good order that marked every part of this little domain, and ſome circumſtances reſpecting the owner, which had been mentioned to me by Dr. Burgh of York, made me anxious to obtain the hiſtory of the cottager and his family. In the end of May, 1797, I called there in my way from York; but found the houſe and the gate of the garden locked. In the road to Tadcaſter, however, I met his wife, laden with a baſket of proviſions from the market; and engaged her to find her huſband, who was at work about a mile off, and to ſend him to me at the inn at Tadcaſter. When he arrived he very willingly gave me his hiſtory, as follows—

"His name is Britton Abbot: his age ſixty-ſeven, and his wife's nearly the ſame. At nine years old he had gone to work with a farmer; and being a ſteady careful lad, and a good labourer, particularly in what is called taſk-work, he had managed ſo well, that before he was 22 years of age, he had accumulated near 40l. He then married, and took a little farm at 30l. a-year; but before the end of the ſecond year he found it prudent, or rather neceſſary, to quit it; having already exhauſted, in his attempt to thrive upon it, almoſt all the little property that he had heaped together. He then fixed in a cottage at Poppleton; where, with two acres of land, and his common right, he kept two cows. Here he had reſided very comfortably, as a labourer, for nine years, and had ſix children living, and his wife preparing to lie in of a ſeventh, when an incloſure of Poppleton took place; and the arrangements made in conſequence of it, obliged him to ſeek for a new habitation, and other means of ſubſiſtence for his family.

"He applied to Squire Fairfax, and told him that, if he would let him have a little bit of ground by the road-ſide, 'he would ſhew him the *faſhions* on it.' After enquiry into his character, he obtained of Mr. Fairfax the ground he now occupies; and with a little aſſiſtance from the neighbours, in the carriage of his materials, he built his preſent houſe; and planted the garden, and the hedge round it, which is a ſingle row of quick, thirty-five years old, and without a flaw or defect. He ſays he cut it down ſix times ſucceſſively when it was young. Mr. Fairfax was ſo much pleaſed with the progreſs of his work, and the extreme neatneſs of his place, that he told him he ſhould be rent free. His anſwer deſerves to be remembered: 'Now, ſir, you have a pleaſure in ſeeing my cottage and garden neat: and why ſhould not other ſquires have the ſame pleaſure, in ſeeing the cottages and gardens as nice about them? The poor would then be happy; and would love them, and the place where they lived: but now every little nook of land is to be let to the great farmers; and nothing left for the poor, but to go to the pariſh.'

"He has had ſeven children; ſix of whom attained to man's eſtate; and five are now living, and thriving in the world. His ſon has a little farm near Hemſley Moor: one of his daughters is the wife of a joiner at York; another, of the occupier of a little farm at Kelfield; a third, of a labouring man, who has a little land of his own, near Duffield: the fourth is the wife of a labourer, who has built a cottage for himſelf at Tadcaſter, and wants nothing (as the father obſerved) but a bit of ground for a garden. Britton Abbot ſays he now earns 12s. and ſometimes 15s. and 18s. a-week, by hoeing turnips by the piece; ſetting quick, and other taſk-work: 'but, to be ſure,' he added, '*I have a grand character in all this country.*' He gets from his garden, annually, about forty buſhels of potatoes, beſides other vegetables; and his fruit, in a good year, is worth from 3l. to 4l. a-year. His wife occaſionally goes out to work; ſhe alſo ſpins at home, and takes care of his houſe and garden. He ſays they have lived very happy together for forty-five years.—To the account that I have given, it may be needleſs to add, that neither he, nor any part of his family, has ever had occaſion to apply for parochial relief.

"Though my viſit was unexpected, and he at the latter end of his Saturday's work, his clothes were neat and ſufficiently clean: his countenance was healthy and open; he was a little lame in one leg, the conſequence of expoſure to wet and weather. He ſaid he had always worked hard and well; but he would not deny but that he had loved a mug of good ale when he could get it. When I told him my object in enquiring after him, that it was in order that other poor perſons might have cottages and gardens as neat as his, and that he muſt tell me *all his ſecret*—how it was to be done, he ſeemed extremely pleaſed, and very much affected; he ſaid, 'nothing would make poor folks more happy, than finding *that great folks thought of them*:' that he wiſhed every poor man had as comfortable a home as his own; not but that he believed there might be *a few thriftleſs fellows*, who would not do good in it.

"I aſked him whether he had not a cow. He ſaid he had had one, and ſhe had died; and having no other place but the lane to keep his cow, he had not attempted to get another.—'Could you get land, if you had a cow?'—He thought he could.—'Suppoſing then (I added) a cow could be bought for 12l. and you could rent it on the terms of paying down 3l. 10s. immediately; and then 3l. 10s. at the end of each year during three years; and that the cow was to be yours at the end of the three years, if ſhe lived, and you paid your rent regularly:—Do you think ſuch a bargain would anſwer for you?'—Yes, he ſaid, he was ſure it would very greatly; and there were few cottages to whom it would not be a very great advantage; eſpecially where they had a family of children. I told him to enquire whether he could get a little land; and I would have ſome more talk with him about it, when I came down in Auguſt.

"The hiſtory of Britton Abbot appears to me to merit attention. At the time of the incloſure of Poppleton, when he had ſix young children living, and his wife preparing to lie in of the ſeventh, his whole little ſyſtem of economy and arrangement was at once deſtroyed; his houſe, his garden, his little field, taken from him; and all his ſources of wealth dried up. With leſs ſucceſs in his application for the rood of land, the

ſpot in which his induſtry was to be exerted, and (in juſtice to him it muſt be added) with leſs energy than he poſſeſſes, he might have gone with his family into a workhouſe; and, from that hour, have become a burthen to the public, inſtead of being one of its moſt uſeful members. Obſerve for a moment the effects of his well-directed induſtry. Without any parochial aid, he has raiſed ſix of his ſeven children, to a ſtate of maturity; and has placed them out reſpectably and comfortably in the world. Five of them are now living, in the middle period of life; and he continues, at the age of ſixty-ſeven, a good working labourer; happy in his own induſtry and good management, and in the beauty and comfort of his cottage, and the extreme fertility of his garden,

"Britton Abbot poſſeſſes a degree of energy and ſpirit, that we muſt not expect to find in every cottager. If, however, the poor do not exert themſelves, and have not ſo much forethought and mangement as might be wiſhed, the fault is leſs in them, than in the ſyſtem of our poor laws, and in the *manner* in which they are executed. Were they properly and univerſally encouraged to induſtry and economy, we ſhould ſoon find thriving and happy cottagers in every part of the kingdom. Let only a tenth of the money, now ſpent in workhouſes, in what is uſually called '*the relief of the poor*,' be applied in aſſiſting and encouraging them to thrive and be happy in their cottages, the poor's rate will be leſſened, and, a national ſaving made both in labour and food *. The labourer is capable of more exertion, and is maintained for leſs than half the expence, in his cottage than in a workhouſe. In his cottage he has his family around him, he has ſomething he can call his own, he has objects to look forward to, and is the maſter of his own actions.—*Domeſtic connections, property, liberty, the hope of advancement*, thoſe maſter ſprings of human action, exiſt not in a workhouſe.

"It is the misfortune of this country, that the well-diſpoſed and induſtrious poor do not receive ſufficient aid or encouragement. They find no diſtinction made between them and the idle and profligate; except this—*that the idle and profligate are maintained in part at their expence.* As the law is too frequently executed, the cottager, *though poor himſelf*, is regularly aſſeſſed *for the relief of the poor*; but he receives no benefit from the fund, no aſſiſtance towards the ſupport of himſelf and his family, unleſs he is reduced to abſolute want, and preſents himſelf hopeleſs at the door of the workhouſe.

"The evil has been greatly increaſed by the ninth of George I. which authoriſes the farming of the poor, and refuſes relief to thoſe who will not ſubmit to reſide in the workhouſe. It is, in conſequence, the intereſt of the farmer of the workhouſe, to keep it in ſuch a condition, that (to uſe Mr. Parry's words) 'the honeſt and induſtrious labourer, who has brought up a large family with credit, and who from misfortune is poor, and from age paſt his labour, will ſubmit to be half ſtarved, rather than take up his abode amid ſuch wretchedneſs and profligacy.' By theſe means workhouſes become objects of terror to the honeſt and induſtrious, and at the ſame time the favourite reſort of the diſſolute and abandoned; the dirt, the waſte, the diſorder, the want of regulation, and the *undiſtinguiſhing treatment* of the worſt and beſt characters, being as gratifying to them, as they are irkſome and diſguſting to the well-diſpoſed poor.

"Let us conſider what muſt be the effect of this ſyſtem on the cottager.—Tenant to the farmer who has taken his cottage over his head, he is aware that his new landlord will require as much rent as he can contrive to pay. He has a young and increaſing family; and, when times are at the beſt, he often finds it as much as he can do to go on, from one day to another, in their ſupport. He can hardly expect that during the ſeverity of the winter, the high price of bread, or the viſitation of ſickneſs, his earnings will always, and at all ſeaſons, continue equal to the neceſſities of his family. If the hour of adverſity arrives, he knows the rule of his pariſh, that '*no aſſiſtance is to be given to the labourer, while he poſſeſſes any thing of his own*;' and that what, with much labour and ſelf-denial, he ſhall have ſaved, muſt all be exhauſted and ſpent, before his claim to parochial relief can be admitted. It may be well to conſider what incitement *he* has to thriſt and forethought. Can we confidently anſwer for ourſelves, that, ſo circumſtanced, we ſhould act even as well, and look as much to futurity, as he does; or that we ſhould not be made mere ſenſualiſts by deſpondency? It is perfectly clear, that we ſhould not ſpend every penny, that could be ſpared from the daily nouriſhment of our families, in ſelf-indulgence at an ale-houſe?

"Happy ſhould I be, if I could make uſe of the hiſtory of Britton Abbot, to obtain for the labourer encouragement to imitate the energy of his induſtry. Of the different modes of aiding and animating the poor, none would have more tendency to raiſe them above the want of parochial aid, than that of enabling them progreſſively to follow his example, in ſuch a manner, that the moſt deſerving might in their turn become the owners of comfortable cottages and productive gardens; a meaſure which ſeems to be peculiarly called for by the preſent condition of the dwellings of the poor. It is a melancholy fact that, in moſt parts of England, their habitations are not only comfortleſs and devoid of accommodation, but inſufficient in number; and that honeſt and induſtrious families are frequently driven into the workhouſe, merely for the want of cottages in their pariſh.

"If the cuſtom of ſetting apart ground for them to build upon were to obtain generally, and in a manner to induce and enable them to take the benefit of it, it would aſſiſt in gradually correcting this national and increaſing evil, and in ſupplying that uſeful claſs of men with proper habitations.—It would have other very important effects. It would diminiſh the calls for parochial relief; it would encourage and improve the good habits of the poor; it would attach them to their pariſhes, and give them an increaſed intereſt and ſhare in the property and proſperity of their country. The land required for each cottage and garden, need not be more than a rood; the value of which would bear no poſſible compariſon to that of the induſtry to be employed upon it. The quarter of an acre that Britton Abbot incloſed, was not worth a ſhilling a-year. It now contains a good houſe and a garden, abounding in fruit, vegetables, and almoſt every thing that conſtitutes the wealth of the cottager. In ſuch incloſures, the benefit to the country, and to the individuals of the pariſh, would far ſurpaſs any petty ſacrifice of land, to be required, *Five unſightly, unprofitable, acres of waſte ground would afford habitation and comfort to twenty ſuch families as Britton Abbot's.*

"In order to encourage the exertions of the labourer, I

* This experiment would be eaſily tried. Suppoſe the poor's rate of the pariſh ſo applied to be 600l. a-year; and that 60l. a-year of the rate were to be annually employed in aſſiſting the moſt induſtrious and deſerving labourers to become poſſeſſors of cottages and cows: I am confident that the poor's rate of that pariſh would be greatly diminiſhed in a few years; probably to half its preſent amount. The difference between a law that *encourages* the poor to exertion, and one that attempts to *compel* them to it, is, that in the firſt you have the co-operation of the millions of the people who are to be objects of the law; in the ſecond, all the labour is thrown on the *unfortunate and unſucceſsful persons*, who are to attempt to execute it.

ſhould hope that this would be conceded to me, that the rood of land, incloſed for his cottage and garden (on condition of a houſe being erected) be held in fee ſimple; and that, ſo long as a pariſhioner, labouring generally within his pariſh, continued owner and occupier, ſuch cottage and garden ſhould, by parliamentary authority, be exempt from rent, taxes, rates, tithes, and all burthens whatſoever. It would be an important object to keep theſe little freeholds in the hands of the labourers of the pariſh; ſo that they might be tranſmitted from father to ſon, like thoſe little eſtates, which we contemplate with ſo much pleaſure in Borrodale. If, therefore, the exemption from rent, taxes, &c. continued no longer than while the cottage was both the property and reſidence of a pariſhioner, generally working within his pariſh, it would not be of half as much value to any other perſon, as to him for whom it was originally intended; and if in ſome inſtances they got into other hands, they would ſoon return again into the poſſeſſion of the labouring pariſhioners.

"As the means of promoting induſtry and good conduct among the poor, I ſhould hope that a preference would be given to 'induſtrious pariſhioners, members of friendly ſocieties;' and that the character of the man, the number of his children, and other circumſtances, would induce the farmers to give him the carriage of his materials, and his other neighbours to help him with a pecuniary ſubſcription. The annual ſum of 10l. or 20l. ſo collected in a pariſh, and impartially and publicly given as a premium to the moſt deſerving labourer in that pariſh (either to aſſiſt him in erecting his cottage, or to enable him to purchaſe his cow), would produce a great effect on the good habits of the poor; and, while it rewarded merit, would ſtimulate others to follow the example.

"It would have other important effects.—It would greatly diminiſh pariſh rates *; for he who poſſeſſes a freehold cottage and garden, or a cow, has ſeldom, if ever, occaſion to apply for parochial relief. By attaching the cottager to his own pariſh, it would ſecure to the farmer a certain ſupply of labourers, and would equalize, and keep down, the price of labour, now much enhanced by the diſpoſition to wander about, in queſt of the higheſt wages and the eaſieſt work; a diſpoſition which has occaſioned a conſiderable waſte in the produce of national labour. But this would not be all. Freehold cottages and gardens do not only attach the owners to their country, but are alſo the ſureſt pledges and ſecurities for their conduct. The cottager, who has property, is habituated to ſet a higher value on himſelf and on his character, and ſeems to be of a ſuperior order of men. Beſides this, the addition, which theſe little freeholds might make to the induſtry, morals, and produce of a country, would be an object of conſideration in this reſpect; that the cottager, who had a garden and a little property of his own, has always before him *a pleaſurable object of induſtry* for his leiſure time; whereas, he who has none, is driven to the ale-houſe by the ſame *unhappy neceſſity*, that impels idle young men to the gaming table;—the want of occupation.

"In the mode which I ſuggeſted to Britton Abbot, of his renting the cow, he would acquire a gradually increaſing intereſt in her; ſo as to make him anxious for her preſervation, but not ſuch as to involve him deeply, in caſe of her death, or to give him a right to diſpoſe of her. In this way, the ſum of 15l. † would be ſufficient to conſtitute a *perpetual fund*, in any pariſh, for ſupplying the *annual premium* of a cow for ſome induſtrious and well-diſpoſed labourer, as long as the landlord will conſult his own intereſt, and afford the means of feeding her. Whether this object is to be attained by annexing ground to the cottages, or by letting to the cottager an adjuſtment for his cow, or by ſupplying him with paſture, and a certain quantity of hay ‡, at an annual rent; or by making it one of the conditions on which the farmer takes his farm, that he ſhall keep his cottager's cow at a limited price;—whatever mode is to be adopted, will depend much on the circumſtances of the country.—There is hardly any part of England, however, in which the cottager's cow may not be provided for, by one or other of theſe means; or by another mode, which I ſhould prefer, when practicable, as the right which it would give the poor man would be *unalienable*;—and that is, incloſing and improving from the waſte §, cow paſtures of ten or twelve acres each; the excluſive benefit whereof, the cottagers of the pariſh ſhould enjoy at a ſmall rent; which (after providing for fences, &c.) might go as a fund for ſupplying the poor of the pariſh with fuel. Such incloſures would be extremely gratifying and beneficial to that uſeful claſs of men, the labouring poor. The ſtock on them ſhould be limited; and a preference given to labourers working within the pariſh, in proportion to their families, their induſtry, and character.

"I have only to add, that my friend's hiſtory contains in it a ſtrong proof, that, the cottager is benefited by the ſupply of a garden and of land for his cow, while he continues a *labourer*; yet, if more land is added, juſt enough to conſtitute him a *little farmer*, with a very ſmall capital, and to make him forego his profit and advantage as a labourer, his means of life, inſtead of being improved by the acquiſition of land, are prejudiced. No perſons earn a harder or more precarious living, or do leſs good with their land, than very ſmall farmers. The condition of a labourer, who has a well-ſtocked garden, a couple of cows, a pig, and juſt ground enough to keep them, is affluence, compared with the lot of him, who attempts to live as a farmer, on a ſmall quantity of ground, not ſufficient to maintain him as a farmer, though abundantly adequate to its object, if divided among ſeveral labourers."

The following extract from an account of the advantages of cottagers keeping cows, alſo by Mr. Bernard, will ſtill further prove how poſſible it is to reſcue this induſtrious claſs of labourers from want and miſery.

"A late viſit into Rutlandſhire," ſays the author, "has

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*. Landlords and farmers, who wiſh their own poor's rates reduced, would do well to enquire into the amount of the poor's rates in thoſe pariſhes, where labourers have gardens and cows. One annual rate of ſixpence in the pound has proved fully adequate to the relief of the poor in ſuch a pariſh. See the Earl of Winchelſea's letter, and ſome other reports, on the advantages of cottages renting land.

† Upon ſuppoſition that the price of the cow were 12l. the donor of ſuch a fund would have to advance 8l. 10s. the firſt year, 5l. the ſecond, and 1l. 10s. the third; after which the reſt of 3l. 10s. paid for three years, for each cow, would produce, in future, 10l. 10s. a-year; being (with 3l. 10s. originally paid by the cottager) 2l. more than would purchaſe a cottager's cow every year after. The additional 2l. a-year would, I preſume, be ſufficient to inſure, for the year, the landlord's intereſt in the cows.

‡ Mr. Burdon's cow paſtures are cloſes of ſixteen acres, for twelve cows each: he allows each cottager two loads of hay; making the hay in ſmall ſtacks of four loads each, ſo that one ſtack ſerves two cottagers. He finds the ſyſtem anſwer, both as to the improvement of ground, and the amount of rent. I can only ſay, that when I was at Caſtle Eden, I thought his cottagers' hay-ſtacks and cows the moſt pleaſing ornaments of a very beautiful place.

§ This plan has been adoped in the Iver incloſure bill now before parliament. *31ſt May*, 1800.

given me an opportunity of acquiring more minute and correct information, reſpecting the circumſtances and ſituation of the cottagers keeping cows, in the four pariſhes of Hambledon, Egleton, Greetham, and Burley-on-the-Hill. I give the reſult of my enquiries; and I give it with more preciſion and detail than I otherwiſe ſhould, as I am very deſirous of enabling land-owners to aſcertain whether, in their own peculiar inſtances, it will not anſwer for them to follow the example of what has been done in that neighbourhood. At the ſame time I beg leave to anticipate the obſervation, that in arable countries, where there is a ſcarcity of graſs land, and in thoſe diſtricts where, from vicinage or a peculiar market, graſs land bears a rent above its intrinſic value, it may not be practicable to ſupply cottagers with paſture for a cow, without ſome ſacrifice on the part of the landlord.

"Among the tenants of this part of the eſtate, there are 80 cottagers who keep cows. Of thoſe who poſſeſs cows, there are 22, each of whom has only one cow: 35 who have each 2 cows, 13 who have 3, 7 who have 4, and 3 who have 5 cows each; making in all 174 cows. Of theſe cottagers, about a third part have all their land in ſeveralty; the reſt of them have the uſe of a cow-paſture in common with others; moſt of them poſſeſſing a ſmall homeſtead, adjoining to their cottage; every one of them having a good garden, and keeping one pig at leaſt, if not more. Without any exception they pay for their land the ſame rent as a farmer would, and not more.

"The eſtate is tithe-free.—In Hambledon there is a cloſe of 114 acres, which is let in 108 cow-gates, at one guinea each; of theſe, 74 are let to cottagers, and the remaining 34 (not having been as yet applied for by cottagers) are for the preſent let to farmers. The tenants have the right of feeding, each four ſheep, inſtead of a cow, for each cow-gate; and the farmers generally ſo uſe their holdings, which is more for their own convenience, as well as for the general benefit of the paſture. Each of the cottagers has alſo an acre or more of homeſtead near his cottage, for which he pays a farmer's rent.

"At Egleton there is a cow-paſture of only 30 acres, which is let in 26 cow-gates, each at 30 ſhillings. Theſe are all occupied by cottagers, who have alſo ſmall homeſteads near their houſes, to ſupply them with hay.—In the pariſh of Burley, the mode of providing for ſome of the cottagers' cows is different: a cloſe of 11 acres and a half is divided into two equal parts, and the whole jointly occupied by four cottagers. One half is every alternate year held in four ſeveral parts by a marked boundary, each mowing his own part for hay; the other half is a cow-paſture for the four cottagers. They have each a right of putting in a cow and two ſheep in the paſture part, during the ſummer, and of feeding a cow and four ſheep upon the whole in the winter. The benefit of the ſheep feeding they can let to a farmer at a guinea and a half a-year. Beſides this, they have graſs and hay for one cow; for rent they pay 4l. 10s. a-year each, and in poor's rates and other levies, 5s. a-year, making in the whole 4l. 15s.; from which, after deducting 1l. 11s. 6d. (which their ſheep feeding is worth), there remains 3l. 3s. 6d. rent and taxes, for the ſupport of their cow.

"The accommodation that the cottager has for his cow in Greetham, is not ſo beneficial to him. A paſture-field of 35 acres of indifferent land, worth about 10s. an acre, is held as a joint paſture by 14 cottagers; each of whom has a right to paſture a cow in it. For their winter proviſion they have each of them an arable field of ſix acres, in which they grow ſome clover and ſainfoin. This is by no means ſo advantageous to them as graſs land: under theſe circumſtances, however, they are very glad to have the land, and always pay their rent with great regularity.

"I ſaid that the cottagers paid a farmer's rent for their land, and not more; but I ought to add, that the whole of the eſtate is let at moderate rents. The reader may find by calculation, that in Hambledon the land produces, per acre, nearly 20s.; in Egleton, about 23s.; and in Burley, 31s. per acre; the difference being occaſioned partly by the difference of time, when the cloſes were reſpectively let at their preſent rents, and partly by ſome difference in the quality of the land.

"The cottagers who keep cows are almoſt all of them labourers in huſbandry: there are, however, among them, ſome widows and daughters of deceaſed labourers, and ſome men who work as country carpenters, or in ſimilar trades. I can add, that of all the rents of the eſtate, none are more punctually paid, than thoſe for the cottagers' land. The ſteward informs me that there has never been an inſtance of an arrear, or of a delay in payment, even for a few days.

"When I ſtate that the land is let at, and not under, a fair, moderate rent, I do not mean to be underſtood to ſay, exactly the ſame of the cottages; which are comfortable and habitable buildings, in good repair, neatly kept, and regularly white-waſhed; and yet pay no more rent, than the ruinous and miſerable hovels in England uſually do.

"The reader may, perhaps, wiſh to know how the cottager is at firſt ſet up with a cow. As an example, I will give the hiſtory of one man, who had a wife and ſeveral children, and was laſt year likely to be burthenſome to the pariſh. It was agreed that the only remedy that promiſed relief to the pariſh in this caſe, was the cottager's cow. His landlord ſupplied him with land at a fair rent, and made his cottage and out-buildings comfortable. He aſked aſſiſtance of his neighbours: in the manſion-houſe he collected about two or three guineas; among the farmers, by gift or loan, he obtained ſome handſome additions; he purchaſed his cow, took poſſeſſion of his land, and is now doing very well.—About eight years ago another labourer with a large family was ſupplied with a cow, and land, in the ſame manner. He has ſince bred up his large family without any parochial aſſiſtance, and is now poſſeſſed of two cows, the ſecond purchaſed wholly from his ſavings. Two others were provided with cows and land in the like manner, about four years ago, and have gone on very well.

"The greater part of the cottagers have more than one cow. The fact is, that in every inſtance, as ſoon as the cottager has got a cow, all the efforts of his family are directed to the attainment of the means to purchaſe another, and another; ſo that ſome of them, who began very lately with only one, have now five cows. The only inconvenience to be apprehended from ſuch an increaſe in their property, is, that they may be induced to look to the produce of their cows and gardens, for the ſole ſupport of themſelves and family, and ceaſe to depend on their daily labour for their ſupport; being transformed into little ſtarving farmers, from opulent thriving labourers. But the fact is directly the reverſe.—Such are the beneficial effects of early and ſteady habits of induſtry, that theſe proprietors of cows are the moſt ſteady and truſty labourers. As a proof of the effects of this ſyſtem in promoting induſtry and frugality, I give the hiſtory of one of them, Chriſtopher Love, of Hambledon; who is now 75 years of age, and has for 53 years back kept three cows; and nevertheleſs has gone regularly every ſummer, for 50 years paſt, to harveſt-work in Cambridgeſhire: becauſe he is more in requeſt there, and receives better wages, than he would at home. He has bred up a family of nine children in great comfort, and is now well and in good health himſelf, and has been in Cambridgeſhire this

preceding harveſt; but thinks he ſhall go no more, as the family for whom he uſed to work are all dead, or removed.

"I ſaw one inſtance among them of a man who was bringing up and ſupporting nine children, all healthy, well fed, clean, and neatly dreſſed. A little child under four years of age was aſked if ſhe could ſpin? 'No, ſhe was too little, but ſhe could knit.' 'Her ſiſter (ſaid the mother, pointing to another girl, between five and ſix years of age) ſpins very well; ſhe got a prize for ſpinning this year, and brought home a premium of the value of ſix ſhillings in clothing.'

"The education of their children to huſbandry, to the management of cattle and of a dairy, and to every occupation that can fit them for the ſervice of a farmer, is a very important advantage of this ſyſtem: and if there were no other benefit to be derived from it, but that of adopting, and habitually preparing, the riſing generation for the moſt uſeful and neceſſary employment in the iſland, this alone would produce an abundant compenſation for any effort, or attention, that has been, or may be, directed to the ſubject. They are not only ſtout, healthy, clean, well clothed, and educated in regular and principled habits of life, but they are uſed to almoſt every part of their buſineſs from the earlieſt period of life; every inhabitant of the cottage being, from infancy, ſo intereſted in their cow, their pig, their ſheep, and their garden, as to imbibe, at a very early age, all the material information and habits requiſite in thoſe ſubjects.

"The cottagers in that country eat barley, or mixed, bread; and they prefer it, for a reaſon which one of them gave me; that not only they can afford to have more of it, but can alſo add a little bit of meat to dreſs with the vegetables from the garden. This makes in the aggregate a very important amelioration of the condition of the cottager:—bread, butter, cheeſe, plenty of milk, and vegetables, and ſome meat to mix with their other food, compoſe, altogether, a table of diet unknown to many Engliſh cottagers, and extremely conducive to health, ſtrength, and civilized habits of life. It is no inconſiderable convenience to the inhabitants of that neighbourhood, that theſe cottagers are enabled to ſupply them, at a very moderate price, with milk, cream, butter, poultry, pig-meat, and veal: articles which, in general, are not worth the farmer's attention, and which, therefore, are ſupplied by ſpeculators, who greatly enhance the price on the public."

Theſe facts are accompanied with the following pertinent obſervations.

"In preparing this detail," ſays Mr. Bernard, "I have endeavoured to give every circumſtance as coldly and correctly as I could; being aware that, in practical information, preciſion is of the utmoſt importance. I will not, however, preſume to ſay, that in what I have written, I have been entirely uninfluenced by the pleaſure of ſeeing the Engliſh cottager what, in a free, a proſperous, and enlightened country, he ought to be;—*thriving, induſtrious, and happy.*

"What has been ſtated will probably ſuggeſt to the reader, that the welfare of the cottager depends more on the improved reſources and habits of life, than on any increaſe or ſuperabundance of wages. In countries where the wages are the higheſt, without any improved ſyſtem of management and economy among the poor, the condition of the cottager is very inferior to that in many places, where the wages of labour are lower, but the means and habits of life ſuperior. Mechanics, who earn from a guinea to two guineas a-week, in London, in Manchester, and other places, and who depend upon the neighbouring ſhop for the neceſſaries of life, and (to uſe a common expreſſion) *live from hand to mouth*, do in general poſſeſs a leſs degree of domeſtic comfort, and enjoy a leſs proportion of the advantages of civilized life, than many cottagers. The explication is obvious. The mechanic, who with his family exiſts in a lodging, without any advantage or impulſe tending to domeſtic economy, and who earns, by a ſpecies of *ſlight of hand* in his trade, very high wages, applies what is barely neceſſary, in a weekly payment; to the baker and other tradeſmen, for the ſupport of the family; the reſt goes to the club, or the alehouſe, or is loſt in intervals between labour: while the labourer and his family, who have the power and inducement to thrift and management, direct every effort to the improvement of their circumſtances, and the increaſe of their comforts.

"It will, to the lateſt period of my life, be a ſource of enviable ſatisfaction to me, if what is ſaid in this and the other report of the ſociety, ſhall have the effect of awakening the attention of the land owner to an object ſo intereſting and eſſential to him, as the ſituation of his induſtrious labourers; whoſe comforts and means of life he may greatly increaſe, not only without any immediate loſs, but with a real and accumulating benefit to himſelf and his property; as he would ſoon find that by improving the condition of his dependents, and by exciting induſtry among them, he would proportionally increaſe the value of his eſtate. It would, indeed, be an act not only of benevolence and juſtice, but of wiſdom and prudence, whether he directed his views to his own inſulated property, or to the general welfare of the community.—Viewed in a political light, the labourer who has property, however ſmall,—a cow, a pig, or even the crop of his garden,—has an intereſt in the welfare and tranquillity of his country, and in the good order of ſociety. He who has no property, is always ready for novelty and experiment; and though gibbets and halters may for a time deter him from criminal and atrocious acts, yet no motive exiſts to fix him in virtuous habits, or to attach him to that national proſperity in which he has no part, and to that conſtituted order of property, which excludes him from all poſſeſſion.

"There is another conſideration, ſuggeſted by the preſent high price of wheat corn. Thoſe meaſures for the relief and ſubſiſtence of the poor, which are now eſſential to their exiſtence in many other parts of the kingdom, are unneceſſary in the neighbourhood of Burley. The cottager who is in the habit of uſing barley in bread, who keeps a pig, perhaps two, and has plenty of milk and vegetables, poſſeſſes within himſelf almoſt all the means of life; and feels very little inconvenience from that which, without the charitable aid and attention of the opulent, would oppreſs and overwhelm the labourer whoſe exiſtence depends on a mere pecuniary ſtipend. With ſuch means of life, he is leſs affected by the preſent high price of bread than almoſt any other individual: the dearneſs of proviſions produces not much variation in his circumſtances; except by delaying, for a very ſhort time, the deſired period of his purchaſing another cow; and by retarding his progreſſive thrift, and the improvement of his little property, for the benefit and *hereditary ſucceſſion* of his wife and children.

"In the facility of execution, and in the permanence of effect, a very material difference exiſts between meaſures taken for the improvement of the cottager's means of life *in his own cottage*, and for the increaſe of his reſources and incitements to thrift and induſtry, and thoſe for the ſupport and conduct of all *public charities and eſtabliſhments* for the relief of the poor. The latter require an unattainable continuance of exertion, and an unfailing ſucceſſion of diſintereſted care and attention: the former executes itſelf. The latter provide for the maintenance and relief of helpleſs and *hopeleſs* dependents: the former produces the *reſtoration* of health and ſtrength.—When the cottager has acquired, and feels the benefit of, his new means and habits of life, his own exertions, his own attentions, will provide for the continuance of the bleſſings of his family, as long as

his landlord will protect him in the enjoyment of his cottage and ground. He requires, in this inſtance, no ſubſequent labour or attention, on the part of his benefactor, to prevent the return of indigence and miſery whereas it demands the continuance of unwearied exertions in all public eſtabliſhments, to conduct them properly, for the ſolace and relief of exiſting wretchedneſs.

"In all that has been done by the Earl of Winchelſea for his cottagers, though there has been much attention paid, and much diſpoſition on his part to make a very conſiderable ſacrifice, if requiſite, for their benefit, yet in fact, and with the ſingle exception which I have ſtated as to his cottages, ſo far from any loſs or expence being incurred by him, a conſiderable and permanent improvement has been made upon his eſtate, without any reduction in the immediate profit.—While the land let to the cottager is ſet at the ſame rent, as that which the farmers occupy, the country is enriched and improved by an induſtrious and thriving tenantry, and the poor's rates reduced almoſt to nothing. The labourers' children are at the ſame time ſo bred up, and ſo accuſtomed to regular habits of employment, as to be very little burthen to their parents, and to be a great improving benefit to the eſtate.—The land-owner ſhould keep in mind, that if the labourer is reduced to indigence, his ſupport, which had been derived from his own exertions, muſt, in future, be drawn from the land. The farmer, indeed, *nominally* pays the poor's rate; but it is *really and ultimately defrayed by the landlord*; whoſe eſtate, by the increaſe and accumulation of poor's rate, is deteriorated in value, and diminiſhed in rental: while, on the contrary, by a different ſyſtem—by promoting the welfare, and encouraging the energy of the cottager—the land-owner might have leſſened the poor's rate and augmented the value and rental of the land.

"I do not mean to aſſert that the Engliſh cottager, narrowed as he now is in the means and habits of life, may be immediately capable of taking that active and uſeful ſtation in ſociety, that is filled by thoſe who are the ſubjects of this paper. To produce ſo great an improvement in character and circumſtances of life, will require time and attention. The cottager, however, of this part of the county of Rutland, is *not of a different ſpecies from other Engliſh cottagers*; and if he had not been protected and encouraged by the landlord, he would have been the ſame helpleſs and comfortleſs creature that we ſee in ſome other parts of England. The farmer (with the aſſiſtance of the ſteward) would have taken his land; the creditor, his cow and pig; and the workhouſe, his family.

"As I am diſpoſed to flatter myſelf, that ſome of my readers, who have landed property adapted to the experiment, *may* be induced to try this mode of *improving their eſtates*, I ſhall ſuggeſt what occurs to me as the method of proceeding; premiſing that in this, and every thing elſe which the landlord may think fit to do for the benefit of his cottagers, he ſhould be extremely careful not to make them the ſubjects of jealouſy, or diſlike, to either the farmer or ſhopkeeper; on whoſe goodwill to them, in ſpite of every attention of the landlord, much of their comfort and well-being will depend, particularly in winter, when the preſence of a friend and protector is moſt wanted. I ſhould therefore recommend him, at firſt, to follow the example of Mr. Burdon, and to begin with a cloſe or two of the ground in his own occupation. Let him then ſelect two or three of his moſt thriving and induſtrious labourers, and inform each of them, that he is diſpoſed to accommodate him with a little ground, at a moderate rent, if he can contrive to get a cow, and his wife can manage her: adding the offer of a ſmall loan or donation towards it. The introduction of ſo novel a ſyſtem may poſſibly require ſome aid and attention at firſt; and it may be proper that the poor's rate on their ground ſhould be kept down, as low as may fairly be; but as ſoon as two or three cottagers have ſucceeded, and it is known that upon land becoming vacant in future, the cottager will be conſidered as well as the farmer, though not to his injury or inconvenience; and that, upon the occupier of any little farm of 20 or 30 acres being obliged, as they frequently are, to abandon a loſing concern, the landlord would, in ſome inſtances. be diſpoſed to apply the ground for the accommodation of five or ſix of the moſt deſerving and thriving labourers; the farmers would ſoon be reconciled to a ſyſtem which muſt in its nature operate to lower the poor's rate, and to diminiſh the burthen of the poor;—the character of the cottager would be invigorated;—his ſpirit, his induſtry, his economy, would be all put in action; and a very eſſential improvement would take place in the ſtate and neighbourhood."

To place this ſubject in a ſtronger point of view, we add the following excellent obſervations on the means of enabling a cottager to keep a cow from the produce of a ſmall portion of arable land, by Sir John Sinclair, bart. M. P.

"In ſeveral parts of the kingdom, as in Lincolnſhire, Rutlandſhire, &c. which are calculated for grazing, it is not unuſual to give induſtrious cottagers as much land as will enable them to keep a cow, and ſometimes two, or more, beſides other ſtock; and it appears from the communications of Lord Winchelſea and others to the Board of Agriculture, from the publications of the Society for bettering the Condition of the Poor, and from a late intereſting work printed by Mr. Arthur Young, that ſuch a ſyſtem is productive of the happieſt conſequences. It is ſuppoſed, however, to be totally inapplicable to an arable diſtrict. I truſt that ſuch an opinion will not be admitted without full conſideration. Indeed, ſo far as I can judge, this advantageous ſyſtem is to the full as well adapted for the one diſtrict as for the other. It requires unqueſtionably more labour on the part of the cottager, and of his family; at the ſame time, the occupation of ſo great an extent of ground is not ſo neceſſary in arable as in grazing countries; a circumſtance, in various reſpects, extremely material.

"In arranging the following plan (which the reader will pleaſe to conſider merely as furniſhing an outline, to be perfected by further diſcuſſion and experiment), it is propoſed to keep in view the following principles:

"1. That the cottager ſhall raiſe, by his own labour, ſome of the moſt material articles of ſubſiſtence for himſelf and his family.

"2. That he ſhall be enabled to ſupply the adjoining markets with the ſmaller agricultural productions. And,

"3. That both he and his family ſhall have it in their power to aſſiſt the neighbouring farmers, at all ſeaſons of the year, almoſt equally as well as if they had no land in their occupation.

"It can hardly be queſtioned, that if it were practicable to have a number of cottagers of that deſcription in every pariſh, it would promote, in various reſpects, the intereſts of the public.

"*I. Extent of land neceſſary.*—Unleſs the experiment were fairly tried, it is impoſſible to ſtate exactly the extent of arable land requiſite to enable a cottager to raiſe the articles generally neceſſary for the ſubſiſtence of himſelf and family; and to keep a cow, ſome pigs, and poultry. Much muſt depend on the natural richneſs of the ſoil; (though, under the management about to be propoſed, almoſt any ſoil would, in time, become fertile); on the nature of the climate; on the ſize of the cow; on the induſtry of the cottager; on the age and number of his family, &c. But I ſhould imagine that three ſtatute acres and a quarter of good arable land, worth from 20s. to 30s. per acre, would be ſufficient. It is propoſed that the three acres ſhall be under a regular courſe of cropping. The quarter of an acre ought, if poſſible, to be converted into an orchard; where the cow might occaſionally paſture, and where a pond ought to be kept in good order, that it may have plenty of water at command. Were the land of a

quality fit for lucerne, perhaps two acres and a quarter might be ſufficient.

"*II. Stock and inſtruments of huſbandry.*—It is evident that ſo ſmall an extent of land as either two or three acres, under cultivation, excludes all idea of ploughing; and, indeed, unleſs the cottager ſhall manage the whole in the ſimpleſt and cheapeſt manner, there is an end to the whole ſyſtem. It would require, indeed, four or five acres to keep a ſingle horſe, and the expence of purchaſing horſes, or even oxen, ploughs, and other inſtruments of huſbandry, muſt be far beyond the abilities of a cottager; whereas with a ſpade, a hoe, a rake, a ſcythe, a ſickle, and a flail, which are all the inſtruments really neceſſary, he is perfectly competent to the management of his little farm.

"*III. Courſe of crops, &c.*—The three acres propoſed to be cultivated ſhould be divided into four portions, each conſiſting of three roods, under the following ſyſtem of management:

	Roods.
Under potatoes two roods, under turnips one	3
Under winter tares two roods, ſpring tares one	3
Under barley, wheat, or oats - - -	3
Under clover, with a mixture of rye graſs -	3
Total	12

"Other articles beſides theſe might be mentioned, but it ſeems to me of peculiar importance to reſtrict the attention of the cottager to as few objects of cultivation as poſſible.

"It is propoſed that the produce of the two roods of potatoes ſhall go to the maintenance of the cottager and his family; and that the rood of turnips ſhould be given to the cow in winter and during the ſpring, in addition to its other fare.

"The ſecond portion ſown with tares (the two roods of potatoes of the former year to be ſucceſſively ſown with winter tares, and the turnip rood with ſpring tares), might partly be cut green, for feeding the cow in ſummer and autumn; but, if the ſeaſon will permit, the whole ought to be made into hay for the winter and ſpring feed, and three roods of clover cut green for ſummer food.

"The third portion may be ſown either with barley, wheat, or oats, according to the ſoil or climate, and the general cuſtom of the country. The ſtraw of any of theſe crops would be of eſſential ſervice for littering the cow, but would be ſtill more uſeful, if cut into chaff, for feeding it.

"The fourth portion, appropriated to clover and rye graſs, to be cut green, which, with the aſſiſtance of the orchard, will produce, on three roods of land, as much food as will maintain a cow and her calf for five months, namely, from the end of May, or beginning of June, when it may be firſt cut, to the firſt of November, beſides ſome food for the pigs. It is ſuppoſed that an acre of clover and rye graſs, cut green, will produce 20,000lbs. weight of food for cattle. Three roods, therefore, ought to yield 15,000lbs. weight. A large cow requires 110lbs. weight of green food per day; a middling ſized cow, ſuch as a cottager is likely to purchaſe, not above 90lbs.; conſequently, in five months, allowing 1320lbs. weight for the calf and the pigs, there will remain 13,680lbs. for the cow. Were there, however, even a ſmall deficiency, it would be more than compenſated by the rood of land propoſed to be kept in perpetual paſture as an orchard.

"*IV. Mode in which the family may be maintained.*—It is calculated that three roods and eight perches of potatoes will maintain a family of ſix perſons for about nine months in the year; but, according to the preceding plan, it is propoſed to have but two roods under that article; for however valuable potatoes are juſtly accounted, yet ſome change of food would be acceptable, and the cottager will be enabled, from the produce of the cow, and by the income derived from his own labour, and from that of his family, to purchaſe other wholeſome articles of proviſion.

"*V. Manner in which the ſtock may be kept.*—It appears from the preceding ſyſtem of cropping, that ten roods of land, or two acres and a half, are appropriated to the raiſing of food for the cow in ſummer and winter, beſides the paſture of the orchard; and unleſs the ſeaſon ſhould be extremely unfavourable, the produce will be found not only adequate to that purpoſe, but alſo to maintain the calf for ſome time, till it can be ſold to advantage. It is indeed extremely material, under the propoſed ſyſtem, to make as much profit of the calves as poſſible, as the money thus raiſed will be a reſource, enabling the cottager to replace his cow when a new one muſt be purchaſed.

"For the winter proviſion of the cow, which is the moſt material, becauſe ſummer food can be more eaſily procured, there is the produce,

"1. Of about three roods of tares made into hay.

"2. Of three roods of ſtraw, deducting what may be neceſſary for litter; and if dry earth be put in the cow's hovel, and removed from time to time to the dunghill, little or no litter will be neceſſary.

"3. Of one rood of turnips.

"The whole will be ſufficient for ſeven months in the year, namely, from the 1ſt November to the 1ſt June; and during the remaining five months, the paſture of the orchard, ſome of the winter tares, and the produce of three roods of clover and rye graſs, will not only ſuffice, but will furniſh a ſurplus for the calf, if it is kept for any length of time, and ſome clover for the pigs.

"The inferior barley, potatoes, &c. will of courſe be given to the pigs and the poultry.

"*VI. Value of the produce.*—The land thus managed will certainly produce, by means of the extra induſtry of the family, and at a ſmall expence, a moſt important addition to the income which the cottager may derive from his ordinary labour. For inſtance:

	per Ann.
"1. The orchard (after the trees become fruitful) will probably yield - -	£. 1 10 0
2. Three roods of turnips and potatoes -	4 0 0
3. Eighteen buſhels of barley, at 4s. -	3 12 0
4. The cow and calf - -	7 0 0
5. Hogs - - - -	3 0 0
6. Poultry and eggs - -	2 0 0
Total	£. 21 2 0

"Where wheat can be raiſed inſtead of barley, the profit would be ſtill more conſiderable. Opinions will differ much regarding the value put on each article; but that is of little conſequence, as the total cannot be accounted too high.

"*VII. Time required for cultivating the land.*—The quantity of land intended to be cultivated, will not materially interfere with the uſual labour of the cottager. It will only require to be dug once, and is then fit to be cropped It is propoſed that only nine roods ſhall be annually cultivated (the remaining three roods being under clover and rye graſs), and nine roods may be dug in the ſpace of about 558 hours, or at the rate of 62 hours per rood. This might be done at by-hours (more eſpecially when the family of the cottager ſhall be ſomewhat advanced, and conſequently more able to furniſh aſſiſtance); but ſuppoſing that the digging, manuring, harveſting, &c. will require twenty entire days per annum in addition to the by-hours, and allowing ſixty days for Sundays and holidays, there will remain 285 days for the ordinary hand labour of the cottager, which, at 1s. 6d. per day, would

amount to 21*l.* 7*s.* 6*d.*; the earnings of the wife and children may, at an average, be worth at leaſt 4*l.* per annum more. This is certainly a low calculation, conſidering how much may be got during the hay and corn harveſts; but even at that moderate eſtimate, the total income of the family will be as follows:

1. Produce of the farm	£. 21	2	0
2. Labour of the cottager	21	7	6
3. Earnings of the family	4	0	0
Total	£. 46	9	6

"*VIII. Buildings.*—It is impoſſible to calculate the expence of building a cottage, as ſo much depends upon its ſize, the place where it is ſituated, the materials of which it is compoſed, the price of labour in the country, and a variety of other circumſtances. On this important ſubject, much uſeful information is contained in the firſt volume of the Communications publiſhed by the Board of Agriculture. But it is proper to obſerve that no expenſive additional buildings will be neceſſary in conſequence of the propoſed ſyſtem. A ſhed or hovel for the cow cannot occaſion any very heavy charge, and a ſmall barn, of the ſimpleſt and cheapeſt conſtruction, may be of uſe, not only for threſhing the crop, but alſo for ſecuring the hay, and making it to more advantage, in caſe the ſeaſon ſhould prove unfavourable: if the corn is put up in ſmall ſtacks, the barn may be made of very moderate dimenſions.

"*IX. Rent, and Balance of Income.*—The rents of cottages and of land vary ſo much in different parts of the kingdom, that it is difficult to aſcertain an average. But if the cottage ſhall be ſtated at 3*l.* per annum, the land at 25*s.* per acre, and the orchard at 10*s.* the whole will not exceed 7*l.* 15*s.* The cottager will alſo be liable to the payment of ſome taxes, ſay to the amount of 1*l.* 5*s.* more. Hence the total deductions would be about 9*l.* leaving a balance in favour of the cottager of 37*l.* 9*s.* 6*d.* Conſidering the cheap rate at which he is furniſhed with a quantity of potatoes, equal to ſeveral months' conſumption, and with milk for his children, ſurely, with that balance, he can find no difficulty not only in maintaining himſelf and family in a ſtyle of comfort, but alſo in placing out his children properly, and laying up a ſmall annual ſurplus, that will render any pariſh aſſiſtance, whether in ſickneſs or old age, unneceſſary; and thus he will be enabled to preſerve that manly and independent ſpirit which it ſo well becomes a Britiſh cottager to poſſeſs.

"*Advantages of the propoſed ſyſtem.*—I ſhall now endeavour briefly to explain ſome of the advantages which may be looked for with confidence from the propoſed ſyſtem.

"1. In the firſt place, the land poſſeſſed by the cottager would be completely cultivated, and rendered as productive as poſſible. The dung produced by the cow, the pigs, &c. would be amply ſufficient for the three roods under turnips and potatoes; which would afterwards produce, 1. Tares, 2. Barley, and 3. Clover; with a mixture of rye-graſs, in regular ſucceſſion, without any additional manure. The barley ſhould yield at leaſt eighteen buſhels, beſides three buſhels for ſeed; and if wheat or oats are cultivated, in the ſame proportion. The milk, deducting what may be neceſſary for the calf, and for the cottager's family, might be ſold in its original ſtate, if there ſhall be a market for it, or converted into butter, for the purpoſe of ſupplying the neighbouring towns or villages. Such cottagers, alſo, might certainly ſend to market both eggs and poultry.

"2. It is hardly poſſible to ſuggeſt a meaſure more likely to promote the benefit of a numerous and valuable body of people. The ſyſtem of keeping cows by cottagers, which has been found ſo advantageous in the grazing diſtricts, may thus be extended over the whole kingdom; and, indeed, if the above plan is found to anſwer, in place of four or five acres employed in feeding a ſingle cow, it would be much better, even in the grazing counties, to reſtrict the land to a ſmaller quantity, under a tillage mode of management; for thus not only the cow, but alſo the cottager himſelf, and his family, would, in a great meaſure, be maintained by a leſs ſurface of ſoil.

"3. It is of infinite conſequence to eſtabliſh the practicability of this ſyſtem, as the means of removing a moſt unfortunate obſtacle to the improvement of the country. It is well known to be the only popular objection to the incloſure of our waſtes and commons, that, while unincloſed, a number of cottagers are enabled to keep cows by the means of their common rights, and that their cows diſappear when the commons are incloſed. But if ſo ſmall a portion of land as $3\frac{1}{4}$ acres, when improved and properly cultivated, can enable a cottager to keep a cow even to more advantage than with a right of common; which can hardly be doubted, as he is enabled to provide winter as well as ſummer food; there is an end to that obſtacle to improvement. Indeed, if ſufficient attention be paid to the principles above detailed, the ſituation of the cottager, inſtead of being deteriorated, would be materially bettered by the incloſure; and his riſing family would be early accuſtomed to habits of induſtry, inſtead of idleneſs and vice.

"I ſhall conclude with aſking," ſays Sir John Sinclair, "if any one can figure to himſelf a more delightful ſpectacle than to ſee an induſtrious cottager, his buſy wife, and healthy family, living in a comfortable houſe, rented by himſelf, cultivating their little territory with their own hands, and enjoying the profits ariſing from their own labour and induſtry; or whether it is poſſible for a generous landholder to employ his property with more ſatisfaction, or in a manner more likely to promote, not only his own, but the public intereſt, than in endeavouring to increaſe the number of ſuch cottagers, and encouraging, by every means in his power, the exertions of ſo meritorious and ſo important a claſs of the community?"

Plan of the propoſed Cottage Farm, pointing out the Rotation of Crops in the different Lots.

Cottage.	The Orchard, or perpetual Paſture.	Pond.
Lot A. 3 Roods 1. Year { 2 Roods Potatoes 1 Rood Turnips	Lot B. 3 Roods. 1. Year { 2 Roods Winter Tares 1 Rood Spring Tares	
Lot C. 3 Roods. 1. Year—Barley, Wheat, or Oats	Lot D. 3 Roods. 1. Year—Clover and Rye-graſs.	

The Rotation of Crops for four Years.

Year	Lot A.	Lot B.	Lot C.	Lot D.
1	Potatoes and Turnips	Winter and Spring Tares	Barley, Wheat, or Oats	Clover and Rye-graſs
2	Winter and Spring Tares	Barley, Wheat, or Oats	Clover and Rye-graſs	Potatoes & Turnips
3	Barley, Wheat, or Oats	Clover and Rye-graſs	Potatoes and Turnips	Winter & Spring Tares
4	Clover and Rye-graſs	Potatoes and Turnips	Winter & Spring Tares	Barley, Wheat, or Oats

The rotation then begins as at firſt. Lot D might continue in natural graſs the firſt ſeaſon, to diminiſh the labour of that year.

The exact period when the different crops ſhall be dug for, or ſown, cannot be aſcertained, becauſe it varies ſo much in different counties, and depends upon the ſeaſons; but, according to the above rotation, the labour of digging for the various crops is diverſified as much as poſſible, ſo as not to interfere materially with the other occupations of the cottager. At no period would it be neceſſary for him to dig more than two roods in a month; and both he and his family will labour with much more ſatisfaction and diſpatch when they work for themſelves than for another. In caſe of neceſſity, the cottager might hire ſome of his neighbours to aſſiſt him in digging, which would be much better than hiring a plough. If a cottager under this ſyſtem could not work as a common daily labourer, he might, at leaſt, anſwer as a uſeful labourer by the piece.

COTTON (*Encycl.*). Is ſeparated from the ſeeds of other extraneous matter by a proceſs called *Batting*; for an account of a machine, or mill, lately invented for that purpoſe, ſee the article BATTING in this ſupplement. The following is a ſpecification of the patent granted to Mr. Greatrix, of Hulme, near Manchester, callico printer and dyer; for a new invented proceſs and method of dyeing and ſtaining colours upon cotton, linen, and mixed goods.

"To dye a black upon cotton, linen, and cotton and linen mixed," ſays the inventor, "I take tar, iron liquor of the very beſt quality, adding to each gallon thereof, three quarters of a pound of fine flour, and by boiling bring it to the conſiſtency of a thin paſte. I put the liquor or paſte above mentioned into the tub marked No. 3, belonging to the machine uſed in this proceſs, a ſection and horizontal plan of which, with reference to, and deſcription of, the ſeveral parts whereof, is hereunto annexed. (See Plate 20.) The goods intended to be dyed are wound upon the roller No. 14, and paſſed through the liquor or paſte above mentioned, betwixt the two rollers 7 and 12; thereby completely ſtaining or dyeing the whole maſs or body of the cloth. I paſs them into a very hot ſtove or drying-houſe till dry. I take cows-dung, put it into a large copper of water about ſcalding hot, and mix it well together, through which I paſs the piece of cloth until it be thoroughly ſoftened. Note: the quantity of dung, and the time neceſſary in this proceſs, depend upon the ſubſtance of the cloth, and the quantity of the paſte or liquor imbibed in it. I take and waſh the goods, ſo dunged, extremely well in water. I take a quantity of madder, or logwood, or ſumach, or any two of them, or all of them mixed together, as the ſtrength of the cloth and nature of the colour may require, and put them into a copper, or tub of hot water; then enter the goods before mentioned into this liquor, and keep rincing or moving them therein, until I have brought them up to the ſtrength of colour required. I have the goods again well waſhed and dryed. Note, for dyeing black, it will be proper to paſs the goods a ſecond time through the above operations; adding more or leſs of the dyeing-woods as before. Note alſo, that if, after the above operations and the ſhade of colour is too full, or too much upon the red hue, it will be neceſſary to give them a little ſumach, and then run them through a liquor made from iron and owler, or alder bark. Another method of dyeing black: I take common iron liquor, and add three quarters of a pound of fine flour, and by boiling bring it to the conſiſtency of a thin paſte; or, inſtead of flour, I add glue or linſeed, or gum, or any two, or all of them mixed together, till it is brought to a proper thickneſs. I then paſs the goods through the machine, and follow the before-mentioned operations. To dye olives, bottle greens, purples, browns, cinnamons, or ſnuffs, I take common iron liquor, or common iron liquor with alum diſſolved in it, or common iron liquor with alum and ſaccharum ſaturni diſſolved therein, in quantity of each according to the ſhade of colour wanted, made into a paſte or liquid, by adding flour, gum, glue, linſeed, or one or more of them as before. I then put the liquor or paſte above mentioned into the tub marked No. 3, belonging to the machine before deſcribed, and paſs the goods ſo intended to be dyed through the machine in the ſame manner I have deſcribed for dyeing black. I take them from the machine, and hang them up in a very cool room, where they remain till thoroughly dry. I take cows-dung, put it into a large copper of hot water, and mix it well together; through which I paſs the cloth or goods until thoroughly ſoftened, the quantity of dung and time requiſite, being proportioned as before. The goods after this proceſs being well waſhed, I take a quantity of liquor made from madder, logwood, fumach, fuſtic, brazil, woad, quercitron bark, peach wood, or other woods, to produce the colour wanted, or any two, or more of them; and, in caſe I ſee it neceſſary, I dilute this liquor with water, according to the ſhade or fulneſs of colour I want to dye. I then work the goods through this liquor very well; after which I paſs them through cold or warm water, according to the colour, the proper application of which is well known to dyers, adding a little alum, copperas, or Roman vitriol, or two or more of them, firſt diſſolved in water. I then waſh them off in warm water, and dry them. Note, if the colour is not ſufficiently full, I repeat the ſame operations till it is brought to the ſhade required. To dye crimſon, red, orange, or yellow, I take red liquor, ſuch as is generally made from alum, ſaccharum ſaturni, or ſuch-like ingredients, and dilute it with water, according to the ſtrength or ſhade of colour I want to dye, bringing it to the conſiſtency of a paſte or liquid, as before deſcribed. Then paſs the cloth through the machine; which being dryed in a cool room, paſs it through the operations of dunging and waſhing as before. I take a quantity of liquor, made from cochineal, madder, peach-wood, brazil, logwood, woad, fuſtic, ſumach, or any two or more of them proportioned in ſtrength to the ſhade or colour I want to dye, and work the goods through this liquor very well, till I have brought them to the ſhade of colour required; after which I waſh them in cold or warm water, and dry them."

Deſcription of the machine. No. 1, The frame. 2, The cloth or batting which conveys the paſte or liquor to the piece of cloth intended to be dyed. 3, The tub made to contain the paſte. 4, Another tub, which receives the ſuperfluous liquor or paſte from the piece, and conveys it into No. 3. 5, 6, and 7, are three rollers, round which the batting runs; paſſing through the tub of liquor, No. 3. 8, and 9, two ſcrews, for the purpoſe of tightening the batting. 10, and 11, two ſcrews which preſs the roller No. 7, againſt the roller No. 12, betwixt which the piece paſſes. 12, A roller on which the fly-wheel No. 13 is fixed, which puts the machine in motion. 13, The fly-wheel. 14, The roller on which the piece is wound. 15, The piece paſſing through the liquor, and betwixt the rollers 7, and 12. 16, Another roller, which draws the piece from the machine, by a ſtrap worked from a pulley, on the roller No. 12.

COTTON-*Mills* (*Encycl.*). It has been the practice of many pariſhes, particularly of the metropolis, to ſend the children of the poor to be employed in theſe manufactories, for the moſt part, very greatly to the injury of their health and morals. That this, however, is not uniformly the caſe, appears from the following extract from an account of Mr. Dale's cotton-mills at New Lanerk, in Scotland, publiſhed in the Reports of the Society in London for bettering the Condition of the Poor.

The cotton-mills at New Lanerk in the county of Lanerk in Scotland, are ſituate on a beautiful and romantic amphitheatre, near the high road between Carliſle and Glaſgow. The rapid ſtream of the Clyde ſupplies that abundance of water, which is the powerful operator of the machinery. For the purpoſe of conveying and directing its power, a ſubterraneous aqueduct is cut for many hundred yards through the ſolid rock. The firſt mill, in length 154 feet, was originally erected in 1785; and, having been burnt down, was rebuilt in 1789. The ſecond is exactly of the ſame dimenſions; the third is 130 feet, and the fourth 156 feet, in length.

The two firſt mills contain 12,000 ſpindles for ſpinning water twiſt; the other two are occupied by jennies, for ſpinning mule yarn.—The village of New Lanerk owes its exiſtence to the erection of theſe mills. It conſiſts of neat ſubſtantial houſes; forming two ſtreets about half a mile in length, and broad, regular, and clean. Near the centre of the village are the mills; and oppoſite to them, a neat manſion, the occaſional reſidence of Mr. Dale, the proprietor, and of his principal manager. The village, conſiſting chiefly of Highlanders from the counties of Argyle, Caithneſs, and Inverneſs, contains about 1,500 inhabitants; of whom all who are capable of work are employed in and about the mills. Of theſe, there are 500 children who are entirely fed, clothed, and educated by Mr. Dale. The others lodge with their parents in the village, and have a weekly allowance for their work.

The healthy and pleaſurable appearance of theſe children has frequently attracted the attention of the traveller. Peculiar regulations, adopted by Mr. Dale for the preſervation of the health and morals of thoſe under his protection, have made this ſtriking difference between his manufactory and many other ſimilar undertakings in this kingdom; ſo that while ſome other mills muſt be regarded as ſeminaries of vice, and ſources of diſeaſe, thoſe at Lanerk are ſo peculiarly exempt from theſe objections, that out of near 3,000 children employed in theſe mills during a period of twelve years, from 1785 to 1797, only fourteen have died; and not one has been the object of judicial puniſhment.

In order to ſupply that firſt neceſſary of life, pure and freſh air, the windows of the manufactory are frequently opened; and in ſummer there are air holes left under every other window.—Cleanlineſs is another great object of attention. The children waſh themſelves before they go to work, and alſo after it before they appear in the ſchools. The floors and the machinery are waſhed once a-week with hot water; and the ceilings and walls, twice a-year, with unſlaked lime.—The children who reſide in the houſe, and who have their maintenance in lieu of wages, are lodged in ſix large airy apartments. The boys and girls are kept *diſtinctly apart;* not only in the hours of reſt and refreſhment, but during the time of occupation.—They ſleep on caſt-iron bedſteads, the bed-tick filled with ſtraw, which is changed regularly every month. The bedrooms are ſwept, and the windows thrown open every morning, and kept open all the day. Many of the children have contrived to provide themſelves with boxes with locks; in which they keep their books and their little property. Their upper clothing in ſummer is cotton, which is waſhed once a-fortnight. In winter the boys are dreſſed in woollen; and, as well as the girls, have dreſs ſuits for Sundays.

For dinner they have ſeven ounces each of freſh beef with barley broth, or alternately five ounces of cheeſe; and a plentiful allowance of potatoes, or barley bread. This part of the table diet is ſeldom varied; except in winter by a dinner of freſh herrings, as a change. Their breakfaſt and ſupper conſiſt of oatmeal porridge, with the addition of milk in ſummer; and, during the winter, with a ſauce made of molaſſes and beer.

Seven o'clock is the hour of ſupper; ſoon after which (*for that pernicious practice, called night-work, is entirely excluded from theſe mills*) the ſchools commence, and continue till nine o'clock. Mr. Dale has engaged three regular maſters, who inſtruct the leſſer children during the day. In the evening they are aſſiſted by ſeven others, one of whom teaches writing. There is likewiſe a woman to teach the girls ſewing, and another perſon who occaſionally gives leſſons in church muſic. The maſters preſide over the boys' dinner table. On Sundays they conduct them to the place of divine worſhip; and, in the evening of Sunday, attend to aſſiſt and improve them, by religious and moral information.

In the year 1791, a veſſel carrying emigrants to America, from the iſle of Skye, was driven by ſtreſs of weather into Greenock, and about 200 perſons were put on ſhore in a very deſtitute ſituation. Mr. Dale offered them all immediate employment; which the greater part accepted. Soon after he notified to the people of the Highlands and the Hebrides, the degree of encouragement which he would give to families at the cotton mills; and undertook to provide houſes for 200 families. Theſe were finiſhed in 1793: in conſequence of which a conſiderable number of Highlanders have taken up their reſidence at New Lanerk. Several families alſo, who were laſt year driven from Ireland, have found immediate employment here.

"Amid the numerous variety of cotton mills," ſays Mr. Bernard, "that have been erected in this kingdom, I ſincerely wiſh it were in my power to ſhew many examples like thoſe of Mr. Dale's mills at Lanerk. Some *few* of theſe manufactories have been diſtinguiſhed for attention to health and cleanlineſs, and many of them for very curious mechaniſm, and ingenious inventions, by which the operations are produced and facilitated; but I have not had the good fortune to find in any (though I doubt not but it may exiſt in ſome inſtances) that proper degree of attention, which ought to be paid to the morals and inſtruction of the children. *Where boys and girls are indiſcriminately employed at all hours, not only of the day, but of the night*, and are mingled together without any advantage of education, without benefit of religious inſtruction or moral principle, and without any friend to adviſe or protect them, can we be aſtoniſhed at their plunging in a very early age, *and almoſt during childhood*, in every wretched and diſguſting ſpecies of debauchery? Can we be ſurpriſed that our numerous and crowded manufactories ſhould be the nurſeries of thieves and proſtitutes; ſent out at an early age to their own ruin, and to the annoyance of the kingdom, and of every individual of which it is compoſed?

"Such, however, is the preſent ſpirit and ſpeculation of this country, that wherever the demon of gain raiſes his banner, talents and exertion are ſure to follow it. Cotton mills are as yet but in their infancy. Whilſt great profits and immenſe fortunes are to be made by them, we know they muſt rapidly increaſe; and it is too obvious that, without public attention, they muſt be deſtructive of the moral and religious principles of the great maſs of the people. The effect of this ſpecies of abridgment of labour is ſo great, that 100 perſons in a cotton mill, will do more ſpinning, and that of ten times the fineneſs, and of a ſuperior quality, to what can be produced by 3000 of the very beſt ſpinners by hand. In conſequence of this, cotton mills have almoſt entirely deprived the cottager's wife and children of theſe means of domeſtic induſtry. The profit of ſpinning by hand is ſo reduced, that whole diſtricts of cottagers' families have been obliged to give it up, and apply for relief to the pariſh.

"Our national and individual increaſe of wealth, from the manufacture of cotton, has been attended with ſo much injury to the health and morals of the poor, and is ſo utterly

deſtructive of that which conſtitutes the eſſential and fundamental virtue of the female character, that if I am not permitted to ſuggeſt a doubt, whether it would not have been better for us *that cotton mills had never been erected in this iſland*, I may at leaſt expreſs an anxious wiſh, that ſuch regulations may be adopted and enforced, as ſhall diminiſh, if not entirely remove, the injurious and pernicious effects which muſt otherwiſe attend them.

"With this view I will lay before the reader an outline of ſome regulations, which, impelled by zeal, but very little preſuming on perſonal knowledge of the ſubject, I venture to ſubmit to the conſideration of the public: meaning to apply my obſervations, not merely to cotton mills, but to all other manufactories under ſimilar circumſtances; and particularly to thoſe, in which children are engaged as apprentices.

"In the *firſt* place, I conceive that ſome general and public attention ought to be paid to the moral and religious improvement of ſo numerous a claſs of our fellow-ſubjects: and that the moſt eſſential parts of their education ought not entirely to depend on the caprice, or diſpoſition, of their reſpective maſters; eſpecially as many of them have been apprenticed by lots from diſtant counties, and have been deſerted by thoſe, whoſe duty it was to have protected them. In addition to this, ſomething ſhould alſo be done for the benefit of theſe children, to inſtruct and prepare them to ſupport themſelves in life, without thievery and proſtitution, when the period of their apprenticeſhip expires at the age of ſixteen.

"It ſeems to me to be alſo expedient that the age and conditions of apprenticeſhip be regulated;—that the hours of work be limited, and *night-work* (ſo deſtructive to health and morals) entirely excluded;—that a total ſeparation take place between the boys and the girls;—that the works be liable to the periodical inſpection of the magiſtrates, who ſhould have power to order the regular white-waſhing and cleaning, and the warming and ventilating of the work-rooms; and who ſhould receive quarterly or monthly reports, from each manufactory, of the number, the health, and the reſpective ages, of all the apprentices and other perſons employed there.

"Such are the regulations, which, upon a curſory view of the ſubject, appear to be proper, and to have a tendency to meliorate the condition, and to preſerve the morals, of theſe unfortunate and neglected children. Other correctives and remedies may probably occur to thoſe who poſſeſs more practical knowledge of the ſubject. At preſent I have only to add that, as far as my enquiries have extended, I have reaſon to be ſatisfied, that almoſt all the owners of cotton mills will concur in thinking, that the preceding, or ſome ſimilar, regulations *ought to be enforced* by the legiſlature, for the protection of the children employed in thoſe mills. In order therefore that ſomething practicable and effectual may be done, without injury to the intereſt of the manufacturers, I would ſuggeſt that the outline of any regulations propoſed to be adopted, ſhould be firſt communicated to them, ſo that they might ſtate any objections, or amendments; and after a proper attention ſhall have been paid to their obſervations, I venture boldly to expreſs my confidence, that the meaſures will have the ſupport of every one, who deſires to promote the welfare and happineſs of his fellow-creatures, and the eſſential intereſts of virtue, morality, and religion, in this favoured country."

COUCY, a town of France, in the department of Aiſne, nine miles N. of Soiſſons. Long. 3. 13. E. Lat. 48. 30. N.

COVERDEN, a town of the United Provinces, in Overyſſel, with a fortreſs in the marſhes, ſtrong both by nature and art. It is thirty-five miles N.E. of Deventer. Long. 6. 35. E. Lat. 52. 46. N.

COULAN, or QUILON, a country of the peninſula of Hindooſtan, on the coaſt of Malabar. The inhabitants are generally Gentoos, with ſome Chriſtians of St. Thomas. The capital is of the ſame name, where the Dutch have a ſettlement. Long. 75. 30. E. Lat. 8. 30. N.

COUSERANS, a late province of France, lying along the river Satat, and forming, with Foix, the department of Arriege.

COUTRAS, a town of France in the department of Dordogne, and late province of Perigord; ſeated on the Dordogne, twenty miles N.E. of Bourdeaux. Long. 0. 3. W. Lat. 40. 4. N.

COW (*Encycl.*). For proofs of the advantage which the poor cottager may derive from keeping a cow. See the article COTTAGER in this ſupplement.

COWBRIDGE, a ſmall but neat town of Glamorganſhire, with a market on Tueſday. It is called by the Welch Pont-Van, from the ſtone bridge over the river, which ſoon after falls into the ſea. The ſtreets are broad and paved; it is governed by two bailiffs, twelve aldermen, and twelve common-council; and here the aſſizes for the county are held. It is twelve miles W. of Cardiff, and 176 W. of London. Long. 3. 33. W. Lat. 51. 28. N.

COWPER (William), a modern poet of diſtinguiſhed and original genius, was born in 1732, at Berkhamſtead in Hertfordſhire. His father, the rector of the pariſh, was John Cowper, D.D. nephew to Lord Chancellor Cowper. Mr. Cowper was educated at Weſtminſter ſchool, and at that ſeminary he acquired the claſſical knowledge and correctneſs of taſte for which it is celebrated, but without any portion of the confident and undaunted ſpirit which is ſuppoſed to be one of the moſt valuable acquiſitions derived from great ſchools to thoſe who are to puſh their way in the world. It appears, indeed, from his poem, entitled Tirocinium, that the impreſſions made on his mind from what he witneſſed, were of the moſt unfavourable kind, and gave him a permanent diſlike to the ſyſtem of public education. As through family intereſt the honourable and lucrative place of clerk to the Houſe of Lords had been provided for him, he was entered at the Temple for the ſtudy of the law, in order to qualify him for it. In this ſituation his manners were amiable and decent; and though it is probable that he did not refuſe to indulge in thoſe pleaſures which are uſual among young men ſimilarly ſituated, yet there ſeems no reaſon to ſuppoſe that he had any peculiar cauſes for ſelf-accuſation. His natural diſpoſition was timid and diffident; his ſpirits were conſtitutionally weak, even to the borders of abſolute unfitneſs for worldly concerns; ſo that when the time came for aſſuming that poſt to which he had been deſtined, he ſhrunk with ſuch terror from the idea of making his appearance before the moſt auguſt aſſembly in the nation, that, after a violent ſtruggle with himſelf, he actually reſigned the employment, and with it all his proſpects in life. It appears to have been under the agitation of mind which this circumſtance occaſioned, and which threw him into a ſerious illneſs, that he was led to a deep conſideration of his ſtate in a religious view; and from the ſyſtem he had adopted, this courſe of reflection excited in him the moſt alarming and diſtreſsful apprehenſions. In vain did his theological friends ſet before him thoſe encouraging views which the theory of Chriſtian juſtification is calculated to preſent, and which to many is the ſource of a confidence perhaps as exceſſive as their former fears; the natural diſpoſition of his mind fitted it to receive all the horrors, without the conſolations, of his faith. We are told, that "the terror of eternal judgment overpowered and wholly diſordered his faculties; and he remained ſeven months in a continual expectation of being inſtantly plunged into final miſery." In this ſhocking condition he became the ſubject of medical care,

and he was placed in the receptacle for lunatics kept by Dr. Cotton of St. Alban's, an amiable and worthy phyſician, and the author of ſome well-known poems. At length he recovered a degree of ſerenity; but his mind had acquired that indelible tinge of melancholy by which it was ever after characteriſed, and which rendered his whole life little more than a ſucceſſion of intervals of comfort between long paroxiſms of ſettled deſpondency. It is unneceſſary to follow him through all his ſcenes of retirement. Part of his time was ſpent at the houſe of his relation, Earl Cowper, at Cole-green; and part at Huntingdon, with his intimate friend the Reverend Mr. Unwin. After the death of the latter, he removed with his widow to Olney in Buckinghamſhire, which was thenceforth the principal place of his reſidence. The affectionate intimacy he enjoyed with this lady is ſtrongly expreſſed in the following lines, which have probably been underſtood by moſt readers as expreſſive of a conjugal union:

—Witneſs, dear companion of my walks,
Whoſe arm this twentieth winter I perceive
Faſt lock'd in mine, with pleaſure ſuch as love
Confirm'd by long experience of thy worth
And well-tried virtues could alone inſpire—
Witneſs a joy that thou haſt doubled long.
TASK, B. I.

At Olney he contracted a cloſe friendſhip with the Reverend Mr. Newton, then miniſter there, and ſince rector of St. Mary Woolnoth, London, whoſe religious opinions were in uniſon with his own. To a collection of hymns publiſhed by him, Mr. Cowper contributed a large number of his own compoſition. He firſt became known to the public in general as a poet by a volume printed in 1782. The pieces of which it conſiſted were of a ſingular caſt; and if they did not at once place the writer high in the ſcale of poetic excellence, they ſufficiently eſtabliſhed his claim to originality, and gave tokens of a genius rather kept down by his ſubject than deficient in native power. The principal topics are, Error, Truth, Expoſtulation, Hope, Charity, Retirement, Converſation, all treated upon religious principles, and not without a conſiderable tinge of that rigour and auſterity which belonged to his ſyſtem. To this it muſt be attributed, that though naturally a man of kind affections, and more inclined to compaſſion than ſeverity, yet, like the melancholy Jacques,

——moſt invectively he pierceth through
The body of the country, city, court.

Theſe pieces are written in rhymed heroics, which he commonly manages with little grace or attention to melody. The ſtyle is rather ſtrong and forcible than poetic; but though often proſaic, he is never flat or inſipid; and ſometimes the poet breaks through in a vein of lively deſcription or bold figure. Of his talent for painting, a better ſpecimen cannot be given than his draught of the melancholy man, probably ſketched from what too faithful remembrance ſuggeſted of himſelf:

Look where he comes—In this embower'd alcove
Stand cloſe concealed, and ſee a ſtatue move;
Lips buſy, and eyes fixt, foot falling ſlow,
Arms hanging idly down, hands claps'd below,
Interpret to the marking eye, diſtreſs,
Such as its ſymptoms only can expreſs.
That tongue is ſilent now;—that ſilent tongue
Could argue once, could jeſt or join the ſong,
Could give advice, could cenſure or commend,
Or charm the ſorrows of a drooping friend.
Renounc'd alike its office and its ſport,
Its briſker and its graver ſtrains fall ſhort;
Both fail beneath a fever's ſecret ſway,
And like a ſummer brook are paſt away.
RETIREMENT.

It does not appear that this volume excited much of the public notice; but his ſecond volume, publiſhed in 1785, introduced his name to all the lovers of poetry, and raiſed him at leaſt to an equality of reputation with any of his contemporaries. This chiefly conſiſts of a poem in ſix books, entitled The Taſk, which name it derived from the injunction of a lady upon him to write a piece in blank verſe, for the ſubject of which ſhe gave him *the Sofa*. It ſets out, indeed, with ſome ſportive diſcuſſion of this topic, but it ſoon falls into a ſerious ſtrain of rural deſcription, intermixed with moral ſentiments and portraitures, which, under different titles, is preſerved through the ſix books, with no perceptible method, but freely ranging from thought to thought, from the image to its improvement, as unſhackled fancy ſuggeſts. It is difficult to determine which is the moſt conſpicuous excellence of this charming production. In the deſcription of natural objects, it unites the moſt minute accuracy with ſtriking elegance and pictureſque beauty. Since Thompſon, Cowper is the poet who has added moſt to the ſtock of natural imagery; and his paintings are more exact than thoſe of that writer, though generally leſs grand and comprehenſive. His *manner*, indeed, has led ſome of his imitators into a kind of Dutch ſtyle of painting, which has waſted the powers of deſcription upon objects not worth the pains; but Cowper himſelf is generally preſerved by good taſte from this degradation of his art. The pious and moral reflections of the Taſk, touch the heart with irreſiſtible force; and its delineations of character are life itſelf. The perſonifications, and allegorical figures interſperſed, diſplay high powers of fancy; and the picture of Winter riding on his ſledgy car, may vie in ſublimity with any effort of poetical invention. The permanent colour of the diction is eaſe and force, ſometimes deviating into negligence, but more free than perhaps any other blank verſe from the ſtiffneſs and tumidity which ſo commonly diſfigure this mode of writing. Although the peculiar religious ſyſtem of the author is ſufficiently diſcernible in the Taſk, it however appears with leſs gloom and auſterity than in his former pieces. There is added to this volume Tirocinium, or a Review of Schools, a piece of great ſtrength, and replete with ſtriking obſervation, whatever he thought of the deciſive ſentence it pronounces againſt the public education of this country. The merry ſtory of John Gilpin ſeems to ſhew (as indeed do many paſſages in his other works), that a ſtrong perception of the ludicrous naturally balanced in his diſpoſition the gloomy propenſity which circumſtances rendered finally predominant.

For the purpoſe of loſing in employment thoſe diſtreſſing ideas, which were ever apt to recur, he undertook the real *taſk* of tranſlating into blank verſe the whole of Homer's Iliad and Odyſſey. This work poſſeſſes much merit of execution, and is certainly a much more exact repreſentation of the ancient bard than Pope's ornamental verſion; but though the epic dignity is well ſupported in thoſe paſſages which are intrinſically poetical, yet where the ſimplicity of the matter in the original is elevated into poetry ſolely by the force of ſonorous verſification, the poverty of Engliſh blank verſe has ſcarcely been able to prevent it from ſinking into mere proſe. On the whole, this tranſlation has probably been more praiſed than read; to the author, however, it was a moſt valuable ſource of innocent amuſement, and its completion is mentioned by him with the regret felt on parting with a beloved companion.

Nothing, however, was capable of durably relieving his mind from the horrible impreſſions it had undergone; and

abſolute deſpair was the ſtate in which it finally ſettled. He paſſed ſome of his latter years under the affectionate care of a relation at Eaſt Dereham in Norfolk, nor did he entirely drop his literary employments, and the occaſional compoſition of poems, till a ſhort time before his death. This event took place, after a gradual decline of ſtrength, on April 25th, 1800. —We are indebted to the popular biographical work of Dr. AIKIN for the foregoing particulars.

COW-POX, a diſeaſe to which cows are ſubject, and from which mankind are likely to derive moſt important benefits.

In the ſummer of the year 1798, Dr Jenner, of Berkeley in Glouceſterſhire, publiſhed ſeveral curious and intereſting facts reſpecting this diſeaſe, which had been for a very long time known to the dairy farmers in the weſtern counties of England. The moſt important of theſe is, that *perſons who have once been affected with the cow-pox* are thereby rendered *incapable of variolous infection.*

"It appears (ſays Dr. Jenner) on the nipples of cows in the form of irregular puſtules. At their firſt appearance they are commonly of a paliſh blue, or rather of a colour ſomewhat approaching to livid, and are ſurrounded by an eryſipelatous inflammation. Theſe puſtules, unleſs a timely remedy be applied, frequently degenerate into phagedænic ulcers; the animals become indiſpoſed, and the ſecretion of milk is much leſſened. Inflamed ſpots now begin to appear on different parts of the hands of the domeſtics employed in milking, and ſometimes on the wriſts, which quickly run on to ſuppuration, firſt aſſuming the appearance of ſmall veſications produced by a burn. Moſt commonly they appear about the joints of the fingers, and at their extremities; but whatever parts are affected, if the ſituation will admit, theſe ſuperficial ſuppurations put on a circular form with their edges more elevated than their centre, and of a colour diſtantly approaching to blue. Abſorption takes place, and tumors appear in each axilla. The ſyſtem becomes affected, the pulſe is quickened, and ſhiverings with general laſſitude and pains about the loins and limbs, with vomiting, come on. The head is painful, and the patient is now and then even affected with delirium. Theſe ſymptoms, varying in their degree of violence, generally continue from one day to three or four, leaving ulcerated ſores about the hands, which, from the ſenſibility of the parts, are very troubleſome, and commonly heal ſlowly, frequently becoming phagedænic, like thoſe from whence they ſprung."

There is not perhaps in the annals of medicine, to be found an example of experiment or enquiry, where the life and health of ſuch numbers already born, and of all to be born, were implicated, that has been taken up more generally, received more candidly, or conducted more prudently, than this concerning the cow-pox. Some experiments, however, producing reſults which induced Dr. Jenner to apprehend that a *ſpurious* cow-pox had been communicated, he, in a ſubſequent work, laid down the following rules for the guidance of thoſe who take the matter with which they inoculate *from the cow.* —He ſays, "The moſt perfect criterion by which the judgment may be guided is, perhaps, that adopted by thoſe who attend infected cattle. Theſe white blitters on the nipples, ſay they, *never eat into the fleſhy parts,* like thoſe which are commonly of a blueiſh caſt, and which conſtitute the *true cow-pox,* but that they affect the ſkin only, quickly end in ſcabs, and are not nearly ſo infectious."

Dr. Woodville gives a tabular ſtatement of the progreſſive deſcent of the cow-pox infection from patient to patient, as well as the magnitude of the diſeaſe which was excited by the inoculation. From the table, which extends much beyond our preſcribed limits, we collect the following facts:

1. That out of about 500 caſes of the inoculated cow-pox, one proved fatal; and that in ſome others the diſeaſe, from the number of puſtules, was of formidable ſeverity; while, on the other hand, a very large proportion of the patients were ſcarcely diſordered from the inoculation, and had no puſtules.

2. That the matter of the vaccine diſeaſe has generally produced much fewer puſtules and leſs indiſpoſition than that of the ſmall-pox.

3. That about two-fifths of all the perſons inoculated for the variolæ vaccinæ had no puſtules; and that in not more than a fourth part of them was there experienced any perceptible diſorder of the conſtitution.

Dr. Pearſon alſo engaged very extenſively in this enquiry; and after various inferences drawn from experiments made by himſelf and communicated to others, he ſays:

"It now ſeems to me that the following facts are eſtabliſhed on the foundation of experience:

"1. A conſtitution which has undergone the ſmall-pox is unſuſceptible of again undergoing the diſeaſe.

"2. A conſtitution which has not undergone the ſmall-pox, but which has undergone the cow-pox, is unſuſceptible of undergoing the ſmall-pox.

"3. A conſtitution which has not undergone the cow-pox, but which has undergone the ſmall-pox, is unſuſceptible of undergoing the cow-pox.

"Now, if the variolous poiſon deſtroys the ſuſceptibility of the conſtitution to the future agency of this poiſon, in the reſpect of its producing the ſmall-pox—and if the cow-pox poiſon deſtroys the ſuſceptibility of the conſtitution to the future agency of the variolous poiſon, in the reſpect of its producing the ſmall-pox—and if the variolous poiſon deſtroys the ſuſceptibility of the conſtitution to the future agency of the vaccine poiſon, in the reſpect of its producing the cow-pox—it is demonſtrated, that the ſame ſtate of ſuſceptibility of the conſtitution with reſpect to the future agency of the variolous poiſon, is produced equally by the agency of the variolous poiſon, and by the vaccine poiſon; but if the variolous poiſon produces unſuſceptibility of the conſtitution to the future agency of the vaccine poiſon, it is demonſtrable that the following fourth propoſition is true, viz.

"4. A conſtitution which has undergone the vaccine diſeaſe is unſuſceptible of again undergoing that diſeaſe from the vaccine poiſon, becauſe a ſtate of unſuſceptibility with reſpect to the agency of the variolous poiſon is produced by the vaccine poiſon (2d *propoſition*), and a ſtate of unſuſceptibility with reſpect to the agency of the vaccine poiſon is produced by the variolous poiſon (3d *propoſition*);—but the ſtate of the conſtitution being the ſame in the two caſes whether it be produced by the variolous or vaccine poiſon with reſpect to unſuſceptibility, it ſeems inevitably in courſe, that unſuſceptibility of the conſtitution to the future agency of the vaccine poiſon is produced by the vaccine diſeaſe; and the demonſtration in courſe, could be given of the 1ſt *propoſition,* on the ground of the 2d and 3d *propoſition,* that unſuſceptibility of the conſtitution to the agency of the variolous poiſon is produced by the variolous diſeaſe, if this were not already proved by abundant experience. At a future time, however, I ſhall relate the obſervations and experiments to confirm this *à priori* concluſion; firſt, becauſe theſe proofs will increaſe the validity of the 3d *propoſition;* and ſecondly, becauſe I do not mean to offer this demonſtration as infallible, like mathematical."

It is by no means extraordinary that ſome accidents ſhould occur to throw ſuſpicion on the ſuppoſed efficacy attributed to the practice of inoculating the cow-pox; the preference due to it, however, over *variolous* inoculation, is rendered manifeſt by the following final account of the matter given by Dr. Woodville in a periodical work. He ſays,

"In my report of the new inoculation, publiſhed in May

laſt, including upwards of 500 caſes, I obſerved that the matter of the vaccine diſeaſe generally produced much fewer puſtules, and leſs indiſpoſition, than that of the ſmall-pox. But at the ſame time it was remarked, that in ſome inſtances the cow-pox proved a very ſevere diſeaſe, and that one child died of ſpaſmodic fits, occaſioned by the eruptive fever which it excited. I hinted, however, that if the matter of the cow-pox uſed for the inoculations had been taken only from thoſe patients in whom the diſeaſe appeared very mild and well characteriſed, the reſult would have been more favourable; and I have ſince had the ſatisfaction to find this opinion fully confirmed. For of 1000 perſons inoculated for the vaccine diſeaſe, by me, or under my immediate direction, during the laſt ſix months, not more than 150 had puſtules which proceeded to ſuppuration; nor was there one caſe attended with a dangerous ſymptom.

"Now, out of 1000 perſons inoculated for the ſmall-pox, I find generally that more than 800 have puſtules; and as the ſeverity of the diſeaſe is commonly in proportion to the number of the puſtules, it follows that the cow-pox is milder than the inoculated ſmall-pox in the proportion above mentioned.

"To infants at the breaſt the new inoculation has proved peculiarly ſucceſsful, for I have now had a very conſiderable number of private patients of this deſcription, in none of whom was the inoculation attended with any puſtules, and even very rarely with any perceptible diſorder of the conſtitution.

"That thoſe who have undergone the vaccine diſeaſe, are thereby rendered ſecure againſt the effects of the ſmall-pox, is a truth confirmed by daily experience. Upwards of 1000 of my patients, who had undergone the cow-pox, have been inoculated with variolous matter, yet none of them took the ſmall-pox."

The Society for Bettering the Condition of the Poor, deſirous of extending this practice as much as poſſible, printed and diſtributed an Addreſs to the Poor, which is introduced by theſe preliminary remarks:

"Notwithſtanding the advantage of inoculation for the ſmall-pox," ſay they, "it is a melancholy fact that the poor do ſtill ſuffer very greatly by that diſorder. The following addreſs from the phyſicians, ſurgeons, and apothecaries, of the medical hoſpitals at Mancheſter, on the ſubject of inoculation for the cow-pox, may, it is hoped, have its effect in producing from our medical hoſpitals offers ſimilar to that in the addreſs, and alſo in preparing the minds of the poor to take the full benefit thereof. Two families near Mancheſter have lately inoculated for the cow-pox many hundreds of the neighbouring poor; who have all recovered without any ſickneſs to confine them a ſingle day. Twenty of them were afterwards inoculated for the ſmall-pox; for a few days the uſual ſigns of infection were perceived on the arms; but ſoon diſappeared, without communicating the ſmall-pox to any one of the twenty patients on whom this very ſatisfactory experiment was made."

Their Address to the Poor runs thus:

The experience of ſeveral years has fully proved, that inoculation for the cow-pox is a certain preſervative againſt the ſmall-pox; and is, beſides, ſo mild and ſafe a diſorder, when compared with the inoculated ſmall-pox, that it has been generally introduced among the better informed, and more wealthy inhabitants, both of this kingdom and of various parts of Europe. In order, therefore, to impreſs ſtrongly on the minds of the poor, the uſefulneſs and ſuperior advantages of this new plan of inoculation, the medical gentlemen (whoſe ſignatures are annexed) belonging to theſe charities, have thought it their duty to ſtate, in this public manner, the following obſervations for the ſerious peruſal of all thoſe poor perſons, who feel a proper affection for their offſpring, and who are deſirous of promoting their own intereſt and comfort.

1. *Inoculation* for the *cow-pox* has been practiſed, for ſeveral years, with conſtant ſucceſs, in various parts of this kingdom.

2. It has never failed to prevent the infection of the natural ſmall-pox.

3. It may be communicated with ſafety to perſons of every age and ſex, and at all times and ſeaſons of the year, with equal advantage.

4. The cow-pox is much preferable to the inoculated ſmall-pox, as being a milder and ſafer diſeaſe, and not capable of infecting the perſons living in the ſame family, or even ſleeping in the ſame bed.

5. It does not produce eruptions, which ſcar and diſfigure the face; and is ſeldom, if ever, attended with any other marks of the diſeaſe, than what appear on the arms from inoculation.

6. Neither ſwellings, blindneſs, lameneſs, nor any other complaints, which are known frequently to be the conſequences of the natural ſmall-pox (and ſometimes, though but ſeldom, of the inoculated ſmall-pox), have been obſerved to follow the cow-pox.

7. Alarming fits frequently ſeize children when ſickening of the ſmall-pox; and while cutting their teeth, this diſorder often proves dangerous; but no ſuch objections lie againſt the cow-pox.

8. So far from proving hurtful, delicate and ſickly children are often improved in health by having paſſed through this complaint.

9. Scarcely any remedies or attendance are required for the cow-pox.

10. There is no neceſſity for a courſe of phyſic either before or after inoculation.

11. The *time of the parents will not be taken up in attendance upon the ſick*, to the injury of the ſupport of the reſt of the family: and to poor families, this is *an object of no ſmall importance.*

The prejudices of the poor againſt inoculation for the ſmall-pox, by which thouſands of lives have been annually ſaved, have been often lamented; but if they ſuffer unjuſt prejudices to prevent their laying hold of the advantages now offered to them, by the inoculation of the cow-pox, they will neglect the performance of a duty they owe to themſelves, to their families, and to ſociety at large.—For ſurely it is little leſs than criminal to expoſe their helpleſs children to the attack of ſo terrible and fatal a malady as the ſmall-pox, when it may be readily avoided by the inoculation of ſo mild, ſimple, and ſafe a diſeaſe, as that of the cow-pox.

The great ſuperiority of the inoculation of *vaccine*, in preference to *variolous*, matter, conſiſts in this:

That by the latter, infection is brought from all points of the compaſs; the ſeeds of a fatal diſeaſe are ſcattered over the whole face of the kingdom; and where a ſingle life is preſerved by variolous inoculation, *ſeveral* perhaps are loſt by the *accidental communication* of the natural diſeaſe through the neighbourhood. On the other hand, the cow-pox, beſides being more free from danger to the patient, confers its benefits to individuals without endangering the community, and without the poſſibility of extending itſelf to any perſon in the ſame family.

COX (Richard) (*Encycl.*). This zealous reformer we find had not totally loſt ſight of the popiſh text, *compel them to come in.* A ſtrong proof of his implacability and ſelf-importance appears in his letter to the lord-treaſurer Burleigh, in which he warmly expoſtulates with the council for inter-

posing in behalf of the Puritans, or meddling in affairs of the church, admonishing them to keep their own sphere. Such language from a bishop would make a modern privy-council stare. His works are, 1. Two Latin Orations on the Dispute between Dr. Tresham and Peter Martyr, Lond. 1549, 4to. 2. Liturgy of the Church of England; in compiling, and afterwards correcting which, he was principally concerned. 3. The Lord's Prayer in verse, commonly printed at the end of David's Psalms, by Sternhold and Hopkins. 4. Translation of the Four Gospels, the Acts of the Apostles, and the Epistle to the Romans, in the new translation of the Bible in the reign of Queen Elizabeth. 5. Resolutions of some Questions concerning the Sacrament, in the Collection of Records at the end of Burnet's History of the Reformation. 6. Several Letters to the Queen and others, published in Strype's Annals of the Reformation. He is also said to have been concerned in the declaration concerning the divine institution of bishops, and to have assisted Lilye in his grammar.

CRACKER, or SEA-PHEASANT, in ornithology, the English name of the anas aeuta. See ANAS.

CRAIGMILLAR, a ruinous castle, 2 miles S.E. of Edinburgh, in which Mary queen of Scots resided, after her return from Paris in 1562. Her French retinue were lodged in an adjaeent village, thence called Little France; and here too, repenting her rash match with the profligate Lord Darnley, she often retired, to indulge her melancholy in solitude.

CRAINBURG, a town of Germany, in Carniola, on the river Saave, 20 miles N.W. of Laubach. Long. 14. 5. E. Lat. 46. 36. N.

CRAMBE (*Encycl.*), erroneously spelt CRAMBLE.

CRAMMOND WATER, a river of Edinburghshire, in Scotland, called also the Almond. For several miles it divides this county from Linlithgowshire, and falls into the Frith of Forth, at the small village of Crammond, a place remarkable for the traces of a great Roman station. Its fertile banks are adorned with villages and country seats.

CRANBOURN, a town of Dorsetshire, with a market on Wednesday. It is well watered with streams, and has a fine chase, which extends almost to Salisbury. It is 38 miles N.E. of Dorchester, and 94 W. of London.

CRANBROOK, a large town in Kent, with a market on Saturday, the best in these parts. It is 13 miles S. of Maidstone, and 52 S.E. of London. Long. 0. 39. E. Lat. 51. 4. N.

CRANE (*Encycl.*). In that article, the descriptions of the figures in Plate 88, Vol. II. have been accidentally omitted. The following is a description of Mr. White's crane.

A, a circular-inclined plane, moving on a pivot underneath it, and carrying round with it the axis E. A person walking on this plane and pressing against the lever B, throws off the gripe D by means of an iron rod C, and thus admits the plane and its axis to move freely, and raise the weight G by the coiling of the rope F round the axis E. To shew more clearly the construction and action of the lever and gripe, a plan of a circular-inclined plane with the lever and gripe is added, where B represents the lever, D the spring or gripe. In this plan, when the lever B is in the situation it now appears, the spring or gripe D presses against the periphery of the plane, as shewn by the double line; and the machine cannot move but when the lever B is pressed out to the dotted line H; the gripe is also thrown off to the dotted line I, and the whole machine left at liberty to move. One end of a rope or cord, of a proper length, is fixed near the end of the lever B, and the other end made fast to one of the uprights, serving to prevent the lever moving too far when pressed by the man.

The *improved crane*, represented in the same plate, consists simply in introducing the action of a worm, that communicates the first motion to the crane, upon the axis of the wheel in which the man walks. The axis of this wheel, and that of the worm, are proposed to be in separate parts, and occasionally united by a coupling-box. When goods are to be raised, the two axes should be connected; when lowered, they may be disunited, and the worm turned by a wineh. Thus, the ascent, or descent, of the weight may be accelerated, or stopped at pleasure, by the person walking on the axis of the wheel, or turning the winch; without the remotest possibility of being overpowered by the descending weight.

Explanation of the figure in the plate. A, the wheel in which the man walks. B, the coupling-box. C, the worm. D, the wheel in which it works. E, a wheel upon the same axis, giving motion to F. F, a wheel upon the axis of the windlass. G, the wineh.

This machinery may be applied to a crane already erected upon the common prineiple. The inventor proposes to put a wheel on any convenient axis in the machine, in its present state; and, on this, a worm that may be thrown in or out of *gear* at pleasure; and to let the lever, by which it is effected, lie within the reach of the man's hand in the wheel. The goods being fastened to the crane, and raised from the floor of the warehouse, in order to be let down, the man puts the worm into the gear, leaves the wheel, and causes them to deseend by the wineh.

In the same plate (88. Vol. II.) is given a representation of an excellent contrivance for preventing the shocking aceidents whieh oecasionally happen to the men who work wheel cranes. This is caused by the weight of the goods they are attempting to raise, being too considerable for the power that is opposed to it; eonsequently the wheel runs back with great veloeity, and unless the useful appendage here spoken of, form a part of the construction, the persons within it are dashed to pieces.

In the view of this contrivance, AA is the axle of the crane; BB two circular pieees, on which are affixed, at eonvenient distanees, several pulleys, carrying, by means of a rope, two bows of iron CC, on which rests a wooden holder D; by this last the men ean suspend themselves if the wheel should aceidentally revolve, so as to avoid injury.

These contrivances are alike eminent for their ingenuity; but we can by no means omit noticing a kind of erane invented by Mr. Abraham Andrews, of Higham Ferrers, Northamptonshire. This machine weighs the body suspended, while it is raising; an improvement for whieh the Society for the Encouragement of Arts, &c. in 1791, granted him a premium of 15 guineas.

The proportion of the beam in the plate is as 1 to 20, the large weight being 5 pounds, and the smaller $\frac{1}{4}$ of a pound. The latter, when fixed on the beam-end, will equipoise the former, if hung on the pulley at the end of the gib-beam, which should be placed in a right line with the erane, at the time the weight is adjusted; otherwise it will oecasion a friction that may prevent the moveable beam from playing freely.

The following is a description of Mr. A. Andrews's weighing-crane, represented in Plate 24 of this supplement.

The gib of the crane stands on a horizontal beam, moveable on a centre, at A: and the distanee of the centre A, from the bearing of the upright, being to the distance B in the proportion of 1 to 20, the weight placed at B, de-

termines that of the body ſuſpended in the ſame proportion. C is a ſtub, or piece of wood, which projects from the weight hanging at the end of the gib, and ſerves to prevent the beam from riſing to too great a height.

CRANGANORE, a town and fort of the peninſula of Hindooſtan, on the coaſt of Malabar, lately ſubject to the Dutch, by whom it was taken from the Portugueſe in 1662. In 1789, the Dutch ſold this place to the rajah of Travancore. But Tippoo Sultan, regent of Myſore, diſputing their right to ſell it, a war enſued between that prince and the rajah, who being powerfully ſupported by the Engliſh and their allies, the nizam of the Deccan and the Mahrattas, the war was happily terminated in 1792; Tippoo conſenting to pay above three crores of rupees towards the expences of the war, and to cede one-half of his dominions to the three confederate powers. Cranganore is ſeated at the mouth of a river, 24 miles N. by W. of Cochin. Long. 76. 30. E. Lat. 10. 23. N.

CREA (*Encycl.*), placed erroneouſly after the article CREUSA.

CREETOWN, a ſmall port of Scotland, on the E. ſide of Wigton Bay, in Kirkcudbrightſhire. Here ſeveral ſloops are conſtantly employed in carrying ſea-ſhells coaſtwiſe, or importing coal and lime from Cumberland. The ſhells are dug from banks without the ſea-mark, and are eſteemed a valuable manure.

CREIFF, a town of Scotland, in Perthſhire. Its annual fair for cattle is one of the greateſt in Scotland. It is ſeated on the river Earn, 20 miles W. of Perth.

CREIL, a town of France, in the department of Oiſe, and late province of the Iſle of France. It is ſeated on the Oiſe, five miles from Senlis. Long. 2. 43. E. Lat. 49. 13. N.

CREMIU, a ſmall town of France, in the department of Iſere, and late province of Dauphiny, at the foot of a mountain, a mile from the Rhone. Long. 5. 20. E. Lat. 45. 44. N.

CREMNITZ, the principal mine-town of Upper Hungary, 70 miles N.E. of Preſburg. Long. 19. 6. E. Lat. 48. 32. N.

CREMONA, a city of Italy, and capital of a diſtrict of the Milaneſe, called from it the *Cremoneſe*; is ſituated 45 miles ſouth-eaſt of Milan, in E. Long. 10. 30. and N. Lat. 45. 0.

CREMONESE, a territory of Italy, in the duchy of Milan, bounded on the E. by Mantua, on the N. by Breſciano, on the W. by Cremaſco and Lodez-Lodezan, and on the S. by Parma. It is fertile in wine and fruits, and belongs to the houſe of Auſtria. Cremona is the capital.

CREMPEN, a town of Germany, in the duchy of Holſtein, five miles from Hamburgh.

CRESCENTINO, a town of Piedmont, on the river Po. It was taken by the French in 1704, and by the allies in 1706. It is 20 miles N.E. of Turin. Long. 8. 0. E. Lat. 45. 20. N.

CRESPY, a town of France, in the department of Oiſe, and late province of the Iſle of France, 17 miles S. of Compiegne. Long. 2. 55. E. Lat. 49. 10. N.

CREVECŒUR, a town of France, in the department of the North, and late province of Cambreſis, ſeated on the Scheld, five miles S. of Cambray. Long. 3. 20. E. Lat. 50. 6. N.

CREUSE, a department of France, ſo named from a river that falls into the Vienne, and containing the late province of Marche. Gueret is the capital.

CREUTZNACH, a town of Germany, in the palatinate of the Rhine, with a caſtle on an eminence. It is 20 miles S.W. of Mentz. Long. 7. 55. E. Lat. 49. 44. N.

CREWKERNE, a town of Somerſetſhire, with a market on Saturday. It is ſeated on a branch of the Parret. Three miles beyond this town is a hill that commands one of the moſt beautiful proſpects in the kingdom. Crewkerne is 132 miles W. by S. of London. Long. 3. 0. W. Lat. 50. 50. N.

CREX, in ornithology (*Encycl.*), a ſpecies of RALLUS, erroneouſly ſpelt CREA.

CRICKHOWEL, a town of Brecknockſhire, with a market on Thurſday. It is ſeated on the river Uſk, 10 miles E. by S. of Brecknock. Long. 3. 7. W. Lat. 51. 49. N.

CRIMES *and* PUNISHMENTS (*Encycl.*). Although we have already been ſomewhat particular in what is communicated under this head, we, nevertheleſs, are ſo far aware of the importance of the ſubject to every individual, as to have determined to add, in this place, ſome account of the *general nature of crimes*, in which we ſhall chiefly follow Judge Blackſtone.

I. A crime, or miſdemeanour, is an act committed, or omitted, in violation of a public law, either forbidding or commanding it. This general definition comprehends both crimes and miſdemeanours; which, properly ſpeaking, are mere ſynonymous terms: though, in common uſage, the word "crimes" is made to denote ſuch offences as are of a deeper and more atrocious dye: while ſmaller faults, and omiſſions of leſs conſequence, are compriſed under the gentler name of "miſdemeanours" only.

The diſtinction of public wrongs from private, of crimes and miſdemeanours from civil injuries, ſeems principally to conſiſt in this: that private wrongs, or civil injuries, are an infringement or privation of the civil rights which belong to individuals, conſidered merely as individuals; public wrongs, or crimes and miſdemeanours, are a breach and violation of the public rights and duties, due to the whole community, conſidered as a community, in its ſocial aggregate capacity. As if I detain a field from another man, to which the law has given him a right, this is a civil injury, and not a crime; for here only the right of an individual is concerned, and it is immaterial to the public which of us is in poſſeſſion of the land: but treaſon, murder, and robbery, are properly ranked among crimes; ſince, beſides the injury done to individuals, they ſtrike at the very being of ſociety; which cannot ſubſiſt where actions of this ſort are ſuffered to eſcape with impunity.

In all caſes the crime includes an injury: every public offence is alſo a private wrong, and ſomewhat more; it affects the individual, and it likewiſe affects the community. Thus treaſon in imagining the king's death, involves in it conſpiracy againſt an individual, which is alſo a civil injury: but as this ſpecies of treaſon in its conſequences principally tends to the diſſolution of government, and the deſtruction thereby of the order and peace of ſociety, this denominates it a crime of the higheſt magnitude. Murder is an injury to the life of an individual; but the law of ſociety conſiders principally the loſs which the ſtate ſuſtains by being deprived of a member, and the pernicious example thereby ſet, for others to do the like. Robbery may be conſidered in the ſame view: it is an injury to private property; but, were that all, a civil ſatisfaction in damages might atone for it: the public miſchief is the thing, for the prevention of which our laws have made it a capital offence. In theſe groſs and atrocious injuries the private wrong is ſwallowed up in the public: we ſeldom hear any mention made of ſatisfaction to the individual; the ſatisfaction to the community being ſo very great. And indeed, as the public crime is not otherwiſe avenged than by forfeiture of

life and property, it is impoſſible afterwards to make any reparation for the private wrong; which can only be had from the body or goods of the aggreſſor. But there are crimes of an inferior nature, in which the public puniſhment is not ſo ſevere, but it affords room for a private compenſation alſo: and herein the diſtinction of crimes from civil injuries is very apparent. For inſtance; in the caſe of battery, or beating another, the aggreſſor may be indicted for this at the ſuit of the king, for diſturbing the public peace, and be puniſhed criminally by fine and impriſonment: and the party beaten may alſo have his private remedy by action of treſpaſs for the injury, which he in particular ſuſtains, and recover a civil ſatisfaction in damages. So alſo, in caſe of a public nuiſance, as digging a ditch acroſs a highway, this is puniſhable by indictment, as a common offence to the whole kingdom, and all his majeſty's ſubjects: but if any individual ſuſtains any ſpecial damage thereby, as laming his horſe, breaking his carriage, or the like, the offender may be compelled to make ample ſatisfaction, as well for the private injury, as for the public wrong.

II. The nature of crimes and miſdemeanours in general being thus aſcertained and diſtinguiſhed, we proceed, in the next place, to conſider the general nature of puniſhments: which are evils or inconveniences conſequent upon crimes and miſdemeanours; being deviſed, denounced, and inflicted by human laws, in conſequence of diſobedience or miſbehaviour in thoſe, to regulate whoſe conduct ſuch laws were reſpectively made. And herein we will briefly conſider the *power*, the *end*, and the *meaſure*, of human puniſhment.

1. As to the *power* of human puniſhment, or the right of the temporal legiſlator to inflict diſcretionary penalties for crimes and miſdemeanours. It is clear, that the right of puniſhing crimes againſt the law of nature, as murder and the like, is in a ſtate of mere nature veſted in every individual. For it muſt be veſted in ſomebody; otherwiſe the laws of nature would be vain and fruitleſs, if none were empowered to put them in execution: and if that power is veſted in any one, it muſt alſo be veſted in all mankind; ſince all are by nature equal. Whereof the firſt murderer Cain was ſo ſenſible, that we find him expreſſing his apprehenſions, that whoever ſhould find him would ſlay him. In a ſtate of ſociety this right is transferred from individuals to the ſovereign power; whereby men are prevented from being judges in their own cauſes, which is one of the evils that civil government was intended to remedy. Whatever power therefore individuals had of puniſhing offences againſt the law of nature, that is now veſted in the magiſtrate alone; who bears the ſword of juſtice by the conſent of the whole community. And to this precedent natural power of individuals muſt be referred that right, which ſome have argued to belong to every ſtate (though, in fact, never exerciſed by any), of puniſhing not only their own ſubjects, but alſo foreign ambaſſadors, even with death itſelf; in caſe they have offended, not indeed againſt the municipal laws of the country, but againſt the divine laws of nature, and become liable thereby to forfeit their lives for their guilt.

As to offences merely againſt the laws of ſociety, which are only *mala prohibita*, and not *mala in ſe*; the temporal magiſtrate is alſo empowered to inflict coercive penalties for ſuch tranſgreſſion: and this by the conſent of individuals; who, in forming ſocieties, did, either tacitly or expreſsly, inveſt the ſovereign power with a right of making laws, and of enforcing obedience to them when made, by exerciſing, upon their non-obſervance, ſeverities adequate to the evil. The lawfulnes therefore of puniſhing ſuch criminals is founded upon this principle, that the law by which they ſuffer was made by their own conſent; it is a part of the original contract into which they entered, when firſt they engaged in ſociety; it was calculated for, and has long contributed to, their own ſecurity.

This right therefore, being thus conferred by univerſal conſent, gives to the ſtate exactly the ſame power, and no more, over all its members, as each individual member had naturally over himſelf or others. Which has occaſioned ſome to doubt, how far a human legiſlature ought to inflict capital puniſhments for poſitive offences; offences againſt the municipal law only, and not againſt the law of nature; ſince no individual has, naturally, a power of inflicting death upon himſelf or others for actions in themſelves indifferent. With regard to offences *mala in ſe*, capital puniſhments are in ſome inſtances inflicted by the immediate command of God himſelf to all mankind; as, in the caſe of murder, by the precept delivered to Noah, their common anceſtor and repreſentative, "Whoſo ſheddeth man's blood, by man ſhall his blood be ſhed." In other inſtances they are inflicted after the example of the Creator, in his poſitive code of laws for the regulation of the Jewiſh republic; as in the caſe of the crime againſt nature. But they are ſometimes inflicted without ſuch expreſs warrant or example, at the will and diſcretion of the human legiſlature; as for forgery, for theft, and ſometimes for offences of a lighter kind. This practice is thus juſtified by that great and good man, Sir Matthew Hale: "When offences grow enormous, frequent, and dangerous to a kingdom or ſtate, deſtructive or highly pernicious to civil ſocieties, and to the great inſecurity and danger of the kingdom or its inhabitants, ſevere puniſhment and even death itſelf is neceſſary to be annexed to laws in many caſes by the prudence of lawgivers." It is therefore the enormity, or dangerous tendency, of the crime, that alone can warrant any earthly legiſlature in putting him to death that commits it. It is not its frequency only, or the difficulty of otherwiſe preventing it, that will excuſe our attempting to prevent it by a wanton effuſion of human blood. For, though the end of puniſhment is to deter men from offending, it never can follow from thence, that it is lawful to deter them at any rate and by any means; ſince there may be unlawful methods of enforcing obedience even to the juſteſt laws. Every human legiſlator will be therefore extremely cautious of eſtabliſhing laws that inflict the penalty of death, eſpecially for ſlight offences, or ſuch as are merely poſitive. He will expect a better reaſon for his ſo doing, than that looſe one which generally is given; that it is found by former experience that no lighter penalty will be effectual. For it is found upon further experience, that capital puniſhments are more effectual. Was the vaſt territory of all the Ruſſias worſe regulated under the Empreſs Elizabeth, than under her more ſanguinary predeceſſors? Was it under Catherine II. leſs civilized, leſs ſocial, leſs ſecure? And yet we are aſſured, that neither of theſe illuſtrious princeſſes have, throughout their whole adminiſtration, inflicted the penalty of death: and the latter, upon full perſuaſion of its being uſeleſs, nay even pernicious, gave orders for aboliſhing it entirely throughout her extenſive dominions. But indeed, were capital puniſhments proved by experience to be a ſure and effectual remedy, that would not prove the neceſſity (upon which the juſtice and propriety depend) of inflicting them upon all occaſions when other expedients fail. It is feared this reaſoning would extend a great deal too far. For inſtance, the damage done to our public roads by loaded waggons is univerſally allowed, and many laws have been made to prevent it, none of which have hitherto proved effectual. But it does not therefore follow, that it would be

juſt for the legiſlature to inflict death upon every obſtinate carrier, who defeats or eludes the proviſions of former ſtatutes. Where the evil to be prevented is not adequate to the violence of the preventive, a ſovereign that thinks ſeriouſly can never juſtify ſuch a law to the dictates of conſcience and humanity. To ſhed the blood of our fellow-creature is a matter that requires the greateſt deliberation, and the fulleſt conviction of our own authority: for life is the immediate gift of God to man; which neither he can reſign, nor can it be taken from him, unleſs by the command or permiſſion of him who gave it, either expreſsly revealed, or collected from the laws of nature or ſociety by clear and indiſputable demonſtration.

We would not be underſtood to deny the right of the legiſlature in any country to enforce its own laws by the death of the tranſgreſſor, though perſons of ſome abilities have doubted it; but only to ſuggeſt a few hints for the conſideration of ſuch as are, or may hereafter, become legiſlators. When a queſtion ariſes, whether death may be lawfully inflicted for this or that tranſgreſſion, the wiſdom of the laws muſt decide it: and to this public judgment or deciſion all private judgments muſt ſubmit; elſe there is an end of the firſt principle of all ſociety and government. The guilt of blood, if any, muſt lie at their doors, who miſinterpret the extent of their warrant; and not at the doors of the ſubject, who is bound to receive the interpretations that are given by the ſovereign power.

2. As to the *end*, or final cauſe, of human puniſhments. This is not by way of atonement or expiation for the crime committed; for that muſt be left to the juſt determination of the Supreme Being: but as a precaution againſt future offences of the ſame kind. This is effected three ways: either by the amendment of the offender himſelf; for which purpoſe all corporeal puniſhments, fines, and temporary exile or impriſonment, are inflicted: or, by deterring others by the dread of his example from offending in the like way, "*ut pœna* (as Tully expreſſes it) *ad paucos, metus ad omnes, perveniat;*" which gives riſe to all ignominious puniſhments, and to ſuch executions of juſtice as are open and public: or, laſtly, by depriving the party injuring of the power to do future miſchief; which is effected by either putting him to death, or condemning him to perpetual confinement, ſlavery, or exile. The ſame one end, of preventing future crimes, is endeavoured to be anſwered by each of theſe three ſpecies of puniſhment. The public gains equal ſecurity, whether the offender himſelf be amended by wholeſome correction, or whether he be diſabled from doing any further harm: and if the penalty fails of both theſe effects, as it may do, ſtill the terror of his example remains as a warning to other citizens. The method however of inflicting puniſhment ought always to be proportioned to the particular purpoſe it is meant to ſerve, and by no means to exceed it: therefore the pains of death, and perpetual diſability by exile, ſlavery, or impriſonment, ought never to be inflicted but when the offender appears incorrigible: which may be collected either from a repetition of minuter offences; or from the perpetration of ſome one crime of deep malignity, which of itſelf demonſtrates a diſpoſition without hope or probability of amendment: and in ſuch caſes it would be cruelty to the public to defer the puniſhment of ſuch a criminal till he had an opportunity of repeating perhaps the worſt of villanies.

3. As to the *meaſure* of human puniſhments. From what has been obſerved in the former articles we may collect, that the quantity of puniſhment can never be abſolutely determined by any ſtanding invariable rule; but it muſt be left to the arbitration of the legiſlature to inflict ſuch penalties as are warranted by the laws of nature and ſociety, and ſuch as appear to be the beſt calculated to anſwer the end of precaution againſt future offences.

Hence it will be evident, that what ſome have ſo highly extolled for its equity, the *lex talionis*, or "law of retaliation," can never be in all caſes an adequate or permanent rule of of puniſhment. In ſome caſes indeed it ſeems to be dictated by natural reaſon; as in the caſe of conſpiracies to do an injury, or falſe accuſations of the innocent; to which we may add that law of the Jews and Egyptians, mentioned by Joſephus and Diodorus Siculus, that whoever, without ſufficient cauſe, was found with any mortal poiſon in his cuſtody, ſhould himſelf be obliged to take it. But, in general, the difference of perſons, place, time, provocation, or other circumſtances, may enhance or mitigate the offence; and in ſuch caſes retaliation can never be a proper meaſure of juſtice. If a nobleman ſtrikes a peaſant, all mankind will ſee, that if a court of juſtice awards a return of the blow, it is more than a juſt compenſation. On the other hand, retaliation may ſometimes be too eaſy a ſentence; as, if a man maliciouſly ſhould put out the remaining eye of him who had loſt one before it, it is too ſlight a puniſhment for the mainer to loſe only one of his: and therefore the law of the Locrians, which demanded an eye for an eye, was in this inſtance judiciouſly altered; by decreeing, in imitation of Solon's laws, that he who ſtruck out the eye of a one-eyed man, ſhould loſe both his own in return. Beſides, there are very many crimes, that will in no ſhape admit of theſe penalties, without manifeſt abſurdity and wickedneſs. Theft cannot be puniſhed by theft, defamation by defamation, forgery by forgery, adultery by adultery, and the like. And we may add, that thoſe inſtances, wherein retaliation appears to be uſed, even by the divine authority, do not really proceed upon the rule of exact retribution, by doing to the criminal the ſame hurt he has done to his neighbour, and no more; but this correſpondence between the crime and puniſhment is barely a conſequence from ſome other principle. Death is ordered to be puniſhed with death; not becauſe one is equivalent to the other, for that would be expiation, and not puniſhment. Nor is death always an equivalent for death: the execution of a needy decrepid aſſaſſin is a poor ſatisfaction for the death of a nobleman in the bloom of his youth, and full enjoyment of his friends, his honours, and his fortune. But the reaſon upon which this ſentence is grounded ſeems to be, that this is the higheſt penalty that man can inflict, and tends moſt to the ſecurity of the world; by removing one murderer from the earth, and ſetting a dreadful example to deter others: ſo that even this grand inſtance proceeds upon other principles than thoſe of retaliation. And truly, if any meaſure of puniſhment is to be taken from the damage ſuſtained by the ſufferer, the puniſhment ought rather to exceed than equal the injury: ſince it ſeems contrary to reaſon and equity, that the guilty (if convicted) ſhould ſuffer no more than the innocent has done before him; eſpecially as the ſuffering of the innocent is paſt and irrevocable, that of the guilty is future, contingent, and liable to be eſcaped or evaded. With regard indeed to crimes that are incomplete, which conſiſt merely in the intention, and are not yet carried into act, as conſpiracies and the like; the innocent has a chance to fruſtrate or avoid the villany, as the conſpirator has alſo a chance to eſcape his puniſhment: and this may be one reaſon why the *lex talionis* is more proper to be inflicted, if at all, for crimes that conſiſt in intention, than for ſuch as are carried into act. It ſeems indeed conſonant to natural reaſon, and has therefore been adopted as a maxim by ſeveral theoretical writers, that the puniſhment due to the crime of which one falſely accuſes another, ſhould be inflicted on the perjured informer. Accordingly, when it was once attempted to introduce into

England the law of retaliation, it was intended as a puniſhment for ſuch only as preferred malicious accuſations againſt others; it being enacted by ſtatute 37 Edw. III. c. 18. that ſuch as preferred any ſuggeſtions to the king's great council ſhould put in ſureties of taliation; that is, to incur the ſame pain that the other ſhould have had, in caſe the ſuggeſtion were found untrue. But, after one year's experience, this puniſhment of taliation was rejected, and impriſonment adopted in its ſtead.

But though from what has been ſaid it appears, that there cannot be any regular determinate method of rating the quantity of puniſhments for crimes, by any one uniform rule; but they muſt be referred to the will and diſcretion of the legiſlative power: yet there are ſome general principles, drawn from the nature and circumſtances of the crime, that may be of ſome aſſiſtance in allotting it an adequate puniſhment.

As, firſt, with regard to the object of it: for the greater and more exalted the object of an injury is, the more care ſhould be taken to prevent that injury, and of courſe under this aggravation the puniſhment ſhould be more ſevere. Therefore treaſon in conſpiring the king's death is (in Britain) puniſhed with greater rigour than even actually killing any private ſubject. And yet, generally, a deſign to tranſgreſs is not ſo flagrant an enormity, as the actual completion of that deſign. For evil, the nearer we approach it, is the more diſagreeable and ſhocking: ſo that it requires more obſtinacy in wickedneſs to perpetrate an unlawful action, than barely to entertain the thought of it: and it is an encouragement to repentance and remorſe, even till the laſt ſtage of any crime, that it never is too late to retract; and that if a man ſtops even here, it is better for him than if he proceeds: for which reaſons an attempt to rob, to raviſh, or to kill, is far leſs penal than the actual robbery, rape, or murder. But in the caſe of a treaſonable conſpiracy, the object whereof is the king's majeſty, the bare intention will deſerve the higheſt degree of ſeverity: not becauſe the intention is equivalent to the act itſelf, but becauſe the greateſt rigour is no more than adequate to a treaſonable purpoſe of the heart, and there is no greater left to inflict upon the actual execution itſelf.

Again: The violence of paſſion, or temptation, may ſometimes alleviate a crime; as theft, in caſe of hunger, is far more worthy of compaſſion, than when committed through avarice, or to ſupply one in luxurious exceſſes. To kill a man upon ſudden and violent reſentment is leſs penal than upon cool deliberate malice. The age, education, and character, of the offender; the repetition (or otherwiſe) of the offence; the time, the place, the company wherein it was committed; all theſe, and a thouſand other incidents, may aggravate or extenuate the crime*.

Further: As puniſhments are chiefly intended for the prevention of future crimes, it is but reaſonable that among crimes of different natures thoſe ſhould be moſt ſeverely puniſhed, which are the moſt deſtructive of the public ſafety and happineſs: and, among crimes of an equal malignity, thoſe which a man has the moſt frequent and eaſy opportunities of committing, which cannot be ſo eaſily guarded againſt as others, and which therefore the offender has the ſtrongeſt inducement to commit: according to what Cicero obſerves, "*ea ſunt animadvertenda peccata maxime, quæ difficillime præcaventur.*" Hence it is, that for a ſervant to rob his maſter is in more caſes capital, than for a ſtranger: if a ſervant kills his maſter, it is a ſpecies of treaſon; in another it is only murder: to ſteal a handkerchief, or other trifle of above the value of twelve-pence, privately from one's perſon, is made capital; but to carry off a load of corn from an open field, though of fifty times greater value, is puniſhed with tranſportation only. And, in the iſland of Man, this rule was formerly carried ſo far, that to take away a horſe or an ox was there no felony, but a treſpaſs, becauſe of the difficulty in that little territory to conceal them or carry them off: but to ſteal a pig or a fowl, which is eaſily done, was a capital miſdemeanour, and the offender was puniſhed with death.

Laſtly, as a concluſion to the whole, we may obſerve, that puniſhments of unreaſonable ſeverity, eſpecially when indiſcriminately inflicted, have leſs effect in preventing crimes, and amending the manners of a people, than ſuch as are more merciful in general, yet properly intermixed with due diſtinctions of ſeverity. It is the ſentiment of an ingenious writer, who ſeems to have well ſtudied the ſprings of human action, that crimes are more effectually prevented by the certainty, than by the ſeverity, of puniſhment. For the exceſſive ſeverity of laws (ſays Monteſquieu) hinders their execution: when the puniſhment ſurpaſſes all meaſure, the public will frequently out of humanity prefer impunity to it. Thus alſo the ſtatute 1 Mar. ſt. 1. c. 1. recites in its preamble, "that the ſtate of "every king conſiſts more aſſuredly in the love of the ſubject "towards their prince, than in the dread of laws made with "rigorous pains; and that laws made for the preſervation of "the commonwealth without great penalties are more often "obeyed and kept, than laws made with extreme puniſh-"ments." Happy had it been for the nation, if the ſubſequent practice of that deluded princeſs in matters of religion, had been correſpondent to theſe ſentiments of herſelf and parliament, in matters of ſtate and government! We may further obſerve, that ſanguinary laws are a bad ſymptom of the diſtemper of any ſtate, or at leaſt of its weak conſtitution. The laws of the Roman kings, and the twelve tables of the *decemviri*, were full of cruel puniſhments: the Porcian law, which exempted all citizens from ſentence of death, ſilently abrogated them all. In this period the republic flouriſhed: under the emperors ſevere puniſhments were revived; and then the empire fell.

It is moreover abſurd and impolitic to apply the ſame puniſhment to crimes of different malignity. A multitude of ſanguinary laws (beſides the doubt that may be entertained concerning the right of making them) do likewiſe prove a manifeſt defect either in the wiſdom of the legiſlative, or the ſtrength of the executive, power. It is a kind of quackery in government, and argues a want of ſolid ſkill, to apply the ſame univerſal remedy, the *ultimum ſupplicium*, to every caſe of difficulty. It is, it muſt be owned, much eaſier to extirpate than to amend mankind; yet that magiſtrate muſt be eſteemed both a weak and a cruel ſurgeon, who cuts off every limb, which through ignorance or indolence he will not attempt to cure. It has been therefore ingeniouſly propoſed, that in every ſtate a ſcale of crimes ſhould be formed, with a correſponding ſcale of puniſhments, deſcending from the greateſt to the leaſt: but, if that be too romantic an idea, yet at leaſt a wiſe legiſlator will mark the principal diviſions, and not aſſign penalties of the firſt degree to offences of an inferior rank. Where men ſee no diſtinction made in the nature and gradations of puniſhment, the generality will be led to conclude there is no diſtinction in the guilt. Thus in France the puniſhment of robbery, either with or without murder, was the ſame: hence it was, that though perhaps they were therefore ſubject to fewer robberies, yet they never robbed but they alſo

* Thus Demoſthenes (in his oration againſt Midias) finely works up the aggravations of the inſults he had received. "I "was abuſed (ſays he) by my enemy, in cold blood, out of malice, not by heat of wine, in the morning, publicly, before "ſtrangers as well as citizens; and that in the temple, whither the duty of my office called me."

murdered. In China murderers are cut to pieces, and robbers not: hence in that country they never murder on the highway, though they often rob. And in Britain, beſides the additional terrors of a ſpeedy execution, and a ſubſequent expoſure or diſſection, robbers have a hope of tranſportation, which ſeldom is extended to murderers. This has the ſame effect here as in China, in preventing frequent aſſaſſination and ſlaughter.

Perſons capable, or incapable, of committing CRIMES; or (which is all one) of ſuffering the cenſures of the law upon the commiſſion of forbidden acts.

All the ſeveral pleas and excuſes, which protect the committer of a forbidden act from the puniſhment which is otherwiſe annexed thereto, may be reduced to this ſingle conſideration, the want or defect of *will*. An involuntary act, as it has no claim to merit, ſo neither can it induce any guilt: the concurrence of the will, when it has its choice either to do or to avoid the fact in queſtion, being the only thing that renders human actions either praiſe-worthy or culpable. Indeed, to make a complete crime, cognizable by human laws, there muſt be both a will and an act. For though, *in foro conſcientiæ*, a fixed deſign or will to do an unlawful act is almoſt as heinous as the commiſſion of it; yet, as no temporal tribunal can ſearch the heart, or fathom the intentions of the mind, otherwiſe than as they are demonſtrated by outward actions, it therefore cannot puniſh for what it cannot know. For which reaſon, in all temporal juriſdictions, an *overt* act, or ſome open evidence of an intended crime, is neceſſary, in order to demonſtrate the depravity of the will, before the man is liable to puniſhment. And as a vicious will without a vicious act is no civil crime, ſo, on the other hand, an unwarrantable act without a vicious will is no crime at all. So that to conſtitute a crime againſt human laws, there muſt be, firſt, a vicious will; and, ſecondly, an unlawful act conſequent upon ſuch vicious will.

Now there are three caſes, in which the will does not join with the act: 1. When there is a defect of underſtanding. For where there is no diſcernment, there is no choice; and where there is no choice, there can be no act of the will, which is nothing elſe but a determination of one's choice to do or to abſtain from a particular action: he, therefore, that has no underſtanding, can have no will to guide his conduct. 2. Where there is underſtanding and will ſufficient, reſiding in the party; but not called forth and exerted at the time of the action done; which is the caſe of all offences committed by chance or ignorance. Here the will ſits neuter; and neither concurs with the act, nor diſagrees to it. 3. Where the action is conſtrained by ſome outward force and violence. Here the will counteracts the deed; and is ſo far from concurring with, that it loaths and diſagrees to, what the man is obliged to perform. Infancy, idiocy, lunacy, and intoxication, fall under the firſt claſs; misfortune and ignorance may be referred to the ſecond; and compulſion or neceſſity may properly rank in the third. See INFANCY, IDIOCY, DRUNKENNESS, MISFORTUNE, IGNORANCE, NECESSITY.

CROIA, a town of Albania, in Turkey in Europe, with a biſhop's ſee. It is ſeated near the gulf of Venice, 13 miles N. E. of Durazzo. Long. 19. 27. E. Lat. 42. 6. N.

CROMACK-WATER, a lake of Cumberland, between Buttermere and Lowſewater, with each of which it is connected by the river Cocker. It is four miles long, and, in ſome places, near half a mile over. It is beautified with three ſmall iſles; one of them a rock. At the N. E. corner is a handſome ſtone bridge of four arches over its outlet, the Cocker. The water of this lake, though clear, is not ſo tranſparent as the lake of Derwent; but, as well as Buttermere and Lowes-water, it is of a much greater depth than the Derwent. It abounds with very fine char and red trout.

CROMARTY, a county of Scotland, which comprehends part of a peninſula on the ſouth ſide of the Frith, to which it gives name. On the S. and W. it is bounded by Roſsſhire. It is 12 miles long from E. to W. and about three in its greateſt breadth. It is fertile and well cultivated; but it is now almoſt deſtitute of old trees; though, in the days of James V. it was a foreſt, and afforded ſhelter to many wolves. It ſends one member to parliament, alternately with Nairne.

CROMER, a ſmall town of Norfolk, with a market on Saturday. It is ſeated near the ſea, and was formerly more conſiderable than at preſent; for it had two churches, one of which, with ſeveral houſes, was ſwallowed up by the ſea. The inhabitants are now chiefly fiſhermen. The part of a church, which ſtill remains, was built in the time of the Saxons, of curious flint, and the tower was raiſed to a great height: this, indeed, is all that ſtands, and the other part of this ſtructure being decayed, divine ſervice is performed once a fortnight in the ſteeple. It is 22 miles N. of Norwich, and 127 N. E. of London. Long. 1. 15. W. Lat 53. 0. N.

CROMFORD, a village in Derbyſhire, on the river Derwent, in the road from Derby to Mancheſter. Here Mr. (afterwards Sir Richard) Arkwright erected ſome of the new cotton mills, a capital improvement of mechaniſm due to him; and by means of which the various branches of the cotton manufacture have wonderfully ſpread in this and the adjacent countries. Here alſo Sir Richard Arkwright built, before his death, a noble ſeat, and a church. Cromford is 14 miles N. N. W. of Derby.

CROMWELL (Richard), eldeſt ſon of Oliver Cromwell, was by his father appointed ſucceſſor to the protectorſhip, but very ſoon depoſed by the army. They diſcharged his debts, took all the houſehold ſtuff, plate, &c. gave him a protection for ſix months, and ſo he retired. He was by no means qualified to ſupport the ſtation gained by the aſpiring talents of his father; he was of a moderate temper, and untainted with that fanatical ſpirit which his father had ſo ſucceſsfully cultivated: on the reſtoration he went abroad; but returned in 1680 under the aſſumed name of Clark, and ſettled at Cheſhunt, in Hertfordſhire, where he lived privately, and died in 1712, aged 86.

CRONACH, a town of Germany, in the circle of Franconia, and biſhopric of Bamberg, with a citadel. It is 25 miles N. E. of Bamberg. Long. 11. 35. E. Lat. 50. 27. N.

CRONBORG, a fortreſs of Denmark, on the iſle of Zealand, near Elſinore, which guards the paſſage of the Sound. In this fortreſs is a royal palace, in which the late unfortunate and much-injured queen Matilda was impriſoned till ſhe was permitted to retire to Zell. About half a mile from this, is a garden, called Hamlet's Garden, ſaid, by tradition, to be the ſpot where the murder of his father was perpetrated. Long. 12. 54. E. Lat. 56. 0. N.

CROTALUS (*Encycl.*) In that article, plate 59 ſhould have been referred to inſtead of 89.

CROUCH, a river of Eſſex, which riſes near Horndon, and flowing eaſtward, divides the hundred of Rochford from that of Dengy, and falls into the German Ocean, between Burnham and Foulneſs Iſland. The Walfleet and Burnham oyſters are the product of its creeks and pits.

CROUP, in medicine, an inflammation of the larynx, affecting children under ten years of age, attended with an exſudation of coagulable lymph, which acting as an extraneous body, excites a ſpaſmodic ſtricture of the *rima glottidis*, firſt inducing a difficulty of breathing, with a peculiar ſtridulous noiſe, and in a ſhort time ſuffocation.

This diſeaſe being commonly fatal, requires an early attention to the ſymptoms, and a rigorous mode of treatment, for want of which it is probable many children have been loſt:

though it is evident from diſſection, that it is of an inflammatory nature; yet from reaſoning, as well as from ſome caſes which have lately occurred, there can be little doubt that it is the ſpaſmodic contraction of the lungs, which is the immediate cauſe of death.

As ſoon as poſſible a briſk emetic ſhould be adminiſtered for the purpoſe of freeing the patient from the coagulable lymph which is already ſecreted. Topical bleeding, by means of leeches, ſhould immediately ſucceed, and the diſcharge encouraged. As ſoon as it diminiſhes, a bliſter, ſo large as to cover the whole throat, ſhould be applied, and ſuffered to lie on for thirty hours or longer.

As ſoon as the emetic has operated ſufficiently, opium in large doſes ſhould be adminiſtered, by which means the breathing will in general be ſoon relieved; but ſhould it become more difficult in the courſe of a few hours, the emetic is to be again repeated, and after its operation the opium again employed. This practice is to be alternately uſed till ſuch time as the patient is out of danger, which will in general be in the courſe of three or four days.

Mr. Kendrick, ſurgeon in Warrington, who firſt ſuggeſted the neceſſity of employing opiates in the croup, aſſerts, that this treatment has ſucceeded in four caſes out of five under his care.

CUBAGUA, an iſland of South America, between that of Margaretta and Terra Firma, ſubject to Spain. Long. 54. 30. W. Lat. 10. 15. N.

CUBAN, a large river, formed by the junction of a great number of ſtreams that riſe in the countries comprehended between the Black Sea and the Caſpian. Taking a weſterly direction, it divides the Abkhas and Circaſſians from part of Taurica, and then falls into the Black Sea.

CUBAN, or CUBAN TARTARY, a country of Aſia, bounded on the W. by the ſea of Aſoph; on the N. by the river Don, which ſeparates it from Europe; on the E. by the deſert of Aſtracan; and on the S. by the river Cuban, which divides it from Circaſſia and the country of the Abkhas.

CUCKFIELD, a town of Suſſex, with a market on Friday. It is 13 miles N. W. of Lewes. and 40 S. by W. of London. Long. 0. 12. W. Lat. 51. 4. N.

CUDDAPA, a town of the peninſula of Hindooſtan, ceded by Tippoo Sultan to the nizam of the Deccan. It is ſeated on the river Pennar, 95 miles W. by N. of its entrance, at Gangapatnam, into the bay of Bengal, and 140 N. W. of Madras. Long. 78. 47. E. Lat. 14. 3. N.

CUDWORTH (Ralph), a very learned divine of the church of England in the 17th century. In January 1657 he was one of the perſons nominated by a committee of the parliament to be conſulted about the Engliſh tranſlation of the Bible. In 1678 he publiſhed his *True Intellectual Syſtem of the Univerſe*; a work which met with great oppoſition. He likewiſe publiſhed a treatiſe, entitled *Deus juſtificatus*: or, "The divine goodneſs of God vindicated, againſt the aſſertions of abſolute and unconditionate reprobation." He embraced the mechanical or corpuſcular philoſophy: but with regard to the Deity, ſpirits, genii, and ideas, he followed the Platoniſts. He died at Cambridge in 1688. The late earl of Shafteſbury ſtyles him an excellent and learned divine, of higheſt authority at home, and fame abroad. His daughter Damaris, who married Sir Francis Maſham, of Oates in Eſſex, was a lady of genius and learning: ſhe had a great friendſhip for Mr. Locke, who reſided ſeveral years at her houſe at Oates, where he died in 1704.

CUFF (Henry), the unfortunate ſecretary of the unfortunate Earl of Eſſex, was born at Hinton St. George in Somerſetſhire, about the year 1560, of a genteel family, who were poſſeſſed of conſiderable eſtates in that county. In 1576 he was entered of Trinity College, Oxford, where he ſoon acquired conſiderable reputation as a Grecian, and diſputant. He obtained a fellowſhip in the above-mentioned college; but was afterwards expelled for ſpeaking diſreſpectfully of the founder. He was, however, ſoon after admitted of Merton College; of which, in 1586, he was elected probationer, and, in 1588, fellow. In this year he took the degree of maſter of arts. Some time after, he was elected Greek profeſſor, and, in 1594, proctor of the univerſity.

When he left Oxford is uncertain; nor are we better informed as to the means of his introduction to the Earl of Eſſex. When that nobleman was made lord lieutenant of Ireland, Mr. Cuff was appointed his ſecretary, and continued intimately connected with his lordſhip until his confinement in the Tower; and he is generally ſuppoſed to have adviſed thoſe violent meaſures which ended in their mutual deſtruction. The earl indeed confeſſed as much before his execution, and charged him, to his face, with being the author of all his misfortunes. Mr. Cuff was tried for high-treaſon, convicted, and executed at Tyburn on the 30th of March, 1601. Lord Bacon, Sir Henry Wotton, and Camden, ſpeak of him in very harſh terms. He was certainly a man of learning and abilities.

He wrote two books; the one entitled, The Differences of the Ages of Man's Life; the other, De Rebus Geſtis in Sancto Concilio Nicæno. The firſt was publiſhed after his death; the ſecond is ſtill in manuſcript.

CUJAS (James), in Latin *Cujacius*, the beſt civilian of his time, was born at Toulouſe, of obſcure parents, in 1520. He learned polite literature and hiſtory; and acquired great knowledge in the ancient laws, which he taught with extraordinary reputation at Toulouſe, Cahors, Bourges, and Valence, in Dauphiny. Emanuel Philibert, duke of Savoy, invited him to Turin, and gave him ſingular marks of his eſteem. Cujas afterwards refuſed very advantageous offers from Pope Gregory XIII. who was deſirous of having him teach at Bologna; but he choſe rather to fix at Bourges, where he had a prodigious number of ſcholars; whom he not only took great pleaſure in inſtructing, but aſſiſted with his ſubſtance, which occaſioned his being called the *Father of his Scholars*. He died at Bourges in 1590, aged 70. His works are in high eſteem among civilians.

CULLEN (William), an eminent phyſician and medical teacher, was born in 1712, in the county of Lanerk in Scotland. He ſerved an apprenticeſhip to a ſurgeon and apothecary in Glaſgow, and afterwards went ſeveral voyages to the Weſt Indies, as ſurgeon to a trading ſhip. He at length ſettled at the town of Hamilton, practiſing chiefly in the medical and pharmaceutical branches. It is a very ſingular circumſtance in the hiſtory of medicine, that William Hunter, afterwards ſo eminent as an anatomiſt and accoucheur in London, ſhould at one time have been partner with Cullen in an inconſiderable country town. It appears, however, that, at this early period of their lives, neither of them limited his ambition to ſuch a confined circle; for it was the ſpirit of their partnerſhip to provide means for enabling them alternately to enjoy thoſe further advantages of education which ſcanty circumſtances had hitherto denied them. In conſequence of this agreement, Cullen ſtudied one winter at the univerſity of Edinburgh, while Hunter was practiſing on the common account. Hunter, the next year, viſited London, and followed his fortune in that metropolis, under the auſpices of Dr. Douglas the anatomiſt. Cullen, during his abode at Hamilton, attracted the notice of the Duke of Argyle, who happened to be on a viſit in the neighbourhood, and was intent upon ſome chemical reſearches. It was not difficult for a man of his diſcernment to diſcover in the young apothecary a perſon ſuperior to the ſtation he then occupied. Soon after, a ſudden illneſs of the Duke of Hamilton, whoſe ſeat is adjacent

to the town of his name, occaſioned Cullen to be ſent for; and his treatment of the caſe appeared ſo judicious to Dr. Clark of Edinburgh, who was afterwards conſulted, that he became his liberal encomiaſt. Cullen's improving proſpects induced him to form a matrimonial connection with an amiable woman, the daughter of a neighbouring miniſter. He afterwards took the degree of doctor of phyſic, and ſettling at Glaſgow, was appointed, in 1746, chemical lecturer in the univerſity of that city. Here he began to diſplay thoſe talents for teaching, which ever afterwards ſo advantageouſly diſtinguiſhed him. His enunciation was diſtinct, his manner lively and familiar, and he peculiarly excelled in the art of clear and methodical arrangement. He ſoon became a great favourite with the ſtudents, and rendered chemiſtry an object of ardent purſuit among them, the effects of which were afterwards happily exemplified in the diſcoveries of his pupil, the celebrated Dr. Black. His private practice kept pace with his growing reputation; and, in 1751, he was more directly engaged in the ſervice of the healing art, by his appointment of profeſſor of medicine in the univerſity. The fame of Edinburgh as a medical ſchool has by nothing been ſo much promoted as by the vigilance of its curators to ſeize upon every man of diſtinguiſhed merit within their reach, and incorporate him among their profeſſors. Thus, on the death of Dr. Plummer, the chemical profeſſor, in 1756, Dr. Cullen received an unanimous invitation to the vacant chair; and he did not heſitate to quit all his advantages at Glaſgow for a ſtation in the univerſity of the Scottiſh metropolis. Here he ſoon arrived at that extraordinary degree of academical popularity which for ſo many years diſtinguiſhed him beyond all his brethren, and for which he was indebted, not only to his merit as a teacher, but to the laudable pains he took to ingratiate himſelf with his pupils. He was cordially attentive to all their intereſts, admitted them freely to his houſe, converſed with them on the moſt familiar terms, ſolved their doubts and difficulties, gave them the uſe of his library, and in every reſpect treated them with the affection of a friend, and the regard of a parent. It is impoſſible for thoſe who perſonally knew him in this relation ever to forget the ardour of attachment which he inſpired. His influence upon young minds was augmented by the novelty of his opinions, and the freedom of his animadverſions upon the medical ſyſtems then chiefly in vogue, but which undoubtedly preſented ſeveral points of attack. The older profeſſors had all been educated in the Boerhaavian ſchool, and though men of merit, were naturally prejudiced in favour of the doctrines they had imbibed. Dr. Cullen called in queſtion ſome of the fundamental principles of the theory of the Leyden profeſſor, eſpecially thoſe which depended upon the humoral pathology. He introduced new ſpeculations, which, if not always ſatisfactory, never failed to be ingenious, and afforded animated topics for the debates and diſcuſſions of the ſtudents. Whilſt he was chemical profeſſor, he had no public opportunity of delivering his medical opinions, except in the clynical lectures which fell to his ſhare in courſe. Indeed, at the death of Dr. Alſton, in 1760, he was deſired to finiſh the courſe of materia medica which that profeſſor had begun; and this gave occaſion to ſome further diſplay of his ſyſtems. It was not till the deceaſe of Dr. Whytt, in 1766, that a proper medical chair became vacant. The body of ſtudents then made a great effort to procure Dr. Cullen's appointment to the practical profeſſorſhip; but this was occupied by Dr. Gregory, who ſucceeded to Dr. Rutherford. A compromiſe, however, took place between them, by which they agreed to give lectures on the theory and practice of phyſic in alternate years: and ſome have accounted this period to have been the moſt flouriſhing for medical ſcience which Edinburgh ever witneſſed. This arrangement was broken by Dr. Gregory's lamented death; after which Dr. Cullen continued to hold the practical chair till within a few months of his own deceaſe. His private employ kept pace with his academical reputation, and he roſe to be the firſt phyſician in point of practice in Scotland. He was likewiſe frequently conſulted from England, and other countries, which were filled with practitioners who had been his pupils, and retained a high veneration for his talents. Dr. J. Brown, from being the votary, became the rival and opponent of Dr. Cullen, who at length began to feel ſome of that jealouſy towards an innovator which he himſelf had once inſpired. The hiſtory of academical ſquabbles would improperly be introduced into this ſketch; we therefore cloſe the life of this eminent perſon with mentioning, that he died on February 5, 1790, in his ſeventy-ſeventh year. Notwithſtanding the ſources of emolument he enjoyed, a large and expenſive family, and inattention to economy, ſo far exhauſted his income, that he left a ſlender proviſion for the ſurvivors, which was augmented by a penſion from the crown, granted upon the ground of his having been king's phyſician for Scotland.

Dr. Cullen's ſcientific merits are now more particularly to be diſcuſſed. As a chemiſt, no conſiderable diſcovery can be aſcribed to him; but he was an extremely uſeful teacher of the ſcience, from the liberal and comprehenſive views he took of it, and the great clearneſs of method with which he treated it. He likewiſe, from an accurate collection of facts, formed very complete hiſtories of ſeveral of its departments, particularly thoſe connected with medicine and the materia medica; and it is certain that no man in theſe kingdoms has done ſo much to render chemiſtry a popular ſtudy, eſpecially among the medical faculty.

His character, as a preceptor and improver in the theory and practice of phyſic, is to be eſtimated from the works he publiſhed, as a ſort of text-book of his lectures, and of which various ſucceſſive editions appeared, enlarged and altered according to the progreſs of his profeſſional labours. Of theſe the principal is that which, in a bald tranſlation of the Latin term, *Primæ Lineæ*, uſed by Haller and others, he entitled "Firſt Lines of the Practice of Phyſic." The complete edition of this work appeared in 1784, in four volumes octavo. Regarding the affections of the motions and moving powers of the animal economy as the leading enquiry in conſidering the diſeaſes of the human body, he aſſumes the general principles of Hoffman, but corrected and extended in their application. He diſclaims, however, all thoſe hypothetical opinions which are uſually called theories; and aſſerts, that the doctrines he lays down are only inductions from that generaliſation of *facts* relative to the ſound and diſeaſed body, which it has been his great buſineſs to collect. Nor has any ſyſtematiſt more fairly deſerved the praiſe of being a faithful collector of facts, and allowing them all due weight in his reaſonings. He has not, however, been contented with a merely empirical baſis for medical practice, but has always endeavoured to inveſtigate the proximate cauſe of diſeaſes, and to build upon it a conſiſtent method of cure. The moſt remarkable of his attempts of this kind is his doctrine of the proximate cauſe of fevers, in which he endeavours to prove the co-exiſtence of ſpaſm and atony in the body. Whatever be thought of the ſubtle reaſonings upon which his opinions in this and other inſtances are founded, no candid judge will deny the great merit derived to his work from the excellent deſcriptions and ſagacious diſcriminations it contains, and the full and commonly juſt views of practice which it diſplays. Dr. Cullen affords the rare and inſtructive example of a man naturally addicted to all the refinements of ſpeculation, who yet pays ſuch a reſpect to experience, as to ſubmit to its deciſion in all points of practice, even at the hazard of appearing inconſiſtent with his own doctrine. This diſpoſition, which has given his opponents ſome advantage

over him in argument, greatly adds to his value as a guide in an art ſo uncertain in its principles as that of medicine. Another of his claſs-books is his "Synopſis Noſologiæ Methodicæ," of which the third edition, in two volumes octavo, appeared in 1782. This contains the ſeveral noſologies of Sauvages, Linnæus, Vogel, and Sagar, with one of his own, meant as an improvement upon all theſe. As methodical arrangement was one of his peculiar talents, it might be expected that he ſhould ſucceed in this taſk as far as the nature of the ſubject would admit; and, without diſparagement to his predeceſſors, it may be pronounced that he has improved upon them all in the elegance of his characteriſtic definitions, and the judiciouſneſs of his diſtribution. The "Lectures on Materia Medica," which we have mentioned as drawn up by Dr. Cullen on an emergency, were thought ſo ingenious, that copies of them were multiplied among the ſtudents; and at length, in 1772, one of them ſurreptitiouſly reached the preſs. The doctor obtained an injunction to ſtop the ſale of this imperfect publication; but, with ſome corrections, it was afterwards ſuffered to proceed. He promiſed, however, at ſome period to give an improved edition of his own; and this appeared in 1789, in two volumes quarto. This is a work very different from the common ſyſtems on the ſubject, and indeed, as a critic has obſerved, rather deſerves the title of the philoſophy of the materia medica than the ſimple hiſtory of it. The arrangement is taken from the medical indications, and to each claſs are prefixed introductory obſervations, which form a ſyſtem of therapeutics. Many of the general doctrines of medicine are likewiſe detailed. As it contains a number of the mature opinions of the author on the moſt important topics, it is well entitled to attention, although it is in many points defective as a treatiſe on the ſubject aſſigned. Its general ſpirit is that of medical ſcepticiſm; of a man who has read much, thought much, and determined little: and it has been remarked of Dr. Cullen's writings in general, that he has been more ſucceſsful in demoliſhing the ſyſtems of others, than in eſtabliſhing his own. A pamphlet Concerning the Recovery of Perſons drowned and ſeemingly dead, 1775, is to be added to the liſt of his publications.—We are indebted to the popular biographical work of Dr. AIKIN for the foregoing particulars.

CULM, a town of Weſtern Pruſſia, with a biſhop's ſee, ſeated near the Viſtula, 60 miles S. of Dantzic. Long. 18. 30. E. Lat. 53. 24. N.

CULMORE, a town of Ireland, in the county of Londonderry, ſeated on the coaſt of Loughfoyle, five miles N. of Londonderry. Long. 7. 3. W. Lat. 55. 8. N.

CULMSEE, a town of Poland, five miles from Culm, whoſe biſhop generally reſides here.

CUMANA, a town of S. America, in Terra Firma, capital of a province of the ſame name. Long. 63. 35. W. Lat. 9. 46. N.

CUMBERLAND (Richard), a very learned Engliſh divine in the latter end of the 17th century, was ſon of a citizen of London, and educated at Cambridge. In 1672 he publiſhed his excellent Treatiſe of the Laws of Nature; and in 1686, An Eſſay toward the Jewiſh Weights and Meaſures. After the revolution he was nominated by King William to the biſhopric of Peterborough, without the leaſt ſolicitation on his part. He purſued his ſtudies to the laſt; and the world is obliged to him for clearing up ſeveral difficulties in hiſtory, chronology, and philoſophy. After the age of 83, he applied himſelf to the ſtudy of the Coptic language, of which he made himſelf maſter. He was as remarkable for humility of mind, benevolence of temper, and innocence of life, as for his extenſive learning. He died in 1718.

CUMBRAY; GREATER and LESSER, two little iſlands in the Frith of Clyde, to the E. of the iſle of Bute. The former is remarkable for its excellent free-ſtone quarries, and the ruins of an ancient cathedral dedicated to St. Columba. Upon the latter is a lighthouſe.

CUPAR, a royal borough of Scotland, in Fifeſhire, and the county-town, 8 miles N. by E. of Falkland, in a rich valley, on the N. ſide of the river Eden.

CURIA-MARIA, an iſland of Aſia, on the coaſt of Arabia Felix, oppoſite the mouth of the river Prim. Long. 55. 25. E. Lat. 17. 0. N.

CURING, a term uſed to denote that proceſs which is applied to any animal or vegetable article of food, with a view to preſerve it for future uſe. Salting, drying, pickling, or ſmoking, are the common means uſed for this purpoſe. The following is the ſpecification of the patent granted to Mr. Batley, of Streatham, Surrey, for a new method of curing herrings, ſprats, &c —"After ſevering the head, and taking out the entrails of the herrings or ſprats, ſalt the body of the fiſh with bay or rock, or the common ſalt, in the caſks (if not ſufficiently ſalted as ſea ſticks), but the bay or rock ſalt is preferable, as the common is more apt to abſorb the pickle, and occaſion the fiſh to ruſt. In the next place pack the fiſh in a caſk, in the uſual way, and between every layer ſprinkle a ſmall portion of ſalt, and alſo pickle, ſufficient to cover the fiſh. Such pickle is to be made with one pound of bay ſalt, four ounces of ſaltpetre, and from two to four pounds of melaſſes (to ſuit different palates), to a gallon of ſpring water, if to be procured, and boil the ſame till the whole of the ingredients are diſſolved. (River water may anſwer the purpoſe, but ſpring water is preferable.) When the fiſh are ſo packed, leaving a vacuum between two and three inches of the head of the caſk, for a full portion of pickle, then let the caſk be headed up, and properly coopered, with a cork-hole, either in the head or centre, through which may be poured a further ſupply of the pickle, for the preſervation of the fiſh; and when the herrings or ſprats, but particularly the latter, are intended for travelling, it may be adviſable to put a falſe top, bored with holes, between the fiſh and caſk-head, in order to prevent their being too much ſhaken: the ſame proportion of any ſugar might be uſed as a ſubſtitute for melaſſes, but the extra price would probably be conſidered as an impediment; and from one to three months ſhould be allowed for curing, in order to give the fiſh a full flavour before they are uſed, ſmoked or dried. The above pickle would anſwer for flavouring the fiſh in their original ſtate, if needful; but, on account of the oil and filth contained in the heads and roes, the preferable mode of curing and preſerving the body of the fiſh is by ſevering the head from, and taking out the entrails, as the only effectual means of eradicating the noxious qualities which would otherwiſe adhere to them. And, in curing ſprats, it is expedient to ſprinkle a larger quantity of ſalt in proportion between each layer than is requiſite for the herrings when packed in the caſk. And as the ſprat caſks will ſeldom exceed ten gallons, a vacuum of about one inch from the head for caſks of that dimenſion will be ſufficient."

CURL, a diſeaſe affecting the plant of the potatoe, very well known to agriculturiſts. The remedy for this is a matter of ſuch national importance as to induce the Society for the Encouragement of Arts, Manufactures, and Commerce, to offer their gold medal, or thirty pounds, to the perſon who ſhould diſcover the nature and cauſe of it, and point out an effectual cure. They received the three following papers; and being deſirous of encouraging every attempt to enſure ſucceſs in the culture of that valuable vegetable, divided the pecuniary premium equally among the three candidates.

From Mr. Hollin's paper we ſelect the following abſtract:

"The curl in potatoes," ſays he, "is a diſeaſe which admits of three different ſtages or degrees.

" 1ſt. The *half-curled* plants, have leaves ſomewhat long, and curled only in a moderate degree: they produce a tolerable crop, if the ſummer be not very dry; but if otherwiſe, the potatoes will be ſmall and watery.

" 2d. The *completely-curled* plants, ſeldom more than ſix or ſeven inches high: they ſoon ripen and die. The potatoes are generally ſmaller than a nutmeg, of a ruſty red colour, and unwholeſome as food.

" 3d. The *corrupted potatoes*, or thoſe in which the vegetative power is nearly deſtroyed, never appear above ground. The ſeed may be found at Michaelmas, as freſh, to appearance, as when it was ſet, with a few ſmall potatoes cloſe to it.

" The *firſt cauſe* of the curl in potatoes muſt be traced to the manner in which the ſeed was raiſed the preceding year.

" If the potatoes be ſet late in the ſeaſon, that is, from the middle of May to the middle of June, in a rich ſoil, well manured, having a ſouthern aſpect, and if the ſummer ſhould be hot and dry till (we will ſuppoſe) the beginning of Auguſt, when the blow of the plants has fallen off, then the ſeed will be exhauſted in feeding the plant only; and very few potatoes will appear. Should the weather now become moiſt and genial, the plants, eſpecially if they ſhould be earthed, will blow afreſh, and a plentiful crop of very large potatoes may yet be produced.

" Theſe potatoes are perfectly fit for uſe as food; but as they were produced from the ſtalk of the plant, after the ſeed itſelf was exhauſted, they will be defective in moiſture and vegetative power: and the plants which proceed from them the following year will be found to be curled."

Second cauſe. " The curl," ſays Mr. Hollins, " may be produced without manure or earthing, provided the potatoes be ſown (at the end of May) thick together, in a rich ſoil, and covered with green fern, or other litter, before the plants appear. The rain rots the fern or litter, and enables it to penetrate as a manure to the roots; and the plants are forced, as in the preceding experiment, to a ſecond growth, and blow. The ſeed thus raiſed produced plants that were curled."

" The forcing potatoes by cultivation, as above deſcribed, I find to be the cauſe of the curl, both from my own experiments, repeated for ſeveral years ſucceſſively, and alſo from the obſervations I have made upon the practice and ill ſucceſs of my neighbours.

" It is well known that the flowers of many plants, ſuch as the poppy, the roſe, and many others, are much altered by cultivation; they become *double*, the ſtamina are converted into petals, the generic character is loſt, they become what botaniſts call monſters; the parts of generation being changed, no ſeed is produced. If I may be allowed to conſider any part of a plant in which the vegetative power reſides as a ſeed, it will be found that rich cultivation produces, if not abſolutely the ſame, at leaſt a ſimilar imperfection in the potatoe; for the flower and the bulbous root are both enlarged by cultivation. In the flower little or no ſeed is produced: in the potatoe, the vegetative power is impaired or deſtroyed, according to the degree of the diſeaſe.

" It is obſervable that, wherever the vegetative power is impaired, there is always a deficiency of moiſture; which confirms my opinion, mentioned before, and is itſelf proved by the following experiment.

" Both healthy and curled plants may be raiſed from the ſame potatoe, in the following manner:

" Dig up, in the beginning of October, ſome potatoes raiſed as is deſcribed in the preceding pages. Amongſt the largeſt will be found ſome that have, in different parts, different degrees of moiſture, the leaſt at the butt, and the moſt at the crown end, the quantity of moiſture gradually increaſing from the butt to the crown. Take one ſet from the crown and another from the butt: the former will produce an healthy, the latter a curled plant. The curl-producing potatoes are alſo obſerved to be drier both before and after boiling, and are boiled in a ſhorter time."

The mode of preventing the curl in potatoes recommended by Mr. Hollins is this: he ſays, 1ſt. " The beſt time of ſetting is from the beginning of April to the middle of May. Make ridges a yard aſunder: put your manure firſt into the trench, and with moderation: ſet the potatoes in a triangular form, five or ſix inches aſunder, cover them with the ſoil to the thickneſs of five or ſix inches. There is but little danger of laying on too much of the ſoil: the deeper are the ſets, the better will they be protected from the ſcorching heat of the ſun, if the ſeaſon ſhould be dry. This diſtance of five or ſix inches is ſo ſmall as to prevent the plants growing too rank, and yet ſufficient for each of them to be expoſed to the ſun and the air.

" 2dly. When they have grown to the height of ſix or ſeven inches above the ground, you muſt not earth them, as is the uſual practice. You muſt take away the weeds, and may draw a little mould to them; but you muſt be careful to do it before the bloſſom-buds appear, which time is generally about the end of June.

" They will now require no further care, excepting that of weeding.

" I am of opinion that early ſetting is advantageous, on account of the greater chance of early rain, which will be very beneficial to the plants if the ſummer ſhould be dry. By this proceſs, the plants will be healthy; the young potatoes will be formed in due ſeaſon; they will grow gradually; the plant will ripen and die in due time, and will not be forced into a ſecond growth by the rain which may fall in September. The ſap being thus left in the potatoe, it becomes a *ſeed* endued with an unimpaired perfect vegetative power, and the plants which are raiſed from them will be found to be entirely free from the curl.

" N. B. The potatoes may be dug as ſoon as they can be handled without cruſhing the peel, that is, about the end of September.

" Sound potatoes are procured with the greateſt certainty from earth that has been peeled and burnt: the ſoil thus prepared is well ſuited to the growth of potatoes. In this they grow gradually, and are not forced beyond their natural ſize: in doubtful ſeed, it is ſafeſt to plant the ſmalleſt potatoes *whole*.

" The ſoil the moſt likely to produce the curl, is that which is rich in itſelf, much manured, and has a ſouthern aſpect. In other ſituations, where the ſoil is not rich, and the garden is cold, either from its being upon the ſide of a hill, or expoſed to the north, the curl has not yet appeared; which is known to be the caſe in the mountainous parts of Radnorſhire and Montgomeryſhire. This is perfectly conſonant with my theory; for where the ſoil is poor, and the ſituation cold, the plants cannot be forced into a ſecond growth by earthing and manure.

" I do not mean to diſſuade thoſe who are anxious to raiſe large crops for immediate uſe, from earthing and manuring to the utmoſt extent; I only caution them againſt uſing potatoes ſo raiſed for *ſeed*. By earthing and manuring, you will doubtleſs raiſe large crops of large potatoes perfectly good, as food, but imperfect as ſeed; for the vegetative power will be impaired by this forcing cultivation. Hence it will be the intereſt of every prudent cultivator, to allot a portion of his potatoe-garden to the raiſing of ſeed-potatoes. If the directions which I have given be followed, I have not the leaſt doubt of ſucceſs; at leaſt I am certain that the curl will not make its appearance."

Mr. Pitt's *paper*.—"Having been a grower of potatoes," ſays he, "upon a conſiderable ſcale, for theſe ten years, I write wholly from experience: my annual growth has generally been from five hundred to one thouſand buſhels. I have frequently had a few curled, but not for ſeveral years, unleſs I planted curled ſorts in ſmall quantities, on purpoſe for obſervation. The curl in potatoes is doubtleſs owing to a degeneracy in the ſeed; to the particular ſpecies or variety being worn out; by too great a ſameneſs, and too long planting on the ſame ſort of land: and this degeneracy is by no means peculiar to the potatoe; every known plant, and perhaps even animal, is ſubject to a ſimilar degeneracy. Wheat, ſown too long on the ſame ſpot, without changing the ſeed, will generally become ſmut and hen-corn. I have known barley, by being ſown nine or ten years on the ſame kind of ſoil, degenerate to the lightneſs of oats; and oats, from the ſame cauſe, become little more than huſk and chaff. Peas, too long ſown without change, ripen later, and become ſo unkindly, that the pods, on the upper part of the haulm, never fill. To conſider the ſame idea, and apply it in an inſtance or two, to the animal creation, I have known a good breed of hogs, by repetition of breeding male and female from the ſame farrow, become ſo rickety, that they could not be reared; and have very credible accounts of the ſame effects taking place in the human ſpecies, by confining intermarriages to two or three families for generations.

"I hope this digreſſion will be excuſed, as tending to illuſtrate the main ſubject, by making the cauſe of the diſorder, in queſtion, apparent.

"The *cure*, I have no doubt, conſiſts in planting ſorts that have hitherto retained their health and their perfection; (and many ſuch ſorts there are; freſh varieties are annually raiſed, and may be multiplied almoſt to infinity, by ſowing the bell or natural ſeed of the potatoe): and indeed it is the duty, as well as intereſt, of every cultivator, whether of potatoes, or any other vegetable, to procure his ſeed from as perfect a plant as poſſible, and by no means to uſe the ſeed of a worn-out, degenerate plant.

"I have never underſtood, that the curl in potatoes has been, in this country, by any means formidable to the attentive cultivator. No one in their ſenſes would plant a degenerate ſort but upon a narrow ſcale, nor indeed is there the leaſt occaſion: for the bounty of nature has always at hand plenty of ſubſtitutes, equal or ſuperior in quality to former ſorts, even when they were in perfection. The varieties that I have known fail by curling, in this country, are only three: their provincial names are, firſt, an early ſort, called here Pretty Bettys; in lieu of which are introduced Champions and Golden Balls, both excellent early ſorts: ſecondly and thirdly, the old Winter Reds, and Pink Eyes, have both failed, and we have inſtead of them, Ayleſbury Whites, the Cluſter Potatoe, the Ox Noble, red and white Surinam for cattle; a dark purple kind, called by ſome the Pomegranate Potatoe; and many other valuable ſorts, which never have yet curled. The rational remedy, therefore, undoubtedly, is the raiſing and introducing of freſh varieties; a practice which has never yet been interrupted by any difficulty."

Mr. Holt's *paper*.—"On the cauſe and prevention of the curl in potatoes," ſays Mr. Holt, "I beg leave to offer the following thoughts, being a ſubject of no ſmall importance to the farmer, and to which I have paid not a little attention.

"The cauſe of this diſeaſe, as far as I can judge, does not ariſe from peculiarity of ſoil, variety of manure, difference of ſeaſon (dry or moiſt): the cauſe, therefore, whatever it may be, it ſhould ſeem, originates from the ſet, which, when once infected, I imagine is incurable; and the diſeaſe or curl appears to be nothing more than a total degeneracy of the plant, by being worn out, through want of change of ſeed, upon the ſame ſoil, with probably ſome other cauſes co-operating.

"It is a well-known fact, to every experienced farmer, that almoſt every ſpecies of grain and vegetables require repeated renewal, or change from different ſoils: or they wear out, (as the phraſe is), yield but imperfect crops, if continued too long; and defeat the cultivator in his expectations of reaping benefit. Why may not this too cauſe the ſame effect in potatoes, by their being too repeatedly planted, and occaſion the blaſted, early-matured appearance of the ſtems, which is always followed by a failure of crop.

"In confirmation of the above theory, this diſtrict for ſome years ſuffered great injury from curled potatoes. As the diſeaſe had but then lately made its appearance, the cultivators were at a loſs for a remedy.—This was obtained by totally diſcarding their former ſeed-plants; and of late years large quantities have been annually imported from Scotland.

"This practice has been attended with ſucceſs: few crops, I believe I may venture to ſay none, have been infected with the diſeaſe, if renewed; but if the ſame ſeed was imprudently, for a few years, continued upon the ſame ſoil, ſome plants would appear infected; and if ſtill continued longer, the diſeaſe, inſtead of being *partial*, would ſoon become *total*, with few exceptions. The cuſtom now is, to import every year from Scotland.

"There may be other reaſons which cauſe a degeneracy of wearing out of the plant.—Every ſeed has its peculiar ſeaſon, when it is moſt proper to be committed to the earth. In ſome, the budding of certain plants, or the blowing of flowers, indicate this preciſe moment to the attentive cultivator: the month, or even the day of the month, is his only guide in others. To a few of theſe the moſt favourable time is very limited, ſo very limited, that the winter turnip will not (in this diſtrict) yield a crop, if its ſeed be not ſown within a very few days before or after the 20th of July; but better, if five days before this period, than the ſame number of days afterwards. From the 20th of March to the end of April is a proper ſeaſon for planting moſt of the kinds of the winter potatoe: but this root, the friend and great ſupport of the labouring man, is not ſo very ſhy of her favours; productive crops have been obtained when planted even in July.—Time, however, for acquiring ſufficient maturity, is not allowed from ſuch late planting; for the crop, though productive, is not perfect, being neither ſo ſolid nor palatable; and this may be one cauſe of accelerating a decay, or bringing on the curl.

"The potatoe is alſo liable to other diſorders: in very dry ſeaſons, excreſcences will ariſe, vulgarly called the ſcab; in moiſt ſeaſons, little holes or cavities appear, called the canker; and both theſe diſorders increaſe according to the length of time they remain in the earth after having acquired maturity. It is more than probable, that theſe diſorders may haſten the decay, and cauſe the curl.

"One method of preventing the diſeaſe, namely, by changing the ſeed, has been already mentioned: another ſource of prevention offers, from raiſing new kinds from the ſeed or apple of the plant, or the ſame kinds renewed again from the ſeed. Raiſing new kinds from ſeed, however, requires no ſmall portion of diſcernment; for the ſeed from the ſame plant will produce ſo many varieties, that it requires nice judgment of the cultivator properly to ſelect. Great numbers, from inſpection only, will be weeded out and rejected; and of thoſe retained, more will be again rejected the ſucceeding and following years: of the remaining few, there may different characters ſtill exiſt; ſuch as ill or well-flavoured, cloſe or coarſe-grained, productive, non-produc-

tive, &c. &c. Each may have their reſpective value: but I think it may be generally aſſerted, that the finer kinds ſooner degenerate; the coarſe kinds, which are almoſt, if not always, more productive, retain their vigour the longeſt. The following example confirms this opinion.

"Spring, 1785.—I procured a new kind of potatoe, called a Dabb, lately raiſed from ſeed; where, I know not: the character of which was large, coarſe-grained, ſtrong-flavoured, and of courſe rejected from the table; but being very productive, was uſeful for cattle. The laſt year it was ſo much improved, as to be no longer rejected: it ſtill retains the quality of being productive, even ſo much as yielding, this preſent year, ſix buſhels from every ſtatute perch. It ſhould be obſerved, that the preſent very luxuriant crop may be in great meaſure owing to having been planted on a virgin ſoil, which was never before improved, or broken up; very little dung was uſed. Here is an evident change for the better; the plants are vigorous, and there is at preſent no appearance of decay: this new ſoil may be the means of preſerving the plant a few years longer; but a total change of ſeed will, in time, become abſolutely neceſſary.

"Hence, it ſhould appear, that although the diſeaſe, after the preſent ſtock has been, to a certain degree, infected, can never be cured, yet means may be taken for prevention: and that this is the caſe in this diſtrict is evident; few crops, of late years, having failed, by being much infected with this diſorder; for, wherever the curl has appeared, in ever ſo ſmall a degree, that ſtock has been rejected by the attentive cultivator, and new ſeed obtained.

"It was ſo late as the year 1565, when the potatoe was firſt imported from its native ſoil, America, into Ireland; and afterwards (owing as is reported, to a ſhipwreck) they were planted upon the ſea-coaſt, in Lancaſhire, from whence their cultivation has been progreſſive, from the weſt, through every part of the kingdom; in ſome of which but very lately. It is alſo imagined, that this diſeaſe firſt appeared in this very diſtrict of the kingdom wherein they were firſt cultivated; and this happened about the year 1764: a remarkable circumſtance at which time I yet well remember:—a perſon, full of enterpriſe, obſerving the curl in a few ſtems of a certain crop, and that they at the ſame time decayed, or arrived at maturity ſooner than the reſt, had them carefully ſelected out, imagining he had luckily obtained, ſomehow, a new and early kind; and had all of them planted the next ſeaſon: that he was diſappointed of his ſucceeding crop was evident; but from what cauſe he was puzzled.

"I am the more encouraged to offer theſe hints, for that, after having drawn them up, in the manner here ſent, I read them over to a very intelligent farmer in this neighbourhood, who ſaid that theſe thoughts totally correſponded with his own. I have ſhewn them alſo to a reſpectable clergyman, who, to his other many excellent qualities, is always ready to communicate information, and has favoured me with the following extract from a private letter.

"'A labouring man in my neighbourhood has got a very good potatoe: the only fault is, that out of four plants, three of them are abominably curled; on which account I deſired he would give me four potatoes. From each potatoe I took a *ſhoot*, not a *ſet*, in order to ſee if the ſhoots would be curled: they were not: ſo, poſſibly their not being curled may be accidental, or poſſibly the curl may ariſe from the *ſet* planted. Another year, I will plant a dozen or more, of theſe potatoe-ſhoots: then, if there ſhould be no curl, I ſhall be clearly of opinion, that the curl ariſes from ſome diſeaſe in the *ſet*. What I mean by ſhoot, is—I put three or four ſets into a flower-pot; when they have ſhot to be about two inches high, and have fibres, I take the ſets up, and with a knife cut the ſhoots off, leaving not the leaſt piece of a ſet on the ſhoot. I then plant the ſhoots.'

"It ſhould appear, from the above ingenious experiment, of which future trials will confute or confirm the fact, that it corroborates the above theory, by proving the diſeaſe in the ſet; and which, when the cauſe or ſeat of the diſorder is lopped away, the cure is effected by the force of nature to heal itſelf, and the power of vegetation on the ſmall fibres, which retain newly-acquiredlife, though from an infected parent ſtock.

"The nature of vegetation is ſo myſterious, that we muſt acknowledge our ignorance in her wonderful proceſs. We know that many varieties of fruits may, by a ſingle bud of each, be inoculated upon one and the ſame ſingle ſtock; and that, from this one root or fountain-head, may be obtained the different fruits therein depoſited; but by what law of attraction or repulſion this common ſtock or parent can divide, aſſimilate, correct, and adjuſt, the different particles of matter of which each fruit is diſtinguiſhed, by ſhape and flavour, is beyond our reach to know. It is true that but a very ſmall part of the food of plants or fruits is filtered through the roots of the plants: the leaves, the bark, the wood, imbibe from the atmoſphere, and perform their taſk: but being of different ſhape, texture, and grain, each has its ſeparate and particular mode of operation, and thereby cauſes different effects. Nor yet are we able to ſay, what it may be that gives the different flavours to fruit; whether from the component particles of matter differently arranged, or whether from the ſeparate and component parts being of different ſhapes, &c. &c. Theſe are ſecrets hitherto withheld, and probably ever will be hid from the ſearch of man."

CURSOLIERS, a ſmall iſland of Livadia, in the gulf of Patras, formerly called Echanades.

CUSSET, a town of France, in the department of Allier, and late province of Bourbonnois, 17 miles N. of Roanne. Long. 4. 5. E. Lat. 46. 17. N.

CUSTOM *and* HABIT (*Encycl.*). In our original article we omitted the neceſſary conſideration of the *effects of cuſtom and habit in the animal economy*. Theſe may be reduced to five heads. 1. On the ſimple ſolids. 2. On the organs of ſenſe. 3. On the moving power. 4. On the whole nervous power. 5. On the ſyſtem of blood-veſſels.

1. *Effects on the ſimple ſolids.* Cuſtom determines the degree of flexibility of which they are capable. By frequently repeated flexion, the ſeveral articles of which theſe ſolids conſiſt are rendered more ſupple and moveable on each other. A piece of catgut, *e. g.* when on the ſtretch, and having a weight appended to its middle, will be bended thereby perhaps half an inch; afterwards, by frequent repetitions of the ſame weight, or by increaſing the weight, the flexibility will be rendered double. The degree of flexibility has a great effect in determining the degree of oſcillation, provided that elaſticity is not affected; if it go beyond this, it produces flaccidity. Again, cuſtom determines the degree of tenſion; for the ſame elaſtic chord that now oſcillates in a certain degree of tenſion, will, by frequent repetition of theſe oſcillations, be ſo far relaxed, that the extenſion muſt be renewed in order to produce the ſame tenſion, and conſequently the ſame vibrations, as at firſt. This appears in many inſtances in the animal economy, as when different muſcles concur to give a fixed point, or tenſion, to each other: and thus a weakly child totters as it walks; but by giving it a weight to carry, and by thus increaſing the tenſion of the ſyſtem, it walks more ſteadily. In like manner the fulneſs of the ſyſ-

tem gives ſtrength, by diſtending the veſſels every-where, and ſo giving tenſion: hence a man, by good nouriſhment, from being weak, acquires a great increaſe of ſtrength in a few days; and, on the other hand, evacuations weaken by taking off the tenſion.

2. *Effects on the organs of ſenſe.* Repetition gives a greater degree of ſenſibility, in ſo far only as it renders perception more accurate. Repetition alone gives laſting impreſſions, and thus lays the foundation of memory; for ſingle impreſſions are but retained for a ſhort time, and are ſoon forgot. Thus a perſon, who at preſent has little knowledge of cloths, will, by frequently handling them, acquire a ſkill of diſcerning them, which to others ſeems almoſt impoſſible. Many are apt to miſtake this for a nicer ſenſibility, but they are much miſtaken; for it is an univerſal law, that the repetition of impreſſion renders us leſs acute. This is well illuſtrated by the operation of medicines; for all medicines which act on the organs of ſenſe muſt, after ſome time, be increaſed in their doſe, to produce the ſame effect as at firſt. This affords a rule in practice with regard to theſe medicines; it becoming neceſſary, after a certain time, to change one medicine even for a weaker of the ſame nature. Thus medicines, which even have no great apparent force, are found, by long uſe, to deſtroy the ſenſibility of the ſyſtem to other impreſſions. But to this general rule, that, by repetition, the force of impreſſions is more and more diminiſhed, there are ſome exceptions. Thus perſons, by a ſtrong emetic, have had their ſtomachs rendered ſo irritable, that 1-20th of the firſt doſe was ſufficient to produce the ſame effect. This, however, oftener takes place when the vomit is repeated every day; for if the ſame vomit be given at pretty conſiderable intervals, the general rule is obſerved to hold good. Thus two contrary effects of habit are to be noted; and it is proper to obſerve, that the greater irritability is more readily produced when the firſt impreſſion is great, as in the caſe firſt given of the ſtrong emetic. This may be further illuſtrated by the effect of fear, which is commonly obſerved to be diminiſhed on repetition; which can only be attributed to cuſtom: while, on the other haud, there are inſtances of perſons, who, having once got a great fright, have for ever after continued ſlaves to fears excited by impreſſions of the like kind, however ſlight; which muſt be imputed entirely to exceſs of the firſt impreſſion, as has been already obſerved. To this head alſo belongs the aſſociation of ideas, which is the foundation of memory and all our intellectual faculties, and is entirely the effect of cuſtom; with regard to the body alſo, theſe aſſociations often take place. And ſometimes, in producing effects on the body, aſſociations ſeemingly oppoſite are formed, which, through cuſtom, become abſolutely neceſſary; *e. g.* a perſon long accuſtomed to ſleep in the neighbourhood of a great noiſe, is ſo far from being incommoded on that account, that afterwards ſuch noiſe becomes neceſſary to produce ſleep. It will be of uſe to attend to this in medical practice; for we ought to allow for, however oppoſite it may ſeem at the time, whatever uſually attended the purpoſe we deſigned to effect. Thus, in the inſtance of ſleep, we muſt not exclude noiſe when we want to procure reſt, or any cauſes which may ſeem oppoſite to ſuch an effect, provided cuſtom has rendered them neceſſary.

3. *Effects on the moving fibres.* A certain degree of tenſion is neceſſary to motion, which is to be determined by cuſtom; *e. g.* a fencer, accuſtomed to one foil, cannot have the ſame ſteadineſs or activity with one heavier or lighter. It is neceſſary alſo that every motion ſhould be performed in the ſame ſituation, or poſture of the body, as the perſon has been accuſtomed to employ in that motion. Thus, in any chirurgical operation, a certain poſture is recommended; but if the operator has been accuſtomed to another, ſuch a one, however awkward, becomes neceſſary afterwards to his right performance of that operation.

Cuſtom alſo determines the degree of *oſcillation*, of which the moving fibres are capable. A perſon accuſtomed to ſtrong muſcular exertions is quite incapable of the more delicate. Thus writing is performed by ſmall muſcular contractions; but if a perſon has been accuſtomed to ſtronger motions with theſe muſcles, he will write with much leſs ſteadineſs.

This ſubject of tenſion, formerly attributed to the *ſimple fibres*, is probably more ſtrictly applicable to the moving: for, beſides a tenſion from flexion, there is alſo a tenſion from irritation and ſympathy; *e. g.* the tenſion of the ſtomach from food, gives tenſion to the whole body. Wine and ſpirituous liquors give tenſion; *e. g.* a perſon that is ſo affected with tremor as ſcarcely to hold a glaſs of any of theſe liquors to his head, has no ſooner ſwallowed it, than his whole body becomes ſteady; and after the ſyſtem has been accuſtomed to ſuch ſtimuli, if they are not applied at the uſual time, the whole body becomes flaccid, and, of conſequence, unſteady in its motions.

Again, cuſtom gives facility of motion. This ſeems to proceed from the diſtenſion which the nervous power gives to the moving fibres themſelves. But in whatever manner it is occaſioned, the effect is obvious, for any new or unuſual motion is performed with great difficulty.

It is ſuppoſed that ſenſation depends on a communication with the ſenſorium commune, by means of organs ſufficiently diſtended with nervous influence. We have found, that ſenſibility is diminiſhed by repetition. And we have now to obſerve, that in ſome caſes it may be increaſed by repetition, owing to the nervous power itſelf flowing more eaſily into the part on account of cuſtom. Attention to a particular object may alſo determine a greater influx into any particular part, and thus the ſenſibility and irritability of that particular part may be increaſed.

But with regard to facility of motion, the nervous power, no doubt, flows moſt eaſily into thoſe parts to which it has been accuſtomed: yet facility of motion does not entirely depend on this, but in part alſo on the concurrence of the action of a great many muſcles; *e. g.* Winſlow has obſerved, that, in performing any motion, a number of muſcles concur to give a fixed point to thoſe intended chiefly to act, as well as to others that are to vary and modify their action. This, however, is aſſiſted by repetition, and the freer influx; as by experience we know the proper attitude for giving a fixed point in order to perform any action with facility and ſteadineſs.

Cuſtom gives a ſpontaneous motion alſo, which ſeems to recur at ſtated periods, even when the exciting cauſes are removed. Thus, if the ſtomach has been accuſtomed to vomit from a particular medicine, it will require a much ſmaller doſe than at firſt, nay, even the very ſight or remembrance of it will be ſufficient to produce the effect; and there are not wanting inſtances of habitual vomiting, from the injudicious adminiſtration of emetics. It is on this account that all ſpaſmodic affections ſo eaſily become habitual, and are ſo difficult of cure; as we muſt not only avoid all the exciting cauſes, even in the ſmalleſt degree, but alſo their aſſociations.

Cuſtom alſo gives ſtrength of motion: ſtrength depends on ſtrong oſcillations, a free and copious influx of the nervous power, and on denſe ſolids. But in what manner all theſe circumſtances have been brought about by repetition, has been already explained. The effect of cuſtom, in producing ſtrength, may be thus illuſtrated; a man that begins with lifting a calf, by continuing the ſame practice every day, will be able to lift it when grown to the full ſize of a bull.

All this is of conſiderable importance in the practice of phy-

fic, though but too little regarded; for the recovery of weak people, in great meaſure, depends on the uſe of exerciſe, ſuited to their ſtrength, or rather within it, frequently repeated and gradually increaſed. Further, it is neceſſary to obſerve, that cuſtom regulates the particular celerity with which each motion is to be performed: for a perſon accuſtomed. for a conſiderable time, to one degree of celerity, becomes incapable of a greater; *e. g.* a man accuſtomed to ſlow walking will be out of breath before he can run twenty paces. The train, or order, in which our motions are to be performed, is alſo eſtabliſhed by cuſtom; for if a man hath repeated motions, for a certain time, in any particular order, he cannot afterwards perform them in any other. Cuſtom alſo very frequently aſſociates motions and ſenſations: thus, if a perſon has been in uſe of aſſociating certain ideas with the ordinary ſtimulus which in health excites urine, without theſe ideas the uſual inclination will ſcarce excite that excretion; and, when theſe occur, will require it even in the abſence of the primary exciting cauſe: *e. g.* it is very ordinary for a perſon to make urine when going to bed; and if he has been, for any length of time, accuſtomed to do ſo, he will ever afterwards make urine at that time, though otherwiſe he would often have no ſuch inclination: by this means ſome ſecretions become. in a manner, ſubject to the will. The ſame may be ſaid of going to ſtool: and this affords us a good rule in the caſe of coſtiveneſs; for by endeavouring to fix a ſtated time for this evacuation, it will afterwards, at ſuch time, more readily return. It is further remarkable, that motions are inſeparably aſſociated with other motions: this, perhaps, very often proceeds from the neceſſary degree of tenſion; but it alſo often depends merely on cuſtom, an inſtance of which we have in the uniform motions of our eyes.

4. *Effects on the whole Nervous Power.* We have found, that, by cuſtom, the nervous influence may be determined more eaſily into one part than another, and therefore, as all the parts of the ſyſtem are ſtrongly connected, the ſenſibility, irritability, and ſtrength of any particular part, may be thus increaſed. Cuſtom alſo has the power of altering the natural temperament, and of inducing a new one. It is alſo in the power of cuſtom to render motions periodical, and periodically ſpontaneous. An inſtance of this we have in ſleep, which is commonly ſaid to be owing to the nervous power being exhauſted, the neceſſary conſequence of which is ſleep, *e. g.* a reſt of the voluntary motions to favour the recruit of that power: but if this were the caſe, the return of ſleep ſhould be at different times, according as the cauſes which diminiſh the nervous influence operate more or leſs powerfully; whereas the caſe is quite otherwiſe, theſe returns of ſleep being quite regular. This is no leſs remarkable in the appetites, that return at particular periods, independent of every cauſe but cuſtom. Hunger, *e. g.* is an extremely uneaſy ſenſation; but goes off of itſelf, if the perſon did not take food at the uſual time. The excretions are further proofs of this, *e. g.* going to ſtool, which, if it depended on any particular irritation, ſhould be at longer or ſhorter intervals according to the nature of the aliment. There are many other inſtances of this diſpoſition of the nervous influence to periodical motions, as the ſtory of the ideot of Stafford, recorded by Dr. Plot (Spectator, No. 447.), who, being accuſtomed to tell the hours of the church-clock, as if ſtruck, told them as exactly when it did not ſtrike by its being out of order. Montaigne tells us of ſome oxen that were employed in a machine for drawing water, who, after making 300 turns, which was the uſual number, could be ſtimulated by no whip or goad to proceed further. Infants, alſo, cry for and expect the breaſt at thoſe times in which the nurſe has been accuſtomed to give it.

Hence it would appear, that the human economy is ſubject to periodical revolutions, and that theſe happen not oftener may be imputed to variety; and this ſeems to be the reaſon why they happen oftener in the body than mind, becauſe that is ſubject to greater variety. We ſee frequent inſtances of this in diſeaſes, and in their criſes; intermitting fevers, epilepſies, aſthmas, &c. are examples of periodical affections: and that critical days are not ſo ſtrongly marked in this country as in Greece, and ſome others, may be imputed to the variety and inſtability of our climate; but perhaps ſtill more to the leſs ſenſibility and irritability of our ſyſtem; for the exhibition of medicine has little effect in diſturbing the criſes, though it be commonly aſſigned as a cauſe.

We are likewiſe ſubject to many habits independent of ourſelves, as from the revolutions of the celeſtial bodies, particularly the ſun, which determines the body, perhaps, to other daily revolutions beſides ſleeping and waking. There are alſo certain habits depending on the ſeaſons. Our connections, likewiſe, with reſpect to mankind, are means of inducing habits. Thus regularity from aſſociating in buſineſs, induces regular habits both of mind and body.

There are many diſeaſes, which, though they aroſe at firſt from particular cauſes, at laſt continue merely through cuſtom or habit. Theſe are chiefly of the nervous ſyſtem. We ſhould, therefore, ſtudy to counteract ſuch habits; and accordingly Hippocrates, among other things for the cure of epilepſy, orders an entire change of the manner of life. We likewiſe imitate this in the chincough; which often reſiſts all remedies till the air, diet, and ordinary train of life, are changed.

5. *Effects on the Blood-veſſels.* From what has been ſaid on the nervous power, the diſtribution of the fluids muſt neceſſarily be variouſly affected by cuſtom, and with that the diſtribution of the different excretions; for though we make an eſtimate of the proportion of the excretions to one another, according to the climate and ſeaſons, they muſt certainly be very much varied by cuſtom.

On this head we may obſerve, that blood-letting has a manifeſt tendency to increaſe the quantity of the blood; and if this evacuation be repeated at ſtated times, ſuch ſymptoms of repletion, and ſuch motions are excited at theſe times, as render the operation neceſſary. The ſame has been obſerved in ſome ſpontaneous hæmorrhages. Theſe, indeed, at firſt, may have ſome exciting cauſes, but afterwards they ſeem to depend chiefly on cuſtom. The beſt proof of this is with regard to the menſtrual evacuation. There is certainly ſomething originally in females, that determines that evacuation to the monthly periods. Conſtant repetition of this, comes to fix it, independent of ſtrong cauſes, either favouring or preventing repletion; *e. g.* blood-letting will not impede it, nor filling the body induce it: and, indeed, ſo much is this evacuation connected with periodical motions, that it is little in our power to produce any effect by medicines but at thoſe particular times. Thus, if we would relax the uterine ſyſtem, and bring back this evacuation when ſuppreſſed, our attempts would be vain and fruitleſs, unleſs given at that time when the menſes ſhould have naturally returned.

CUSTRIN, a handſome town of Germany, in the New Marche of Brandenburg, with a caſtle. It is ſeated in a moraſs, ſurrounded by two branches of the Oder, 46 miles E. by N. of Berlin. Long. 14. 40. E. Lat. 52. 40. N.

CUTAIS, the capital of Imeritia, a country between the Black Sea and the Caſpian, and the reſidence of its ſovereign prince David. The remains of its cathedral ſeem to prove that it was once a conſiderable place, but it now ſcarcely deſerves the name of a village.

CUTCH, a territory of conſiderable extent in Hindooſtan Proper. It is governed by a rajah of its own, and is ſituated

on the S. E. of Sindy; the E. branch of the Indus ſeparating the two countries. It extends along the N. coaſt of the gulf of Cutch, and is ſeparated from Guzerat by the river Puddar, or one of its branches. It abounds with hills, woods, and ſandy wilds. The interior part of it is unknown. Its capital is Boodge-boodge.

CUXHAVEN, a ſea-port of Bremen, ſituated on the German Ocean, between the mouths of the Elbe and the Weſer.

CYCLOID (*Encycl.*). On the ſubject of *cycloidal curves*, a French writer has the following remark: "Il ſemble qu'une deſtinée particulière attachée à la cycloide, lui donne préferablement aux autres courbes un plus grand nombre de propriétés rémarquables."

Definition I.

When a circle is made to rotate on a rectilinear baſis, the figure deſcribed on the plane of the baſis by any point in the plane of the circle is called a trochoid. A circle concentric with the generating circle, and paſſing through the deſcribing point, may be called the deſcribing circle.

Definition II.

If the deſcribing point is in the circumference of the rotating circle, the two circles coincide, and the curve is called a cycloid.

Definition III.

If a circular baſis be ſubſtituted for a rectilinear one, the trochoid will become an epitrochoid, and the cycloid an epicycloid.

Scholium 1. The terms have hitherto been too promiſcuouſly employed; the terms cycloid and trochoid have been uſed indifferently; and the term epicycloid has comprehended the epitrochoid, the terms prolate and contracted being ſometimes added to imply that the deſcribing point is within or without the generating circle. The interior epicycloid and epitrochoid may very properly be diſtinguiſhed by the names hypocycloid and hypotrochoid, whenever they are the ſeparate objects of conſideration. The different ſpecies of epicycloids may be denominated according to the number of their cuſps, combined with that of the entire revolutions which they comprehend; for inſtance, the epicycloid deſcribed by a circle on an equal baſis is a ſimple unicuſpidate epicycloid; and if the diameter of the generating circle be to that of the baſis as 5 to 2, the figure will be a quintuple bicuſpidate epicycloid. If the deſcribing circle of a trochoid or cycloid be ſo placed as to touch the middle of the baſis, and each of the ordinates parallel to the baſis be diminiſhed by the correſponding ordinate of the circle, the curve thus generated has been denominated the companion of the trocloid, the figure of the ſines, and the harmonic curve.

Scholium 2. The invention of the cycloid has been attributed by Wallis, Ph. Tr. for 1697, n. 229, to Cardinal Cuſanus, who wrote about the year 1450: but it ſeems to be at leaſt as probable that the curve which appears in Cuſanus's figure was meant for the ſemicircle employed in finding a mean proportional. Bovillus, in 1501, has a juſter claim to the merit of the invention of the cycloid and trochoid, if it can be any merit to have merely imagined ſuch curves to exiſt. In 1599, Galileo gave a name to the common cycloid, and attempted its quadrature, but having been accidentally miſled by repeated experiments on the weight of a flat ſubſtance cut into a cycloidal form, he fancied that the area bore an incommenſurable ratio to that of the circle, and deſiſted from the inveſtigation. Merſennus deſcribed the cycloid, in 1615, under the name of la trochoide, or la roulette, but he went no further. Roberval ſeems to have firſt diſcovered the comparative quadrature and rectification of the cycloid, and the content of a cycloidal ſolid, about the year 1635, but his treatiſe was not printed until 1695. Torricelli, in 1644, firſt publiſhed the quadrature and the method of drawing a tangent. Wallis gave, in 1670, a perfect quadrature of a portion of the cycloid. The epicycloid is ſaid to have been invented by Rœmer; its rectification and evolute were inveſtigated by Newton in the Principia, publiſhed in 1687. In 1695 Mr. Caſwell ſhewed the perfect quadrability of a portion of the epicycloid, and Dr. Halley immediately publiſhed an extenſion of Caſwell's diſcovery, together with a compariſon of all epitrochoidal with circular areas. M. Varignon is alſo ſaid to have reduced the rectification of the epitrochoid to that of the ellipſis, in the ſame year. Nicole, Delahire, Paſcal, Reaumur, Maclaurin, the Bernoullis, the commentators on Newton, and many others, have contributed to the examination of cycloidal curves, both in planes and in curved ſurfaces; and Waring, the moſt profound of modern algebraiſts, has conſiderably extended his reſearches upon the nature of thoſe lines which are generated by a rotatory progreſſion of other curves. In the preſent eſſay the moſt remarkable properties of cycloidal curves are deduced in a ſimpler and more general manner than appears to have been hitherto done, the equations of ſeveral ſpecies are inveſtigated, a ſingular property of the quadricuſpidate hypocycloid is demonſtrated, and the peculiarities of the ſpiral of Archimedes are derived from its generation as an epitrochoid.

PROPOSITION I. THEOREM. PL. 23. FIG. 1.

In any curve generated by the rotation of another on any baſis, the right line joining the deſcribing point, and the point of contact of the generating curve and the baſis, is always perpendicular to the curve deſcribed.

It may by ſome be deemed ſufficient to conſider the generating curve as a rectilinear polygon of an infinite number of ſides; ſince, in this point of view, the propoſition requires no further demonſtration; and, indeed, Newton and others have not ſcrupled to take it for granted: but it is preſumed that a more rigid proof will not be conſidered as ſuperfluous. Let M be the deſcribing point, and P the point of contact; and let LO, MP, and NQ, be ſucceſſive poſitions of the ſame chord of the generating curve at infinitely ſmall diſtances; then it is obvious, and eaſily demonſtrable, that the arcs OP and PQ, deſcribed by the point P of the generating curve in its paſſage from O to P, and from P to Q, will be perpendicular to the baſis at P, and will therefore touch each other. Let the arcs L,IMK, and N, be deſcribed with the radius PM, on the centres O, P, and Q. Then the curve deſcribed by M will touch IMK; for ſince O and Q lie ultimately in the ſame direction from P, if L be above IMK, N will alſo be above it, ſince theſe points muſt be in the circles L and N, and infinitely near to M; and if L is below IMK, N, for the ſame reaſon, muſt be below it; and M is common to the circle and the curve, therefore the curve touches the circle IMK at M, and is perpendicular to the radius PM.

PROPOSITION II. PROBLEM.

To draw a tangent to a cycloidal curve at any given point.

On the given point as a centre deſcribe a circle equal to the deſcribing circle of the curve, and from the interſection of this circle, with the line deſcribed by the centre of the generating circle, let fall a perpendicular on the baſis; the point thus found will be the point of contact, and the tangent will be perpendicular to the right line joining this point of contact and the given point, by the firſt propoſition. It will be obvious, from inſpection, which of the two interſections of the circle to be deſcribed, with the tract of the centre, is to be taken as the place of that centre correſponding to the given point.

PROPOSITION III. PROBLEM. FIG. 2.

To find the length of an epitrochoid.

Let C be the centre of the baſis VP, K that of the rotating circle PR, and of the deſcribing circle GL, P the point of con-

tact, and M the describing point. Then joining MXC, and supposing VX to be an element representing the motion of the point P in either the basis or the generating circle, draw the arc MN on the centre C, and join CVN, then NM will represent the motion of the point M as far as it is produced by the revolution round the centre C: take MO to VX as GK to PK, then MO will be the motion of M arising from the revolution round K, and NO will be the element of the curve produced by the joint motion. Let CH be parallel to PM, then CX or CP : CM : : VX : MN, and PK : MK : : CP : HM : : VX : MO, therefore CM : HM : : MN : MO, and these lines being perpendicular to CM, HM, the triangle NMO is similar to CMH, and MN : NO : : CM : CH, hence CP : CH : : VX : NO. Take PY to CP as PK to CK, then CH : CP : : PM : PY : : NO : VX. On L describe the circle PFB, and draw IMLF: let FD be perpendicular to PRB, take DE to DF as PL, and E will be always in the ellipsis BEP: let AE and AF be tangents to the ellipsis and circle at E and F; then the increment of the arc BF will be to MO as PL to GL, and to VX as PL to PR. Join GM, and parallel to it draw PI; then PIL is a right angle, and ILP=AED, and IM : IL : : PG : PL : : DE : DF, by construction; therefore the figure IPML is similar to DAEF, as PL to PM so is AF to AE, and so is the increment of the arc BF to that of BE; but the increment of BF is to VX as PL to PR, therefore the increment of BE is to VX as PM to PR. Now, it was proved that NO : VX : : PM : PY; therefore the increment of BE is to NO as PY to PR, or as CP to 2 CK: and the whole elliptic arc BE is to the whole SM as the radius of the basis to twice the distance of the centres.

Corollary 1. The fluxion of every cycloidal arc is proportional to the distance of the describing point from the point of contact.

Corollary 2. In the epicycloid the ellipsis coincides with its axis BP, and the arc BE with BD, which is double the versed sine of half the arc GM, in the describing or generating circle: therefore the length of the curve is to this versed sine as four times the distance of the centres to the radius of the basis.

PROPOSITION IV. PROBLEM. FIG. 2, 3.

To find the centre of curvature of an epitrochoid.

Let PY be, as in the last proposition, to CP as PK to CK, and on the diameter PY describe the circle PZY, cutting PO in Z: take OW a third proportional to OZ and OP, and W will be the centre of curvature. For, let QP=VX be the space described by P, while NO is described by O; it is obvious from prop 1, that the intersection of NQ and OP must be the centre of curvature. Let Qr be perpendicular to rΔ parallel to QN; then, by prop. 3, NO : VX or QP : : PO : PY, but by similar triangles QP : Cr : : PY : PZ; therefore NO : Qr : : PO : PZ, and by division, NO : ΔO : : OP : OZ, and by similar triangles : : OW : Or or OP.

Corollary. When Z coincides with O or M, OW is infinite; therefore whenever PZY intersects the describing circle, the epitrochoid will have a point of contrary flexure at the same distance from C as this intersection: and the circle PZY is given when the basis and generating circle are given, whatever the magnitude of the describing circle may be.

PROPOSITION V. PROBLEM. FIG. 4.

To find the evolute of an epicycloid.

In the epicyloid SM, the point M being in the circumference of PMR, PZ will be to PM in the constant ratio of PY to PR, and MZ to PM as RY to PR; and PM to MW in the same ratio; hence PM : PW : : RY : PY : : CR : CP, therefore the point W is always in a circle PWΞ of which the radius is to PK in that proportion and which touches SP in P. On the centre C describe a circle ΔΞΘ touching PWΞ in Ξ; then, since CR : CP : : PR : PΞ, we have by division CR : CP : : CP : PΞ, and the circle PWΞ being to ΔΞΘ as PMR to SP, the arc PM being equal to SP, the similar arc PW will be equal to AΞ, and, taking AΞΘ = PWΞ, ΞΘ will be always equal to ΞW, and W in a curve ΘWS similar to SM, of which it is the evolute.

PROPOSITION VI. PROBLEM. FIG. 5.

To find the area of an epitrochoid.

On the centre C describe a circle touching the epitrochoid in S, take GΠ to GC as PR to PC, and let the circle GΦΠ describe on the basis SG the epicycloid SΦ. Then taking GM always to GΦ as GL to GΠ, M will be in the epitrochoid SM; for the angular motion of the chord GΦ, is the same as that of GM in the primary epitrochoid. Let SΩ be the evolute of SΦ, and GWΞ its generating circle. On diameters equal to ΞG, ΞL, and ΞΠ, describe three circles, AD, AE, and AF, touching the right line AB in A; let the angle BAD be always equal to GΠΦ, and it is evident that AD, AE, and AF, will be equal respectively to WG, WM, and WΦ. But the angular motion of WG on W being equal to the sum of the angular motions of GM on G and CG on C, is to that of AF, or of GM, or half that of KM, in the ratio of CΠ to CG, or CR to CP; therefore the fluxions of the areas SWG, SWM, and SWΦ are to those of the segments AD, AE, and AF, in the same ratio; and that ratio being constant, the whole areas, and their differences, are also respectively to each other as CR to CP.

Scholium. The quadrable spaces of Halley are those which are comprehended between the arc of the epitrochoid, that of the describing circle, and that of a circle concentric with the basis and cutting the describing circle at the extremities of its diameter.

PROPOSITION VII. PROBLEM. FIG. 6.

To find a central equation for the epicycloid.

Let CT be perpendicular to RT, the tangent at the point M, then PMR will be a right angle, and PM parallel to CT. On the centre C describe through M the circle MNO, and let MQ be perpendicular to RO. Then the rectangle OQN = PQR, OQ : PQ : : QR : QN, by addition OQ : PQ : : OR : PN; hence by division OP : PQ : : IR : PN, and $PQ = \frac{OPN \text{ or } INP}{IR}$. But $PMq = PR \times PQ = \frac{PR}{IR} \times INP$; and by similar triangles CT : CR : : PM : PR, whence $CTq = \frac{CRq}{PRq} \times PMq = CRq \times \frac{INP}{IRP}$. Let MZ and RY be tangents to SP, then INP = MZq, and IRP = RYq, $CT = CR \times \frac{MZ}{RY}$, and CT will be to MZ in the constant ratio of CR to RY. Putting CP = a, CR = b, CM = s, CT = u, then $uu = bb\frac{ss - aa}{bb - aa}$.

PROPOSITION VIII. PROBLEM. FIG. 7.

To find a geometrical equation for the conchoidal epitrochoid.

Let CP = PK. On the centre C describe a circle equal to GM, cutting SC in Z. Join MZF, then the arc DZ = GM, and MZ is parallel to CK, therefore EF is also equal to DZ or GM, CF is parallel to KM, and MF = CK: therefore this epitrochoid is the curve named by Delahire the conchoid of a circular basis, as was first observed by Reaumur in 1708, and afterwards by Maclaurin, in 1720. Call CK, a, DE, b, ZH, x, HM, y, ZM, s; and let ZI be perpendicular to CK; then FZ = $a - s$, $CI = \frac{a - s}{2}$, and, CIZ and ZHM being similar, CZ : CI : : ZM : ZH.

or $\frac{b}{2} : \frac{a-s}{2} :: s : x$; hence $bx = as - ss$, $bx + ss = as$, $b^2x^2 + 2bxs^2 + s^4 = a^2s^2$, and by ſubſtituting for s^2, $x^4 + 2bx^3 - a^2x^2 + b^2x^2 + 2x^2y^2 + 2bxy^2 + y^4 - a^2y^2 = 0$.

Corollary 1. Join FN, and complete the parallelogram MPNL, then ſince EF = DZ = EN, FN is perpendicular to EK, and ML to NI, and, NL being always equal to FM or CK, L is always in a circle deſcribed on the centre N, LM a tangent to that circle, and ZM a perpendicular to that tangent drawn from the point Z.

Corollary 2. Fig. 8. The unicuſpidate epicycloid admits of a peculiar central equation, with reſpect to the point S. Call SM, s, and let ST = u be perpendicular to the tangent MT, then $u = \overline{\frac{s^5}{2a}}^{\frac{1}{2}}$. For the triangles SIP and MTS being ſimilar, and IP being half of SM, or s, SP = $\sqrt{\frac{as}{2}}$, SPq : SMq :: IPq : STq, or $\frac{as}{2} : s^2 :: \frac{ss}{4} : u^2$, and $2au^2 = s^3$.

Corollary 3. Fig. 8. The unicuſpidate epicycloid is one of the cauſtics of a circle. For making the angle CRY = MRC = $\frac{1}{2}$ SCP, the triangle CRY is iſoſceles, and CY is conſtant; ſo that all rays in the direction of the tangent MR will be reflected by the circle QR towards Y, and conſequently SM will be the cauſtic of a radiant point at Y.

PROPOSITION IX. PROBLEM. FIG. 9.

To find a geometrical equation for the tricuſpidate hypocycloid.

Let PA and MF be perpendicular to CS. Join PMB, KM, RMG, and PD. Then the angle APB is equal to the difference of APC and MPR, or to that of their complements PRM, PCA: but PRM = $\frac{1}{2}$ PKM = $\frac{1}{2}$ PCA, therefore APB = $\frac{1}{2}$ PCA = ADP = APS, and the triangles APS and APB are ſimilar and equal. Let SC = a, SF = x, FM = y, and SB = r. Then SA : SP :: SP : SD, and SP = $\sqrt{ar}$. Draw PE perpendicular to BP; then BE = SD = $2a$, BC = $a - r$, EC = $3a - r$, and by ſimilar triangles, CP : CR :: EC : CG = $\frac{1}{2}$ EC = $a - \frac{1}{3}r$; therefore GB = $\frac{2}{3}r$; but BE : BG :: BP : BM, or $2a : \frac{2}{3}r :: \sqrt{ar} : \frac{r}{3a}\sqrt{ar}$ = BM; again, BP : BM :: BA : BF, or $\sqrt{ar} : \frac{r}{3a}\sqrt{ar} :: \frac{r}{2} : \frac{rr}{6a}$, and SF = x, = $r - \frac{rr}{6a}$, $6ax = 6ar - rr$, and $r = 3a \pm \sqrt{9aa - 6ax}$. But MF$q$ = BMq − BFq, or $y^2 = \frac{r^3}{9a} - \frac{r^4}{36aa}$, and $36a^2y^2 = 4ar^3 - r^4$. By adding to this the ſquare of the former equation, and proceeding in the ſame manner to exterminate r, we obtain an equation of the value of x and y, which, when the ſurds are brought to the ſame ſide, and the ſquare of the whole is taken, is at laſt reduced to $x^4 - \frac{4}{3}ax^3 + 2x^2y^2 - 12axy^2 + y^4 + 12a^2y^2 = 0$, a regular equation of the fourth order.

Scholium. The equation of the correſponding hypotrochoids may be inveſtigated nearly in the ſame manner, by dividing PR and PM in a given ratio, but the proceſs will be ſomewhat more tedious.

PROPOSITION X. PROBLEM. FIG. 10.

To find a geometrical equation for the bicuſpidate epicycloid.

Let CP = PR. Join RMS, PM, PD; draw CT perpendicular to RT, TE to CR, and EG, MB, RA, to SC. Then the angle DRP = $\frac{1}{2}$ MKP = SCP, and by equal triangles, RA = CT, and RD = CD, and by ſimilar triangles RM : RP :: RE : RT, and RP : RD :: RT : RC; therefore RM : RD :: RE : RC, and ME is parallel to SC, and EG = BM. Put CP = a, BC = x, BM = y, CM = s, CT = u; then by prop. 7. $u^2 = \frac{4}{3}\overline{s^2 - a^2}$; or $\frac{3}{4}u^2 = s^2 - a^2$; but RC : CT :: CT : CE :: CE : EG, or y, hence $y = \frac{u^3}{4aa}$ $u^6 = 16a^4y^2$, $\frac{27}{64}u^6 = \frac{27}{4}a^4y^2 = \overline{ss - aa}^3 = \overline{xx + yy - aa}^3$; whence by involution the equation of the ſixth order may be had at length.

Corollary. Since CRM = SCR, a ray in the direction of the tangent MR will be reflected by a circle FR always parallel to SC: therefore SM is the cauſtic of the circle FR when the incident rays are parallel to CS.

PROPOSITION XI. PROBLEM. FIG. 11.

To find a geometrical equation for the quadricuſpidate hypocycloid.

Let CR = PR, then the angle PRM = $\frac{1}{2}$ PKM = 2PCS, RAC = ACR, RA = RC = RB = RP, AB = SC, and drawing the perpendiculars CT, TD, TE, and MF, RM = RT, AM = BT, AF = EC, FC = AE, and FM = BD. Let SC = a, FC = x, FM = y, CM = s, CT = u; then AB : AC :: AC : AT :: AT : AE, whence AT = $\overline{axx}^{\frac{1}{3}}$, and in the ſame manner BT = $\overline{ayy}^{\frac{1}{3}}$; and CT being a mean proportional between AT and TB, $u^2 = \overline{a^2x^2y^2}^{\frac{1}{3}}$, and $u^6 = a^2x^2y^2$. But by prop. 7. $3u^2 = a^2 - s^2$, therefore $27a^2x^2y^2 = \overline{a^2 = s^2 = a^2 = x^2 = y^2}^3$; whence the equation may be had at length by involution. The ſame reſult may be obtained by Dr. Waring's method of reduction, from $\overline{axx}^{\frac{1}{3}} + \overline{ayy}^{\frac{1}{3}} = a$.

Corollary. Since the portion of the tangent AB intercepted between the perpendiculars AC, BC, is a conſtant quantity, this hypocycloid may in that ſenſe be called an equitangential curve; and the rectangular corner of a paſſage muſt be rounded off into the form of this curve in order to admit a beam of a given length to be carried round it.

PROPOSITION XII. PROBLEM.

To inveſtigate thoſe caſes in which the general propoſitions either fail or require peculiar modifications.

Caſe 1. Fig. 12. If the generating circle be conſidered as infinitely ſmall, or the baſis as infinitely large, ſo as to become a ſtraight line, the epicycloid will become a common cycloid, and the ratio of CP to CK in prop. 3. cor. 2. becoming that of equality, the length of the arc SM will be four times the verſed ſine of half PM, and VM twice the chord RM or VX, therefore the ſquare of the arc VM is always as the abſciſs VZ. The evolute is an equal cycloid, and the circles in prop. 6. being as 1 to 4, the area of the cycloid is to that of its generating circle as 3 to 1. The properties of the cycloid as an iſochronous and as a brachiſtochronous curve belong to mechanics, and it is demonſtrated by writers on optics that its cauſtic is compoſed of two cycloids.

Caſe 2. Fig. 13. If the generating circle be ſuppoſed to become infinite while the baſe remains finite, the epicycloid will become the involute of a circle; and the fluxion of the curve being always, by prop. 3. cor. 1. to that of PM as PM to CP, its length SM will be a third proportional to IP and PM. Call CP, a, and PM, x, then the fluxion of SM is $\frac{xx}{a}$; but the rectangle contained by half PM and the fluxion of SM is the fluxion of the area PSM, or PSM = $\int\frac{xx\dot{x}}{2a} - \frac{x^3}{6a}$. The epitrochoid deſcribed by the point C of the gene-

rating plane will be the ſpiral of Archimedes, ſince CN is always equal to PM = PS = QV; and ſince the angular motion of CN and PM are alſo equal, the area CON = PSM $= \frac{x^3}{6a}$. Inſtead of the ellipſis of prop. 3. let PX be a parabola of which IP is the parameter, and continuing NM to X, the arc PX will be equal to CON. For making LQ = CP, it is well known that the fluxion of PX varies as XQ or as PN, which repreſents the fluxion of CON. For the curvature, PY in prop. 4. becomes = CP, and the radius is a third proportional to NZ and NP.

Caſe 3. Suppoſing now the generating circle to become again finite, but to have its concavity turned towards the baſis, the ſame curve will be deſcribed as would be deſcribed by the rotation of a third circle on the ſame baſis in a contrary direction, equal in diameter to the difference of thoſe of the two firſt circles.

Caſe 4. If the circles be of the ſame ſize, with their concavities turned the ſame way, no curve can be deſcribed; but if the generating circle be ſtill further leſſened, a hypocycloid will be produced, if the ſame figure as that which would be deſcribed by a third circle equal in diameter to the difference of the two firſt. All the general propoſitions are equally applicable to hypocycloids with other epicycloids, as might eaſily have been underſtood from an inſpection of the figures, if there had been room for a double ſeries.

Caſe 5. Fig. 14. If the diameter of the generating circle be half that of the baſis, the hypocycloid will become a right line, and the hypotrochoid an ellipſis. For ſince the angle PKM = 2 PCS, PCM, being half PKM, coincides with PCS, and M is always in CS. Let GNL be the deſcribing circle of the hypotrochoid, and join GNO, then NL is parallel, and ON perpendicular to SC and ON = HL, which is always to GO as CL to CG; therefore AN is an ellipſis: and the centre C will evidently deſcribe a circle.

CYRIL (St.) biſhop of Jeruſalem, ſucceeded Maximus in 350. He was afterward depoſed for the crime of expoſing to ſale the treaſures of the church, and applying the money to the ſupport of the poor during a great famine. Under Julian he was reſtored to his ſee, and was firmly eſtabliſhed in all his old honours and dignities under Theodoſius; in which he continued unmoleſted to his death in 386. The remains of this father conſiſt only of 23 catecheſes, and one letter to the Emperor Conſtantius.

CYRILL (St.), patriarch of Alexandria, ſucceeded Theophilus, his uncle, in 412. Scarce was he inſtalled, when he began to exert his authority with great vigour; he drove the Novatians and Jews from Alexandria, permitting their wealth and ſynagogues to be taken from them. This proceeding highly diſpleaſed Oreſtes, the governor of the city, who ſaw that if the biſhop's authority was not ſoon ſuppreſſed it might grow too ſtrong for that of the magiſtrate. Upon which a kind of civil war broke out between Oreſtes and the biſhop; many tumults were raiſed, and ſome battles fought in the very ſtreets of Alexandria. St. Cyrill alſo diſtinguiſhed himſelf by his zeal againſt Neſtorius biſhop of Conſtantinople, who, in ſome of his homilies, had aſſerted that the Virgin Mary ought not to be called the mother of God. The diſpute at firſt proved unfavourable to Cyrill, whoſe opinion was not only condemned, but himſelf deprived of his biſhopric and thrown into priſon. But he was ſoon after releaſed, and gained a complete victory over Neſtorius, who in 431 was depoſed from his ſee of Conſtantinople. Cyrill returned to his ſee at Conſtantinople, where he died in 444. St. Cyrill alſo wrote againſt Theodorus of Mopſueſta, Diodorus of Tarſus, and Julian the apoſtate. He compoſed commentaries on St. John's goſpel, and wrote ſeveral other books. His works were publiſhed in Greek and Latin in 1638, in ſix volumes folio.

CYRIL LUCAR, patriarch of Conſtantinople. This eminent man, who has been ſtrangely neglected by the writers of biographical collections, was born in the iſle of Candia at the time when it was under the protection of the Venetians. He received his education at Venice under Maximus Margunius, afterwards biſhop of Cerigo (an iſland in the entrance of the Archipelago), who wrote in Greek a learned diſcourſe concerning the proceſſion of the Holy Ghoſt. After he had finiſhed his ſtudies there, and had acquired a perfect knowledge of the Latin and Italian languages, he travelled into various parts of Europe, the better to fit himſelf for the ſervice of his country. On his return into the Eaſt he was made a prieſt, and afterwards archimandrite, or prior of a convent. In 1600 he was made the bearer of a letter from Meletius patriarch of Alexandria, to Sigiſmund III. king of Poland and Sweden; the occaſion of which was this: ſeveral biſhops of Lithuania and Black Ruſſia who had hitherto continued in the communion of the Greek church, wrought upon by ſeveral temporal advantages, which they propoſed to gain in the diet of Poland, ſent two of their number to Rome to make their ſubmiſſion to the pope in 1595. This gave great offence to the other members of the Greek church, but the deſign of an union being favoured by the king, a ſynod was called at Breſta, to eſtabliſh this affair. At this ſynod the Duke of Oſtoravia and thoſe of the Greek party appeared, and firmly refuſed to ſubmit to the propoſed union. The name of *non-unitia*, or *diſſenters*, was given to thoſe perſons who reſolved to adhere to the Greek church, and in obedience to the Patriarch of Conſtantinople. Cyril was one of theſe, being ſent thither for the expreſs purpoſe of breaking off the union of the Ruſſians with the church of Rome. Afterwards this party had ſeveral conferences with the Proteſtant noblemen and divines, particularly thoſe of the Lutheran communion; and ſome ſteps were taken to effect an union between the Proteſtant and Greek churches. But this excellent deſign proved abortive. About this time Sigiſmund, out of his zeal for the Roman church, publiſhed an edict againſt the ſpreading of the Greek religion in his dominions; and ſoon after wrote a treatiſe to Meletius, adviſing him to make his ſubmiſſion to the pope. This letter he anſwered with all due reſpect, deſiring him to beſtow his favour upon Cyril, the bearer, as being worthy of it, both for his learning and integrity. His active way of life, and knowledge of the world, gained by his travels and employments, rendered him every-where conſpicuous and deſerving in the eſteem of all of the higheſt dignity of his church. The patriarchal ſee of Alexandria becoming vacant, he was choſen to ſucceed Meletius, and in that ſeat he continued nineteen years. The great deference which the other patriarchs of the Greek communion pay to the ſee of Conſtantinople induces them to make frequent journeys thither. Here Cyril came about the beginning of 1612; and in the lent following a prieſt of that church, who had received part of his education among the Jeſuits, ſaid many things in favour of the Romiſh religion, which occaſioned Cyril to oppoſe him with the greateſt earneſtneſs. While he was at Conſtantinople the patriarch of that ſee died; a circumſtance which uſually produces conſiderable confuſion, as the reſt of the biſhops make uſe of all kinds of means to get the election. The Turks take advantage of theſe diſſenſions; and as the patriarch muſt be confirmed by the grand-ſeignior, the viſier and baſhas expect conſiderable bribes from all the candidates. Cyril had a great party among the biſhops, who wiſhed him to be advanced to the patriarchate for the good of the Greek church. To prevent his being elected, the oppoſite party made uſe of the accuſtomed mode;

and by advancing a large ſum, got Timothy biſhop of Marmara appointed; but he died ſoon after, and Cyril was choſen without oppoſition to the vacant chair in 1621. This appointment was very mortifying to the Jeſuits, and other zealous members of the Roman communion, becauſe they knew how great an enemy he was to their corruptions, how well inclined to a reformation, and particularly favourable to the Proteſtant churches. Every artifice, therefore, was adopted to effect his ruin; and, by the help of the French ambaſſador, they were in hopes to get him depoſed, in order that Gregory biſhop of Amaſa, a creature of their own, might occupy his place. Cyril inſtantly called a ſynod, in which the ambitious pretender was excommunicated. The enemies of the patriarch, however, ſucceeded in prejudicing the mind of the viſier againſt him, and he was baniſhed to Rhodes; after which Gregory was advanced to the patriarchal dignity, on a promiſe of paying twenty thouſand dollars, but not being able to raiſe this ſum, Anthimus archbiſhop of Adrianople purchaſed the place. This gave great ſatisfaction to the court of Rome, and Pope Urban VIII. complimented the French ambaſſador on his ſkill and dexterity in this infamous buſineſs. But this triumph did not laſt long, for the Engliſh ambaſſador, Sir Thomas Rowe, interpoſed ſo effectually, that Cyril was recalled to Conſtantinople, and Anthimus made his ſubmiſſions to him and received abſolution. New deſigns were then formed, and the pope ſent over an anti-patriarch, under the title of Apoſtolical Suffragan, enjoining full power to do what was neceſſary to promote the intereſts of the Roman church. Accordingly ſeveral titular biſhops were created of Smyrna, Naxia, and other places. The Greeks, alarmed at this attempt upon their church, made heavy complaints to the viſier, and with ſuch ſucceſs, that the ſuffragan was glad to eſcape for his life, and the titular biſhops were thrown into priſon. Matters ſeemed now to wear a favourable aſpect; but the calm was of ſhort duration, for Cyril's enemies were only watching an opportunity to complete their grand object. In 1627 a Greek prieſt, called Mataxa, who had reſided in England ſeveral years, and had learnt there the art of printing, arrived at Conſtantinople, and brought with him a printing preſs and types for the uſe and information of the poor Greeks. The deſign was excellent; but it was difficult to get the luggage aſhore without giving jealouſy to the Turks. The prieſt was brought to Sir Thomas Rowe by the Archbiſhop of Corinth, from the patriarch, to beg of him to own the goods, which accordingly he did. The ambaſſador, however, would not permit the preſs to be worked in his houſe, but adviſed them to take one in the neighbourhood for the purpoſe. When the Jeſuits heard that this preſs was ſet up, they were greatly alarmed, and were determined to put an end to the work, which they knew to be unfavourable to their cauſe. They inſinuated that the patriarch intended to ſubvert the faith of his own church, on which he cauſed a ſmall book to be printed concerning the doctrine of that church, dedicated to Charles I. king of England. This gave them additional offence; but as they could gather nothing from this book on which to ground an accuſation, they had recourſe to another which he had written and got printed in England, in defence of the divinity of Chriſt againſt the Jews. Having gathered ſome paſſages from this treatiſe which oppoſed the Koran, they laid them before the viſier, at the ſame time charging Cyril with the deſign of ſtirring up the Coſſacks to invade the empire. The viſier, without any further enquiry, ſent his ſoldiers to the printing-houſe, and took poſſeſſion of its contents; but Mataxa eſcaped. The Engliſh ambaſſador, on this, waited upon the viſier, and expoſtulated with him ſo effectually, that he was convinced of having been impoſed upon, and promiſed to reſtore all the goods within three days. And as the jeſuits had taken great liberties with the name of Sir Thomas, by repreſenting him as the head of the heretics, and a friend of ſeditious perſons, ſatisfaction was made to him, by ſending the accuſers to priſon, where they would have ſuffered by the bow-ſtring, if he had not interceded for their lives. The patriarch now enjoyed repoſe for a conſiderable time; though his enemies ſtill ſoſtered their virulent animoſity againſt him, and promoted diſſenſions among his biſhops, in order to effect, at laſt, his deprivation. In 1630, a Confeſſion of Faith, drawn up by Cyril, was printed in Latin at Geneva, and occaſioned conſiderable obſervation, and ſome controverſy. The Romaniſts, nettled at a work which flatly oppoſed the dogmata of their church, and the pretenſions of their pontiff, cauſed an anſwer to be made to it in Greek, and diſperſed over the Eaſt. Soon after this the French ambaſſador at Conſtantinople gave a dinner to the patriarch and his friends; after which he ſhewed him the Confeſſion which had been ſent to him by order of the pope; with expreſs orders to demand of him if he was the real author of it, and maintained the doctrines therein contained. Cyril honeſtly replied, that it undoubtedly was his Confeſſion; but that as he owed no obedience to the pope, he was not obliged to render him any account of his faith; adding beſides, that he ſtood at the head of a church to which he would be always ready to give ſatisfaction in a general ſynod, referring all to the Word of God, and the fathers of the primitive church. To this the ambaſſador replied, that at Rome, and in France, they looked upon him as a Calviniſt, which ſect was much hated by the king, his maſter, who, therefore, wiſhed that the patriarch would become a Roman-catholic. The anſwer of this good man was in theſe words: "In the articles of my belief, and my eternal ſalvation, I ſhall neither follow the king of France nor the pope of Rome; neither will I act contrary to the dictates of my own conſcience." In 1634 his enemies got him baniſhed to the iſle of Tenedos, and Anaſtaſius to be elected in his room; but, in a few months, he was reſtored to his ſeat, though not without a heavy contribution being paid to the grand-ſeignior. The year following another competitor was ſet up; the patriarch was ſent to the iſle of Rhodes; and ſo eager were his adverſaries to deſtroy him utterly, that a deſign was formed to take him off the iſland, and carry him to Italy, where, doubtleſs, he would have been made a ſacrifice of by the inquiſition. This deſign being diſcovered, the governor of the iſland removed him from thence, and thus prevented the ſcheme from being carried into effect. In July, 1636, he was reſtored again, and the viſier being his friend, he reſted ſafely for ſome time; but, in 1638, Bairam Baſha becoming the favourite of the ſultan, repreſented Cyril as a dangerous man, by whoſe inſtigation the Coſſacks had lately committed ſome depredations on the frontiers; and that, by his influence over the people of his perſuaſion, he might probably ſtir them up to mutiny. The emperor on this ſent an order for his being ſtrangled immediately. The governor of Conſtantinople, on receiving this mandate, ſent his officers to ſeize on the patriarch, and ſent him priſoner to a caſtle on the Boſphorus. From thence he was conveyed into a boat, where the fatal bow-ſtring being applied to his neck, he was ſoon diſpatched; they then ſtripped the body and threw it into the ſea, from whence it was afterwards taken by ſome fiſhermen, and by ſome of his friends buried on the ſhore. When this was made known to the government, an order came for taking the body up, and throwing it again into the ſea, which was done; but the body was afterwards recovered, and buried obſcurely in one of the ſmall iſlands that lie over againſt the bay of Nicomedia.

He was, in all reſpects, a great man, and may juſtly be termed a martyr for truth and religion, having been perſecuted

by his enemies all through his public life, for firmly reſiſting the encroachments of a foreign power, and ſtrenuouſly ſupporting the independence and faith of his own church.

He had a great regard for the Engliſh church and nation, which, about the ſame time, was ſuffering violently from the attacks of reſtleſs and ambitious men. He ſent over to King Charles I. that famous Alexandrian MS. of the New Teſtament which is now in the king's library, and has been edited in a capital manner by the late learned Dr. Woide.

CZERCASSI, a town of Ruſſia, in the Ukraine, with a caſtle, ſeated near the Dnieper, 85 miles SE. of Kiow. Long. 32. 5. E. Lat. 49. 0. N.

CZERSKO, a town of Poland, on the Viſtula, twenty miles N.W. of Warſaw. Long. 21. 31. E. Lat. 52. 26. N.

D

DAM

DACHSBACH, a town of Franconia, 22 miles S. of Bamberg.

DACHSTEIN, a town of France in the department of Lower Rhine, with a palace that belonged to the ſee of Straſburg. Long. 7, 45. E. Lat. 48. 35. N.

DACHSTUHL, a town of Germany, in the circle of Upper Rhine, and principal place of a lordſhip, which gives the poſſeſſor a ſeat and voice at the diets of the circles, though not at that of the empire. It is 22 miles S.E. of Treves.

DADO, in architecture and joinery, a word which has three different meanings, 1ſt. It denotes the *cubic* part of the pedeſtal of a column or ſtatue, included between the baſe and the entablement. 2d. That part of the pedeſtal of a pilaſter, which correſponds with the *dado* in ſolid work. 3dly. It means that part of the wainſcotting, or ſtucco work, which is a lateral prolongation of the dado of a pilaſter; *i. e.* the place included between the foot-board and the cornice of the wainſcotting.

DAFAR, or DOFAR, a town of Arabia Felix, ſeated on a bay of the ſame name, on the S.E. coaſt. Long. 53. 25. E. Lat. 16. 30. N.

DAGISTAN, or DAGHESTAN, a town of Perſia, capital of the province of Dagheſtan; ſituate on a river, which runs into the Caſpian Sea, 240 miles N.W. of Meſchid.

DAHL, the fineſt river of Sweden, which flows through Dalecarlia and on the S. confines of Geſtricia, and falls into the gulf of Bothnia, to the E. of Geſle. Near Eſcarleby, it forms a celebrated cataract, ſcarce inferior to the fall of the Rhine at Lauffen.

DAILLIE (John), a Proteſtant miniſter near Paris, was one of the moſt learned divines of the 17th century, and was the moſt eſteemed by the Catholics, of all the controverſial writers among the Proteſtants. He was tutor to two of the grandſons of the illuſtrious Mr. Du Pleſſis Mornai. Mr. Daillie having lived fourteen years with ſo excellent a maſter, travelled into Italy with his two pupils: one of them died abroad; with the other he ſaw Italy, Switzerland, Germany, Flanders, Holland, and England, and returned in 1621. He was received miniſter in 1623, and firſt exerciſed his office in the family of Mr. Du Pleſſis Mornai; but this did not laſt long, for that great lord died ſoon after. The memoirs of this great man employed Mr. Daillie the following year. In 1625 he was appointed miniſter of the church of Saumur, and in 1626 removed to Paris. He paſſed all the reſt of his life in the ſervice of this laſt church, and compoſed ſeveral works: his firſt piece was his maſter-piece, and an excellent work, Of the Uſe of the Fathers, printed in 1631. It is a ſtrong chain of reaſoning, which forms a moral demonſtration againſt thoſe who would have religious diſputes decided by the authority of the fathers. He died in 1670, aged 77.

DAM, a town of the United Provinces, in Groningen, ſeated on the Damſter, three miles from the ſea, and fifteen S.W. of Embden. Long. 6. 48. E. Lat. 53. 22. N.

DAM, a town of Pruſſian Pomerania, ſeated on the Oder, ten miles S.E. of Stetin. Long. 14. 50. E. Lat. 53. 31. N.

DAMANHOUR, a town of Egypt, near the canal of Alexandria; 32 miles E.S.E. of Alexandria.

DAMAR, a town of Arabia Felix, in Yemen, 100 miles S. of Sanaa. Long. 46. 33. E. Lat. 16. 0. N.

DAN

DAMASCENUS (John), an illuſtrious father of the church in the 8th century, born at Damaſcus, where his father, though a Chriſtian, enjoyed the office of counſellor of ſtate to the Saracen caliph; to which the ſon ſucceeded. He retired afterwards to the monaſtery of St. Sabas, and ſpent the remainder of his life in writing books of divinity. His works have been often printed; but the Paris edition in 1712, two volumes folio, is eſteemed the beſt.

DAMASCIUS, a celebrated heathen philoſopher, born at Damaſcus in the year 540, when the Goths reigned in Italy. He wrote the Life of his maſter Iſidorus; and dedicated it to Theodora, a very learned and philoſophical lady, who had alſo been a pupil to Iſidorus. In this Life, which was copiouſly written, he frequently made oblique attacks on the Chriſtian religion. We have nothing remaining of it but ſome extracts preſerved by Photius. Damaſcius ſucceeded Theon in the rhetorical ſchool, and Iſidorus in that of philoſophy, at Athens.

DAMGARTIN, a town of Swediſh Pomerania, with a caſtle, ſeated on the Recknils, eighteen miles W. of Stralſund. Long. 12. 57. E. Lat. 54. 16. N.

DAMM, a town of Upper Saxony, in the duchy of Pomerania. The inhabitants carry on a conſiderable trade in ſteel manufactures. It is ſeated on the Plone, five miles E. of Stetin. Long. 14. 39. E. Lat. 53. 21. N.

DAMME, a ſtrong town of Flanders, ſeated on the canal between Sluys and Bruges. It was taken by the duke of Marlborough in 1706, and ceded to the Dutch at the peace of Utrecht.

DAMME, a town of the United Provinces, in Groningen Though unfortified, it enjoys the privileges of a city, and before the late revolution had a voice among the ſtates of Groningen. It ſuffered much by inundations ſome years ſince. It is ſeated on the Damſter, fourteen miles N.E. of Groningen.

DANBURY, a village in Eſſex, ſituate on a hill, five miles E. of Clelmsford, and ſixteen W. of the ſea. The ſpire of the church was burnt by lightning in 1750, but was ſoon after rebuilt, and forms a ſea-mark.

DANCALI, or DANKALI, a kingdom of Abyſſinia, on the coaſt of the Red Sea. The ſoil is unproductive; and its chief riches conſiſt in ſalt and honey. It is governed by a prince nominally tributary to the negus, or emperor of Abyſſinia.

DANDOLO (Henry), doge of Venice, a brave admiral

and politician. With a Venetian fleet he took Conſtantinople in 1203, and had the moderation to refuſe to be emperor. He died in 1250.

DANET (Peter), abbot of St. Nicholas de Verdun, was one of the perſons choſen by the duke of Montauſier to write on the claſſics for the uſe of the dauphin. He had a ſhare in Phædrus, which he publiſhed with notes and explications in Latin. He alſo wrote a dictionary in Latin and French, and another in French and Latin. He died at Paris in 1709.

DANGER, Isles of, three iſlands in the S. Pacific Ocean, ſeen by Commodore Byron in 1765, but were ſo ſurrounded by rocks and breakers, that it was unſafe to attempt to land. The commodore ſuppoſed them to be the iſlands ſeen by Quiros, in the beginning of the 17th century, and named Solomon's Iſlands. Long. 169. 28. W. Lat. 10. 15. S.

DANNEBERG, a town of Lower Saxony, capital of a diſtrict of the ſame name. It belongs to the elector of Hanover, and is ſeated on the Tetze, near the Elbe, forty miles S.E. of Lunenburgh. Long. 11. 29. E. Lat. 53. 14. N.

DANTE (Ignatius) a deſcendant of the poet, was born at Perugia, and took the habit of a Dominican monk. He became ſkilful in philoſophy and divinity, but more ſo in the mathematics. He was invited to Florence by the great duke Coſmo I. and explained to him the ſphere, and the books of Ptolemy. He read public lectures on the ſame ſubject, and had many auditors in the univerſity of Bologna, where he explained geography and coſmography. Being returned to Perugia, he made a fine map of that city, and of its whole territory. The reputation of his learning cauſed him to be invited to Rome by Gregory XIII. who employed him in making geographical maps and plans. He acquitted himſelf ſo well in this, that the pope thought himſelf obliged to prefer him; and accordingly gave him the biſhopric of Alatir, near Rome. He went and reſided in his dioceſe; but Sixtus V. who ſucceeded Gregory XIII. would have him near his perſon, and ordered him to return to Rome. Dante was preparing for the journey, but was prevented by death, which ſeized him in 1586. He publiſhed at Florence, in 1569, a treatiſe Of the Conſtruction and Uſe of the Aſtrolabe. He alſo wrote notes on the Sphere of Sacroboſco, on the Aſtrolabe, and on the Univerſal Planiſphere. He made a ſphere of the world in five tables; and was the author of ſome other ſmall things.

DANVERS (Henry), a brave warrior in the end of the ſixteenth, and beginning of the ſeventeenth century; and created earl of Danby by King Charles I. was the ſecond ſon of Sir John Danvers, knight, by Elizabeth his wife, daughter and coheir to John Nevil, the laſt Lord Latimer. He was born at Danteſey in Wiltſhire, on the 28th day of June, 1573. After an education ſuitable to his birth, he went and ſerved in the Low-country wars, under Maurice count of Naſſau, afterwards Prince of Orange; and was engaged in many military actions of thoſe times, both by ſea and land. He was made a captain in the wars of France, occaſioned in that kingdom by the league: and there knighted for his good ſervice under Henry IV. king of France. Next, he was employed in Ireland, as lieutenant-general of the horſe, and ſerjeant-major of the whole army, under Robert earl of Eſſex, and Charles baron of Mountjoy, in the reign of Queen Elizabeth. Upon the acceſſion of King James I. he was, on account of his family's deſerts and ſufferings, advanced, on the 21ſt of July, 1603, to the dignity of a peer of this realm, by the title of Baron of Dantcſey; and in 1605, by a ſpecial act of parliament, reſtored in blood, as heir to his father, notwithſtanding the attainder of his elder brother, Sir Charles Danvers, knight. Moreover, he was appointed lord preſident of Munſter in Ireland, and in 1620, made governor of the iſle of Guernſey, for life. By King Charles I. he was created earl of Danby, on February 5, 1625-6; and made one of his privy-council, and knight of the order of the Garter. Being himſelf a man of learning, as well as a great encourager of it, and obſerving that opportunities were wanting in the univerſity of Oxford for the uſeful ſtudy of botany, he purchaſed a piece of ground by the river Charwell, oppoſite to Magdalen College; which he encompaſſed with a curious wall of ſquare poliſhed ſtone, and repleniſhed with a great variety of plants and herbs proper for the ſtudy of phyſic and botany. He founded alſo an almſhouſe and a free-ſchool, at Malmeſbury in Wiltſhire. In his latter days he choſe a retired life; and, upon what account is not well known, fell under the diſpleaſure of the court. At length he died, at his houſe in Cornbury-Park in Oxfordſhire, January the 20th, 1643-4, in the ſeventy-firſt year of his age: and was buried in the chancel of the pariſh-church of Danteſey, under a noble monument of white marble, with an epitaph, which contains the beſt character that can be given of him. He was never married.

Danvers (John), was younger brother and heir of Henry. He was alſo a knight and one of the gentlemen of the privy-chamber to King Charles I. and was ſo ungrateful and inhuman as to ſit in judgment upon his gracious maſter, that unfortunate prince, and to be one of thoſe who ſigned the warrant for his execution. He died before the reſtoration of King Charles II. but, however, all his eſtates both real and perſonal were confiſcated in 1661. From Lord Clarendon we underſtand, he was neglected by his brother, and, by a vain expence in his way of living, contracted a vaſt debt, which he knew not how to pay, and being a proud formal weak man, between being ſeduced and a ſeducer, became ſo far involved in their counſels, that he ſuffered himſelf to be applied to their worſt offices, taking it to be a high honour to ſit upon the ſame bench with Cromwell, who employed and contemned him at once; nor did that party of miſcreants look upon any two men in the kingdom with that ſcorn and deteſtation as they did upon Danvers and Mildmay.

DARABGERD, or Darab-guierd, a town of Perſia, in Farſiſtan, ſaid to have been founded by Darius. It is large, but not populous, and near it ſalt is found of various colours, white, black, red, and green. A conſiderable manufacture of glaſs is carried on here. It ſtands 116 miles E.S.E. of Schiras.

DARAH, or Dras, a country of Africa; bounded on the N. by Morocco, Gezula, and Tafilet, and on the E. and S. by Zahara, and on the W. by Sus. A river of the ſame name flows through it. The principal produce is indigo and dates. The inhabitants are Arabs and Mahometans; and ſome of the diſtricts of the country are dependent on Morocco.

DARAPOORY, a town of the peninſula of Hindooſtan, in Myſore, 88 miles E. of Seringapatam. Long. 78. 26. E. Lat. 12. 11. N.

DARAPORUM, a town of the peninſula of Hindooſtan, in Myſore, 36 miles E.S.E. of Coimbetore, and 73. W. of Trichinopoly. Long. 77. 30. E. Lat. 10. 42. N.

DAR-EL-HAMARA, a town of the kingdom of Fez, built by the Romans. Its trade conſiſts in oil and corn; and it is ſeated on a mountain. Long. 6. 35. W. Lat. 34. 20. N.

DARGONNE (Dom Bonaventure), a religioniſt of the Carthuſian order, was born at Paris in 1640, and died in 1704. We have of his a very judicious work, entitled, Un Traité de la Lecture des Pères de l'Egliſe; the beſt edition of which is that of 1697. He publiſhed alſo, Des Melanges d'Hiſtoire & de Littérature, under the name of Vigneul de Marville, in 3 vols. 12mo; the laſt of which is ſaid to be done by the abbé Banier. This is a very curious and intereſting collection of critical reflections and literary anecdotes. He has been called to account by the critics for what he has ſaid of Bruyere. He was the author of ſome other things.

DARIEN, a river and gulf of Terra Firma, which divide the provinces of Darien and Carthagena. In 1695 the Scotch obtained a charter from William III., empowering them to form a ſettlement on the N.W. point of the gulf, where the country had never been occupied by the Spaniards, but continued to be poſſeſſed by the native Indians. This ſettlement excited ſuch an alarm among the maritime powers of Europe, and particularly the jealouſy of the Spaniſh court and of the Engliſh Eaſt-India Company, that the adventurers, meeting with every obſtruction from the very adminiſtration that had granted their charter, were obliged to abandon the ſettlement.

DARLASTON, a village near Stone, in Staffordſhire, where are the remains of a caſtle on a hill.

DAROCA, a town of Spain, in Arragon, on the Xiloca, 38 miles S.S.W. of Saragoſſa. Long. 1. 5. W. Lat. 41. 15. N.

DARORE, a town of the Decean of Hindooſtan, 80 miles E. by S. of Amednagur. Long. 76. 10. E. Lat. 18. 50. N.

DART, a river in Devonſhire, which riſes at the foot of Dartmoor Hills, croſſes Dartmoor to Aſhburton, and after paſſing Totneſs, where it is navigable for ſmall veſſels, is joined by the Hareborn, and falls into the Engliſh Channel, at Dartmouth.

DARTMOOR, an extenſive mooriſh tract, in Devonſhire, bounded on the N. by bleak hills, and extending ſouthward quite through the centre of the county to the ſea. It contains about 80,000 acres, and is watered by the river Dart. Many ſheep are bred here, but of a ſmall kind, and ſubject to the rot. The chief riches of the inhabitants are their black cattle, which thrive well on the coarſe ſour herbage.

DARWAR, a ſtrong town of Hindooſtan, in the kingdom of Myſore, and one of the ſultan's frontier towns, 88 miles S. by W. of Viſiapour, and ninety E.N.E. of Goa. Long. 75. 29. E. Lat. 16. 5. N.

DASSEN-EYLAND, or Iſle of Deer, one of the three ſmall iſlands to the N. of the Cape of Good Hope; ſo called on account of the great number of deer which were firſt carried thither in 1601. Here are alſo ſheep whoſe tails weigh 19 pounds. Long. 18. 7. E. Lat. 33. 25. S.

DASSOUCI, a celebrated French muſician and poet of the 17th century, who publiſhed his own adventures, which are very odd, in the ſtyle of a buffoon. He relates, that he was born at Paris; that his father, an advocate in the parliament, was of Sens in Burgundy; that his mother was of Lorrain, a very little woman, and very prone to anger; that her huſband and ſhe, not being able to agree, parted by conſent, after having divided their children and their ſubſtance; that he lived with his father at Paris, where he was ill-treated by a ſervant, who was his father's miſtreſs; that at nine years of age he went to Calais, where he made people believe that he underſtood aſtrology, and was ſon to a famous calculator of nativities; that, having by a little artifice cured a perſon who conceited himſelf ſick, he paſſed for a magician; that he was obliged to leave Calais privately, the mob threatening to throw him into the ſea. Bayle knows nothing more of him, till the time that the Duke de St. Simon got Lewis XIII. to hear him at Germains; when he hit that prince's humour by a drinking ſong of his own making, which it afterwards became the faſhion to ſing at court. The king liſtened to his ſongs ever after, and admitted him freely into his cloſet; and they called Daſſouci, Phœbus Garderobin, becauſe he had his lutes always in the king's wardrobe. He continued this game under Lewis XIV. but having an inclination to go to Turin, he left Paris about 1655. Arriving at Lyons, he found many temptations to detain him. He entertained with his muſic all the convents of ſinging nuns; and there was not one of thoſe devout virgins, who had not already a copy of his Ovid in a Merry Humour. This was the title of a work, wherein he tranſlated part of Ovid's Metamorphoſes into burleſque verſe. He ſtayed three months at Lyons, in the midſt of diverſions, plays, and entertainments, being highly careſſed by Moliere, and the Bejars; after which he went to Avignon with Moliere, and then to Pezenas, where the aſſembly of the ſtates of Languedoc was held. He was maintained by thoſe players a whole winter; and followed Moliere as far as Narbonne. Afterwards he went to Montpellier, where he was impriſoned, and very near being burnt, for a ſuſpected commerce with a male. He continued three months at Montpellier after his releaſe, and drew up an account of that Tragi-comical Adventure, ſo he calls it; which however he did not print, though the chief magiſtrate, who had ſeen it, gave him leave. He afterwards ſaw ſeveral towns of Provence; and went to wait on the Prince of Morgues at Monaco, who made him a handſome preſent.

Being arrived at Turin, he had ſome trouble to confute by his preſence the report of his execution, which had been read in the Burleſque Gazette. He laboured to procure a ſettlement in that court, and ſuppoſes he ſhould have ſucceeded, if the muſicians of the country had not grown jealous of him. He pretends, that the beauty of his poetry laid him open to the indignation of a poet of Auvergne, who criticiſed and proſecuted him: and adds, that he ſuffered much for having neglected the favourites, becauſe he impoliticly fancied it ſufficient to make his court to their royal highneſſes. Perceiving they grew cold towards him, he requeſted either to be diſmiſſed, or to have a fixed penſion; and, to his great mortification, obtained the former. About 1674 he publiſhed two ſmall volumes, which he had compoſed in the priſon of the Chatelet at Paris. He was confined there at that time: but we know nothing of the particulars relating either to his confinement or his enlargement. Daſſouci had ſeveral enemies: among the reſt, Cyrano de Bergerac and Boileau. He was a very indifferent ſort of man, as we learn from his own accounts and confeſſions: there is no occaſion to depend upon the teſtimony and authority of his ſatiriſts for this.

DAVENANT (John), biſhop of Saliſbury, and a very learned man, was the ſon of an eminent merchant, and born in Watling-ſtreet, London, about 1570. He was admitted of Queen's College, Cambridge, in 1587, where he took his degrees in arts regularly. A fellowſhip was offered him about 1594, but his father would not ſuffer him to accept it, on account of his plentiful fortune; however, after his father's deceaſe, he accepted of one, and was admitted into it in 1597. He took his doctor's degree in 1609, having long diſtinguiſhed himſelf by his parts and learning; and the ſame year was elected Lady Margaret's profeſſor of divinity. In 1614 he was choſen maſter of his college; and became ſo conſiderable, that he was one of thoſe eminent divines, ſent by James I. to the ſynod of Dort in 1618. He returned to England in May 1619, after having viſited the moſt eminent cities in the Low-countries. In 1621 he was advanced to the ſee of Saliſbury, and continued in favour during the remainder of James's reign; but in 1630-1 he incurred the diſpleaſure of the court, by meddling, in a ſermon preached before the king at Whitehall, with the predeſtinarian controverſy; "all curious ſearch into which" his majeſty had ſtrictly enjoined, in his declaration prefixed to the 39 articles in 1628, "to be laid aſide." For this pretended contempt of the king's declaration he was not only reproved the ſame day, but alſo ſummoned to anſwer two days after before the privy-council; and, though he was diſmiſſed without further trouble, and even admitted to kiſs the king's hand, yet he was never afterwards in favour at court. He died of a conſumption, April 20, 1641, to which, it is ſaid, a ſenſe of the ſorrowful times he ſaw coming on did not a little

contribute; and was buried in Saliſbury cathedral. He was a man of exemplary manners, and a great divine; but ſtrictly attached to Calviniſm with all its abſurdities.

He wrote, 1. A Latin Expoſition of St. Paul's Epiſtle to the Coloſſians, the third edition of which was printed at Cambridge in 1639. It is the ſubſtance of lectures, read by him as Margaret profeſſor. 2. Prælectiones de Duobus in Theologia Controverſis Capitibus: de Judice Controverſiarum, primo: de Juſticia Habituali & Actuáli, altero, Cant. 1631. 3. In 1634, he publiſhed the queſtions he had diſputed upon in the ſchools, 49 in number, under this title; Determinationes Quæſtionum quarundam Theologicarum. 4. Animadverſions upon a Treatiſe lately publiſhed, and entitled, God's Love to Mankind, manifeſted by diſproving his abſolute Decree for their Damnation, Camb. 1641.

DAVENANT (William), younger brother to the former, and fourth ſon of Sir William Davenant, was educated at Magdalen-hall in Oxford, where he took the degree of B.A. in 1677. He tranſlated into Engliſh from the French, a book, entitled, Animadverſions upon the famous Greek and Latin Hiſtorians, written by La Mothe le Voyer, who was tutor to Lewis XIII. He took the degree of M. A. in 1680; and about the ſame time, entering into orders, was preſented to a living in the county of Surrey, by his patron Robert Wymondſole, of Putney, eſq. He travelled with this gentleman into France; and in the ſummer of 1681, was unfortunately drowned in a river near Paris, as he was ſwimming for his own diverſion.

DAVENANT (Doctor Charles), an eminent civilian and writer, eldeſt ſon of the preceding, and educated in Cambridge: he wrote ſeveral political tracts; and likewiſe plays. He was (1685) impowered, with the maſter of the revels, to inſpect the plays deſigned for the ſtage, that no immoralities might be preſented. His Eſſays on Trade are in high eſteem; and were lately reprinted in five vols. 8vo. Doctor Davenant was inſpector-general of exports and imports; and died in 1712.

DAVENPORT (Chriſtopher), a learned Engliſhman, was born at Coventry, in Warwickſhire, about 1598, and educated in grammar-learning at a ſchool in that city. He was ſent to Merton College in Oxford at fifteen years of age; where ſpending two years, he, upon an invitation from ſome Romiſh prieſt, afterwards went to Douay. He remained there for ſome time; and then going to Ypres, he entered into the order of Franciſcans among the Dutch there, in 1617. After ſeveral removals from place to place, he became a miſſionary into England, where he went by the name of Franciſcus à Sancta Clara; and at length was made one of the chaplains to Henrietta Maria, the royal conſort of Charles I. Here he did all he could to promote the cauſe of Popery, by gaining diſciples, raiſing money among the Engliſh Catholics to carry on public matters abroad, and by writing books for the advancement of his religion and order. He was very eminent for his uncommon learning, being excellently verſed in ſchool divinity, in fathers and councils, in philoſophers, and in eccleſiaſtical and profane hiſtory. He was, Wood tells us, a perſon of very free diſcourſe, while his fellow-labourer in the ſame vineyard, Hugh Creſſy, was reſerved; of a lively and quick aſpect, while Creſſy was clouded and melancholy: all which accompliſhments made him agreeable to Proteſtants as well as Papiſts. Archbiſhop Laud, it ſeems, had ſome knowledge of this perſon; for, in the ſeventh article of his impeachment, it is ſaid, that "the ſaid archbiſhop, for the advancement of Popery and ſuperſtition within this realm, hath wittingly and willingly received, harboured, and relieved, divers Popiſh prieſts and Jeſuits, namely, one called Sancta Clara, alias Davenport, a dangerous perſon and Franciſcan friar, who hath written a Popiſh and ſeditious book, entitled, Deus Natura, Gratia, &c. wherein the thirty-nine Articles of the Church of England, eſtabliſhed by act of parliament, are much traduced and ſcandalized: that the ſaid archbiſhop had divers conferences with him, while he was writing the ſaid book, &c." To which article, the archbiſhop made this anſwer: "I never ſaw that Franciſcan friar, Sancta Clara, in my life, to the utmoſt of my memory, above four times, or five at moſt. He was firſt brought to me by Dr. Lindſell: but I did fear, that he would never expound the articles ſo, that the church of England might have cauſe to thank him for it. He never came to me after, till he was almoſt ready to print another book, to prove, that epiſcopacy was authoriſed in the church by divine right; and this was after theſe unhappy ſtirs began. His deſire was, to have his book printed here; but at his ſeveral addreſſes to me for this, I ſtill gave him this anſwer: That I did not like the way which the church of Rome went concerning epiſcopacy; that I would never conſent, that any ſuch book from the pen of a Romaniſt ſhould be printed here; that the biſhops of England are very well able to defend their own cauſe and calling, without any help from Rome, and would do ſo when they ſaw cauſe: and this is all the conference I ever had with him." Davenport at this time abſconded, and ſpent moſt of thoſe years of trouble in obſcurity, ſometimes beyond the ſeas, ſometimes at London, ſometimes in the country, and ſometimes at Oxford. After the reſtoration of Charles II. when the marriage was celebrated between him and Catherine of Portugal, Sancta Clara became one of her chaplains; and was for the third time choſen provincial of his order for England, where he died May 31, 1680.

He was the author of ſeveral works: 1. Paraphraſtica Expoſitio Articulorum Confeſſionis Anglicæ. This book was, we know not why, much railed at by the Jeſuits, who would fain have had it burnt; but being ſoon after licenſed at Rome, all further rumour about it ſtopped. 2. Deus, Natura, Gratia: ſive, Tractatus de Prædeſtinatione de Meritis, &c. This book was dedicated to Charles I. and Prynne contends, that the whole ſcope of it, as well as "the paraphraſtical Expoſition of the Articles," reprinted at the end of it in 1635, was to reconcile the king, the church, and the articles of our religion to the church of Rome. He publiſhed alſo a great number of other works, which are not now of conſequence enough to be mentioned.

DAVENPORT (John), elder brother of Chriſtopher juſt mentioned, was born at Coventry, in 1597; and ſent from thence with his brother to Merton College in 1613. He afterwards took a different rout from him; for whereas Chriſtopher went to Douay, and became a Catholic, John went to London, and became a Puritan. He was miniſter of St. Stephen's in Coleman-ſtreet, and ſeemed by his fanatical brethren a perſon of excellent gifts in preaching, and in other qualities belonging to a divine. About 1630, he was appointed by certain factious and diſcontented perſons, one of the feoffees for the buying in impropriations; but, that project miſcarrying, he left his paſtoral charge about 1633, under pretence of oppoſition from the biſhops, and went to Amſterdam. Here, endeavouring to be a miniſter in the Engliſh congregation, and to join with them in all duties, he was oppoſed by John Paget, an elder, on account of ſome difference between them about baptiſm; upon which he wrote, in his own defence, A Letter to the Dutch Claſſis, containing a juſt Complaint againſt an unjuſt Doer; wherein is declared the miſerable Slavery and Bondage that the Engliſh Church at Amſterdam is now in, by Reaſon of the tyrannical Government and corrupt Doctrine of Mr. John Paget, their Miniſter, Amſt. 1631. Two or three more pieces relating to this controverſy were publiſhed by him afterwards; and ſuch were his

parts and learning, that he drew away from them many of their congregation, to whom he preached and prayed in private houſes.

In the beginning of the rebellion, he returned into England, as other Nonconformiſts did, and had a cure beſtowed on him; but finding matters not go on agreeably to his humour, he went into New England, and became a paſtor of New Haven there. He afterwards removed from thence to Boſton in 1668, where he died the year following. He was the author of A Catechiſm containing the chief Heads of the Chriſtian Religion, which was printed in London in 1659: ſeveral Sermons: The Power of congregational Churches aſſerted and vindicated: and of An Expoſition of the Canticles, which has never been publiſhed.

DAVID (George), a moſt extraordinary heretic, was the ſon of a waterman of Ghent, and educated a glazier, or, as ſome ſay, a glaſs-painter. He began about 1525 to preach ſuch whimſies as theſe, namely, that he was the true Meſſiah, the third David, nephew of God, not after the fleſh, but after the ſpirit. "The heavens," he ſaid, "being empty, he was ſent to adopt children worthy of that kingdom; and to reſtore Iſrael, not by death, as Chriſt, but by grace." With the Sadducees, he denied eternal life, the reſurrection, and the laſt judgment: with the Adamites he was againſt marriage, and for a community of women: and with the followers of Manes, he thought that the body only, and not the ſoul, could be defiled by ſin. According to him, the ſouls of unbelievers ought to be ſaved, and thoſe of the apoſtles damned. Laſtly, he affirmed it folly to believe that there was any ſin in denying Jeſus Chriſt; and ridiculed the martyrs for preferring death to apoſtacy. A perſecution being commenced againſt him and his followers, he fled firſt to Frieſland, and from thence to Baſil, where he lurked under the name of John Bruck. He died in that city in 1556, promiſing to his diſciples, that he ſhould riſe again in three days; which, as it happened, was not altogether falſe; for the magiſtrates of Baſil, underſtanding at length who he was, did, about that time, dig up his corpſe, which, together with his writings, they cauſed to be burned by the common executioner. As great a madman as this George David was, he had his followers, which continued ſome time after his death.

DAVIES (Dr. John), was born in Denbighſhire, and educated by William Morgan, afterwards biſhop of St. Aſaph. He was admitted a ſtudent of Jeſus College, Oxford, in 1589, and afterwards became a member of Lincoln College in the ſame univerſity. He was rector of Malloyd, or Manylloyd in Merionethſhire, and afterwards a canon of St. Aſaph. He commenced doctor in 1616, and was highly eſteemed by the univerſity, ſays Wood, as well as verſed in the hiſtory and antiquities of his own nation, and in the Greek and Hebrew languages; a moſt exact critic, an indefatigable ſearcher into ancient writings, and well acquainted with curious and rare authors. His works are, 1. Antiquæ Linguæ Britannicæ nunc communiter dictæ Cambro-Britannicæ, a ſuis Cymræcæ vel Cambricæ, ab aliis Wallicæ Rudimenta, &c. 1621, 8vo. 2. Dictionarium Latino-Britannicum, 1632, folio. With this is printed Dictionarium Latino-Britannicum, which was begun and greatly advanced by Thomas Williams, phyſician, before 1600. It was afterwards completed and publiſhed by Dr. Davies. 3. Adagia Britannica, Authorum Britannicorum nomina, & quando floruerunt, 1632, printed at the end of the Dictionary before mentioned. 4. Adagiorum Britannicorum Specimen, MS. Bibl. Bodl. He alſo aſſiſted W. Morgan, biſhop of Landaff, and Richard Parry, biſhop of St. Aſaph, in tranſlating the Bible into Welſh, in that correct edition which came out in 1620. He alſo tranſlated into the ſame language (which he had ſtudied at vacant hours for thirty years) the book of Revolution, written by Robert Parſons, a Jeſuit.

DAVIES (John), an eminent and learned critic, was the ſon of a merchant in London, and born there April 22, 1679. After being educated in claſſical learning at the Charterhouſe ſchool, he was, in 1695, ſent to Queen's College, Cambridge; where he took the degree of B.A. in 1698. In 1701 he was choſen fellow of his college; and the year following took the degree of M. A. In 1711, having diſtinguiſhed himſelf by ſeveral learned publications, hereafter to be mentioned, he was collated by Moore biſhop of Ely to the rectory of Fen-Ditton near Cambridge, and to a prebend in the church of Ely; taking the ſame year the degree of LL.D. Upon the death of Dr. James, he was choſen maſter of Queen's College, March 23, 1716-17; and created D.D. in 1717, when George I. was at Cambridge. He died March 7, 1731-32, aged 53, and was buried in the chapel of his college; where a flat marble ſtone was laid over his grave, with a plain inſcription. His mother, who was a daughter of Sir John Turton, Knt. is ſaid to have been living in 1743.

This learned man was not, as far as we can find, the author of any original works, but only employed himſelf in giving fair and correct editions of ſome Greek and Latin authors of antiquity. Thus, in 1703 he publiſhed in 8vo. 1. Maximi Tyrii Diſſertationes, Gr. and Lat. ex Interpretatione Heinſii, &c. 2. C. Julii Cæſaris, & A Hirtii quæ extant omnia, Cant. 1706, 4to. It was republiſhed in 1727. 3. M. Minucii Fælicis Octavius, Cant. 1707, 8vo. It was printed again in 1712, 8vo. with the notes greatly enlarged and corrected, and the addition of Commodianus, a writer of the Cyprianic age. 4. Then he formed a ſcheme of publiſhing new and beautiful editions of Cicero's philoſophical pieces, by way of ſupplement to what Grævius had publiſhed of that author; and accordingly put out, in 1709, his Tuſculanarum Diſputationum, Libri quinque, 8vo. This edition, and that of 1738, which is the fourth, have at the end the emendations of his intimate friend Dr. Bentley. The other pieces were publiſhed by our author in the following order: De Naturâ Deorum, 1718. De Divinatione & de Fato, 1721. Academica, 1725. De Legibus, 1727. De Finibus Bonorum & Malorum, 1728. Theſe ſeveral pieces of Tully were printed in 8vo. in a fair and handſome manner; have been received with a general applauſe; and have paſſed, moſt of them, through ſeveral editions. He had alſo gone as far as the middle of the third book of Cicero's Offices; but being prevented by death from finiſhing it, he recommended it in his will to the care of Dr. Mead, who put it into the hands of Dr. Thomas Bentley, that he might fit and prepare it for the preſs. But the houſe where Dr. Bentley lodged, which was in the Strand, London, being ſet on fire through careleſſneſs, as it is ſaid, by reading after he was in bed, Davies's notes and emendations periſhed in the flames. 5. Another thing publiſhed by our learned author, which we have not mentioned, was, Lactantii Firmiani Epitome Divinarum Inſtitutionum, Cant. 1718, 8vo.

DAVILA (Henrico Catherino), a celebrated hiſtorian, was born of an illuſtrious family in the iſle of Cyprus; but was obliged to leave his country, on its being taken by the Turks, in 1571. He firſt retired to Avila in Spain, whence his family ſuppoſed they had derived their name and origin; from thence he went to France, and made himſelf known at court under the reigns of Henry III. and Henry the Great. He there diſtinguiſhed himſelf on ſeveral occaſions by his valour; and at length went to Venice, where he had a very handſome penſion ſettled upon him by that republic, in whoſe ſervice his brother Lewis Davila had been a commander. Davila, while he was at Venice, wrote his admirable Hiſtory of the Civil Wars of France, which contains every thing worth

notice that paſſed from the death of Henry II. in 1559, to the peace of Vervins in 1598. He was killed about the year 1635, by a gentleman of Verona; who, in a diſpute about furniſhing him with carriages in purſuance of his having a commiſſion from the republic, diſcharged a piſtol at Davila, and wounded him in ſuch a manner, that he died ſoon after. Davila's ſon, a youth of about 18, being preſent, had the ſpirit to revenge the death of his father; for, inſtantly ruſhing upon the murderer, he cut him in pieces.

DAVIS (Henry Edwards), ſon of Mr. John Davis, of Windſor, was born July 11, 1756, and educated at Ealing, Middleſex, whence he removed to Baliol-College, Oxon, May 17, 1774, and took his degree about Jan. 1778, as B.A. In the ſpring of that year he diſtinguiſhed himſelf amongſt the earlieſt examiners of ſome remarkable aſſertions, and inſinuations yet more extraordinary, introduced in the Hiſtory of the Decline and Fall of the Roman Empire. So much accurate knowledge, and a judgment ſo well matured as that Examination diſcovered, has been rarely found at the age of twenty-one. The hiſtorian, in his Vindication, exerted very conſiderable efforts, though ſtrongly aſſailed by veterans in literature, to defend himſelf againſt his juvenile opponent. Mr. Davis, in his Reply, manifeſted no ordinary degree of candour and firmneſs. Such proofs of learning, ſagacity, and zeal for the Chriſtian cauſe, drew the particular attention of men, eminent by their public ſtation, their talents, and acquired advantages, and ſtill more diſtinguiſhed by their virtue and piety. In 1780, having entered into full orders, he was eſtabliſhed, in a manner peculiarly to his honour, in a fellowſhip of his college; and, for ſome time before his death, was tutor; an office which he diſcharged with ſolicitude and conſtancy, too great for the ſenſibility of his mind and the delicacy of his conſtitution. A lingering illneſs removed him from the ſociety of his many eſtimable friends, and deprived the public of his expected ſervices. Feb. 10, 1784, without any apparent change between a placid ſlumber and death, he expired. He was buried at Windſor, which was the place of his birth. He had cultivated a taſte for elegant literature, particularly in poetry, and occaſionally wrote for the Gentleman's Magazine; the particulars cannot now be aſcertained, except that in the Magazine for April 1782, p. 181, a letter ſigned C. and D. pointed out a very erroneous repreſentation, for ſuch it is preſumed it will appear to impartial readers, in a paſſage of Mr. Gibbon concerning Gennadius. Of this the diſcovery belongs to Mr. Davis; though in the drawing of it, as the ſignature imports, a learned friend was concerned.

It may be added, that, before his publication of the Examination, he had given ſeveral proofs of an early genius; and as in this he reſembled ſome eminent men, ſo he did alſo in another reſpect, being from his infancy of a very tender and delicate conſtitution. His apprehenſion was quick, his judgment correct; and in his application he was indefatigable.

DAVOS, a town of Switzerland, and capital of a juriſdiction of the ſame name, in the country of the Griſons. In the diſtrict are two lakes well furniſhed with fiſh, mines of copper, lead, and ſilver; and the inhabitants breed a great number of cattle: ſixty miles S.E. of Zurich. Long. 27. 21. E. Ferro. Lat. 46. 40. N.

DAUN, a town of Germany, in the electorate of Treves, ſeated on the Lezer, at the foot of a mountain, on which is a caſtle, twelve miles N. of Mont Royal.

DAUPHIN, Fort, a fort built by the French, on the E. coaſt of Madagaſcar. Long. 45. 10. E. Lat. 24. 55. S.

DAWES (Sir William), an eminent Engliſh prelate, was the youngeſt ſon of Sir John Dawes, bart. and born at Lyons, near Braintree, in Eſſex, Sept. 12, 1671. He was educated at Merchant-Taylors' ſchool in London, where he made a great proficiency in claſſical learning; and was alſo tolerably verſed in the Hebrew tongue, even before he was fifteen years of age: which was chiefly owing to the additional care that Kidder, afterwards biſhop of Bath and Wells, but then rector of Rayne near Braintree, was pleaſed to take of his education. In 1687 he was ſent to St. John's College in Oxford; but his father's title and eſtate deſcending to him, upon the death of his two elder brothers, about two years after, he left Oxford, and entered himſelf a nobleman in Catharine-hall, Cambridge. He took poſſeſſion of his eldeſt brother's chambers, who died there juſt before of a fever, at the ſame time that his other brother, who was lieutenant of a ſhip, was unhappily drowned. After he had taken the degree of M. A. he viſited his eſtate in Eſſex, and intended to make a ſhort tour into ſome other parts of the kingdom, which he had not ſeen; but his progreſs was ſtopped by his happening to meet with Frances, the eldeſt daughter of Sir Thomas Darcy, of Braxſtead-lodge in Eſſex, a fine and accompliſhed woman, whom he ſoon after married.

As ſoon as he arrived at the proper age, he was ordained deacon and prieſt by Compton biſhop of London. He intended, from the very firſt, to enter into holy orders; and is ſaid to have prepared himſelf for this, by making ſome of the moſt eminent Engliſh divines his ſtudy, while he was very young. Shortly after, he was created D.D by a royal mandate, in order to be qualified for the maſterſhip of Catharine-hall, to which he was unanimouſly elected in 1696, upon the death of Dr. John Eachard. He did ſeveral beneficial acts to his college: particularly, he contributed liberally towards the finiſhing a chapel which his predeceſſor had begun; and, by his intereſt at court, procured the firſt vacant prebend of Norwich to be annexed, by act of parliament, to the maſterſhip of Catharine-hall for ever. In 1696 he was made a chaplain in ordinary to King William; and ſhortly after, was preſented by his majeſty to a prebend in the church of Worceſter. Sir William, it ſeems, had pleaſed the king ſo well in a ſermon, preached at Whitehall, Nov. 5, 1696, that his Majeſty ſent for him, and without any ſolicitation gave him this prebend; telling him at the ſame time, that "the thing indeed was but ſmall, and not worth his acceptance, but as an earneſt of his future favour, and a pledge of what he intended for him." Nov. 10, 1698, he was collated by Archbiſhop Teniſon to the rectory, and, the month following, to the deanery of Bocking in Eſſex; where he behaved in a very charitable and exemplary manner.

After Queen Anne's acceſſion, Sir William was made one of her chaplains, and was in a fair way for ſome of the higheſt dignities in the church. Accordingly, though he miſſed the biſhopric of Lincoln, which was vacant in 1705, yet her Majeſty, of her own accord, named him to the ſee of Cheſter in 1707. The reaſon of his miſſing Lincoln was his having, in a ſermon upon Jan. 30, uttered ſome bold truths, which were not agreeable to certain perſons in power; who took occaſion from thence to perſuade the queen, contrary to her inclinaion, to give it to Dr. Wake, afterwards archbiſhop of Canterbury. This, however, made no impreſſion upon Sir William; and, therefore, when he was told by a certain nobleman, that he had loſt a biſhopric by his preaching, his reply was, that "as to that he had no manner of concern upon him, becauſe his intention was never to gain one by it." In 1713-14, he was tranſlated to the archiepiſcopal ſee of York; at which time he was alſo made a privy-counſellor of ſtate. He continued above ten years in this high ſtation, much honoured and reſpected; and then a diarrhœa, to which he had been ſubject afore-time, coming to be attended with a fever, and ending in an inflammation of his bowels, put a period to his life, April 30, 1724. He was buried in the chapel of Catharine-hall, Cambridge,

near his lady, who died Dec. 22, 1705, in her 29th year. He had ſeven children, three of which only, namely, Elizabeth, Jane, and Darcy, ſurvived him.

He was the author of ſeveral things, ſome of which were publiſhed by himſelf, and others after his deceaſe, under the title of his Whole Works, with a Preface, giving ſome Account of the Life, Writings, and Character of the Author, 1733, in 3 vols. 8vo. Thoſe publiſhed by himſelf were, 1. An Anatomy of Atheiſm, 1693. This is a poem, conſiſting of five ſheets, and was written by the author before he was eighteen years of age. It is more remarkable for its argument and eaſineſs of diction, than for any briſkneſs and force of imagination. 2. The Duties of the Cloſet, &c. written before he was 21 years of age. 3. The Duty of Communicating explained and enforced, &c. compoſed for the uſe of his pariſhioners at Bocking. 4. Sermons preached upon ſeveral Occaſions before King William and Queen Anne, 1707, 8vo. dedicated to that queen. 5. A Preface to the Works of Biſhop Blackall, publiſhed in 1723.

DAWES (Richard), an Engliſh ſcholar, celebrated for the publication of a work, entitled, Miſcellanea Critica, was born in 1708; and, after a ſchool-education under Mr. Anthony Blackwall, admitted of Emanuel College, Cambridge, in 1725. In 1736 he publiſhed a ſpecimen of a Greek tranſlation of Paradiſe Loſt; of which, in his preface to the Miſcellanea Critica, he had candour enough to point out the imperfections himſelf. Mr. Dawes died in 1766, and left ſome MSS. to which Mr. Burges who afterwards publiſhed an improved edition of the Miſcellanea Critica, had acceſs. There are ſome others in Dr. Aſkew's collection, who bought Mr. Dawes's library.

DAX, or ACQS, an ancient town of France, in the department of Landes, with a biſhop's ſee. Here are ſome famous hot baths, the ſpring of which diſcharges 543 cubic feet of water in 15 minutes. It is ſeated on the Adour, 24 miles N.E. of Bayonne. Long. 1. 0. W. Lat. 43. 42. N.

DAY (Thomas), an eminent miſcellaneous writer, the only ſon of Thomas Day, eſq. one of the collectors outwards of the cuſtoms in the ports of London, was born in the year 1748. He received his education at Charter-houſe, and removed thence to Oxford. He afterwards made a tour on the Continent, and, on his return to England, entered himſelf of the ſociety of the Middle Temple, and was called to the bar. But, although poſſeſſed of great eloquence, with a mind not only able to comprehend, but to improve the modes of judicial proceedings, he was diſguſted with the technical nicety of legal proceſs; and being poſſeſſed of an ample fortune, much augmented by the accumulation of a long minority, he declined the emoluments of the law, and devoted his time to literary purſuits. In 1777 he married Miſs Eſther Milnes, of Wakefield, in Yorkſhire; and with this lady he lived retired many years at Anningſley, in the county of Surrey; where he amuſed himſelf with the occupation of a large farm, more for the ſake of maintaining a number of poor families whom he employed around it, than with any view to his own advantage. He occaſionally interfered in the politics of the times, with the honeſt zeal of a diſintereſted patriot, and the manly firmneſs of an independent country gentleman. But, on the 28th of September, 1789, a period was put to his valuable life by a fall from his horſe, as he was riding out with ſome gentlemen in Berkſhire.

Mr. Day's firſt publication, in 1773, was The Dying Negro, a poetical epiſtle. In 1776 he publiſhed another poem, entitled The Devoted Legions, addreſſed to Lord George Germaine, and the commanders of the forces againſt America.

In 1783 he produced the Hiſtory of Sandford and Merton; a work of great importance to youth, and which he afterwards extended to three volumes 12mo. It conſiſts of a variety of tales interwoven with a ſtory, in which two children and their tutor are the principal characters. This work was followed by another, with the ſame benevolent views, entitled The Hiſtory of Little Jack, and printed in 1788, in the Children's Miſcellany. Mr. Day likewiſe publiſhed occaſionally many political productions; 1. Reflections on the preſent State of England, and the Independence of America. 2. Fragment of an original Letter on the Slavery of the Negroes 3. A Dialogue between a Juſtice of the Peace and a Farmer. 4. The Letters of Marius; or, Reflections upon the Peace, the Eaſt-India Bill, and the preſent Criſis. 5. A Letter to Arthur Young, eſq. on the Bill now pending in Parliament to prevent the Exportation of Wool.

DEADMAN'S HEAD, a cape in Cornwall, between St. Maw's and Fowey.

DEAFNESS (*Encycl.*). Under that article we have noticed an invariable conſequence attending thoſe who have the misfortune to be born *totally deaf*, namely, that they are alſo, by a natural conſequence, *dumb* alſo. We have alſo mentioned the names of ingenious men who have found means to ſupply theſe lamentable defects in a great degree, and give to ſociety many uſeful members. To their aſſiſtance, however, the poor could by no means attain, and this became an inducement with a few benevolent gentlemen, poſſeſſing an abundance of the temporal bleſſings of Providence, to appropriate a part of their ſuperfluity to the purpoſe of raiſing theſe poor *automata* to a ſtate of intellectual exiſtence and uſefulneſs, by opening a ſchool for their inſtruction at Bermondſey.

On making enquiry into the nature and extent of this inſtitution, it appears that, although it is in a proſperous condition, when the date (1792) of its eſtabliſhment is conſidered; yet it is far from being ſufficiently opulent to extend aſſiſtance to all who ſtand in need of it. It was the wiſh of its founders to have confined their bounty to inſtruction only; but receiving applications for relief from the moſt diſtant parts of the kingdom, it was found impracticable to fix on a ſituation where the children might have been daily collected: they were therefore obliged to add to it board and lodging, which neceſſarily contracted the ſphere of their benevolence.

The number of *deaf* and *dumb* perſons in this country is ſuppoſed to amount to ſeveral hundreds; more than 80 of whom, of a proper age, that is, between nine and fourteen, have applied for admittance; but the funds of the inſtitution have not enabled the governors to receive above half that number: ſome have received inſtruction and been diſcharged, capable of expreſſing their ideas, and acknowledging their gratitude; and 35 are now in the aſylum.

Their education conſiſts in learning to ſpeak and read articulately; to write, cypher, and underſtand language; and a manufactory is about to be erected adjoining the ſchool, where ſome of the boys are to be inſtructed in the art of a taylor; others in that of a ſhoemaker, and the girls are to be taught to make ſtays; by which they will be rendered capable of earning their own maintenance, and becoming uſeful members of ſociety.

From this account it appears, that there are at this moment upwards of 40 children, proper objects of this inſtitution, to whom, for want of more liberal ſupport, the governors cannot extend relief; and who, being unable to earn their own ſubſiſtence, are heavy burthens to their indigent parents; many of whom have large families, and are ſcarcely able to procure the common neceſſaries of life.

DEAN, a town in Glouceſterſhire, with a market on Monday. It had its name from the foreſt of Dean, in which it is

ſeated, 11 miles W. of Glouceſter, and 112 W.S.W. of London. Long. 2. 31. W. Lat. 51. 50. N.

DEAN, a foreſt in Glouceſterſhire, including that part of the county which lies between the Severn and the ſhires of Monmouth and Hereford. It contains four market towns and 23 pariſhes. It is fertile in paſture and tillage, bears very fine oaks, and has rich mines of iron and coal. It was once reckoned the chief ſupport of the Engliſh navy; and the Spaniſh armada, it is ſaid, was expreſsly commiſſioned to deſtroy it. It is now thinned by frequency of felling, and narrowed by increaſe of cultivation, though a few deer ſtill continue to run wild in its receſſes. The foreſt of Dean, and the vale of the ſame name, abound in orchards, which produce great plenty of excellent cyder.

DEBALPOUR, a town of Hindooſtan Proper, capital of a diſtrict in the country of Moultan. It is ſituated on the great road from Delhi to Moultan, 146 miles S. of Lahore, and 190 E. by S. of Moultan. Long. 73. 50. W. Lat. 29. 10. N.

DEBEN, a river in Suffolk, which riſes near Debenham, and flows to Woodbridge, where it expands into a long narrow arm of the German Ocean, a little to the N. of Harwich.

DEBENHAM, a town in Suffolk, with a market on Friday, ſeated near the head of the Deben, on the ſide of a hill, 24 miles E. of Bury St. Edmunds, and 84 N.E. of London. Long. 1. 17. E. Lat. 52. 22. N.

DEBTOR (*Encycl*). By the act for relieving inſolvent debtors, 41 Geo. III. c. 70. gaolers are to make out alphabetical liſts of priſoners, who, on March 1, 1801, or ſince, and at the time of making them out, were in cuſtody for debt, ſtating at whoſe ſuit each priſoner is detained, which liſts are to be delivered upon oath to the quarter ſeſſions; to be kept by the clerk of the peace, and may be examined *gratis*.

Three copies of liſts to be fixed up in each priſon ten days before the ſeſſion.

Priſoners, on March 1, 1801, for debts not exceeding 1,500l. conforming to this act, to be diſcharged.

Perſons diſcharged from priſon after March 1, 1801, and before the paſſing of this act, without their conſent, entitled to the benefit of this act, on ſurrendering themſelves at ſeſſions.

Likewiſe perſons impriſoned before the paſſing of this act for any debt which they ſhall have been impriſoned, at the ſuit of the ſame plaintiff, before March 1, 1801, entitled to the benefit of this act.

Juſtices, on petitions of the priſoners, delivering ſchedules of their eſtates, may iſſue warrants for bringing them to the quarter ſeſſion.

Two juſtices may, upon petition from debtors, aſſemble their courts as ſoon as may be after paſſing this act, for the purpoſes thereof, and appoint days for the diſcharge of priſoners.

Schedules to remain with the clerk of the peace for inſpection.

Debtors intending to apply for their diſcharge, to give previous notice thrice in the London or Dublin gazette; and if they be in cuſtody in any gaol out of London, or in any gaol out of Dublin, then alſo in ſome newſpaper which ſhall be publiſhed near them; and for each notice the priſoner ſhall pay the ſum of 4d. and no more.

Debtors to deliver ſchedules to the gaoler previous to the firſt notice, and for neglect to be remanded to priſon.

Gaoler to atteſt ſignatures to ſchedules, and to give copies to debtors, and alſo to creditors demanding them, on penalty of 20l.

Notice ſhall be ſigned by the debtor and gaoler.

Debtors applying at the ſeſſion, proving notices were duly inſerted, ſhall, in open court, upon oath, deliver in ſigned ſchedules, containing certain particulars.

Schedule and oath to be ſubſcribed by the debtor, and to remain with the clerk of the peace for peruſal of creditors.

Court, at the requeſt of a creditor, may examine gaolers on oath; and the debtor's oath not being diſproved, the court to order his diſcharge.

Eſtate and effects of diſcharged debtors veſted in the clerk of the peace, who is to aſſign the ſame to ſuch creditors as the court ſhall direct, in truſt for the whole. And aſſignees are to get in effects, and ſell them. Aſſignees are alſo to make dividend within three months, firſt verifying their accounts on oath. Thirty days' notice of making dividends to be given. No creditor to ſhare till he has proved his debt. Reality of debts may be enquired into at the ſeſſion. Surplus of effects to be paid the debtor.

Creditors for annuities, or money payable at any future time, to receive dividends as under a commiſſion of bankrupt.

Powers of clerk of the peace for the county of Lancaſter to extend to his deputies.

Eſtates of debtors, not inſerted in ſchedules, to be veſted in the clerk of the peace.

Holders of ſecurities, without conſideration given, not entitled to any benefit.

Eſtates to be veſted in the clerk of the peace for the time being.

No ſuit in equity to be commenced without conſent of the majority in value of creditors.

Schedules to be produced by clerks of the peace to creditors, and ſigned copies to be evidence.

Clerk of the peace refuſing to produce ſchedules, &c. to forfeit 10l. with treble coſts.

Aſſignees to compound with lords of manors for copyhold or cuſtomary eſtates.

The debtors right only to be affected by this act.

Act not to prevent mortgages, &c. taking place of claims of an inferior nature.

Power of leaſing lands or over real or perſonal eſtate, veſted in aſſignees.

The acting gaoler at the time of delivering the liſts to take the oath.

At the ſeſſion, on requeſt of creditors, gaolers to be ſworn.

At requeſt of creditors, gaolers may be examined on oath at the ſeſſions touching commitments.

Debtors forſwearing, to be deemed guilty of perjury.

Perſons diſcharged not liable for debts prior to March 1, 1801.

Priſoners are not to be diſcharged of debts ſubſequent to March 1, 1801.

Priſoners who, on application as inſolvent debtors, have been remanded back, and ſince diſcharged without their conſent, entitled to the benefit of this act.

Act may be pleaded to any action of eſcape.

Act may be pleaded generally by priſoners.

This act not to extend to attorneys, or ſervants, embezzling money: nor to perſons obtaining money on falſe pretences. Priſoners remanded to priſon under any inſolvent act for fraudulently obtaining money, ſhall not receive any benefit under this act; nor perſons charged in execution for damages recovered in any action for criminal converſation; nor perſons removing effects of the value of 50l. liable to be diſtrained for rent; nor perſons ſelling or aſſigning effects to defraud creditors.

Gaolers to permit priſoners to be ſpoken with, on penalty of 40l.

Gaolers making falſe entries, to forfeit 500l.

Debtors refuſing to diſcover the trade and abode of the perſon at whoſe ſuit detained, or to come to the lodge, ſhall be excluded the benefit of this act.

Juſtices may hold a ſeſſion at or near the county gaol.

Priſoners in cuſtody for fees, &c. claimed by gaolers, or other officers of the priſon, ſhall be diſcharged.

Act not to extend to debtors to the crown, or offenders againſt revenue laws, unleſs the treaſury certify their conſent.

Determination of juſtices to be final, unleſs the priſoner get rid of the objections to his diſcharge.

Eſtates of which priſoners are ſeized in tail to be delivered up to creditors.

Aſſignees may apply for the further examination of debtors to two juſtices.

Juſtices to call before them debtors, and if they refuſe to appear, may commit them.

Reward of 20l. per cent. for diſcovering any part of debtor's eſtate not compriſed in ſchedule.

Diſcharge of priſoner fraudently obtained, void.

Aſſignees, with conſent of majority in value of creditors, may compound for debts, and ſubmit diſputes to arbitration.

Any perſon concealing eſtates of debtors, ſhall forfeit 100l. for every offence, and alſo double the value of the eſtate ſo concealed.

If aſſignees die, others may be choſen.

Courts, on complaint, may remove aſſignees.

Where mutual credit has been given, the balance to be ſtated.

Priſoners, for not paying monies awarded, coſts, &c. entitled to the benefit of this act; and alſo priſoners on proceſſes out of courts of conſcience.

No perſons who have taken the benefit of any inſolvent act within five years, to be entitled to relief under this.

Affirmation of quakers to be taken.

This act not to extend to Scotland.

DECAPITATION, the act of beheading, or ſevering the head from the body; a mode of public puniſhment exerciſed in this and ſome other countries.

Among other ſingular queſtions lately agitated in France and Germany, the following is not the leaſt curious: "*Whether the ſeparated head of a perſon ſuffering on the ſcaffold be ſtill, for a certain time, conſcious of its ſufferings?*" This queſtion was propoſed at the time the guillotine was firſt adopted as the inſtrument of public execution in France; and the writings which appeared on this apparently whimſical ſubject, were numerous. Profeſſor Soemmering maintained in a particular treatiſe, firſt printed in the *Moniteur*, that the conſciouſneſs of the ſufferer ſtill continued for ſome time; and the profeſſor is ſo far perſuaded of the truth of this aſſertion, that in his opinion, the ſevered head would ſtill emit ſounds, if it were not ſeparated from the organs of ſpeech, as well as thoſe of reſpiration.

Profeſſor Wedekind controverted this opinion, and defended the French method of beheading as the quickeſt and leaſt painful ſpecies of death, by which all conſciouſneſs is at once intercepted and annihilated: he ſays, that the blood-veſſels of the ſeparated head are, *ipſo facto*, inſtantly and completely emptied of the blood, and that the organ of the mind is thus rendered totally inactive; conſequently, the head cannot be conſcious, either of its former or preſent ſtate.

Mr. Cloſſius, of Tubingen, though not fully convinced that the head, in a diſſevered ſtate, retains conſciouſneſs, yet conſiders this fact as highly probable, and on the whole, agrees in opinion with Soemmering. He dwells at conſiderable length, in his treatiſe *On Decapitation*, upon the objections ſtarted by Wedekind, and endeavours to prove that the blood-veſſels of the head are by no means ſo quickly and completely emptied, as the profeſſor is diſpoſed to think; and that even without an actual circulation of the blood, there may ſtill remain ſome activity and energy in the brain. He produces in ſupport of his hypotheſis, a variety of arguments, derived partly from analogy and a compariſon of the ſymptoms of a perſon beheaded with thoſe obſerved in ſimilar ſituations; and partly from appearances which have been noticed in individuals executed by the ſword or guillotine. On account of this probability, ought not the dictates of humanity to be liſtened to, and inſtead of beheading, ſhould not another mode of execution be deviſed, by which the deadly blow, and the complete annihilation of the natural ſtructure of the brain, might take place at the ſame inſtant? Such, for inſtance, would be a ſudden and violent convulſion of the brain, a mortal thruſt on the ſtomach, and the like.

Another German writer on this ſubject, C. A. Eſchenmayer, combats the opinion of Soemmering, but deals ſo much in confuſed philoſophic ſpeculations and vague hypotheſes, that we ſhall forbear taking notice of what he advances; and proceed to give ſome account of a French treatiſe, entitled *Opinion du Citoyen Sue, ſur le Supplice de la Guillotine*; à Paris, 16 pp. 8vo.—Citizen Sue, not contented with aſſerting that the head ſtill continues to live, and to feel the moſt excruciating pain, as long as the blood remains warm in the ſmalleſt veſſels, maintains that the lower part of the body alſo muſt ſuffer, after the head has been ſtruck off. His arguments are not a little curious. He compares the act of beheading with that of amputation of a limb; as it has been obſerved that perſons have felt, or at leaſt imagined that they felt, pain in a limb, after being ſeparated from the body by a chirurgical operation, as alſo after a diſlocation of the vertebræ; that the upper parts of the body remain ſenſible and alive, while the lower extremities are lifeleſs and inſenſible to pain. The incongruity of this mode of reaſoning from analogy is ſo palpable that it requires no refutation.

The author quotes various inſtances of preternatural births, or monſters born without a brain, and ſpinal marrow, on which he grounds his conjecture, that the lower extremities of the body are ſtill ſenſible to pain, after a ſeparation of the head has taken place. But, beſides the obvious inconſiſtency in this compariſon, it requires to be previouſly proved, that ſuch monſters have ever had conſciouſneſs, and ſuffered pain, on account of the unnatural ſtructure of their bodies. The remarkable facts witneſſed by the author, during a number of executions at Paris, and related in this treatiſe; for inſtance, the ſingular phenomenon of ſmiling, or rather of bluſhing, in the trunkleſs head of Madame Cordet, the aſſaſſin of Marat, are no doubt curious, but not concluſive.

The ſubject of diſpute is indeed ſuch as admits of no poſitive deciſion; for the feelings of a perſon, after the mortal blow has been given by the ſword or guillotine, cannot be aſcertained, and we may pronounce it impoſſible for human reaſon to form an adequate conception of their greater or leſs duration. If there exiſt a ſomething within the body, which after its diſſolution haſtens towards another deſtination, in which we ſhall not be inſenſible to agreeable or diſagreeable ſenſations, this ſomething will no doubt alſo poſſeſs the conſciouſneſs of its ſituation, whether the body has been deſtroyed by a putrid fever, by poiſon, by a concuſſion of the brain, or by any other mode of depriving or taking away life. It does not, indeed, here, depend upon the ſtate of the circulation of the blood, or other relations, as connected with the body; for it muſt be admitted, that this ſomething, if it continue

after and without the body, has no connection with corporeal cauſes, organs of the mind, or the like.

DECCAN, an extenſive tract of country in Aſia, which, according to the ſignification of its name, the South, has been ſuppoſed to include the whole regions of Hindooſtan Proper. But, in its more accurate ſenſe, it contains only the countries ſituate between Hindooſtan Proper, the Carnatic, the Weſtern Sea, and Oriſſa; namely, the provinces of Candeiſh, Dowlatabad, Viſiapour, Golconda, and the W. part of Berar. It is bounded on the N. by the river Nerbudda, by Bengal, and by Bahar; and the river Kiſtna forms its ſeparation on the S. from the peninſula of Hindooſtan. All this vaſt country was once a province of the Mogul empire. Candeiſh, Viſiapour, and a part of Dowlatabad, are ſubject to the Mahrattas; the remainder to the nizam of the Deccan.

DECCAN, the dominions of the nizam of the Deccan, compriſing Golconda, the principal part of Dowlatabad, and the weſtern part of Berar; the latter ſubject to a tribute of a fourth part of its net revenne to the Berar Mahrattas. His territories are bounded on the N.W. by the Poonah Mahrattas, on the N. by the Berar Mahrattas, on the E. by the Northern Circars, and on the S. by the Carnatic and Myſore. By family ſucceſſion, in 1780, the nizam became poſſeſſed of the diſtricts of Adoni and Tachore, and of the Guntoor Circar; and by the peace of 1792 he had a ſhare of the country ceſſions made by Tippoo Sultan, including Kopaul, Cuddapa, and Gangecolla. His dominions (without including the ceſſions) are ſuppoſed to be 430 miles from N.W. to S.E. by 300 wide. His capital is Hydrabad.

DECISE, an ancient town of France, in the department of Nievre, ſeated in an iſland formed by the Loire, 16 miles S.E. of Nevers. Long. 4. 31. E. Lat. 46. 50. N.

DECKENDORF, a town of Lower Bavaria, ſeated near the Danube, 37 miles S.E. of Ratiſbon. It was taken by the Swedes in 1641. Long. 12. 55. E. Lat. 48. 42. N.

DECKER (Thomas), a writer in the reign of James I. and being a contemporary with Ben Jonſon, became more eminent by having a quarrel with that great poet, than he would perhaps otherwiſe have done from the merit of his own works. What the original occaſion of their conteſt was, is unknown; but Jonſon, who certainly could never "bear a rival near the throne," has, in his Poetaſter, the Dunciad of that author, among many other poets whom he has ſatirized, been peculiarly ſevere on Decker, whom he has characteriſed under the name of Criſpinus. This compliment Decker has amply repaid in his Satyromaſtix, or the Untruſting a humorous Poet, in which, under the title of young Horace, he has made Ben the hero of his piece. Although, as we before obſerved, Decker was but a middling poet, yet he did not want his admirers, even among the poets of his time; ſome of whom thought themſelves not diſgraced by writing in conjunction with him;—Webſter having a hand in three of his plays, and Rowley and Ford joining with him in another. His Honeſt Whore, and the comedy of Old Fortunatus, are allowed to be ſolely his, which are ſaid to contain beauties, in reſpect to character, plot, and language, equal to the abilities of any of thoſe authors that he was ever aſſiſted by; and indeed in the former, equal to any dramatic writer (Shakſpeare excepted) that this iſland has produced.

The preciſe time of this author's birth and death are not recorded; yet he could not have died young, as the firſt play we find of his writing was publiſhed in 1600, and the lateſt date we meet with to any other is in 1638, except the Sun's Darling, which, Langbaine obſerves, was not publiſhed till after the death of its author.

DECREET, in the law of Scotland, a final decree or judgment of the lords of ſeſſion, from which an appeal only lies to parliament.

DECREET-*Arbitral*, in Scots law, the ſentence or judgment of one to whom parties voluntarily ſubmit the determination of any queſtion betwixt them.

DEDDINGTON, a town in Oxfordſhire, with a market on Tueſday. It was anciently a corporation, and ſent members to parliament in the reign of Edward III. It is 16 miles N. of Oxford, and 70 W.N.W. of London. Long. 12. 1. W. Lat. 52. 2. N.

DEE, a river of Scotland, which riſes in Aberdeenſhire, amid the mountains of Mar Foreſt, and flows through a wild country till it reaches the fertile vale of Brae-mar, whence it proceeds in an eaſterly direction to Aberdeen, below which it falls into the Britiſh Ocean.

DEE, a river of Scotland, which riſes in the N.W. part of Kirkcudbrightſhire, and joining the Ken, below New Galloway, falls into the Iriſh ſea at Kirkcudbright.

DEED (*Encycl.*). Any indenture (except pariſh indentures), leaſe, or deed-poll; and any charty-party releaſe, contract, or other obligatory inſtrument; or any procuration or letter of attorney; for every 15 common law ſheets of 72 words each, 5 W. & M. c. 21, 6d. 9 and 10 W. III. c. 25, 6d. 12 Anne, ſ. 2, c. 9, 6d. 30 Geo. II. c. 19, 1s. 16 Geo. III. c. 34, 1s. 17 Geo. III. c. 50, 1s. 6d. 23 Geo. III. c. 58, 1s. 35 Geo. III. c. 30, 1s. 37 Geo. III. c. 90, 3s. 41 Geo. III. c. 10, 3s. 41 Geo. III. c. 86, 2s. Total fifteen ſhillings.

And moreover, by 37 Geo. III. c. 111, there ſhall be paid upon every deed which ſhall be made after Aug. 1, 1797, an additional ſtamp duty of 10s. over and above all duties now payable on the vellum or paper whereon ſuch deed ſhall be engroſſed (but this is upon the firſt ſkin only), the proviſions of this act being as follow:

This is not to extend to any bond or letter of attorney; nor any deed whatever, bearing date Aug. 1797.

Alſo it ſhall not extend to any indenture of apprenticeſhip, where a ſum not exceeding 10l. ſhall be given; nor to any leaſe for not exceeding twenty-one years, the full improved annual value whereof, and rent reſerved thereby, ſhall not be more than 10l.* nor to any leaſe for lives, or years determinable on lives, where the fine ſhall not exceed 20l. nor the rent reſerved 40s.

Nor ſhall any deed be ſubject to the payment of any greater duty than the ſum before mentioned, or to be ſtamped on more than one ſkin, with the additional ſtamp; or to be ſtamped with more than one ſuch ſtamp.

Nor ſhall the duty by this act impoſed be liable to the regulations reſpecting the ſtamping of parchment and paper, according to the number of common law ſheets engroſſed thereon.

Upon payment, within 60 days, after the date of the deed, of the duty hereby impoſed, the ſtamp-officers may ſtamp any

* But by 39 and 40 Geo. III. c. 42, the above duties ſhall extend to every deed which by law may form, or is intended to form, a part of any conveyance of lands or tenements, whereby a greater intereſt in the ſame ſhall be conveyed than a term of twenty-one years, whatever may be the value thereof; and any ſuch deed as aforeſaid, already executed, that is not ſo ſtamped, may be taken to the office, at any time within twelve months after July 9, 1800, to be ſtamped upon payment of duty.

vellum, parchment, or paper, on which any deed ſhall have been engroſſed, or on which any deed ſhall be intended to be engroſſed, with the additional ſtamp.

And if the duty ſhall not be paid within ſixty days, then it ſhall be lawful to ſend the deed to the head office, and on payment of the duty, and the further ſum of 10l. by way of penalty, the ſame may be ſtamped.

But grants, conveyances, and aſſurances under the ſeal of the duchy of Lancaſter, according to 19 Geo. 3. c. 45, where the conſideration does not exceed 10l. are exempted by that act, and 39 and 40 Geo. 3. c. 72, from all duty.

Note, the number of ſtamps required to be uſed on deeds are one for every fifteen common law ſheets (of 72 words each) contained in the deed, or in any ſchedule or inſtrument annexed thereto, or any indorſement thereon.

DEERHURST, a village in Glouceſterſhire, three miles S. of Tewkeſbury, ſubject, by its low ſituation, to frequent inundations from the Severn. Here was a palace built, and afterwards converted to a monaſtery in 715, which the Danes deſtroyed; but it was rebuilt and made an alien priory, under the patronage of the abbot of Tewkeſbury. Its being rebuilt in the reign of Edward the Confeſſor, and its conſecration by the then biſhop of Worceſter, is denoted by a Latin inſcription on a ſtone, which, in 1675, was dug up in an orchard.

DEFECATE (*Encycl.*). The various ways in which defecation, or CLARIFICATION as it is otherwiſe called, may be performed, are very fully ſet forth in the following obſervations of Citizen Parmentier.

"The term *defecation* or *clarification* is generally applied in pharmacy to an operation, by means of which liquids are freed from the foreign ſubſtances that impair their tranſparency.

"This operation, ſimple as it may appear to be, nevertheleſs merits particular attention; eſpecially when we conſider the advantages which are obtained from it in the chemical and pharmaceutical arts. I therefore thought it might be uſeful to communicate ſome general obſervations on clarification.

"It is not my intention, in this place, to diſcuſs the different methods employed for the proceſs of clarification, nor to enumerate in detail the reſpective effects which they produce upon the different ſubſtances to which they are applied; but I ſhall content myſelf with pointing out the principal phænomena that are obſerved in operations of this kind.

"The end propoſed, when we wiſh to clarify a fluid, is to free it from ſubſtances which, without being diſſolved, remain ſuſpended in it, and impair its tranſparency and limpidity; but theſe ſubſtances are ſeparated ſometimes by ſubſiding or filtration; ſometimes by the action of the air, of heat, of light, of motion, and of fermentation; ſometimes finally, by the aid of agents, which, in uniting the particles diſperſed in the liquid which we wiſh to clarify, often change their nature, and no longer permit them to remain in the ſtate in which they were before. We ſhall commence an enquiry with conſidering ſpontaneous clarification. This never takes place, unleſs when the particles, that are to be ſeparated, have a ſpecific gravity decidedly inferior or ſuperior to that of the fluid in which they are ſuſpended; they can then unite either at the lower part of the fluid or at its ſurface, and there form a maſs which may very eaſily be removed, if the ſeparation has been complete; the fluid then poſſeſſes all the tranſparency that can be deſired, and which the moſt accurate filtration cannot augment.

"This mode of clarification is ſometimes ſubject to ſeveral inconveniences, the chief of which are, that it requires a conſiderable length of time to effectuate it, and that, during this interval, it contributes to favour the formation of new products, which, changing the compoſition of the fluid that was to be clarified, do not leave it the ſame as it was previous to its clarification, independent of the ſubſtances that impaired its tranſparency. We find a very ſtriking example of what happens in this caſe, when we conſider the circumſtances with which the ſpontaneous clarification of the juices of plants or fruits is attended. Theſe juices, when freſh expreſſed, are always turbid; they nevertheleſs become clear by imperceptible degrees; but then their nature is no longer altogether the ſame as it was before; for they contain products which would not have been found in them if they had been clarified immediately after having been expreſſed. Hence it alſo proceeds, that the juices of the lemon, the gooſeberry, the Seville orange, &c. when examined before or after their ſpontaneous clarification, are ſo widely different with reſpect to their taſte, ſmell, colour, and economical properties.

"In general, we may eſtabliſh it as a conſtant rule, that all the liquids ſuſceptible of fermentation are thoſe in which ſpontaneous fermentation produces the effects of which we have juſt been treating; whilſt theſe effects do not take place in thoſe which are little or not at all ſuſceptible of fermentation, and the tranſparency of which is impaired merely by particles which are incapable of exerting any operation upon the conſtituent parts of theſe liquids.

"Thus, for example, water, alcohol, ether, oil, &c. when deprived of their perfect tranſparency, may eaſily acquire it again by ſpontaneous clarification, without the ſmalleſt change taking place in the compoſition of theſe fluids; for, if we examine them after they have been clarified, we ſhall find them ſimilar to others that have not been ſubjected to the proceſs of clarification.

"The ſecond proceſs for clarifying fluids conſiſts in filtering them; but this operation can never be performed without the aid of intermediate ſubſtances, the very minute pores of which ſuffer only the fluid to paſs through them, but intercept the paſſage of all the particles that were merely ſuſpended in it.

"An infinite variety of ſubſtances are uſed as inſtruments of filtration: paper, woollen, linen and cotton cloth, carded cotton, ſponge, ſand, earths, pounded glaſs, charcoal, porous ſtones, &c. all theſe ſubſtances may be uſefully employed in this operation; but their nature and purity ought to be examined, eſpecially when we have to filter ſaline ſubſtances.

"It is the buſineſs of the chemical and pharmaceutical operator to chooſe, amongſt the different kinds of filters, that which, whilſt it is the beſt adapted for effecting the clarification of the fluids, is at the ſame time incapable of producing any change in its conſtituent principles. Now this choice is to be determined by the knowledge which we have of the nature of the fluid, and of the ſpecies of filter which it may be proper to employ.

"If it be an aqueous, vinous, ſpiritnous, or oily liquid, paper may be employed without any inconvenience, provided it be of a good quality. This laſt condition is to be ſtrictly attended to, otherwiſe the product of the filtration will often be defective.

"Paper is known to be a kind of web, formed of vegetable fibres, that have undergone various preparations. The particles of theſe fibres are intermingled in ſuch a manner, as to leave between them pores, the tenuity of which is always proportionate to the ſtate in which the paſte was at the moment when it was converted into paper. If this tenuity be conſiderable, the pores are ſoon obſtructed by the ſediment which is depoſited by the liquid we wiſh to filter; the filtration then ceaſes to take place. When, on the contrary, the pores are very wide, the filtration is effected rapidly, but always in an imperfect manner; for, whilſt the liquid paſſes through the

filter, it carries with it the more minute particles that were ſuſpended in it, and only the groſſer ones remain upon the ſurface of the filter.

" The great art, therefore, is to chooſe paper, the pores of which have preciſely the ſize requiſite for admitting only the fluid that is to be filtered, but none of the particles that impair its tranſparency.

" We meet with two ſorts of paper in commerce, which nearly produce this effect, and, though they are not always ſo perfect as might be deſired, they are thoſe which have hitherto been preferred. The one, which is ſemi-white, bears the peculiar appellation of *papier Joſeph*; the other is a kind of grey paper, but not ſo coarſe as that which is uſed for wrapping different cheap articles of merchandize: both of them are manufactured without ſize.

" The whiteneſs of the *papier Joſeph* ſhews that it has been manufactured with a purer paſte than that which has ſerved for the manufacture of the grey paper; the liquids that have been filtered through it are always tranſparent; but it has the inconvenience of tearing very readily, and its pores are ſoon obſtructed, ſo that the filtration goes on but ſlowly.

" The grey paper can ſerve for a greater length of time to furniſh alſo clear liquids; but, as the paſte with which it has been manufactured has not been ſo well purified as that of the *papier Joſeph*, it always communicates to the liquids a diſagreeable taſte, which proceeds from the ſolution of the foreign ſubſtances contained in this paper. This is alſo the reaſon why certain fluids, ſuch as whey, wine, ſpirituous compounds, and other potable liquids, that have been filtered through grey paper, have always a ſmell and taſte, which are eaſily recogniſed by experienced organs. Hence it proceeds, that, amongſt theſe liquids, ſome are more ſuſceptible of ſpoiling than when they have been filtered through the *papier Joſeph*.

" The nature of the paper demands our attention moſt of all when we have to filter ſaline ſolutions. If we have employed grey paper, it often happens, that a part of its ſubſtance is diſſolved by their action, ſo that the filtered liquid is not ſo pure as we ſhould wiſh to have it. This inconvenience, which is not equally perceptible when we uſe the *papier Joſeph* in preference, may be ſtill more diminiſhed by the precaution of not employing filters till after they have previouſly been waſhed ſeveral times with boiling water. A careful preparer of medicines ought always to keep a ſtore of filters waſhed in this manner, in order that he may be able to uſe them as occaſion requires. *Joſſe*, a man of diſtinguiſhed merit in pharmacy, to whom we are indebted for many important obſervations, has found their advantages in a variety of circumſtances. He has remarked, amongſt others, that whey, clarified and filtered through *papier raiſin*, could be kept in good preſervation for more than a fortnight, when filtered every day; which was not the caſe with the ordinary grey paper, though previouſly waſhed.

" By a diametrically oppoſite effect, different vegetable juices have been kept tranſparent and in good preſervation, without paſſing into the acid ſtate, by filtering them every day through grey paper: it has only been obſerved, that their colour became more intenſe during the firſt days, and that they afterwards gradually became colourleſs.

" But if the nature of filters demands our conſideration, their form and poſition are no leſs deſerving of our attention. In order that a filter of paper may produce its full effect, it is neceſſary that it ſhould not adhere at all points to the ſubſtance which ſupports it; otherwiſe the filtration would ſoon be interrupted. This inconvenience is avoided by folding it different ways; but as theſe folds ſoon become deranged, ſome prefer placing ſtraw, or glaſs tubes, between the filter and the ſupport. I confeſs that this latter expedient has not always ſucceeded with me, and that I have moſtly remarked, that the folds made in the filters produced as much effect as the ſtraw and tubes. In Germany, they uſe, for this purpoſe, funnels grooved on their inner ſurface.

" A period arrives, at which, whatever precautions may have been taken, the filtration grows languid, and at length is entirely ſuſpended; this circumſtance takes place, when the pores of the paper are obſtructed in ſuch a manner as no longer to afford a paſſage to the fluid. Sometimes we may prolong the filtration, by giving a ſlight circular motion to the funnel; but this effect is of ſhort duration, and nothing more is left for us to do than to change the filter. It appears that no means have hitherto been diſcovered for remedying this inconvenience, to which all kinds of filters are liable.

" It has been already obſerved, that filters of woollen cloth, linen, and carded cotton, are alſo in uſe; thoſe of woollen cloth were formerly very much in uſe; they are even the firſt that were employed; they were made in the form of a cone, the baſe of which was kept open by means of a ring, which was afterwards faſtened to a frame with ſtrings. This ſpecies of filter was termed the bag of Hippocrates; it is ſtill uſed for filtering ſpirituous compounds. As it may be made very capacious, it is able to receive a large quantity of liquid at once, but it paſſes through very ſlowly; often even it is neceſſary to wait for a long time before the liquid paſſes through clear, on which account one ought never to have recourſe to it, unleſs when others cannot be procured.

" However, when ſyrups are to be filtered, woollen cloth is uſed; but then, inſtead of giving it the form of a bag, the cloth is merely fixed upon a ſquare frame, to which it is attached at its four corners by means of pegs. The boiling ſyrup is poured upon the middle of it, which almoſt always bags a little, and often at the end of a few minutes the liquor paſſes through very clear.

" This filter thus diſpoſed may ſtill be employed for filtering many other liquids, eſpecially ſuch as are of a watery nature, and do not contain pot-aſh or ſoda in ſolution; for, were they never ſo ſlightly akaline, the filter would ſoon be deſtroyed, and the filtered liquid would not poſſeſs the requiſite qualities.

" Linen and paper are generally employed for filtering the alkaline liquids, and they anſwer the purpoſe very well, eſpecially when theſe liquids are not too much concentrated.

" As to carded cootton, it is reſerved for filtering ſuch fluids as are conſidered precious, whether on account of the difficulty of procuring them, or of the ſmall quantity with which one is provided.

" In order to form this filter, carded cotton is introduced into the tube of a glaſs funnel, and ſtuffed in with a rod of glaſs, ſo that it forms a kind of cork ſlightly compreſſed: the fluid which we wiſh to filter is then poured into the funnel. The filtration takes place drop by drop, and after the firſt have been ſeparated, thoſe which follow are always clear. The eſſential oils may very conveniently be filtered by this means, without danger of waſte, which would inevitably take place if any of the other filters, of which I have already ſpoken, were uſed.

" The acids, eſpecially thoſe that are in a concentrated ſtate, can only be filtered through pounded glaſs; but we muſt uſe the precaution not to employ this ſubſtance till after we have waſhed it ſeveral times, at firſt with a large quantity of water, and afterwards with an acid, in order to deprive it of the earthy or other foreign particles that might be diſſolved by the acids which we wiſh to filter.

" The filters of glaſs may very well be formed in a funnel.

The great art that is required in order that they may produce this effect, is firſt to fix ſome fragments of glaſs in the tube, afterwards to add other ſmaller ones, and thus to continue, always diminiſhing the ſize of the fragments, till we have formed a thickneſs of three or four fingers' breadths, the upper layer of which ought to be glaſs reduced to fine powder.

"This kind of filter lets the liquid paſs through with ſufficient facility, that in leſs than an hour it is poſſible to filtrate ſeveral killogrammes of acid, in a funnel of glaſs of a moderate ſize.

"Sand is alſo very commonly uſed for clarifying the water employed for domeſtic purpoſes. The ciſterns lined with ſand are in fact real filters, the effect of which is the more certain, the more the layers of ſand are diſpoſed in ſuch a manner, that the water which covers them is obliged ſucceſſively to paſs through them, and that they retain the ſubſtances which injure its tranſparency.

"The art of conſtructing ciſterns lined with ſand has not yet arrived at the degree of perfection to which it might be brought, and though its object may ſeem to be of but ſmall importance, it nevertheleſs well deſerves the attention of philoſophers.

"For the reſt, experience proves that ciſterns lined with ſand can be uſed with advantage only during a certain time; frequently it is neceſſary to renew the ſand which they contain, or at leaſt to waſh it, in order to deprive it of the earthy and heterogeneous ſubſtances which the water depoſits in it, and which, when they have accumulated to a certain degree, not only prevent the filtration, or render it incomplete, but alſo communicate to the liquid a taſte, which is the more diſagreeable the longer they have remained in it.

"Nothing is more eaſy, as is well known, than to deprive the water of rivers of the earth which it often carries along with it, and which impairs its tranſparency. All that is required, is to let it ſtand for ſome hours in an earthen veſſel, but uncovered, for the action of the air is neceſſary in order to effect this precipitation in a ſpeedy and complete manner.

"However, though the practice of filtering water deſtined to be uſed as drink is to be traced to the moſt remote antiquity, it muſt be confeſſed, that the ciſterns eſtabliſhed for this purpoſe do not only free them of the mud which rendered them turbid, but likewiſe deprive them of a ſuperabundance of air with which they are ſometimes impregnated, a ſuperabundance which conſtitutes their lightneſs, their ſharpneſs, &c. in a word, that ſuperiority which the water of the Seine, for example, has over that of all known rivers. The proof that this is the caſe, is that by dint of repeated filtrations one may render water inſipid, heavy, and unwholeſome.

"Thus when one wiſhes to determine the ſpecific gravity of the water of the Seine, one ought to take it from the river on a day when it is limpid, or, at leaſt let it clear itſelf by ſtanding, and not chooſe the filtered water in preference; for if this operation renders water more clear, it at the ſame time produces conſiderable changes in it, by depriving it, as has been remarked, of the air which it contains in ſuperabundance.

"I have known a perſon whoſe organs of taſte were rendered ſo acute by exerciſe, that he could diſtinguiſh water that had been filtered through ſand from ſuch as had not, by the different impreſſions which that made upon them. The latter appeared to him to be more ſapid and light. This undoubtedly proceeds from the abſence of the air we have mentioned, and which may be ſtill more diſtinctly perceived under the recipient of the pharmaceutical apparatus. Some perſons, intereſted in ſupporting the opinion contrary to that which has been advanced above, have aſſerted that if the water were continually obliged to paſs through ten feet of ſand and gravel from below upwards, it would be in a condition to produce, with the weight of the heterogeneous ſubſtances, an effect capable of contributing to purify it completely, that is to ſay, to deprive it of its ſalts: the prepoſſeſſion was ſo great that the following reaſoning was adduced in favour of this notion.

"'If theſe filters are ſufficient for depriving the water of its air, why ſhould not this operation of filtration be equally proper for depriving it of the ſalts which it contains?' but attention has not been paid to the circumſtances that theſe ſalts, held in ſolution in the water, being of greater ſpecific weight, filter themſelves together with it through the ſmalleſt tubes, whilſt the air, being ſpecifically lighter than the water, and exiſting in it in a ſtate different from that of the ſalts, ſeparates itſelf eaſily; finally, it has alſo been attempted to apply filtration to the water of the ſea, with a view to render it palatable; the proceſs for this purpoſe has been announced to government as a new and ingenious invention; it conſiſted in a filtration which was effected from below upwards by the application of force.

"But the union of the ſaline ſubſtances with the water is not a mere mechanical ſtate of diviſion; they are not merely interpoſed between its particles, as ſome philoſophers have maintained, but they are perfectly diſſolved in the water, and poſſeſs a degree of fluidity equal to its own. Theſe ſalts conſequently become capable of paſſing through filters with the moſt minute pores. It is therefore only by reducing the water to the ſtate of vapours that we can ſeparate the ſaline ſubſtances which it holds in ſolution, and no other expedient than diſtillation will ever produce a ſatisfactory effect. But let us reſume the ſubject of the general effects of filtration.

"Beſides the filters of which we have already treated, the ſtones known by the appellation of filtering-ſtones are alſo employed for clarifying water. Of theſe there are ſeveral kinds; they are very porous, as they conſiſt for the greater part of free-ſtone. They are hollowed out and filled with water. This fluid gradually inſinuates itſelf amongſt their pores, and appears on the outſide in the form of clear drops, which fall into a receptacle upon which the ſtones are placed.

"Theſe ſtones ought previouſly to be waſhed ſeveral times with water; it is even remarked, that the water which is filtered through them during the firſt days has a diſagreeable taſte, which depends upon the foreign ſubſtances this fluid has diſſolved in paſſing through the ſtone; ſo that it is not till the water which paſſes through has no longer any peculiar taſte that it is fit to be uſed for drink.

"Upon the whole, the filtering-ſtone, as it has been extolled, is a bad means for procuring good water. Beſides, the filtration proceeds very ſlowly, and frequently even ceaſes to take place, unleſs we uſe the precaution of rubbing both the inſide and outſide of the ſtone, from time to time, with a hard bruſh, in order to detach the mud which the water depoſits upon it. It is undoubtedly to theſe inconveniences that we ought to attribute the diſrepute into which this kind of filtration ſtands at preſent.

"It now only remains for us to ſpeak of the proceſſes employed, in order to give different fluids that perfect limpidity, which they can never acquire by ſpontaneous clarification and by means of filters, of whatever kind they may be.

"If it be true, that the opacity obſervable in certain fluids is entirely owing to the interpoſition of molecules which are not diſſolved, but merely ſuſpended in them by the aid of a ſtate of extreme diviſion, it is certain alſo, that under other circumſtances the deficiency of tranſparency depends entirely upon the imperfect ſolubility of one or more ſubſtances which theſe fluids contain; ſo that in order to give them the deſired limpidity, it is abſolutely neceſſary to have recourſe to means which augment the ſolubility of the ſubſtances in queſtion, or at leaſt effect their total ſeparation.

"Albuminous and gelatinous matter, the acids, certain ſalts, lime, cream, blood, alcohol, may in many caſes contribute to effect the clarification of certain fluids, for which the ordinary filters would be inadequate. However, theſe agents are not to be uſed indiſcriminately, and the preference which is given to the one above the other always requires to be determined according to the knowledge which we have of the compoſition of the liquid we wiſh to clarify. Accident has diſcovered, for example, that two handfuls of marl, reduced to a coarſe powder, and thrown into the preſſing tub, clarify cider.

"The effect of the albuminous and gelatinous matters is principally remarkable in the vinous liquids. It is on this account that they are employed when it is required to fine wines, that is to ſay, when we wiſh to give them that high degree of limpidity which they can rarely acquire and preſerve by mere repoſe. In this caſe, nothing more is required, than to diſſolve either of theſe two ſubſtances in a ſmall quantity of water, and to mix this ſolution cold with the wine; a ſhort time after, a kind of net-work is obſerved throughout the whole mixture, which ſoon contracting together collects all the foreign ſubſtances from the wine, and carries them with it to the bottom of the vat.

"In other inſtances, one is obliged to heat the liquids with which we mix the albuminous matter; and it is only at the moment of ebullition that the clarification takes place. The moſt of the ſyrups are clarified by this proceſs, and no other has yet been diſcovered that produces a better effect.

"It is alſo obſerved, that albuminous matter alone is not always ſufficient to clarify liquids, even though we raiſe them to a degree of temperature ſufficient to make them boil, but that it is neceſſary to aſſiſt its operation by means of an acid, or a ſalt with a redundance of acid. In proof of this, we may adduce what takes place in the clarification of whey.

"In fact, it is demonſtrated that it is only when we add to this fluid, at the moment when it begins to boil, ſome acidulous tartarite of potaſh (*cream of tartar*), or vinegar, that the albuminous matter with which it had previouſly been mixed, coagulates and carries with it the caſeous matter, which impaired the tranſparency of the ſerum.

"For the reſt, it is eaſily conceived that the quantity of acid which it will be proper to add in this caſe, muſt always bear a relation to the ſtate of the fluid, and that it would be ridiculous to pretend that the proportion can be fixed in an invariable manner.

"New cream is employed with advantage for clarifying ſpirituous liquors: one or two ſpoonfuls to the pint are ſufficient to produce this effect in the ſpace of a few hours in the cold. But as in this clarification, ſome caſeous particles always remain ſuſpended in the fluid, by reaſon of their great tenuity, it is neceſſary to ſeparate them at laſt by filtration through a bag or through paper.

"Finally, there are ſome fluids, which, in order to become clear, require to be ſubjected to a degree of heat nearly approaching that of boiling water. Theſe are principally ſuch as are rendered opaque merely by ſubſtances, the ſolubility of which cannot become complete, unleſs it be facilitated by raiſing the temperature of their ſolvent above its natural ſtate. Many ſaline ſolutions ſtand in this predicament, and whoever occupies himſelf ever ſo little with chemiſtry, will frequently meet with ſuch.

"Moſt of the freſh-expreſſed juices of vegetables may alſo be partially clarified by the operation of heat. Thus it is cuſtomary amongſt apothecaries to have recourſe to this means with thoſe juices which, on account of their thickneſs and viſcoſity, are not ſuſceptible of being filtered.

"Frequently a ſlight degree of heat, applied to the expreſſed and filtered juices of certain vegetables, is ſufficient ſuddenly to deſtroy their tranſparency; in this caſe a flaky whitiſh ſubſtance floats in the liquid, and collects at the bottom of the veſſel. This is the ſubſtance which Rouelle, the younger, conſidered as the vegeto-animal matter of corn, and which I demonſtrated, as far back as the year 1772, to be nothing more than a ſubſtance analogous to the white of egg; which proves that at that period we were upon the way to inſcribe albumen amongſt the products of the vegetable kingdom.

"An important obſervation, upon which I ought to inſiſt, is, that in general it appears abſolutely neceſſary to ſeparate the *magma*, which forms in liquors that are clarified with albuminous matter, eſpecially when, in order to concentrate thoſe liquids, it is neceſſary to evaporate them by the aid of ebullition. Without this precaution, this *magma* would diſſolve, and the liquors would become more turbid than they were previous to the clarification. It proceeds from a ſimilar cauſe, that broth, from which the ſcum has not been taken off, always retains a diſagreeable appearance, and will not keep.

"Though the employment of albuminous matter for clarifying the juices of certain vegetables be of utility, it is, however, not without its inconveniences. Amongſt others, one that has been remarked is, that it changes the nature of theſe fluids in ſuch a manner, as partly to deſtroy their medicinal properties. It is known what happens to certain pharmaceutical preparations, ſuch as decoctions of medicines, when, in order to clarify them, recourſe has been had to white of egg and heat; for then they are almoſt without effect, unleſs we take care to double the proportions of the ingredients that ought to enter into their compoſition, *Lewis* has remarked that this operation deprived the ſyrup of diacodium of all its powers.

"Theſe are the obſervations which I thought would be uſeful to collect on the ſubject of clarification. My intention in communicating them was to ſhew, that ſuch an operation, though ſimple in appearance, muſt not be performed in an indifferent manner, and that, amongſt the various proceſſes that are in common uſe, ſome do not preſent reſults equally ſatisfactory with thoſe of others. The choice ought therefore always to be determined according to the nature of the ſubſtances upon which we have to operate. I confine myſelf to the relation of the facts; to others I leave it to give the explanations of them that may be deſired."

DEFESCH (William), a German, and ſome time chapel-maſter at Antwerp, was in his time a reſpectable profeſſor on the violin, and leader of the band for ſeveral ſeaſons at Marybone-Gardens. His head was engraved as a frontiſpiece to ſome muſical compoſitions publiſhed by him, and his name is to be found on many ſongs and ballads to which he ſet the tunes for Vauxhall and Marybone-Gardens. He died about 1751, aged 70.

DEFORCEMENT, in Scots law, the oppoſing or reſiſting of the officers of the law in the execution of their office.

DEINSE, or DEYNSE, a town of Auſtrian Flanders, ſeated on the Lis, eight miles S.W. of Ghent. Long. 3. 39. E. Lat. 50 59. N.

DEIZABAD, a town of Perſia, in Irac-Agemi, ninety miles N. of Iſpahan.

DELACOUR (James), an elegant, though neglected poet, was an inhabitant of Cork, in Ireland, and much careſſed for his ſprightly wit and moral conduct, beauties which are very rarely united. His firſt publiſhed poem was entitled The Proſpect of Poetry, inſcribed to Boyle earl of Orrery, and introduced by complimentary verſes from ſeveral reſpectable writers of the day. Though rather too impetuous and fiery (a ſad prediction of his future deſtiny), it contains ſome paſ-

ſages, ſurpriſingly beautiful and ſublime; the meaſure is harmonious, the deſign uniform, though not new, and, altogether, it is a performance of infinite merit. His deſcription of the birth of Love is replete with tender and elegant conception. Mr. Bell, in his compilation of Fugitive Poeſy, has very judiciouſly retained, indeed, we may ſay, revived this piece.

His Progreſs of Beauty, which is, we ſuppoſe, very ſcarce in this kingdom, is far ſuperior to Lord Lanſdowne's on the ſame ſubject, and with the ſame title. His Epithalamium, alſo, has all the delicacy and ſweetneſs of Catullus. But, alas! all human endowments are variable, and the ſage of this day has often been the ideot of the next.

Poor *Delacour*, at an earlier age than his unrivalled countryman *Swift*, was a member of ſociety no more. All his once vivid faculties were fled, and all his myrtles blaſted. We aſſign him the myrtle, becauſe like *Lee*, who loſt his reaſon alſo, his chief talent lay in chaſte amorous deſcription. He was frequently ſeen in the open ſtreet, with a mob of boys around him, pouring forth extempore rhymes, chiefly ſatirical; not unfrequently exhibiting ſome bright, but evaneſcent, flaſhes of fancy amidſt his wildeſt delirium!

Even during the long period of Delacour's inſanity, the light of the poet was not totally extinguiſhed: there exiſts a manuſcript copy of his Verſes on the Earthquake at Liſbon, compoſed in ſome ſerener moment, full of loftiy, but extravagant conception. And he produced about the ſame time ſome little pieces, which appeared in the Gentleman's Magazine, then the repoſitory of wit and genius; and, in particular, ſome lines to the author of the Seaſons (which inſpired even the leaden pen of old Dennis the critic); and an humourous epitaph on a tallow-chandler, who bequeathed ten pounds to reward the beſt tribute to his memory.

DELEBIO, a town of Swiſſerland, in the Valteline, on a ſmall river which runs into the Adda, five miles N.W. of Morbegno.

DELFINO, a town of Turkey in Europe and capital of Lower Albania, where the pacha reſides. It is fifty miles E.N.E. of Lariſſa.

DELFTSHAVEN, a fortified town of Holland, on the N. ſide of the Meaſe, with a canal to Delft, &c. It is between Rotterdam and Schiedam, not three miles from either.

DELFZUYL, a fortreſs of the United Provinces, in Groningen. It was taken by the Spaniards in 1581, and retaken by the Dutch in 1590. It is ſeated on the Damſter, thirteen miles N.E. of Groningen.

DELICHI, a river of Albania, the Acheron of the ancient poets, who feigned it to be in hell.

DELICT, in Scots law, ſignifies ſuch ſmall offences or breaches of the peace as are puniſhable only by fine or ſhort impriſonment.

DELLAMCOTTA, a fortreſs of the country of Bootan, which commands the principal paſs over the mountains. It was taken by ſtorm in 1773, by a detachment under the command of Captain John Jones, and is 175 miles N. of Moorſhedabad.

DELOS (*Encycl.*). Anciently this iſland was governed by its own kings. Virgil mentions one Anius reigning here in the time of the Trojan war. He was, according to that poet, both king and high-prieſt of Apollo, and entertained Æneas with great kindneſs. The Perſians allowed the Delians to enjoy their ancient liberties, after they had reduced the reſt of the Grecian iſlands. In after ages, the Athenians made themſelves maſters of it; and held it till they were driven out by Mithridates the Great, who plundered the rich temple of Apollo, and obliged the Delians to flee with him. Mithridates was in his turn driven out by the Romans, who granted the inhabitants many privileges, and exempted them from all ſorts of taxes. At preſent it is quite abandoned; the lands being covered with ruins and rubbiſh, in ſuch a manner as to be quite incapable of cultivation. The inhabitants of Mycone hold it now, and pay but ten crowns land-tax to the grand-ſignior for an iſland which was once one of the richeſt in the world.—Strabo and Callimachus tell us that the iſland of Delos was watered by the river Inapus: but Pliny calls it only a ſpring; and adds, that its waters ſwelled and abated at the ſame time with thoſe of the Nile. At preſent there is no river in the iſland, but one of the nobleſt ſprings in the world; being twelve paces in diameter, and incloſed partly by rocks, and partly by a wall. Mount Cynthus, whence Apollo had the ſurname of *Cynthius*, is by Strabo placed near the city, and ſaid to be ſo high, that the whole iſland was covered by its ſhadow; but our modern travellers ſpeak of it as an hill of a very moderate height. It is but one block of granate of the ordinary ſort, cut, on that ſide which faced the city, into regular ſteps, and incloſed on both ſides by a wall. On the top of the mountain are ſtill to be ſeen the remains of a ſtately building, with a moſaic pavement, many broken pillars, and other valuable monuments of antiquity. From an inſcription diſcovered there ſome time ago, and which mentions a vow made to Serapis, Iſis, and Anubis, ſome have conjectured, that on this hill ſtood a temple dedicated to theſe Egyptian deities, though no-where mentioned in hiſtory.—The city of Delos, as is manifeſt from the magnificent ruins ſtill extant, took up that ſpacious plain reaching from one coaſt to the other. It was well peopled, and the richeſt city in the Archipelago, eſpecially after the deſtruction of Corinth; merchants flocking thither from all parts, both in regard of the immunity they enjoyed there, and of the convenient ſituation of the place between Europe and Aſia. Strabo calls it one of the moſt frequented empories in the world; and Pliny tells us, that all the commodities of Europe and Aſia were ſold, purchaſed, or exchanged there. It contained many noble and ſtately buildings; as, the temples of Apollo, Diana, and Latona; the porticoes of Philip of Macedon, and Dionyſius Eutyches; a gymnaſium; an oval baſon made at an immenſe expence, for the repreſentation of ſea-fights; and a moſt magnificent theatre. The temple of Apollo was, according to Plutarch, begun by *Eryſichton* the ſon of Cecrops; but afterwards enlarged and embelliſhed at the common charges of all the ſtates of Greece. Plutarch tells us, that it was one of the moſt ſtately buildings in the univerſe; and ſpeaks of an altar in it, which, in his opinion, deſerved a place among the wonders of the world. It was built with the horns of various animals, ſo artificially adapted to one another, that they hanged together without any cement. This altar is ſaid to have been a perfect cube; and the doubling it was a famous mathematical problem among the ancients. This went under the name of *Problema Deliacum*; and is ſaid to have been propoſed by the oracle, for the purpoſe of freeing the country from a plague. The diſtemper was to ceaſe when the problem was ſolved.—The trunk of the famous ſtatue of Apollo, mentioned by Strabo and Pliny, is ſtill an object of great admiration to travellers. It is without head, feet, arms, or legs; but from the parts that are yet remaining, it plainly appears, that the ancients did not exaggerate when they commended it as a wonder of art. It was of a gigantic ſize, though cut out of a ſingle block of marble; the ſhoulders being ſix feet broad, and the thighs nine feet round. At a ſmall diſtance from this ſtatue lies, amongſt confuſed heaps of broken columns, architraves, baſes, chapiters, &c. a ſquare piece of marble 15½ feet long, ten feet nine inches broad, and two feet three inches thick; which undoubtedly ſerved as a pedeſtal for this coloſſus. It bears, in very fair characters, this inſcription in Greek, "The Naxians to Apollo." Plutarch tells us, in the life of Nicias, that he

cauſed to be ſet up, near the temple of Delos, an huge palm-tree of braſs, which he conſecrated to Apollo; and adds, that a violent ſtorm of wind threw down this tree on a coloſſian ſtatue raiſed by the inhabitants of Naxos. Round the temple were magnificent porticoes built at the charge of various princes, as appears from inſcriptions which are ſtill very plain. The names of Philip king of Macedon, Dionyſius Eutyches, Mithridates Evergetes, Mithridates Eupator, kings of Pontus, and Nicomedes king of Bithynia, are found on ſeveral pedeſtals.—To this temple the inhabitants of the neighbouring iſlands ſent yearly a company of virgins to celebrate, with dancing, the feſtival of Apollo and his ſiſter Diana, and to make offerings in the name of their reſpective cities.

DELRIO (Martin Anthony), a moſt learned man, was born at Antwerp of Spaniſh parents, in 1551. The progreſs he made in letters, while a very boy, is recorded with wonder. He was taught grammar in the Low-countries; and then ſent to Paris to learn rhetoric and philoſophy under the Jeſuits. Afterwards he went to ſtudy civil law in the new univerſity of Douay; but removing from thence to Louvain, he laid aſide that purſuit, and applied himſelf to polite literature. This he cultivated with ſo much ardour and ſucceſs, that he ſurpriſed the public, when he was only nineteen years of age, with ſome good notes upon the tragedies of Seneca. He cited in this work almoſt 1100 authors, with all the aſſurance of a man who had read them thoroughly, and weighed their ſentiments with great judgment and exactneſs. The reputation he acquired by this firſt eſſay of his erudition was afterwards increaſed. He is ſaid to have underſtood at leaſt ten languages, and to have read every thing, ancient or modern, that he thought worth reading. He was admitted LL. D. at Salamanca in 1574; and was afterwards a counſellor of the parliament of Brabant, and an intendant of the army. In 1780 he became a Jeſuit at Valladolid; from whence, going into the Low-countries, he taught divinity and the belles-lettres, and contracted a firm friendſhip with Lipſius. He taught alſo at Liege, at Mayence, at Gratz, and at Salamanca. He died at Louvain, in 1608, about two years after his friend Lipſius.

Beſides notes upon Seneca, Claudian, and Solinus, he wrote a great number of works, the principal of which are, 1. Diſquiſitiones Magicæ. 2. Commentaries upon ſome Books of the Old Teſtament. 3. Explications of ſome of the hardeſt and moſt important Texts of Scripture. We muſt not confound him with John Delrio, of Bruges, dean and grand vicar of Antwerp, who died in 1624; and who was the author of Commentaries upon the 119th Pſalm.

DELSPERG, a town of Swiſſerland, in the biſhopric of Baſle, ten miles N.W. of Soleure. Long. 7. 23. E. Lat. 47. 17. N.

DEMBEA, a conſiderable lake of Abyſſinia, in a province of the ſame name, in the W. part of the empire. It is ſuppoſed to be 450 miles in circumference, and contains many iſlands, one of which is a place of confinement for ſtate priſoners.

DEMER, a river which riſes in the biſhopric of Liege, waters Haſſelt, Dieſt, Sichem, Arſchot, and Mechlin, below which it joins the Senne, and takes the name of Rupel.

DEMERARY, a Dutch ſettlement in Guiana, on a river of the ſame name, three leagues W. of Paramaribo. It was taken by the Engliſh in 1781; but the French diſpoſſeſſed them of it ſoon after, and by the treaty of peace in 1783, it was reſtored to the Dutch. It was again taken by the Engliſh in April 1796.

DEMMIN, an ancient town of Swediſh Pomerania, in the duchy of Stetin, on the river Peen. Long. 13. 22. E. Lat. 53. 52. N.

DE MISSY (Cæſar), a man greatly diſtinguiſhed in the learned world, though no great author in form, was born at Berlin, Jan. 2, 1703, being the ſon of a merchant there. He ſtudied firſt at the French college at Berlin, and thence removed to the univerſity of Francfort on the Oder. He was examined for the miniſtry in 1725, and after ſome difficulties obtained it; but the eccleſiaſtics there being hampered with ſubſcriptions, to which he could not aſſent, he quitted the country ſoon after. He preached about five years in different towns of the United Provinces, from whence he was invited to London in 1731, and ordained to ſerve the French chapel in the Savoy. In 1762 he was named by the Biſhop of London to be one of the French chaplains to the king in his chapel at St. James's. He died Auguſt 10, 1775. He ſeldom publiſhed any thing except occaſionally, in conſequence of unforeſeen engagements, or at the importunity of friends. Several little poetical pieces, eſſays both in ſacred and profane literature, epitomes of books, memoirs, diſſertations, &c. by De Miſſy, with his initials C. D. M. or ſome aſſumed name, and frequently anonymous, appeared in different collections and periodical journals in Holland, France, and England, from 1721. He was greatly aſſiſting to many of the learned in their ſeveral undertakings: among others who are indebted to him, were the late Profeſſor Wetſtein, in his ſplendid edition of the Greek Teſtament, and the late Dr. Jortin, in his Life of Eraſmus. He was twice married, but left no child.

DEMONA, a fort of Piedmont, on the river Sture, ten miles S.W. of Coni. Lon. 7. 28. E. Lat. 44. 18. N.

DEMOTICA, or Dimotuc, a town of Turkey in Europe, in Romania, where a Greek archbiſhop reſides. It was the reſidence of Charles XII. for ſome years; and is ſituate near the Maritſch, twelve miles S. of Adrianople.

DEMPSTER (Thomas), a very learned man, but of a ſingular character. He was born in Scotland, but we do not find in what year. He went over to France, for the ſake of embracing the catholic religion; and taught claſſical learning at Paris about the beginning of the ſeventeenth century. Though his buſineſs was to teach ſchool, yet he was as ready to draw his ſword, and as quarrelſome, as if he had been a duelliſt by profeſſion: and it is ſaid, that there ſcarce paſſed a day but he had ſomething or other of this kind upon his hands. This ſpirit and turn of temper drew him into many ſcrapes; and one in particular, which obliged him to quit the country. Grangier, principal of the College of Beauvais at Paris, being obliged to take a journey, appointed Dempſter his ſubſtitute. Dempſter cauſed a ſcholar to be whipped in full ſchool, for challenging one of his fellows to fight a duel. The ſcholar, to revenge this affront, brought three gentlemen of his relations, who were of the king's life-guards, into the college. Dempſter made the whole college take arms; hamſtrung the three life-guard mens' horſes before the college gate; and put himſelf into ſuch a poſture of defence, that the three ſparks were forced to aſk for quarter. He gave them their lives; but impriſoned them, and did not releaſe them for ſome days. They ſought another way to revenge themſelves: they cauſed an information to be made of the life and moral behaviour of Dempſter, and got ſome witneſſes to be heard againſt him. Upon this he went over to England, where he found refuge; but did not make any long ſtay. He went abroad again, and read lectures upon polite learning in ſeveral univerſities; in that of Niſmes particularly, where he diſputed for a profeſſor's chair, and obtained it. He went to Bologna, and was profeſſor there for the remainder of his life; and was then alſo admitted a member of the Academy della Rotte. He died there in September 1625, leaving behind him ſeveral learned works: as Commentaries on Roſinus de Antiquitatibus Romanorum, and upon Claudian, &c.; four

books of Epiſtles; ſeveral dramatic pieces, and other poems; ſome books of law; an Apparatus to the Hiſtory of Scotland; a Martyrology of Scotland; and a Liſt of the Scottiſh Writers.

DENAIN, a village of France, in the department of the North, remarkable for a victory gained over Prince Eugene, by Marſhal Villars, in 1712. It is ſeated on the Scheld, eight miles W. of Valenciennes.

DENDER, a river of Auſtrian Hainault, which waters Leuze, Ath, Leſſines, Grammont, Ninove, and Aloſt, and joins the Scheld at Dendermonde.

DENDERA, a town of Egypt, on the W. ſide of the Nile. Near it are very magnificent ruins, ſuppoſed to be thoſe of an ancient temple of Serapis. It is 48 miles S.S.E. of Girge, and 242 S. of Cairo. Long. 31. 40. E. Lat. 26. 10. N.

DENDRANATOMY, a term uſed by ſome for a deſcription of the various parts of trees; as root, trunk, branch, bark, wood, pith, flower, fruit, &c. See PLANTS, VEGETATION, &c.

DENIA, an ancient ſea-port of Spain, in Valencia, on the Mediterranean Sea, and at the foot of a mountain, 52 miles E. of Alicant. Long. 0. 36. E. Lat. 38. 44. N.

DENMARK (*Encycl.*). The laws of Denmark are ſo conciſe, that the whole body is contained in one quarto volume, written in the language of the country. Every man may plead his own cauſe, without employing either council or attorney: but there are a few advocates for the benefit of thoſe who cannot or will not ſpeak in their own defence. The proceedings are ſo ſummary, that a ſuit may be carried through all the courts, and finally decided, in thirteen months. There are three courts in Denmark, and an appeal lies from the inferior to the ſuperior tribunal. The loweſt of theſe is, in cities and towns, denominated the *Byfoglids Court*; and in the country, the *Herredsfougds*. Cauſes may be appealed from this to the *Landſtag*, or general head-court for the province: but the final appeal lies to the court of *High-right* in Copenhagen, where the king preſides in perſon, aſſiſted by the prime nobility. The judges of the two other courts are appointed by his majeſty's letters patent, to ſit and determine cauſes *durante bene placito*. Theſe are puniſhable for any miſdemeanours of which they may be guilty; and when convicted of having paſſed an unjuſt ſentence, they are condemned to make reparation to the injured party. Their ſalaries are very inconſiderable, and paid out of the king's treaſury, from the fines of delinquents, beſides a ſmall gratuity from the plaintiff and defendant when ſentence is paſſed. Such is the peculiar privilege enjoyed by the city of Copenhagen, that cauſes appealed from the Byfoglids court, inſtead of paſſing through the provincial court, are tried by the burgomaſter and common-council; from whence they proceed immediately to the higheſt court, as the laſt reſource. Affairs relating to the revenue are determined in the rent-chamber of Denmark, which is analogous to our court of exchequer. To another tribunal, compoſed of ſome members from this rent-chamber, from the admiralty, and college of commerce, merchants appeal for redreſs, when their commodities are ſeized for non-payment of duties. All diſputes relating to the ſea are determined by the court of admiralty, conſtituted of commiſſioners appointed for theſe purpoſes. The chancellary may be more properly termed a ſecretary's office. It conſiſts of clerks, who write and iſſue all the king's decrees and citations, tranſcribe papers, and, according to the directions they receive, make draughts of treaties and alliances with other nations. The government of Denmark is very commendable for the excellent policy it maintains. Juſtice is executed upon criminals with great ſeverity; and ſuch regulations are eſtabliſhed as effectually prevent thoſe outrages that are daily committed in other countries. No man preſumes to wag his tongue againſt the government, far leſs to hatch ſchemes of treaſon. All the ſubjects are, or ſeem to be, attached to their ſovereign by the ties of affection. Robbery on the highway, burglary, coining or clipping, are crimes ſeldom or never heard of in Denmark. The capital crimes uſually committed are theft and manſlaughter. Such offenders are beheaded very dexterouſly with one ſtroke of a ſword. The executioner, though infamous, is commonly rich; becauſe, over and above the functions of his office, he is employed in other ſcandalous occupations, which no other perſon will undertake. He, by means of his underſtrapper, called the pracher, empties all the jakes, and removes from houſes, ſtables, or ſtreets, dead dogs, horſes, &c. which no other Dane will vouchſafe to touch on any conſideration whatſoever.

In Copenhagen there is a maſter of the police, who ſuperintends the economy of that city. No torches are allowed to be carried through the ſtreets of this city, becauſe great part of the houſes are of timber, and the wind is generally high. In lieu of flambeaux, the court and quality uſe large round lanthorns, fixed to the end of long poles. In a word, the maſter of the police regulates every thing that relates to the decency, good order, quiet, and ſecurity, of the capital. The apotheearies in this kingdom are under excellent regulations: their number at Copenhagen is reſtricted to two; and one is allowed to every other town of importance. They are examined and appointed by the college of phyſicians, and confirmed by the king himſelf; otherwiſe they cannot exerciſe the profeſſion. Their ſhops are viſited three times a-year by the magiſtrates, accompanied with phyſicians, who inſpect their medicines and regulate the prices. They are obliged to keep an exact account of every thing they ſell, to ſpecify the name of the perſon who bought it, and that of the doctor by whom it was preſcribed; ſo that accidents are prevented, and murders by poiſon eaſily diſcovered.

DENNIS, or ST. DENNIS, a famous town of the Iſle of France, with a Benedictine abbey, wherein are the tombs of the kings of France, with a conſiderable treaſure. E. Long. 2. 26. N. Lat. 48. 56.

DENYS (the Little), a Scythian, became abbot of a monaſtery at Rome: he was the firſt who computed time from the birth of Dionyſius to Chriſt, and fixed that great event, according to the vulgar æra. He was alſo a learned canon-law writer, and died about the year 540.

DEPURATION. See DEFECATION in this SUPPLEMENT.

DERENBURG, a town of Lower Saxony, in the principality of Halberſtadt, ſix miles W.S.W. of Halberſtadt, and 17 E. of Goſlar.

DEREOTE, or DEIROUTE, a town of Egypt, in the iſle formed by the canal from Cairo to Roſetta. Here is a magnificent temple. Long. 31. 45. E. Lat. 30. 40. N.

DERHAM (William). (*Encycl.*). To our account of this excellent philoſopher and divine, it may not be amiſs to add a liſt of his works, moſt of them publiſhed in the Philoſophical Tranſactions. 1. Part of a Letter dated Dec. 6, 1697, giving an Account of ſome Experiments about the Height of the Mercury in the Barometer at the Top and Bottom of the Monument in London; and alſo a Deſcription of a portable Barometer. 2. A Letter dated Jan. 13, 1697-8, about a Contrivance to meaſure the Height of the Mercury in the Barometer, by a Circle, on one of the Weather Plates: with a Regiſter or Diary of the Weather, obſerved every Day at Upminſter, during the Year 1697. 3. A Letter to Dr. Sloane; with a Regiſter of the Weather, Winds, Barometer's Height, and Quantity of Rain fallen at Upminſter in Eſſex, during the Year 1698. 4. A Regiſter, &c. as above, for the Year

1699. In these registers, he exhibits to view, in separate columns, every day, at the hours of eight, twelve, and nine, the weather, winds, clouds, height of the barometer, rain, &c. 5. Observations on the Death-Watch, or that Insect which makes a noise like the Beats of a Watch. 6. Observations on the Weather, Rain, Winds, &c. for 1699, 1700, 1701, 1702, compared with other Observations made at Townley in Lancashire, by Mr. Townley, and communicated to our Author. 7. An Account of some Spots observed in the Sun in June 1703. 8. Observations on the great Storm, Nov. 26, 1703. 9. The History of the Death-Watch: from which the Superstitious may learn, to the great Ease and Comfort of their Souls, that the tickling Noise of this minute Creature, which fills them with such Terrors and Forebodings, is nothing more than a wooing Act, and commonly heard in July, or about the Beginning of August. 10. An Account of an Instrument for finding the Meridian, with a Description of the same. 11. Experiments on the Motion of Pendulums in vacuo. 12. A Prospect of the Weather, Winds, and Height of the Mercury in the Barometer, on the first Day of the Month; and of the whole Rain in every Month in 1703, and the Beginning of 1704: observed at Townley in Lancashire, by R. Townley, Esq. and at Upminster in Essex, by our Author. 13. An Account of a Glade of Light seen in the Heavens, March 20, 1705-6. 14. Tables of the Weather, &c. for 1705. 15. An Account of a pyramidal Appearance in the Heavens, seen in Essex, April 3, 1707. 16. Experiments and Observations on the Motion of Sound; in Latin. 17. On the Migration of Birds. 18. An Account of an Eclipse of the Sun, Sept. 3, 1708, as observed at Upminster: and of an Eclipse of the Moon, Sept. 18, 1708. 19. An Account of a strange Meteor, or Aurora Borealis, in Sept. or Oct. 1706. 20. An Account of a Child's crying in the Womb. It was the child of one Clark, of Horn-Church in Essex, who was heard to cry in his mother's womb, at times, for five weeks. 21. The History of the great Frost in 1708. 22. Account of Spots observed in the Sun by our Author, from 1703 to 1708; and from 1707 to 1711. 23. Of subterraneous Trees found at Dagenham-Breach in Essex. 24. Account of an Eclipse of the Moon, seen at Upminster, Jan. 12, 1711-12. 25. Of a Woman big with Child, and having the Small-pox, delivered of a Child having the same Distemper, Sept. 8, 1713. 26. An Account of the Rain at Upminster, for eighteen Years. 27. Tables of the barometrical Altitudes for 1708, at Zurich in Switzerland; and of the Rain of Pisa in Italy, and Zurich, and Upminster, for 1707, 1708: with Remarks on the Winds, Heat and Cold, &c. 28. Mischiefs occasioned by swallowing the Stones of Bullace and Sloes. 29. Extract from Mr. Gascoigne's and Mr. Crabtree's Letters, proving Mr. Gascoigne to have been the Inventor of the telescopic Sights of Mathematical Instruments, and not the French. 30. Observations about Wasps, and the Difference of their Sexes. 31. Observations on the Lumen Boreale, or Streaming, Oct. 8, 1726. 32. Tables of the Eclipses of Jupiter's Satellites, from 1700 to 1727; with Remarks on those Tables. 33. The Difference in Time of the Meridians of divers Places, computed from Observations on the Eclipses of Jupiter's Satellites. 34. A Letter to Sir Hans Sloane, Bart. containing a Description of some uncommon Appearances, observed in an Aurora Borealis, Oct. 13, 1728. 35. Of the Meteor called the Ignis Fatuus, from Observations made in England by our Author, and others in Italy, communicated by Sir Thomas Dereham, Bart.

He published in his younger years, The Artificial Clock-Maker; or, a Treatise of Watch and Clock Work, shewing to the meanest Capacities the Art of calculating Numbers to all Sorts of Movements; the Way to alter Clock-Work; to make Chimes, and set them to musical Notes; and to calculate and correct the Motion of Pendulums. Also, Numbers for divers Movements: with the ancient and modern History of Clock-Work; and many Instruments, Tables, and other Matters, never before published in any other Book. The fourth edition of this book, with large emendations, was published in 1734, 12mo. In 1711 and 1712 he preached sixteen sermons at Boyle's Lectures; which, having put into a new form, he published in 1713, under this title, Physico-Theology; or, a Demonstration of the Being and Attributes of God from his Works of Creation: with large Notes, and many curious Observations, 8vo. And, in pursuance of the same design, he published, in 1714, Astro-Theology; or, a Demonstration of the Being and Attributes of God from a Survey of the Heavens. Illustrated with copper-plates, 8vo. In 1716 he was made a canon of Windsor, being at that time chaplain to the Prince of Wales; and, in 1730, received the degree of D.D. from the university of Oxford, on account of his learning, and the services he had done to religion by his culture of natural knowledge. When Eleazar Albin published his Natural History of Birds, and English Insects, in 4 vols. 4to. with many beautiful cuts, it was accompanied with very curious notes and observations by our learned author. He also revised the Miscellanea Curiosa, published in 3 vols. 8vo. 1726. The last thing he published of his own composition was, Christo-Theology; or, a Demonstration of the Divine Authority of the Christian Religion, being the Substance of a Sermon preached at Bath, Nov. 2, 1729, and published at the earnest Request of the Auditory, 1730, 8vo. But, besides his own, he published some pieces of Mr. Ray, and gave new editions of others, with great additions from the author's own MSS. To him the world is likewise indebted for the publication of the Philosophical Experiments and Observations of the late eminent Dr. Robert Hooke, and other eminent Virtuosos in his Time, 1726, 8vo. with copper cuts. He communicated also to the Royal Society several pieces, which he received from his learned correspondents.

DERNE, a town of Barbary, capital of a district in Tripoli, near the coast, and the residence of a sangiac. Long. 22. 45. E. Lat. 32. 55. N.

DERRICK (Samuel), a native of Ireland, was born in 1724. Being intended for trade, he was some time placed with a linen-draper in Dublin, but disliking his business, he quitted it and his country about 1751, and commenced author in London. Soon after he arrived at the metropolis, he indulged an inclination which he had imbibed for the stage, and appeared in the character of Gloucester, in Jane Shore; but with so little success, that he never repeated the experiment. After this attempt he subsisted chiefly by his writings, but being of an expensive disposition, running into the follies and excesses of gallantry and gaming, he lived almost all his time the slave of dependence, or the sport of chance. His acquaintance with people of fashion, on Beau Nash's death, procured him at length a more permanent subsistence. He was chosen to succeed that gentleman in his offices of master of the ceremonies at Bath and Tunbridge. By the profits of these he might have been enabled to place himself with economy in a less precarious state; but his want of conduct continued after he was in the possession of a considerable income, by which means he was at the time of his death, March 7, 1760, as necessitous as he had been at any period of his life. He translated one piece from the French of the King of Prussia, called Sylla, a dramatic entertainment, 1753, 8vo.

DERWENT, a river of Derbyshire, which rises in the high Peak, flows S. through the middle of the county, and,

passing Derby, empties itself into the Trent, on the borders of Leicestershire.

Derwent, a river of Yorkshire, which rises in the N. riding, and running S. falls into the Ouse, below York.

Derwent, a river of Durham, which forms, for some space, the boundary between that county and Northumberland, and falls into the Tyne, above Newcastle.

Derwent, a river of Cumberland, which, flowing through the lakes of Derwent-water and Bassenthwaite-water, to Cockermouth, enters the Irish Sea, near Workington.

Derwent-water, a lake of Cumberland, in the vale of Keswick. It is three miles in length, and a mile and a half wide. Five islands rise out of this lake, which add greatly to the beauty of the appearance. On one of them is an elegant modern-built house.

DES BARREAUX (James de Vallee, Lord), a French nobleman, and born at Paris in 1602, was, like the English Lord Rochester, a great wit, a great libertine, and a great penitent. He made a vast progress in his studies under the Jesuits, who, perceiving he had a genius capable of any thing, endeavoured to get him into their society; but neither he nor his family would ever listen to the proposal. He did not love them, and used to rail at them in an agreeable manner. He was intimate with Theophile, who was advocate-general, and afterwards president in the parliament of Paris; and, being very handsome in his youth, it is said that Theophile was in love with him, and sometimes even jealous of him. Some pretend, that he abused him; but Des Barreaux's friends have assured us, that he always abhorred that unnatural vice. He was very young when his father procured him the place of a counsellor in the parliament of Paris. His wit was admired there, but he would never report a cause; for he used to say, that it was a sordid occupation, and unworthy of a man of parts, to read wrangling papers with attention, and to endeavour to understand them. He lost that place from the following cause:—Cardinal Richelieu falling in love with the celebrated beauty Marion de Lorme, whose affections were entirely placed on our Des Barreaux, proposed to him by a third hand, that if he would resign his mistress, he should have whatever he should desire. Des Barreaux answered the proposal no otherwise than in a jesting way; feigning all along to believe the cardinal incapable of so much weakness. This enraged the minister so highly, that he persecuted our counsellor as long as he lived, and forced him not only to quit his place, but to leave the kingdom.

As Des Barreaux loved his liberty and his pleasures extremely, he did not find himself unhappy in having quitted the long robe. He made a great number of Latin and French verses, and some very pretty songs: and never pursued any thing but good cheer and diversions. He was vastly entertaining in company, and greatly sought after by all men of wit and taste. He had his particular friends in the several provinces of France, whom he frequently visited; for he took a pleasure in shifting his quarters, according to the seasons of the year. In winter, he went to seek the sun on the coasts of Provence. He passed three of the worst months in the year at Marseilles. The house which he called his favourite was that of the Count de Clermont de Lodeve, in Langnedoc; where, he used to say, good cheer and liberty were on their throne. Sometimes he went to Balzac on the banks of the Charante; but his chief residence was at Chenailles, on the Loire. His general view in these ramblings was to search out the best fruits and the best wines in the climates: however, it must be observed, in justice to him, that the pleasures of the mind, as well as those of the body, were sometimes the occasion of his journeys; as, when he went into Holland, on purpose to see Des Cartes, and to improve by the instructions of that great genius.

His friends do not deny that he was a great libertine; but pretend, that Fame, according to custom, has said more of him than is true, and that, in the latter part of his life, he was convinced of the reality of religion. They say, that he did not disapprove the truths of Christianity, and wished to be fully convinced of them; but he thought nothing was so difficult to a man of wit as to believe. He was born a Catholic, but had not the least faith either in the worship or doctrines of the Romish religion; and he used to say, that if the Scriptures are the rule of our actions and of our belief, there was no better religion than the Protestant. However all this might be, it is certain that, four or five years before his death, he entirely forsook his vicious courses: he paid his debts, and, having never been married, gave up the remainder of his estate to his sisters: reserving to himself for life an annuity of 4000 livres. He then retired to Chalon, on the Soane, which he said was the best and purest air in France, hired a small house; and was visited by the better sort of people, particularly by the bishop, who afterwards spoke well of him. He died in that city, like a good Christian, in 1647, having made a devout sonnet two or three years before his death, which was greatly esteemed.

DESEADA, or Cape Desire, the southern point of the straits of Magellan, in S. America, at the entrance of the S. Sea. Long. 74. 18. W. Lat. 53. 4. N.

DES MAIZEAUX (Peter), secretary of the Royal Society of London, was the son of a French Protestant minister, and born at Auvergne in 1666. He retired early, probably as a refugee, into England; and died there in 1745. He had intimate connections with St. Evremont and Bayle. He gave a very handsome edition of the works of the former, in 3 vols. 4to. with the life of the author prefixed: and he drew up the life of the latter, which was printed before the edition of his Dictionary, in 1730, and separately at the Hague, 1732, 2 vols. 12mo. He published also, in the same year, the Miscellaneous Works of Bayle, in 4 vols. folio. He was the editor of other things; and whatever he published he accompanied with remarks, full of literary anecdotes. He was very exact and curious in his accounts; but somewhat prolix and tedious.

DESTOUCHES (André, Cardinal), a French musician, was born at Paris in 1672. He accompanied Father Tachard to Siam, with a resolution of entering into the society of Jesuits upon his return; but he changed his purpose, and became a soldier. It was in this line of life that he discovered his talents for music; and he quitted soldiery, that he might devote himself entirely to it. He soon gained a vast reputation by his opera of Isé, which the king relished so highly, as to present the composer with 200 louis-d'ors; graciously adding, that no music since Lulli had pleased him so much as his. What was very singular is, that Destouches, when he made this charming piece, knew nothing of composition: but, instead of art, he had genius, and (what is usually the concomitant of genius) a very strong passion for his object. After producing the Isé, he made himself master of rules; but it is said, that they damped his genius, and that none of his compositions afterwards equalled the Isé. He died in 1749, superintendant of the royal band, and inspector-general of the royal academy of music, with a pension of 4000 livres.

Destouches (Philip Nericaut), a French dramatic writer, was born at Tours in 1680, and educated at Paris. His first destination was to the army; but he quitted this service, to attach himself to the Marquis de Puysieux, ambassador of France with the Helvetic body. It was in Switzerland that his talent for theatrical productions first displayed itself; and

his Curieux Impertinent was exhibited there with applauſe. His dramatic productions made him known to the regent, who ſent him to London in 1717, to aſſiſt, in his political capacity, at the negociations then on foot. He ſpent ſeven years thus in London, married a wife, and returned to his country; where the dramatiſt and negociator were well received. The regent had a juſt ſenſe of his ſervices, and promiſed him great things; but dying ſoon after, left Deſtouches the meagre comfort of reflecting, how well he ſhould have been provided for if the regent had lived. Having loſt his patron, he retired to Fortoiſeau, near Melun, as the moſt proper ſituation to make him forget the capriees of fortune. He purchaſed the place; and, cultivating agriculture, philoſophy, and the muſes, abode there as long as he lived. Cardinal Fleury would fain have drawn him out of it, and ſent him ambaſſador to Peterſburg; but Deſtouches would not ſtir: he choſe rather to attend his lands and his woods, and to correct with his pen the manners of his own countrymen, than to go and converſe with the Boyards of Ruſſia. He died in 1754, leaving a daughter and a ſon: the latter, by order of Lewis XV. publiſhed at the Louvre an edition of his father's works, in 4 vols. quarto. Deſtouches had not the gaiety of Regnard, nor the ſtrong warm colouring of Moliere; but he is always polite, tender, and natural.

DETHMOLD, a town of Weſtphalia, on the river Wehera, 15 miles N. of Paderborn. Long. 8. 55. E. Lat. 52. 0. N.

DETROIT, a town of the United States, on the W. ſide of the ſtrait, or river, that forms the communication between the lakes St. Clair and Erie. Long. 83. 2. W. Lat. 42. 22. N.

DEVA, a ſea-port of Spain, in Guipuſcoa, on the bay of Biſcay, 15 miles S.E. of Bilboa. Long. 2. 40. W. Lat. 43. 24. N.

DEVENTO, a town of Bulgaria, with a Greek archbiſhop's ſee, ſeated on the Paniza, 65 miles N.E. of Adrianople. Long. 37. 33. E. Lat. 42. 33. N.

DEVETTO, or ZAGORIA, a town of Turkey in Europe, in Bulgaria, the ſee of a Greek archbiſhop; ſituate near the Black Sea, 58 miles N.E. of Adrianople, and 106 N.N.W. of Conſtantinople. Long. 27. 22. E. Lat. 42. 25. N.

DEVIZES, a borough in Wilts, with a market on Thurſday, and a manufacture of ſerges and other woollen ſtuffs. It ſends two members to Parliament, and is ſeated on an eminence, 24 miles N.W. of Saliſbury, and 89 W. of London. Long. 2. 2. W. Lat. 51. 20. N.

DEVON, a river of Perthſhire, over which, in the beautiful vale of Glendevon, is a great curioſity, called the Rumbling Bridge. It is ſimilar to that over the Braan, and conſiſts of one arch, thrown over a horrible chaſm, worn by the river, about eighty feet deep, and very narrow. In other places, the river has forced its way, in a ſurpriſing manner, through the rocks. At the Caldron-lin, it has worn away the ſofter parts of the ſtone, and formed immenſe pits, into which the water falls with a tremendous noiſe. Below this, the whole river is precipitated in one ſheet, from a height of forty feet.

DEUX PONTS, a town of Germany, in the palatinate of the Rhine, capital of a duchy of the ſame name, ſeated on the Erbach, 49 miles N. by W. of Straſburg, and 50 S.W. of Mentz. Long. 7. 26. E. Lat. 49. 10. N.

DIACOUSTICS. See ACOUSTICS in this SUPPLEMENT.

DIANTHUS (*Encycl.*). Though *carnations* grow freely in almoſt any garden earth, and in it produce beautiful flowers, yet they are generally ſuperior in that of a light loamy nature: and of this kind of ſoil the floriſts generally prepare a kind of compoſt in the following manner, eſpecially for thoſe fine varieties which they keep in pots. A quantity of loamy earth muſt be provided, of a light ſandy temperature, from an upland or dry paſture-field or common, taking the top ſpit turf and all, which muſt be laid in a heap for a year, and turned over frequently. It muſt then be mixed with about one third of rotten dung of old hot-beds, or rotten neats-dung, and a little ſea-ſand, forming the whole into a heap again, to lie three, four, or ſix months, at which time it will be excellent for uſe; and if one parcel or heap was mixed with one of theſe kinds of dungs, and another parcel with the other, it will make a change, and may be found very beneficial in promoting the ſize of the flowers. This compoſt, or any other made uſe of for the purpoſe, ſhould not be ſifted, but only well broken with the ſpade and hands. When great quantities of carnations are required, either to furniſh large grounds, or for market, or when it is intended to raiſe new varieties, it is eaſily effected by ſowing ſome ſeed annually in ſpring, in common earth, from which the plants will riſe abundantly. Several good varieties may alſo be expected from the plants of each ſowing; and poſſibly not one exactly like thoſe from which the ſeed was ſaved. The ſingle flowers are always more numerous than the double ones; but it is from the latter only that we are to ſelect our varieties. The ſeaſon for ſowing the ſeed, is any time from the 20th of March to the 15th of April. The plants generally come up in a month after ſowing: they muſt be occaſionally weeded and watered till July, when they will be fit for tranſplanting into the nurſery beds. Theſe beds muſt be made about three feet wide, in an open ſituation; and taking advantage of moiſt weather, prick the plants therein four inches aſunder, and finiſh with a gentle watering, which repeat occaſionally till the plants have taken good root. Here they muſt remain till September, when they will be ſo well advanced in growth as to require more room; and ſhould then have their final tranſplantation into other three feet wide beds of good earth, in rows nine inches aſunder, where they are to be placed in the order of quincunx. Here they are to remain all winter, until they flower, and have obtained an increaſe of the approved varieties of doubles by layers; and until this period, all the culture they require is, that if the winter ſhould prove very ſevere, an occaſional ſhelter of mats will be of advantage. In ſpring, the ground muſt be looſened with a hoe; they muſt be kept clear from weeds; and when the flower-ſtalks advance, they are to be tied up to ſticks, eſpecially all thoſe that promiſe by their large flower-pods to be doubles.

The only certain method of propagating the double varieties is by layers. The proper parts for layers are thoſe leafy ſhoots ariſing near the crown of the root, which, when about five, ſix, or eight inches long, are of a proper degree of growth for layers The general ſeaſon for this work is June, July, and the beginning of Auguſt, as then the ſhoots will be arrived at a proper growth for that operation; and the ſooner it is done after the ſhoots are ready, the better, that they may have ſufficient time to acquire ſtrength before winter: thoſe laid in June and July will be fit to take off in Auguſt and September, ſo will form fine plants in the month of October. The method of performing the work is as follows:—Firſt provide a quantity of ſmall hooked ſticks for pegs. They muſt be three or four inches long, and their uſe is to peg the layers down to the ground. Get ready alſo in a barrow a quantity of light, rich mold, to raiſe the earth, if neceſſary, round each plant, and provide alſo a ſharp penknife. The work is begun by ſtripping off all the leaves from the body of the ſhoots, and ſhortening thoſe at top an inch or two evenly. Then chooſing a ſtrong joint on the middle of the ſhoot or thereabouts, and on the back or under ſide thereof, cut with the penknife the joint half-way through,

directing the knife upward ſo as to ſlit the joint up the middle, almoſt to the next joint above, by which you form a kind of tongue on the back of the ſhoot; obſerving that the ſwelling ſkinny part of the joint remaining at the bottom of the tongue muſt be trimmed off, that nothing may obſtruct the iſſuing of the fibres; for the layers always form their roots at that part. This done, looſen the earth about the plant; and, if neceſſary, add ſome freſh mold, to raiſe it for the more ready reception of the layers; then with your finger make a hollow or drill in the earth to receive the layer; which, bend horizontally into the opening, raiſing the top upright, ſo as to keep the gaſh or ſlit part of the layer open; and, with one of the hooked ſticks, peg down the body of the layer, to ſecure it in its proper place and poſition, ſtill preſerving the top erect, and the ſlit open, and draw the earth over it an inch or two, bringing it cloſe about the erect part of the ſhoot; and when all the ſhoots of each plant are thus laid, give directly ſome water to ſettle the earth cloſe, and the work is finiſhed. In dry weather the waterings muſt be often repeated, and in five or ſix weeks the layers will have formed good roots. They muſt then be ſeparated with a knife from the old plant, gently raiſed out of the earth with a point of a knife or trowel in order to preſerve the fibrous roots of the layers as entire as poſſible; and when thus taken up, cut off the naked ſticky part at bottom cloſe to the root, and trim the tops of the leaves a little. They are then ready for planting either into beds or pots. In November the fine varieties in pots ſhould be moved to a ſunny, ſheltered, ſituation for the winter; and if placed in a frame, to have occaſional protection from hard froſt, it will be of much advantage. In the latter end of February, or ſome time in March, the layers in the ſmall pots, or ſuch as are in beds, ſhould be tranſplanted with balls into the large pots, where they are to remain for flower. To have as large flowers as poſſible, curious floriſts clear off all ſide-ſhoots from the flower-ſtem, ſuffering only the main or top buds to remain for flowering. When the flowers begin to open, attendance ſhould be given to aſſiſt the fine varieties, to promote their regular expanſion, particularly the largeſt kinds called *burſters*, whoſe flowers are ſometimes three or four inches diameter. Unleſs theſe are aſſiſted by art, they are apt to burſt open on one ſide, in which caſe the flower will become very irregular: therefore, attending every day at that period, obſerve, as ſoon as the calix begins to break, to cut it a little open, at two other places in the indenting at top with narrow-pointed ſciſſars, and hereby the more regular expanſion of the petals will be promoted; obſerving, if one ſide of any flower comes out faſter than another, to turn the pot about, that the other ſide of the flower may be next the ſun, which will alſo greatly promote its regular expanſion. When any fine flower is to be blown as large as poſſible, floriſts place ſpreading paper collars round the bottom of the flowers, on which they may ſpread their petals to the utmoſt expanſion. Theſe collars are made of ſtiff, white paper, cut circular, about three or four inches over, having a hole in the middle to receive the bottom of the flower, and one ſide cut open to admit it. This is to be placed round the bottom of the petals in the inſide of the calix, the leaves of which are made to ſpread flat for its ſupport: the petals muſt then be drawn out and ſpread upon the collar to their full width and extent; the longeſt ones undermoſt, and the next longeſt upon theſe; and ſo on; obſerving that the collar muſt no-where appear wider than the flower; and thus a carnation may be rendered very large and handſome.

Theſe directions will anſwer equally well for the propagation of the pinks and ſweet-williams, though neither of theſe require ſuch nicety in their culture as the carnations.

DIBBLING (*Encycl.*). In the reports of the Society for bettering the Condition of the Poor, is the following extract from an account of the ſuperior advantages of dibbling wheat, or ſetting it by hand, communicated by the Rev. Dr. Glaſſe.

"In the year 1789," "ſays the doctor," "I prevailed with Mr. Joſeph Morland, one of the beſt farmers in my neighbourhood, to try, on a ſmall ſcale, the experiment of ſetting wheat by hand, inſtead of ſowing it. In this mode of agriculture, not more than one buſhel an acre is required; whereas, in ſowing, more than two buſhels muſt be uſed. He tried his experiment upon an acre or two; and, the ſeaſon being favourable, the produce was ſuch as he had never before experienced. It was more than 40 buſhels on an acre; being above a fourth beyond the average crop of that year. The ſtraw was remarkably ſtrong; and the wheat, the fineſt ſample, and of the beſt quality, in the market. The perſons employed in ſetting the wheat, were ſome women, of whoſe diligence and handineſs in ſetting beans, he had the moſt experience. He found that five of theſe women would ſet an acre of wheat in a day. The ſoil he uſed was a ſtrong loam, not without a mixture of gravel in ſome parts of it; and it was in good condition.—The next year he planted four or five acres with ſimilar ſucceſs; and he has ſince continued the practice, though on a ſmall ſcale; his farm conſiſting of graſs land, with a diſproportionate quantity of arable. This year he has planted eight acres; and his example has now produced its effect on moſt of his neighbours; one of whom has, this year, ſet by hand 30 acres of wheat, and another as much as 40 acres.—Mr. Morland calculates his average produce from ſet wheat, for 10 years back (the laſt harveſt excepted) to have been 32 buſhels, or four quarters the acre; and that without any extra manure or dreſſing, beyond what a good practical farmer would generally apply; whereas in that country, where the rent of land is about 20*s.* per acre, no extraordinary manure being uſed in either caſe, the average produce of ſown wheat does not exceed 24 buſhels an acre. There is no other difference between the two modes of planting, except that, in the ſet wheat, the farmer may, if he chooſes, keep his land *perfectly clean*, by uſing a ſmall hoe; and may alſo earth up his wheat, if he wiſhes to do it; and that his ſtraw is heavier and better, and of *much more value*, and the ears much longer, than of ſown wheat. The account current between the two modes of planting 40 acres of wheat, ſtands thus; not to mention the increaſed value of ſtraw, and the ſaving of expence in ſowing.

	£	s	d
Saving of ſeed on 40 acres, one buſhel an acre, at 18*s.* per buſhel	36	0	0
Deduct expence of ſetting ditto at 5*s.* per acre	10	0	0
	26	0	0
Add increaſed produce, being eight buſhels per acre, at 18*s.* per buſhel, on 40 acres	288	0	0
	£314	0	0

"Observations.—Of ſetting wheat by hand the apparent, and ordinary, advantages are theſe:

"1ſt. The original ſaving of expence, and of ſeed; being upon 40 acres, at the preſent price of wheat, a clear advantage of 26*l.*—This is a conſiderable object, in time of ſcarcity; for, ſuppoſing the quantity of land cultivated with wheat in England, were not more than 800,000 acres, and half of it proper for this mode of cultivation, it would amount to 400,000 buſhels of wheat; a circumſtance of no ſmall importance at any time, but particularly at the preſent.

"2d. The increaſe of the average produce of corn, being 320 buſhels upon 40 acres. This increaſe of produce, reckoned

upon 400,000 acres, as before ſtated, would be 400,000 quarters of wheat, or 3,200,000 buſhels.

" 3d. The increaſed value of the ſtraw; which ſtands more firm, and is leſs liable to be lodged. The ſtraw is fairer and larger, and fetches a better price at the market, which is a great benefit in the neighbourhood of the metropolis, and of any large towns.

" 4th. The very uſeful and acceptable employment it affords to the poor, particularly to women and children; and the advantage thereby given to cottagers with large families, and to the public in general, by the conſequential ſaving in the poor rates.

" It ſhould be obſerved, that all kinds of land are not adapted to this mode of huſbandry. The ſoil which Mr. Morland choſe for his firſt experiment, was a ſtrong loam, not without a mixture of gravel in ſome parts of it.—As to the expence of labour, five women will eaſily plant an acre in a day. For the ſetting, no line is neceſſary to be drawn; the women are directed to follow what is called the ſeam of the furrow; and they are deſired to make the holes, at the diſtance of two inches, or rather more, in the row; and not to drop more than two ſeeds in each hole. The rows may be ſix or ſeven inches from each other, which will give the ſeed ample room to tiller.

" If this mode of cultivation were adopted in every kind of land, to which it is ſuited, it would ſave many hundred thouſand buſhels of ſeed a-year; it would make an increaſe of one-fourth upon ſuch average crops, and give healthful and ſatisfactory occupation, and means of ſubſiſtence, to thouſands of women and children, at the dead ſeaſon of the year, when there is a general want of employment. It is at this period that moſt women and children conſider themſelves as laid up for the winter, and become a burthen upon the father of the family, and in many caſes upon the pariſh. The wife is no longer able to contribute her ſhare towards the weekly expences, unleſs (which is ſeldom the caſe) ſhe has any peculiar ſkill in knitting, ſpinning, or ſewing, or other merely domeſtic work.—In a kind of deſpondency ſhe ſits down, unable to contribute any thing to the general fund of the family, and conſcious of rendering no other ſervice to her huſband, except that of the mere care of his family." As a gratifying example of a different kind, Dr. Glaſſe ſtates the caſe of his principal labourer; who, in conſequence of adopting this new mode of huſbandry, earned, in October, 26 ſhillings a-week, by the labour of himſelf, his wife, and child; a benefit on his part, which has been attended by a ſaving to the doctor, on the eight acres ſo cultivated, of above eight buſhels of wheat towards his winter ſupply; with a fair and reaſonable proſpect of an increaſed produce, to add to the general ſtock of the country, and to the reſtoration of plenty at the enſuing harveſt.

Dibbling wheat was not attempted on a large ſcale, till an induſtrious farmer, in the vicinity of Norwich, had began to dibble on leſs than an acre of land. The ſucceſs of this experiment induced others to follow his example, and notwithſtanding the ridicule they incurred for adopting ſo ſingular a practice, their crops were not only larger, but likewiſe ſo much ſuperior to thoſe of others, that dibbling has become the practice of every intelligent agriculturaliſt in Norfolk, whence it has ſpread into ſeveral other counties.

From a concluſive experiment made by the Rev. H. J. Cloſe, of Trimley, near Ipſwich, in the years 1783-4, it appears that drilling or dibbling greatly exceeds the broad-caſt huſbandry, on the beſt cultivated ſoils; and, beſides the increaſed produce of grain, many other advantages ariſe from the former method.

Mr. Cloſe employed the frame for ſetting wheat, repreſented in pl. 17.

This implement is two feet two inches wide, and provided with ſeven tines; but Mr. C. has ſince experienced that a frame of ſimilar width, with five tines only, is preferable to one of ſeven.

The lands on which this method may be practiſed with the greater advantage, are either thoſe after a clover-ſtubble, or where trefoil and graſs-ſeed were ſown in the ſpring before the laſt. Theſe, after the uſual manuring, are once turned over by the plough in an extended flag or turf, at ten inches wide, and the wheat is ſet in the manner already deſcribed. By this mode, three pecks of grain are ſufficient for an acre; which, being immediately buried, is equally ſecured againſt the depredations of vermin, or the power of froſt. The regular manner in which it riſes, affords the beſt opportunity of keeping it clear from noxious plants, by weeding or hand-hoeing.

Dibbling is peculiarly beneficial when corn is dear; and, if the ſeaſon be favourable, may be practiſed with great benefit, both to the public and the farmer: as it ſaves ſix pecks of ſeed-wheat per acre; and, if generally adopted, would of itſelf afford bread for more than half a million of people. It ſhould, however, be obſerved, that in ſeaſons when corn is ſold at a low price, or the autumn unfavourable to the practice, it cannot be practiſed with advantage. Thus, in light lands, a very dry ſeaſon prevents dibbling, becauſe the holes will be filled up as ſoon as the inſtrument is withdrawn. In like manner, on ſtrong and ſtiff clays, if it be very wet, the ſeeds in the holes cannot be properly covered by the buſh-harrow.

DICTYS CRETENSIS *(Encycl.)*. There are two anonymous writers ſtill extant, who pretend to have written of the Trojan war previouſly to Homer; one of whom goes under the name of Dictys Cretenſis, the other under that of Dares Phrygius. Before the hiſtory of Dictys are two prefaces; the firſt of which relates, that Dictys wrote ſix volumes of the Trojan war in Phœnician characters, and in his old age, after he was returned to his own country, ordered them, a little before his death, to be buried with him in a leaden cheſt, or repoſitory, which was accordingly done; that, however, after many ages, and under the reign of Nero, an earthquake happened at Gnoſſus, a city of Crete, which uncovered Dictys's ſepulchre, and expoſed the cheſt; that the ſhepherds took it up, and expecting a treaſure, opened it; and that, finding this hiſtory, they delivered it into the hands of ſomebody, who ſent it to Nero, and he ordered it to be tranſlated, or rather tranſ-charactered, from Phœnician into Greek. From which fine ſtory nothing more has been concluded, than that this hiſtory was forged by ſome of Nero's flatterers, purely to curry favour with him: for he always affected a fondneſs for any thing relating to Trojan antiquities; and it is remarkable that, when Rome was in flames, he rejoiced as having ſeen the deſtruction of Troy. The other preface to Dictys is an epiſtle of L. Septimius, the Latin tranſlator, in which he inſcribes it to Arcadius Ruſſinus, who was conſul in the reign of Conſtantine; and tells him much the ſame ſtory of the hiſtory we have already related. As for Dares Phrygius, who is called by Homer, in the 5th book of the Iliad, a prieſt of Vulcan, he is ſaid to have written a hiſtory of the deſtruction of Troy in Greek, which Ælian affirms to have been extant in his time, and which Photius alſo mentions in his Bibliotheca. The original is loſt; but there is a Latin tranſlation of it extant, which Cornelius Nepos is ſaid to have made.

DIE, a town of France, in the department of Drome. It was lately an epiſcopal ſee, and is ſeated on the Drome, 24 mile S.E. of Valence. Long. 5. 23. E. Lat. 44. 42. N.

DIEBURG, a town of Germany, in the electorate of Mentz, 24 miles E.S.E. of Mentz.

DIEPHOLTZ, a town of Weſtphalia, capital of a county of the ſame name, ſubject to the electorate of Hanover. It is ſeated on the lake Dummer, 30 miles N.W. of Minden. Long. 8. 45. E. Lat. 52. 36. N.

DIERDORF, a town of Weſtphalia, with a caſtle, the reſidence of the counts; ſituate on the Wiedbach, eight miles N.N.E. of Coblentz.

DIERICH, a town of the duchy of Luxemburg, and the capital of a juriſdiction; ſituate on the Semoy, 15 miles N.W. of Treves, and 15 N. of Luxemburg. Long. 5. 52. E. Lat. 50. 5. N.

DIERNSTEIN, a town of the archduchy of Auſtria. Near it is a caſtle, in which Richard I. king of England, was impriſoned. It is 38 miles W.N.W. of Vienna. Long. 15. 55. E. Lat. 48. 30. N.

DIESSENHOFFEN, a conſiderable town of Swiſſerland, in Thurgau, ſeated on the Rhine, 5 miles S. of Schaffhauſen. Long. 8. 42. E. Lat. 47. 35. N.

DIEST, a town of Auſtrian Brabant, on the river Demer, 15 miles N.E. of Louvain. Long. 59. E. Lat. 50. 59. N.

DIET *(Encycl.)*. In Dr. Niſbet's Practical Treatiſe on Diet, we find ſome valuable remarks on the fleſh of fowls and other animals commonly uſed as food. Some of theſe we ſhall ſelect for the benefit of our valetudinary readers.

Fowls.—Theſe afford a more wholeſome and delicate diet than quadrupeds. It is eaſier alſo of digeſtion; but they afford at the ſame time a leſs proportion of real nouriſhment. Nor is their nouriſhment ſo general as that of quadrupeds, ſome parts of them being always tough and inſipid, from their manner of life. Of birds, a greater number of the carnivorous kinds are eaten than of quadrupeds; but they are, however, chiefly thoſe that live on fiſh, from which indeed they acquire a peculiar taſte, but this is by no means ſo unpleaſant as that of carnivorous quadrupeds. The time of uſing fowls requires more to be ſtudied than that of quadrupeds, as they are frequently out of ſeaſon, particularly in ſpring, when they pair; and where they are birds of paſſage, or migrate from one place to another, they require ſome reſidence, or to be in caſe, before they are fit for uſe.

Fowls as well as quadrupeds are much improved in ſize and fatneſs by domeſtication; but this is of two kinds: the firſt is making them familiar, and allowing them to feed as they pleaſe, which in the hen kind is known by what are called barn-door fowls—the other is properly cramming them, that is, ſhutting them up for the ſole purpoſe of feeding. Theſe arts of feeding no doubt give more ſucculence and tenderneſs to the food, and increaſe its alkaleſcency. From giving ſucculency they are an improvement; but from increaſing alkaleſcency, they render the food more unfit for weak ſtomachs and convaleſcents, by whom this ſpecies of food is much uſed, though at the ſame time they render it more eaſy of ſolution. Exerciſe is neceſſary to give perfection to all food, for by this means the fat of the animal is equally diſperſed through the muſcular parts; while, when fatted haſtily, it is accumulated in the cellular membrane. By the domeſtication, alſo, of fowls in general, their peculiar flavour, on which their excellence depends, is leſſened; and by cramming them it becomes entirely loſt. Hence alſo, unleſs their fibres are very tough, roaſting is to be preferred to boiling them, on the ſame account.

Salmon.—The ſalmon is a very extenſive article of food, and is uſed in three ways, either freſh, cured, or ſmoked. It is of a tender ſubſtance, ſufficiently ſucculent and nouriſhing, but at the ſame time ſomewhat oily, and therefore heavy on the ſtomach. It differs in its richneſs and alkaleſcency according to the particular places in which it is taken. When middle-aged it is in moſt perfection, and it ſhould neither be eaten too young nor too old.

Salmon trout differs chiefly in being ſoft and gelatinous.

Pike.—This is a fiſh of prey, and feeds on the ſmaller ſpecies. Hence it is termed the water wolf. Its fleſh is ſhort, compact, and cloſe in its parts. The river pike is the beſt of this ſpecies, and conſidered as the leaſt heating, though ſomewhat hard of digeſtion, and lying heavy on the ſtomach. It differs, however, much in different countries. It is alſo beſt in the winter ſeaſon. This fiſh has been recorded as very long lived; a fact confirmed by the ſtory of the one thrown into a pond by the emperor Frederick the Second, with a braſs ring about its neck, which was caught two hundred and ſixty-two years afterwards. The truth of this, however, may be called in queſtion.

Carp.—The carp is a fiſh very long lived, and was firſt introduced into Britain in 1514. Like the pike, the river carp is the beſt. It often grows to an amazing ſize, and has been known to weigh two hundred pounds weight. It is beſt food in March, May, and June. It is not ſo denſe as the pike, and therefore eaſier of digeſtion. The older it is, it becomes the firmer, better taſted, and more wholſome. From the ſpawn of this fiſh is made the caveare, a diſh much uſed by the Jews. This fiſh can be made to live a conſiderable time out of water, and will even, by a particular mode of treatment, grow fat.

Perch.—The perch is a food ſuperior to the two former, and is of two ſorts, the river and ſea perch. It is of a firm texture, but a tender ſubſtance, eaſily ſoluble, not glutinous, not heating, nor remarkably ſtimulant. When young its flavour is beſt, which it loſes by age, and becomes rather ill-taſted. The beſt for uſe are the middle-aged. They ſhould never be uſed in the months of March or April, which is the ſpawning time. They are beſt caught in clear water, for marſhes and muddy places vitiate their flavour.

Whiting.—The whiting is a ſea fiſh, tender, white, and delicate, with little gluten or viſcidity, and therefore proper for the moſt weakly ſtomachs, conveying little ſtimulus to the ſyſtem. The beſt ſort are ſhort, and they are much valued as an article of food.

Haddock—Is a ſea fiſh, and much reſembles the whiting, but is firmer in its texture, and in general much larger in ſize. It is caught in high perfection in different parts on the coaſt of Britain, particularly in the month of January.

Cod.—The cod is alſo a ſea fiſh, of a more denſe and glutinous texture than the two former, and its delicate parts are the glutinous ones about the head and the ſounds. It is uſed of three kinds—the freſh cod, the green or white cod, and the dried or cured cod—the difference lying in the preparation of the two laſt, the one being ſalted and barrelled for uſe, the other being ſalted, and dried in the ſun, or ſmoked. The green cod generally comes from Newfoundland; the dry cod, again, is taken on the coaſt of Placentia and Scotland. Both theſe kinds require to have their ſalt much extracted, by immerſion in water, before being uſed. The pickle of cod is frequently uſed as an external application of a diſſolving nature.

Eels.—Theſe have no exerciſe, are fat and ſlimy; they contain much nouriſhment, but are difficultly perſpirable; they are well taſted, but, from their viſcidity, are apt to lie heavy on the ſtomach. They are dreſſed in a variety of ways, but are lighteſt when roaſted, and ſhould be well ſeaſoned with condiment, particularly vinegar and horſeradiſh, for when long retained on the ſtomach they become heating and oppreſſive. The beſt kind are taken in clear water. They are very retentive of life, and have been known to live five or ſix days out of water. From the ſkin a mucilage is made, reckoned of ſovereign virtue, by the vulgar, in ſwellings.

Tench.—The tench is a fiſh of a delicate taſte. It feeds generally in muddy places, and is ſaid to be the only fiſh that

the pike ſpares. When it can be procured from clear water the flavour is always ſuperior. It was much under-rated by the ancients, but in modern times it is eſteemed equal to carp. Its name it derives from the peculiarity of its colour.

Trout.—Of this fiſh there are a great variety, but the ſalmon trout is the beſt, being ſoft and gelatinous, and at the ſame time ſomewhat ſtimulant and alkaleſcent. All trout, indeed, are a very putreſcent food, and therefore eaſy of digeſtion. They ſhould be eaten in their freſheſt ſtate, and taken, if poſſible, from running water. They are beſt in ſummer, for then they are in beſt condition, and their flavour moſt delicate.

Corſtorphine Cream.—Beſides cheeſe, another form in which the curd is uſed in one part of Scotland, is in what is termed corſtorphine cream. This is made by filling a veſſel with ſkimmed milk, which has a hole in its bottom ſtopped with a peg; this veſſel is placed within another filled with boiling water; and when this is done, it is allowed to remain in this ſituation for a day or two, according to the ſtate of the weather; at the end of this period a coagulation of the milk has taken place, and the watery part of it ſubſided to the bottom. This watery part is then drawn off by opening the peg at the bottom of the veſſel, and being again ſtopped up, the ſame operation is continued for twenty-four hours longer, when an additional water is again drawn off, and the conſiſtence of the curd is thus rendered pretty thick; it is then agitated briſkly with a wooden ſtick, and made fit for uſe. This form of curd is much uſed in the neighbourhood of Edinburgh; it forms an aliment tolerably nouriſhing, and in ſummer, from its proportion of acidity, is gratefully acid and cooling.

Rice.—This grain is the chief ſupport of the greateſt part of Aſia, is the general vegetable aliment of the Eaſt, and has been even long employed in Europe for the ſame purpoſe. The peculiar qualities of this grain are not eaſily aſcertained. It diſcovers little ſweetneſs, and it is not much diſpoſed either to aceſcency or fermentation. But from its effects it is evident its nouriſhing parts muſt be in great proportion. Of all the grains it is certainly the moſt innocent, and the moſt uſeful in the caſe of invalids: it contains a thin, light and very ſoluble mucilage, which not being ſo diſpoſed to acidity as the other mucilages of grain, is therefore leſs flatulent, and ſits eaſy on the ſtomach. It has been ſuppoſed to poſſeſs ſomething of an aſtringent quality, and has therefore been ordered as a common remedy in bowel complaints; but it ſhews no marks of an aſtringent quality when put to the teſt; and its good effects can, therefore, only ariſe from its demulcent nature, as blunting acrimony, and ſoothing irritation. The nutritious quality of rice has been ſuppoſed by ſome, attended with one noxious quality, viz. being hurtful to the eyes, on no rational or ſatisfactory foundation. The weakneſs of ſight, and blindneſs of the Chineſe, has been indeed aſcribed to the frequent uſe of hot rice; but how this can operate, it is impoſſible to conceive, or in what manner it ſhould differ, boiled, or in this different ſtate, excepting in temperature and ſoftneſs, which can only increaſe its ſolubility in the ſtomach. The ſource of impaired viſion, therefore, is more to be ſought for in the abuſe of venery among that people, with their immoderate indulgence in tea, and in other narcotic and aromatic ſtimulants.

Rice is uſed in a variety of ways—in jelly, or decoction, which is made with it in the ſame way as with barley and oats, or other grain. Its chief conſumption, however, is in puddings, and it is uſed as an ingredient in ſtews. Lately an attempt has been made, by mixing it with wheat, to form it into bread, in the proportion of three parts of wheat, to one of rice; and one peculiar quality it is ſaid to poſſeſs, that its mixture corrects bad wheat flour. In this climate, rice is generally very quickly digeſted, and the return of appetite takes place ſoon after its uſe. In the warmer climates, however, from the relaxed, debilitated ſtate of the ſtomach of the inhabitants, it is found neceſſary, in order to prevent its lying long upon them, to conjoin it with a conſiderable quantity of ſtrong ſpices. This grain is very much uſed in Carolina, and no bad conſequence is found to follow it; a proof of the inſufficient grounds on which its tendency to produce blindneſs is built.

On the whole, this grain, both for extent of produce, its proportion of nouriſhment, and its goodneſs, is preferable to all others; its flour being finer, and its texture more tender than any of them, which is particularly apparent by macerating the different grains in water, for of all of them the rice ſwells to the largeſt ſize; a proof of its parts are more intimately divided.

Potatoe.—As an intermediate ſubſtance between the farinaceous ſeeds and roots, we have placed here, though properly belonging to the roots, the potatoe.

The potatoe was firſt introduced into Europe in 1486, by Sir Francis Drake, and is originally a native of Peru; where, unleſs reared under a particular management, by little expoſure to the ſun, it poſſeſſes much of the quality of the nightſhade, to which ſpecies it belongs. The potatoe is now a root of the firſt importance in Europe, as affording a mild wholſome nouriſhment; and next to the grains, it is moſt uſed of any vegetable production. The attention paid to its cultivation has produced a great many varieties of it; and they may be yet increaſed from the ſeed contained in the apples; but this variety differs only in the proportion each poſſeſſes of its conſtituent parts. The light, mealy potatoes are the beſt. The conſtituent parts of this root, when examined, conſiſt: 1. of a dry powder, or ſtarch, as in grains: 2. a fibrous matter, of a grey colour, ſimilar to the roots of pot-herbs: and 3, a mucilage, reſembling that of the eſculent plants. By the proceſs of boiling, theſe parts become intimately blended, have their ſolubility increaſed, and become eaſier digeſted. This root, in many countries, affords the chief proportion of their nouriſhment; a proof of its wholſomeneſs and alimentary quality, for both men and animals are known to get fat under its uſe; though, in proportion to bulk, it does not afford the ſame quantity of nouriſhment as the grains. From its poſſeſſing ſuch a large proportion of watery parts, nearly one half, it cannot fail to be eaſily digeſted, and to paſs in a very ſhort time into chyle. Hence it is by no means of itſelf a permanent nouriſhment, and the appetite ſooner returns after it than after moſt other kinds of diet. Flatulence and heartburn are alſo very ſeldom known to ariſe from it, though continued in very great quantities; and in many caſes where vegetable diet comes to be preſcribed, it has been the only ſubſtance found to agree. From its conſtituting an article in ſuch general uſe, it has come to be prepared in a variety of forms. It is uſed in bread, its flour is employed in paſtry, and it is alſo converted by the French into a ſago and ſalop.

Though we have mentioned the potatoe as a root, it is not properly the root of the plant, but rather a ſort of underground fruit, produced upon a confined branch. The real roots do not produce potatoes; they only ſerve the purpoſe of drawing nouriſhment from the ſoil, as the leaves above extract it from the atmoſphere. The potatoe below, and the apple above, are in fact the ſame; but being in different elements, they aſſume different appearances. The one ſeems to be intended for the preſervation of the ſpecies, the other for the food of animals. Such is the prolific nature of this vegetable, that from one large potatoe, 8ſt. 8lb. of good ſizeable ones have been produced. As an article of ſuſtenance, the potatoe is greatly recommended by its palatable nature,

and by its being reared at little expence. Hence it is well ſuited as a proviſion for the poor. Potatoes are never unwholſome but from being reared in a bad ſoil, improperly preſerved, or eaten to exceſs; circumſtances which can all be eaſily guarded againſt. Given raw, they have been found highly uſeful in ſcorbutic complaints.

By ſome authors, potatoes have been conſidered as poſſeſſed of noxious qualities. But experience gives no ſanction to this opinion; and had it been juſt, the truth of it muſt have been completely eſtabliſhed long before this time in an article which forms ſo much the diet of the poor in every country, and eſpecially in Ireland, where, on the contrary, the moſt healthy people are reared.

Muſhrooms.—Where muſhrooms prove deleterious, the firſt ſenſations they produce are qualmiſhneſs, which ſoon increaſes to violent ſickneſs: this is ſucceeded by giddineſs, a palpitation of the heart, and fluſhing heat of the ſkin; with more or leſs redneſs of it. Swelling of the face alſo enſues, and ſometimes a ſenſation all over the body, as if a general fulneſs or ſwelling prevailed. The patient ſtares in an unuſual manner. All objects appear different from what they did before, a difficulty of breathing enſues, and the mind is ſtrangely confuſed. Delirium and convulſions have been alſo known as frequent conſequences of this attack. In other caſes where the ſymptoms are mild, and do not appear for a good many hours after eating them, the ſickneſs ends in cholera morbus, on the termination of which, the patient generally falls into a ſound ſleep, or a ſomewhat comatoſe ſtate.

To relieve theſe ſymptoms as ſpeedily as poſſible, the clearing the ſtomach of its noxious contents ſhould be the firſt ſtep; and the beſt emetic for this purpoſe is ten grains of the vitriolated zinc, which may even be repeated if the ſickneſs does not abate. The emetic is then to be ſucceeded by the vegetable acids, which ſhould be given in pretty conſiderable quantity, either in the form of vinegar or lemon-juice. Theſe will be found an antidote againſt what remains of the poiſon.

Tea.—Tea is the dried leaves of a ſhrub, the produce of China and Japan. It is divided into two varieties, green and bohea, which vary ſomewhat in their particular flavour and taſte, though they agree in the general qualities of being ſlightly aſtringent, bitteriſh, and aromatic. In their recent ſtate they are poſſeſſed of a ſtrong, narcotic property, which is carefully diminiſhed by maceration and drying, ſo that the acrid juice in which it reſides comes to be conſiderably diſſipated. They are dried on iron plates, from a part of ſome tincture of which their aſtringent quality is derived; and ſo dangerous are they held by the Chineſe, as not to be uſed for a twelvemonth after they are plucked. Thus only by a preparatory proceſs are they rendered at all fit for the purpoſe of diet.

Tea was firſt imported into Britain about the year 1666, and was confined for ſome time to the tables of the people of faſhion; but in conſequence of the pleaſantneſs of its flavour and its faſcinating effects, it ſoon gained a preference over every other diluent beverage, and came into general uſe. Hence it has ſhared the fate of all articles in univerſal demand. Its qualities have been ſophiſticated, and it has received additions, altering its nature in ſome degree from what it was on its firſt importation. Theſe additions conſiſt, firſt in concealing a deficiency of natural flavour, or aromatic part, by the olla fragrans; ſecondly, from leſs attention being paid to the periods of gathering it; and thirdly, from care being employed in the time of curing it, or preparing it for uſe.

The general effects of no dietetic article are perhaps ſo little determined as thoſe of tea. By one party it is deſcribed as a poiſon, by another it is extolled as a medicine of the firſt virtues. Truth, however, ſeldom lies in extremes; and in order to form a juſt opinion of this important ſubject, we ſhould examine, firſt, its effects in a ſtate of concentration; ſecondly, in the form it is moſt uſed; and thirdly, trace the different ſituations of thoſe who uſe it. With reſpect to the firſt, we find that, formed into an extract, or with its juice inſpiſſated, it has been known to kill in the quantity of a few grains. The diſtilled water has been attended with the ſame fatal conſequences, or, if not extinguiſhing life, it has produced incurable palſy. Even the effluvia of this herb, long ſmelt at, has been known to produce apoplexy; and ſeveral tea-brokers, who are accuſtomed to ſmell every box that is opened, have fallen victims to their profeſſion in this way. Theſe facts then ſufficiently prove the powerful narcotic qualities of this plant, when employed in ſufficient ſtrength, or in a concentrated ſtate. Experiments alſo made with it on ſmall animals have produced the ſame fatal iſſue, and that in a very ſhort ſpace of time after the application of the infuſion. The green tea ſeems alſo the moſt powerful, or poſſeſſes the greateſt proportion of that active principle on which theſe effects depend. Indeed all the high-flavoured teas poſſeſs it in an eminent degree. In the common form of infuſion in which tea is employed for dietetic uſe, none of theſe conſequences ariſe. In the Eaſt it has been uſed in this form from time immemorial; but in England it did not become common till after the reſtoration, when it was introduced at court by Katherine of Portugal. From this time it has gradually come into general uſe, ſo much ſo, that the importation from China in 1777, was upwards of ſixteen millions of pounds, and from that time to the preſent it has increaſed to no leſs than thirty millions. On its firſt uſe, it was generally prepared in decoction, or boiled in a kettle, either in milk or water, the Eaſtern method; but by this preparation its aromatic quality was conſiderably impaired. The infuſion, therefore, in Europe, though different from the Eaſtern method, has been preferred; and by this infuſion its narcotic quality is, perhaps, retained more ſtrongly than when part is diſſipated by boiling.

The excellence of this infuſion will depend on three circumſtances, the degree of heat of the water employed, the ſoftneſs or quality of the water, and the time allotted for the infuſion.

With reſpect to the firſt, the water ſhould always be brought to the boiling point, and continued as nearly as poſſible in that degree of temperature; in regard to the ſecond, the water ſhould be mixed as little as poſſible with any adventitious particles of a ſaline or mineral nature; and with reſpect to the third, the veſſel employed ſhould be ſo large as to keep the infuſion of an equal ſtrength.

The effects of tea drunk in this way are to increaſe the digeſtive action of the ſtomach, and to augment the appetite. Hence it is particularly uſeful where the ſtomach is overloaded, and nouriſhment is taken to exceſs; but in the ſame way, where nouriſhment is deficient, or where the ſtomach is unable to receive it, like all other powerful ſtimulants, it muſt tend to injure the organ, and ſhew all the bad conſequences of its narcotic quality, in exciting various morbid affections of the nervous ſyſtem. It is in this way that its introduction into Europe has proved ſo pernicious to the lower ranks of ſociety. Inſtead of an auxiliary to diet, as it ought to be, it has come to conſtitute the principal part of it, and is drunk at all times of the day, and in ſuch a ſtate of concentration as to act as a real poiſon upon the body. Indeed to this herb, more than to any other cauſe, we may attribute that change in the conſtitution of the inhabitants of this country, which has diſplayed itſelf ſo remarkably within this century. Formerly nervous complaints were little known or underſtood, now they are moſt frequently met with; nor can they be attributed to any other cauſe, as the introduction of no other dietetic article has

been in equal extent within ſuch a ſhort period of time. The higheſt degree of theſe complaints, palſy, we find increaſed as four to one within the laſt thirty years. Hence the uſe of this article requires more caution, and attention to counteract its pernicious conſequences, than any other with which we are acquainted. Theſe conſequences ſteal on by degrees: it affords a beverage faſcinating to the taſte; it excites a momentary hilarity of ſpirits after its uſe, and it is not till after ſome hours of enjoyment of this exhilarating ſtate that the faintneſs and ſinking, correſpondent to the previous excitement, enſue, which calls anew for the ſame repetition of it, or ſome other ſtimulant, to produce a ſimilar effect. The drinking of tea, therefore, ſhould only be conjoined with a due proportion of nouriſhment. Its narcotic effects ſhould be corrected by boiling rather than infuſion; and in ſome countries it is common to correct this effect by its junction with certain aromatic or ſweet herbs. It is rendered grateful to the taſte by the addition of milk and ſugar, which ſhould always bear a greater proportion in the making of it than they at preſent do.

Dr. Niſbet extends his remarks to various other articles of diet, with which it may be the intereſt of many to make themſelves acquainted; for theſe, however, we refer to the doctor's treatiſe.

DIEU (Lewis de), miniſter of Leyden, and profeſſor in the Walloon College of that city, was a man of great abilities, and uncommonly verſed in the Oriental languages. He was born April 7, 1590, at Fluſhing, where his father, Daniel de Dieu, was miniſter. Daniel was a man of great merit, and a native of Bruſſels, where he had been a miniſter 22 years. He removed from thence in 1585, to ſerve the church at Fluſhing, after the Duke of Parma had taken Bruſſels. He underſtood Greek and the Oriental languages; and he could preach with the applauſe of his auditors in German, Italian, French, and Engliſh. The churches of the Netherlands ſent him, in 1588, over to Queen Elizabeth, to inform her of the deſigns of the Duke of Parma, who ſecretly made her propoſals of peace, though the King of Spain was equipping a formidable fleet againſt England.—Lewis ſtudied under Daniel Colonius, his uncle by his mother's ſide, who was profeſſor at Leyden in the Walloon College. He was two years miniſter of the French church at Fluſhing; and might have been court-miniſter at the Hague, if his natural averſion to the manners of a court had not reſtrained him from accepting that place. He thought the poſt which was offered him more proper for a man in years than a ſtudent. The prince commended his modeſty and prudence. He was called to Leyden in 1619, to teach, with his uncle Colonius, in the Walloon College; and he diſcharged the duty of that employment with great diligence till his death, which happened in 1642. He refuſed the poſt of divinity-profeſſor in the new univerſity of Utrecht; and, if he had lived long enough, he would have had the ſame poſt in that of Leyden. He married the daughter of a counſellor of Fluſhing, by whom he had eleven children.

He publiſhed, in 1631, "A Commentary on the Four Goſpels, and Notes on the Acts of the Apoſtles." His firſt care had been to examine the Latin verſions of the "Syriac New Teſtament," made by Tremellius and Guido Fabricius Boderianus; and that of St. Matthew's Goſpel in Hebrew, made by Munſter and Mercerus. He publiſhed alſo the "Revelation of St. John," which he printed both in Hebrew and Syriac characters, with a Latin verſion of his own. He publiſhed the "Hiſtory of the Life of Jeſus Chriſt," written in the Perſian tongue by the Jeſuit Jerom Xavier, with learned notes; and he joined to the original a Latin tranſlation. "The Hiſtory of St. Peter," written in the Perſian language, was alſo publiſhed by him, with a Latin tranſlation and notes. He drew up likewiſe "Rudiments of the Hebrew and Perſian Tongues, and a Parallel of the Grammar of the Oriental Tongues." Some things alſo of ſmaller note were publiſhed by his friends after his death.

DIEUZE, a town of France, in the department of Meurthe, remarkable for wells of ſalt water, which produce much ſalt. It is ſeated on the Scille, 22 miles N.E. of Nanci. Long. 6. 45. E. Lat. 48. 53. N.

DIEXAHEDRIA, in natural hiſtory, a genus of pellucid and cryſtalliform ſpars, compoſed of two pyramids, joined baſe to baſe, without any intermediate column: the diexahedria are dodecahedral, or compoſed of two hexangular pyramids.

DIEZ, St. a town of France, in the department of the Voſges. It had lately a celebrated chapter, whoſe canons were obliged to produce proofs of nobility. It is ſeated on the Meurthe, 30 miles S.E. of Luneville. Long. 7. 4. E. Lat. 48. 20. N.

DIGBY (Sir Everard), an Engliſh gentleman, memorable for the ſhare he had in the powder-plot, and his ſuffering on that account, was deſcended from an ancient family, and born ſome time in 1581. His father, Everard Digby, of Dryſtoke in Rutlandſhire, eſq. was a perſon of great worth and learning, had his education in St. John's College, Cambridge, where he took the degree of M.A. and publiſhed ſeveral treatiſes, ſome on learned, others on curious ſubjects: as, 1. Theoria Analytica, viam ad Monarchiam Scientiarum Demonſtrans, 1579. 2. De Duplici Methodo Libri duo, Rami Methodum Refutantes, 1580. 3. De Arte Natandi, Libri duo, 1587. 4. A Diſſuaſive from taking away the Goods and Livings of the Church. His ſon, of whom we are ſpeaking, was educated with great care, but under the tuition of ſome Popiſh prieſts, who gave him thoſe impreſſions which his father, if he had lived, might probably have prevented; but he died when his ſon was no more than eleven years of age. He was brought very early to the court of Queen Elizabeth, where he was much taken notice of, and received ſeveral marks of her majeſty's favour. On the coming in of King James, he went likewiſe to pay his duty, as others of his religion did: was very graciouſly received; and had the honour of knighthood conferred upon him, being looked on as a man of fair fortune, pregnant abilities, and a court-like behaviour. He married Mary, daughter and ſole heireſs of William Mulſho, eſq. of Gothurſt in Buckinghamſhire, with whom he had a great fortune, which, with his own eſtate, was ſettled upon the children of that marriage. He was drawn in to be privy to the gunpowder-plot; and though he was not a principal actor in this dreadful affair, or indeed an actor at all, yet he offered 1500l. towards defraying the expences of it; entertained Guy Fawkes, who was to have executed it, in his houſe; and was taken in open rebellion with other Papiſts after the plot was detected and had miſcarried. Upon his commitment to the Tower, he perſiſted ſteadily in maintaining his own innocence as to the powder-plot, and refuſed to diſcover any who were concerned in it; but when he was brought to his trial at Weſtminſter, Jan. 27, 1605-6, indicted for being acquainted with and concealing the powder-treaſon, taking the double oath of ſecreſy and conſtancy, and acting openly with other traitors in rebellion, he pleaded guilty. After this, he endeavoured to extenuate his offence; and then requeſted, that, as he had been alone in the crime, he might alone bear the puniſhment, without extending it to his family; and that his debts might be paid, and himſelf beheaded. When ſentence of death was paſſed, he ſeemed to be very much affected; for, making a low bow to thoſe on the bench, he ſaid, "If I could hear any of your lordſhips ſay you forgave me, I ſhould go more cheerfully to the gallows."

To this all the lords anſwered, " God forgive you, and we do." He was, with other conſpirators, upon the 30th of the ſame month, hanged, drawn, and quartered, at the weſt end of St. Paul's church in London; where he aſked forgiveneſs of God, the king, the queen, the prince, and all the parliament; and proteſted, that, if he had known this act at firſt to have been ſo foul a treaſon, he would not have concealed it to have gained a world, requiring the people to witneſs, that he died penitent and ſorrowful for it. Wood mentions a moſt extraordinary circumſtance at his death, as a thing generally known; namely, that when the executioner plucked out his heart, and according to form held it up, ſaying, " Here is the heart of a traitor," Sir Everard made anſwer, " Thou lyeſt." But perhaps, as generally as it was known then, perſons may be found in this incredulous age, that would hardly believe it, even if Wood himſelf had actually aſſerted it.

Sir Everard left at his death two young ſons, afterwards Sir Kenelm and Sir John Digby; and expreſſed his affection towards them by a well-written and pathetic paper, which he deſired might be communicated to them at a fit time, as the laſt advice of their father. While he was in the Tower, he wrote, in juice of lemon or otherwiſe, upon ſlips of paper, as opportunity offered; and got theſe conveyed to his lady by ſuch as had permiſſion to ſee him. Theſe notes, or advertiſements, were preſerved by the family as precious relics; till, in 1675, they were found at the houſe of Charles Cornwallis, Eſq. executor to Sir Kenelm Digby, by Sir Rice Rudd, bart. and William Wogan, of Gray's-Inn, eſq. They were afterwards annexed to the proceedings againſt the traitors, and other pieces relating to the Popiſh plot, printed by the orders of Secretary Coventry, dated Dec. 12, 1678.

Digby (Lord George), an Engliſh nobleman of great parts, was ſon of John Digby earl of Briſtol, and born at Madrid in Oct. 1612. In 1626 he was entered at Magdalen College in Oxford; where he lived in great familiarity with the well-known Peter Heylin, and gave manifeſt proofs of thoſe great endowments, for which he was afterwards ſo diſtinguiſhed. In 1636 he was created M.A. there, juſt after Charles I. had left Oxford; where he had been ſplendidly entertained by the univerſity, and particularly at St. John's College, by Dr. Laud, afterwards Archbiſhop of Canterbury. In the beginning of the long parliament, he was diſaffected to the court, and appointed one of the committee to prepare a charge againſt the Earl of Strafford, in 1640; but afterwards would not conſent to the bill, " not only," as he ſaid, " becauſe he was unſatisfied in the matter of law, but for that he was more unſatisfied in the matter of fact." From that time he became a declared enemy to the parliament, and ſhewed his diſlike of their proceedings in a warm ſpeech againſt them, which he made at the paſſing of the bill of attainder againſt the ſaid earl, in April 1641. This ſpeech was condemned to be burnt, and himſelf, in June following, expelled the Houſe of Commons. Jan. 1641-2, he went on a meſſage from his majeſty to Kingſton upon Thames, to certain gentlemen there, with a coach and ſix horſes. This they improved into a warlike appearance; and accordingly he was accuſed of high-treaſon in parliament, upon pretence of his levying war at Kingſton upon Thames. Finding what umbrage he had given to the parliament, and how odious they had made him to the people, he obtained leave, and a licence from his majeſty, to tranſport himſelf into Holland; whence he wrote ſeveral letters to his friends, and one to the queen, which was carried by a perfidious confidant to the parliament, and opened. In a ſecret expedition afterwards to the king, he was taken by one of the parliament's ſhips, and carried to Hull; but being in ſuch a diſguiſe that not his neareſt relations could have known him, he brought himſelf off very dexterouſly by his artful management of the governor Sir John Hotham. In 1643 he was made one of the ſecretaries of ſtate to the king, and high-ſteward of the univerſity of Oxford, in the room of William lord Say. In the latter end of 1645 he went into Ireland, and expoſed himſelf to great hazards of his life, for the ſervice of the king: from thence he paſſed over to Jerſey, where the Prince of Wales was, and after that into France, in order to tranſact ſome important matters with the queen and Cardinal Mazarine. Upon the death of the king, he was exempted from pardon by the parliament, and obliged to live in exile, till the reſtoration of Charles II. when he was reſtored to all he had loſt, and made knight of the Garter. He became very active in public affairs, ſpoke frequently in parliament, and diſtinguiſhed himſelf by his enmity to Clarendon while Chancellor. He died at Chelſea, March 20, 1676, after ſucceeding his father as Earl of Briſtol.

Many of his ſpeeches and letters are ſtill extant, to be found in our hiſtorical collections. There are alſo letters of his to his couſin Sir Kenelm Digby againſt Popery, mentioned in the preceding article; yet afterwards he became a Papiſt himſelf; which, with ſeveral other inconſiſtencies in his character, has been ſeverely cenſured.

Digby (John), earl of Briſtol, and father of the Lord George Digby, was by no means an inconſiderable man, though checked by the circumſtances of his times from making ſo great a figure as his ſon. He was deſcended from an ancient family at Coleſhill in Warwickſhire, and born in 1580. He was entered a commoner of Magdalen College, Oxford, in 1595; and, the year following, diſtinguiſhed himſelf as a poet by a copy of verſes made upon the death of Sir Hen. Unton, of Wadley in Berks. Afterwards he travelled into France and Italy, and returned from thence perfectly accompliſhed: ſo that, ſoon falling under the notice of King James, he was admitted gentleman of the privy-chamber, and one of his majeſty's carvers, in 1605. February following he received the honour of knighthood; and, in April 1611, was ſent ambaſſador into Spain, as he was afterwards again in 1614. April 1616, he was admitted one of the king's privy-council, and vice-chamberlain of his majeſty's houſehold; and in 1618, was advanced to the dignity of a baron, by the title of Lord Digby, of Sherborne in Dorſetſhire. In 1620 he was ſent ambaſſador to the Archduke Albert, and the year following to Ferdinand the emperor; as alſo to the Duke of Bavaria. In 1622 he was ſent ambaſſador-extraordinary to Spain, concerning the marriage between Prince Charles and Maria daughter of Philip III. and the ſame year was created Earl of Briſtol. Being attacked, after his return to England, by that overbearing man the Duke of Buckingham, he repelled and worſted him; and ſhone greatly among the diſcontented in parliament. But the violences of that aſſembly ſoon diſguſting him, he left them, and became a zealous adherer to the king and his cauſe; for which at length he ſuffered exile, and the loſs of his eſtate. He died at Paris, Jan. 21, 1652-3.

He was the author of ſeveral works. Beſides the verſes above mentioned, he compoſed other poems; one of which, an air for three voices, was ſet by H. Lawes, and publiſhed in his Airs and Dialogues, at London, in 1653. 1. A Tract, wherein are ſet down thoſe Motives and Ties of Religion, Oaths, Loyalty, and Gratitude, which obliged him to adhere unto the King in the late unhappy Wars in England. 2. A Tract, wherein he vindicateth his Honour and Innocency from having in any Kind deſerved that injurious and mercileſs Cenſure, of being excepted from Pardon and Mercy either in Life or Fortunes. 3. An Appendix to the firſt tract. Theſe two tracts which have the general title of his Apology, toge-

ther with the appendix, and two of his ſpeeches in parliament, were printed at Caen, in 1647, and reprinted in 1656. The firſt ſpeech was upon May 20, 1642, concerning an Accommodation of Peace and Union between the King and his two Houſes of Parliament; and the ſecond was upon June 11 following, in vindication of it. There are alſo extant other ſpeeches of his; one particularly at the Council-Table at Oxford in 1642, in Favour of the Continuance of the War with the Parliament. It was ſpoken after Edge-Hill fight, and publiſhed at London the ſame year. He alſo publiſhed at Caen, in 1647, An Anſwer to the Declaration of the Houſe of Commons; Feb. 11, 1648, againſt making any more Addreſſes to the King; and dedicated it to his good countrymen of England, and fellow-ſubjects of Scotland and Ireland. Several letters of this lord are to be found in the Cabala.

Beſides theſe treatiſes in the political way, he was, in the earlier part of his life, the author of a work of a very different nature, namely, a tranſlation of Peter du Moulin's book, entitled, A Defence of the Catholic Faith, contained in the Book of King James againſt the Anſwer of N. Coeffeteau, &c. 1610. He probably undertook this laborious and, as one ſhould think, diſagreeable taſk, at the requeſt of that pedantic and theological monarch; at leaſt, with a view of currying favour with him. The dedication, however, to the king is not in his own name, but in that of J. Sandford, his chaplain.

DIGGES (Leonard), an Engliſh gentleman famous for his mathematical learning, was deſcended from an ancient family, and born at Digges-Court in the pariſh of Barham in Kent; but we know not in what year. He was ſent to Univerſity College in Oxford, where he laid a good foundation of learning; and retiring from thence without a degree, proſecuted his ſtudies, and compoſed the following works: namely, 1. Tectonicum; briefly ſhewing the exact Meaſuring, and ſpeedy Reckoning of all Manner of Lands, Squares, Timbers, Stones, Steeples, &c. 1556, 4to. Augmented and publiſhed again by his ſon Thomas Digges, 1592, 4to.; and reprinted there in 1647, 4to. 2. A geometrical practical Treatiſe, named Pantometria, in three books. This he left in MS. but, after his death, his ſon ſupplied ſuch parts of it as were obſcure and imperfect, and publiſhed it in 1591, folio; ſubjoining, A Diſcourſe geometrical of the five regular and platonical Bodies, containing ſundry theoretical and practical Propoſitions, ariſing by mutual Conference of theſe Solids, Inſcription, Circumſcription, and Transformation. 3. Prognoſtication everlaſting of right good Effect: or, Choice Rules to judge the Weather by the Sun, Moon, and Stars, &c. 1555, 1556, and 1564, 4to. corrected and augmented by his ſon, with divers general tables, and many compendious rules, 1592, 4to. He died about 1574.

DIGGES (Thomas), only ſon of Leonard Digges, after a liberal education, went and ſtudied for ſome time at Oxford; and by the improvements he made there, and the inſtructions of his learned father, became one of the greateſt mathematicians of his age. When Queen Elizabeth ſent ſome forces to aſſiſt the oppreſſed inhabitants of the Netherlands, Digges was appointed muſter-maſter-general of them; by which he had an opportunity of becoming ſkilled in military affairs. Beſides the reviſing, correcting, and enlarging ſome pieces of his father's already mentioned, he wrote and publiſhed the following learned works himſelf: namely, 1. Alæ ſive Scalæ Mathematicæ: or Mathematical Wings or Ladders, 1573, 4to. This book contains ſeveral demonſtrations for finding the parallaxes of any comet, or other celeſtial body, with a correction of the errors in the uſe of the radius aſtronomicus. 2. An arithmetical-military Treatiſe, containing ſo much of Arithmetic as is neceſſary towards Military Diſcipline, 1579, 4to. 3. A geometrical Treatiſe, named Stratioticos, requiſite for the Perfection of Soldiers, 1579, 4to. This was begun by his father, but finiſhed by himſelf. They were both reprinted together in 1590, with ſeveral amendments and additions, under this title: An arithmetical warlike Treatiſe, named Stratioticos, compendiouſly teaching the Science of Numbers, as well in Fractions as Integers, and ſo much of the Rules and Equations algebraical, and Art of Numbers coſſical, as are requiſite for the Profeſſion of a Souldier. Together with the Moderne militaire Diſcipline, Offices, Lawes, and Orders in every well-governed Campe and Armie, inviolably to be obſerved. At the end of this work there are two pieces; the firſt entitled A briefe and true Report of the Proceedings of the Earle of Leyceſter, for the Reilefe of the Towne of Sluce, from his Arrival at Vliſhing, about the End of June 1587, until the Surrenderie thereof 26 Julii next enſuing; whereby it ſhall plainelie appear, his Excellencie was not in anie Fault for the Loſſe of that Towne: the ſecond, A briefe Diſcourſe what Orders were beſt for repulſing of foraine Forces, if at any Time they ſhould invade us by ſea in Kent, or elſewhere. 4. A perfect Deſcription of the celeſtial Orbs, according to the moſt ancient Doctrine of the Pythagoreans, &c. This was placed at the end of his father's Prognoſtication everlaſting, &c. printed in 1592, 4to. 5. A humble Motive for Aſſociation to maintain the Religion eſtabliſhed, 1601, 8vo. To which is added, his Letter to the ſame Purpoſe to the Archbiſhops and Biſhops of England. 6. England's Defence: or, a Treatiſe concerning Invaſion. This is a tract of the ſame nature with that printed at the end of his Stratioticos, and called, A briefe Diſcourſe, &c. It was written in 1599, but not publiſhed till 1686. 7. A Letter printed before Dr. John Dee's Parallaticæ Commentationis praxeoſque nucleus quidam, 1573, 4to. Beſides theſe and his Nova corpora, he had by him ſeveral mathematical treatiſes ready for the preſs; which, by reaſon of lawſuits and other avocations, he was hindered from publiſhing. He died in 1595, but we know not at what age. He married, and had ſons and daughters; of which more will be ſaid in the next article.

DIGGES (Sir Dudley), eldeſt ſon of Thomas Digges, juſt mentioned, was born in 1583; and entered a gentleman-commoner of Univerſity College in Oxford, 1598. Having taken the degree of B.A. in 1601, he went and ſtudied for ſome time at the inns of court; and then travelled beyond ſea, having before received the honour of knighthood. After ſeeing and obſerving much, he returned home, and led a retired life, till 1618; when he was ſent by James I. ambaſſador to the Czar, or Emperor of Ruſſia. Two years after he was commiſſioned with Sir Maurice Abbot to go to Holland, in order to obtain the reſtitution of goods, taken by the Dutch from ſome Engliſhmen, in the Eaſt-Indies. He was a member of the third parliament of James I. which met at Weſtminſter Jan. 30, 1620-1; and was ſo little compliant with the court meaſures, as to be ranked among thoſe whom the king called ill-tempered ſpirits. He was likewiſe a member of the firſt parliament of Charles I. in 1626; and not only joined with thoſe eminent patriots, who were for bringing Villiers duke of Buckingham to an account, but was indeed one of the chief managers in that affair, and ſo very active, that he was committed to the Tower, though ſoon releaſed. He was again member of the third parliament of Charles I. in 1627-8, being one of the knights of the ſhire for Kent; but ſeemed to be more moderate in his oppoſition to the court, than he was in the two laſt, and voted for the diſpatch of the ſubſidies. Nevertheleſs, when any attempts were made upon the liberties of his country, or the conſtitution of parliament, his ſpirits were roufed, and he openly exerted them. In ſhort, he was a

man of such consequence, that the court thought it worth their while to gain him over; and accordingly they tempted him with the advantageous and honourable office of master of the rolls, of which he had a reversionary grant Nov. 29, 1630, and became possessed of it April 20, 1636, upon the death of Sir Julius Cæsar. But he did not enjoy it quite three years; for he died March 8, 1638-9, and his death was reckoned among the public calamities of those times.

He was a worthy good man, and, as a certain writer says, "a great assertor of his country's liberty in the worst of times." He was the author of several performances in the literary way: 1. A Defence of Trade: in a Letter to Sir Thomas Smith, Knt. Governor of the East-India Company, 1615, 4to. After his death, there was printed under his name, 2. A Discourse concerning the Rights and Privileges of the Subject, in a Conference desired by the Lords, and had by a Committee of both Houses, April 3, 1628; 1642, 4to. 3. He made several speeches upon various occasions, inserted in Rushworth's Collections, and Ephemeris Parliamentaria. 4. He collected the letters that passed between the Lord Burleigh, Sir Francis Walsingham, and others, about the intended marriage of Queen Elizabeth with the Duke of Anjou, in 1570, and with the Duke of Alençon, in 1581. They were published in 1655, folio. The publisher, who signs himself A. H. says in the preface, that "this piece was never intended for the press, but had slept long amongst the papers of Sir Dudley Digges, a personage of known wisdom and integrity, and who understood well the value of this manuscript, which had nothing forged or suppositious in it.

Sir Dudley had a brother Thomas, and a son Dudley, who were both learned men and authors. His brother Thomas was educated in University College, Oxford, took the degree of B.A. in 1606, removed to London; and then, travelling beyond sea, studied in foreign universities: from whence returning a good scholar, and an accomplished person, he was created M.A. in 1626. He translated from Spanish into English, Gerardo, the Unfortunate Spaniard, 1622, 4to. written by Goncalo de Cespedes: and, from Latin into English verse, Claudian's Rape of Proserpine, 1617, 4to. He died in 1635, being accounted a good poet and orator; and a great master of the English, French, and Spanish languages.

His son Dudley, who was his third son, was also of University College, Oxford, where he took the degree of B.A. in 1631-2; and the year after was elected fellow of All-Souls College. He took a master's degree in 1635; and became a good poet and linguist, and a general scholar. He died in 1643; having distinguished himself only by the two following productions: 1. An Answer to a printed book entitled Observations upon some of his Majesty's late Answers and Expresses, Oxon, 1642. 2. The Unlawfulness of Subjects' taking up Arms against their Sovereign in what Case soever, with Answers to all Objections, Lond. 1643, 4to.

Digges (West), was a celebrated comedian, formerly of the Haymarket, and for some time manager of the Edinburgh theatre. This gentleman is frequently spoken of in Mrs. Bellamy's Memoirs. He performed latterly in Dublin, and became useful to the Irish manager by giving him secret instructions; he was suddenly seized with a paralytic stroke, which rendered him incapable of following his profession. Necessity now obliged him to play the sycophant off the stage, and become entirely the manager's instrument: this procured him an allowance, but, at the same time, the envy and ill-will of all the company. His first appearance upon the stage was at Dublin in 1749. He died at Cork in 1786.

DIGITALIS (*Encycl.*). The following observations on the medical use and effects of the digitalis purpurea are extracted from an essay of Dr. Mease, resident physician at the port of Philadelphia.

The purple fox-glove, he says, is a medicine which, for some time, stood high in the list of the materia medica, but for various reasons appears to have, in some measure, lost the character once formed of it.—The causes influencing the success of the *digitalis*, may be referred to the following heads: 1. The *season of the year in which the plant is collected* will have a very considerable influence on the effects produced on the system. 2. The *part of the plant employed* ought likewise to be attended to, when forming a judgment of its virtues. 3. A frequent cause of the failure of the *digitalis* may be attributed to the careless mode of preparing it for use. 4. The *adulteration of the plant* with other vegetables. 5. The various modes of exhibiting this medicine; and 6. The *particular condition* of *the patient* at the *time* of its *exhibition*.

Dr. Mease very judiciously comments upon each of these particulars, and more at large upon the last. He examines with some acuteness the different opinions of physicians relative to this subject, and illustrates them with his own observation and experience on the effects of this powerful plant.—As a specimen of his method of reasoning, we shall quote the following remarkable passage:

"To account for the success of this remedy in dropsies, and diseases of too much action in the arterial system, is readily done. But, to reconcile the opposite testimony of Dr. Withering and others, with respect to their different success in dropsies of too little action, is very difficult: nay, to reconcile the contrary advice of Dr. Withering himself, who recommends the digitalis in mania and hemoptoë, 'with a *bounding pulse*,' and in dropsies with a *weak* one, is impossible. And here I may repeat a remark I formerly made, viz. 'That a medicine whose primary operation is the reduction of the force of the arterial system, when this is so intimately connected with the general strength of the body, should only succeed in those cases where the latter is considerably exhausted, appears not only to be paradoxical, but ill agrees with the uniformity observed in the operations of nature, in other parts of the animal œconomy.' It is incumbent on Dr. Withering to account for this apparent opposition in his own sentiments, and to satisfy the doubts of physicians, arising from the action of the remedy being directly contrary to the principles upon which alone certain dropsies can be cured. I may also remark, that it is much to be wished, physicians were more accurate in noting the state of their patient's system, at the time of prescribing this and other remedies; and also the state of the pulse at the same time, with its frequency; which, though so constantly stated, is of far less consequence in determining the situation of the system, as to the important point of the existence or absence of the inflammatory disposition, than the former. We should thus arrive with more certainty at the *true* virtues of a medicine, and be able to reconcile the contradictory accounts of physicians, respecting its utility in the same disease."

These *golden* remarks cannot be too *often* and too *seriously* repeated, particularly to the junior class of medical practitioners.—Our author quotes a striking passage from a letter of Dr. Withering to Dr. Woodville, published in the *Medical Botany* of the latter, in which the inattention of physicians, in the exhibition of *digitalis*, is severely censured, and he concludes with the following practical hints:

"It may not be improper to add some cautions and observations upon the use of digitalis, not mentioned in the above paper, for the information of those who may not have seen Dr. Withering's work, and may wish to exhibit the medicine.

"The doctor defires the medicine to be given in the doſes in an infuſion of the plant, which he prefers to every other form, and directs one drachm of the dried leaves to be infuſed for four hours in half a pint of boiling water, adding to the ſtrained liquor half an ounce of any ſpirituous water, and an ounce of this infuſion to be given twice a-day to an adult. If the patient be ſtronger than uſual, or the ſymptoms very urgent, this doſe may be given once in eight hours; and, on the contrary, in many inſtances, half an ounce at a time will be quite ſufficient. (This method of exhibiting the medicine ought to be continued until it either acts on the kidneys or ſtomach, pulſe or bowels: to be ſtopped upon the firſt appearance of any of theſe effects; the patient to drink freely during its operation.) But, without attending to this rule, I have known the digitalis preſcribed in the various forms of decoction, pills made with ſoap, and in powder mixed with prepared chalk or magneſia; and though the two laſt ſubſtances may not act in any oppoſite way, yet they may divide the particles, and by clogging them, prevent application to the ſtomach, and thus diminiſh its activity. A tedious decoction will diſſipate the virtue of many plants leſs volatile than digitalis; but a ſlight one will no doubt injure it, and ought therefore never to be employed. Pills are often made up with ſuch ſubſtances, as render them ſoluble with difficulty. If we even ſuppoſe ſoap free from this objection, we nevertheleſs do not know what ſecret effects may be produced by it, on particular ſtomachs, to interrupt the action of the medicine; and certainly it will not be ſo readily applied to that organ, as in a watery form.

"In caſe of *aſcites* and *anaſarca*, when the patient is weak, and the evacuation of the water rapid, the uſe of a proper bandage is indiſpenſably neceſſary. If the water ſhould not be wholly evacuated, it is beſt to allow an interval of ſeveral days, before the medicine be repeated, in order that food and tonics may be exhibited.

"The flow of urine will often precede, ſometimes accompany, and frequently follow the ſickneſs at ſtomach, at the diſtance of ſome days, and not unfrequently be checked by the medicine, eſpecially if given in too large doſes. The ſickneſs will ſometimes ceaſe, and recur again as violent as before, and will continue to recur for three or four days, at more diſtant intervals. Theſe ſufferings ſeldom occur, and are no objection to the uſe of digitalis, neither is the ſtone in the bladder."

Dr. Beddoes, who has written much on the properties of digitalis, ſays, "within three years I have ſeen many ſcores of phthiſical invalids from among the poorer claſſes. I have always had, cloſe at hand, a number of opulent patients of the ſame deſcription. Each claſs has, in fact, lain before me, almoſt as conveniently for compariſon, as the objects of his attention lie before a ſcholar occupied in collating a ſet of manuſcripts. In general, where I had all poſſible evidence of the exiſtence of tubercles, the exhibition of digitalis has been perfectly ſucceſsful. If I ſpecify that it has ſucceeded in three ſuch caſes out of five, I believe I much underrate the proportion of favourable events. With regard to the poor, who apply for relief in ſickneſs, there exiſts a perpetual cauſe of uncertainty. Their attendance ſlackens as their health improves; and they are apt to diſappear upon complete recovery; nor is it always eaſy to find them out by enquiry. In the richer claſs I have found the proportion of fortunate caſes more conſiderable than I have ſtated; and where digitalis alone fails, ſucceſs is ſometimes obtained by helps, of which I ſhall ſpeak before quitting the ſubject.

"When ulceration has ſucceeded to interior diſorganization, the greater difficulty of cure has appeared to me very ſtrongly marked. Why this ſhould be, is eaſily comprehended from general analogy: its full illuſtration, by tracing the diverſity of animal actions ſtep by ſtep, I relinquiſh to thoſe who may think they underſtand the nature of phthiſical ulceration, and the effect of the particular ſituation which the ulcers occupy. Entire failure has appeared to me, on the one hand, moſt frequent in the needieſt poor; and on the other, in thoſe females of higher life, who, from tranſmitted feebleneſs, and the want of air and exerciſe, of wholeſome hunger and digeſtion, appear more like the ſhadows of human beings, than ſubſtantial compounds of fleſh, blood, and bone. And as one means for the conciliation of contradictory teſtimonies, reſpecting the effect of digitalis in confirmed or ulcerated conſumption, I adhere to the opinion expreſſed in the Weſt-country Contributions, 1799, pp. 534—5: viz. that robuſtneſs of conſtitution is peculiarly favourable to the action of digitalis in this diſeaſe."

Three caſes of pulmonary affection are detailed, in which digitalis produced evident benefit. The caſe of Dr. Briggs is well worthy of notice; it is accurately drawn up by that phyſician himſelf, and the diſeaſe was evidently incipient tubercular phthiſis.

On the mode of exhibition of digitalis Dr. Beddoes obſerves, "when the mild exhibition of digitalis produces no good effect, and the patient is not greatly reduced, I have occaſionally found it uſeful to adminiſter it in nauſeating or in ſickening doſes. In a few caſes the purulent expectoration has been leſſened at every ſickneſs, and under the uſe of intermediate ſmall doſes has failed to return to its former quantity.

"I have very frequently employed digitalis externally; but never alone. I am not, therefore, able to ſpeak with confidence of the effects of this manner of uſing it. In caſes where the common mode fails, I purpoſe to try friction vigorouſly, and hope ſometimes to ſucceed. I imagine ſome analogy of operation between ſickneſs from digitalis and ſickneſs from ſailing. The perſons, in whom I have ſeen conſumption conſiderably mitigated, and the very few whom I have known perfectly cured, by a ſea voyage, have not, any of them, belonged to the more puny diviſion of the conſumptive. And I apprehend delicate females, affected by this diſeaſe, rarely experience great relief from ſea ſickneſs. I do not, however, feel myſelf entitled to advance an opinion on this point. I merely offer a conjecture, principally wiſhing to excite the attention of obſervers."

And again, "when fox-glove is deficient in operation, I have found the conjunction of opium in large doſes, of bitters and ſquills, powerful auxiliaries. I have often joined with it hyoſcyamus and cicuta."

The following obſervations are of conſiderable importance: "When digitalis has failed altogether in incipient conſumption, I have occaſionally found calomel ſucceed in a few inſtances." And, "I have ſometimes given the hydrargyrus cum creta, and ſometimes the ſimple mercurial pill; inſtead of calomel, without any variation in the effect. And I have of late often joined one or the other with digitalis.

"There is a ſtate of confirmed conſumption, in which, if an auxiliary to digitalis of given operation could be diſcovered, ſome lives would be ſaved. The ſtate I allude to is of this nature. In ſome inſtances, when the fox-glove has removed the hectic fever, and greatly reduced the expectoration and cough, the decline ſhall become almoſt imperceptible; the patient frequently appearing chlorotic, but being really phthiſical, as the event moſt commonly, and ſometimes diſſection, has evinced. During this almoſt ſtationary period, the organs of ſanguification appear inert; and the deficient production of blood (into which the chyle is probably converted in the lungs)

ſufficiently accounts for that conſumption of the body which denominates the diſorder. This defect of ſanguification explains the emaciating proceſs, when there is no exceſs of action either in the capillaries or other parts of the vaſcular ſyſtem, nor any apparent drain, or elſe leſs evacuation than exiſts in caſes where there is no emaciation. Thoſe principles which enter into new combination during muſcular contraction, being derived from the blood, and blood not being formed in ſufficient quantity, the ſubſtance of the body will be waſted by the mere vital movements. Neither will the fat be replaced as faſt as it is abſorbed; and ſo of other parts. In phthiſical children, where the attractions on which growth (or longitudinal extenſion of parts) depends, do not ceaſe, though probably ſolids very different in conſtitution from the healthy ſolids are formed, it ſhould ſeem that emaciation ought to go on with peculiar rapidity, if other circumſtances were alike."

In his attempts to account for the "mode in which digitalis operates," the author ſeems to have adopted that theory which is known in this country by the name of *chemical phyſiology*. He ſays, "at preſent I can only enuntiate an opinion, reſerving full diſcuſſion to a future occaſion. To whatever organ medicinal application is made, I conſider the applied ſubſtance as a chemical compound. The organs themſelves I conſider likewiſe as chemical compounds, extremely variable, and of a peculiar nature for the time being. We know that certain changes in thoſe organic compounds, which are firſt affected, will produce ſucceſſive changes in connected parts, till perhaps the whole frame undergoes a change in its compoſition, and conſequently in its actions. Some effects of theſe changes will be manifeſt; others more obſcure; and others not aſcertainable by any of our preſent methods of obſervation.

"There is nothing in all this peculiar to the beings which we uſually denominate organized. Alterations in any body will produce alterations in a ſeries of adjacent bodies to an indefinite extent. The changes produced by the burning of a candle may be traced far into the ſublunary ſyſtem; and by help of pretty cloſe analogies, they may be purſued into a more remote region of the univerſe. In organized bodies, if ſecondary effects are more ſudden or more ſenſible than in moſt others, this is owing to the cloſe connection of their members, and to the eaſily variable conſtitution of each member. By virtue of their connection, the members of the galvanic piles, at preſent known, ſeem to influence one another as readily as the bodily organs; but being ſimilarly conſtituted, there is preſented no diverſity but in the degree of operation."

Conceding to this opinion the merit of conſiderable ingenuity, we cannot, at the ſame time, allow it to contain an accurate generalization of the phenomena already known relating to organized nature.

The different branches of human knowledge can only be conſidered as connected expreſſions of facts following, in their arrangement, either the order of nature, or ſtrict and obvious analogies; and, by the common conſent of philoſophers, they have been diſtinguiſhed from each other by appropriate names. The phenomena relating to mechanics have been ſuppoſed to be diſtinct from the phenomena of chemiſtry; and as yet it would be conſidered as raſh to claſs the galvanic facts as ſimple chemical changes: why then ſhould we, in direct contradiction to the adopted modes of nomenclature, attempt to identify the powers producing living action, which are, with regard to us, unknown, with the agencies of organic matter, which are obvious and aſcertained? It is ſurely better to confeſs our total ignorance of the laws of life, than to form obſcure generalizations founded upon looſe analogies concerning them; as in the one caſe we give full liberty to the inventive powers of the human mind; but, in the other, we limit its exertions to a particular object, by holding up to view a theory which is moſt probably falſe, and concerning which it is nevertheleſs compelled to reaſon.

Indeed, after the firſt enuntiation, Dr. Beddoes himſelf ſeems to have been fully aware of the danger and difficulty of ſyſtematizing concerning the organized nature. He ſays, "again, we can ſcarce be ſaid to have advanced a ſtep in vital chemiſtry. We are not acquainted with the conſtitution of any one organ in any one of its conditions. We know nothing of the difference between the ſeveral conditions compatible with life. How, therefore, the recipient and the received body modify each other in the firſt inſtance, remains a perfect myſtery. Nor are we better informed as to many of the conſequences of the primary modifications. Of ſome our ſenſes may occaſionally inform us; and would inform us of more, if they were more aſſiduouſly and advantageouſly applied. But we ſhall moſt groſsly deceive ourſelves, if we imagine that ſuch obſervations as we at preſent take, can ever amount to a theory or ſyſtematical body of facts. They are, perhaps, almoſt remote-effects, and therefore, relatively to us, uncertain—the more remote, the more uncertain; becauſe, of the parts progreſſively affected, if any one, unknown to the obſerver, be in a different ſtate at different times, or in different perſons, the effect that has previouſly taken place, and is again expected, may fail to appear. Our judgment, however, reſpecting the character of medical agents muſt abide by effects, thus remote and uncertain."

The experiments made by Mr. King, on the comparative action of opium and digitalis on cold-blooded animals, which follow theſe preliminary obſervations, were well contrived, and their reſults are curious and worthy of attention. The account of them will not admit of abridgment; and we muſt content ourſelves with giving Dr. Beddoes's generalization of facts concerning the mode of operation of digitalis, which, in ſome meaſure, is founded upon them.

"1. Digitalis, in a certain doſe, will increaſe the action of the arterial ſyſtem.

"2. It will increaſe the digeſtive power of the ſtomach, when that is impaired.

"3. It will often induce ſleep, like opium.

"4. Like opium, in an over-doſe it occaſions languor and exceſſive ſenſibility, headach, dimneſs of viſion, nauſea, and bilious vomiting.

"5. It almoſt immediately produces great excitement in frogs, ſomewhat as opium does; and produces certain other effects, ſimilar to thoſe of opium."

DIGNAN, a town of Venetian Iſtria, three miles from the gulf of Venice. Long. 13. 5. E. Lat. 45. 10. N.

DIGNITY (*Encycl.*). To thoſe who ſtudy human nature, there is a point which has always appeared intricate: how comes it that generoſity and courage are more eſteemed, and beſtow more dignity, than good-nature, or even juſtice; though the latter contribute more than the former to private as well as to public happineſs? This queſtion, bluntly propoſed, might puzzle even a philoſopher; but, by means of the foregoing obſervations, will eaſily be ſolved. Human virtues, like other objects, obtain a rank in our eſtimation, not from their utility, which is a ſubject of reflection, but from the direct impreſſion they make on us. Juſtice and good-nature are a ſort of negative virtues, that ſcarce make any impreſſion but when they are tranſgreſſed: courage and generoſity, on the contrary, producing elevated emotions, enliven greatly the ſenſe of a man's dignity, both in himſelf and in others; and for that reaſon, courage and generoſity are in higher regard than the other virtues mentioned: we deſcribe them as grand and elevated, as of greater dignity, and more praiſe-worthy.

This leads us to examine more directly emotions and paſſions with reſpect to the preſent ſubject: and it will not be difficult to form a ſcale of them, beginning with the meaneſt, and aſcending gradually to thoſe of the higheſt rank and dignity. Pleaſure felt as at the organ of ſenſe, named *corporeal pleaſure*, is perceived to be low; and when indulged to exceſs, is perceived alſo to be mean: for that reaſon perſons of any delicacy diſſemble the pleaſure they take in eating and drinking. The pleaſures of the eye and ear, having no organic feeling, and being free from any ſenſe of meanneſs, are indulged without any ſhame: they even riſe to a certain degree of dignity when their objects are grand or elevated. The ſame is the caſe of the ſympathetic paſſions: a virtuous perſon behaving with fortitude and dignity under cruel misfortunes, makes a capital figure; and the ſympathiſing ſpectator feels in himſelf the ſame dignity. Sympathetic diſtreſs at the ſame time never is mean: on the contrary, it is agreeable to the nature of a ſocial being, and has general approbation. The rank that love poſſeſſes in the ſcale, depends in a great meaſure on its object: it poſſeſſes a low place when founded on external properties merely; and is mean when beſtowed on a perſon of inferior rank without any extraordinary qualification: but when founded on the more elevated internal properties, it aſſumes a conſiderable degree of dignity. The ſame is the caſe of friendſhip. When gratitude is warm, it animates the mind; but it ſcarce riſes to dignity. Joy beſtows dignity when it proceeds from an elevated cauſe. If we can depend upon induction, dignity is not a property of any diſagreeable paſſion: one is ſlight, another ſevere; one depreſſes the mind, another animates it; but there is no elevation, far leſs dignity, in any of them. Revenge, in particular, though it inflame and ſwell the mind, is not accompanied with dignity, not even with elevation: it is not however felt as mean or grovelling, unleſs when it takes indirect meaſures for gratification. Shame and remorſe, though they ſink the ſpirits, are not mean. Pride, a diſagreeable paſſion, beſtows no dignity in the eye of a ſpectator. Vanity always appears mean, and extremely ſo where founded, as commonly happens, on trivial qualifications.

We proceed to the pleaſures of the underſtanding, which poſſeſs a high rank in point of dignity. Of this every one will be ſenſible, when he conſiders the important truths that have been laid open by ſcience: ſuch as general theorems, and the general laws that govern the material and moral worlds. The pleaſures of the underſtanding are ſuited to a man as a rational and contemplative being, and they tend not a little to ennoble his nature; even to the Deity he ſtretcheth his contemplations, which, in the diſcovery of infinite power, wiſdom, and benevolence, afford delight of the moſt exalted kind. Hence it appears, that the fine arts, ſtudied as a rational ſcience, afford entertainment of great dignity; ſuperior far to what they afford as a ſubject of taſte merely.

But contemplation, however in itſelf valuable, is chiefly reſpected as ſubſervient to action; for man is intended to be more an active than a contemplative being. He accordingly ſhews more dignity in action than in contemplation: generoſity, magnanimity, heroiſm, raiſe his character to the higheſt pitch: theſe beſt expreſs the dignity of his nature, and advance him nearer to divinity than any other of his attributes.

Having endeavoured to aſſign the efficient cauſe of dignity and meanneſs, by unfolding the principle on which they are founded, we proceed to explain the final cauſe of the dignity or meanneſs beſtowed upon the ſeveral particulars above mentioned, beginning with corporeal pleaſures. Theſe, as far as uſeful, are, like juſtice, fenced with ſufficient ſanctions to prevent their being neglected: hunger and thirſt are painful ſenſations; and we are incited to animal love by a vigorous propenſity: were corporeal pleaſures dignified over and above with a place in a high claſs, they would infallibly overturn the balance of the mind, by outweighing the ſocial affections. This is a ſatisfactory final cauſe for refuſing to theſe pleaſures any degree of dignity: and the final cauſe is not leſs evident of their meanneſs, when they are indulged to exceſs. The more refined pleaſures of external ſenſe, conveyed by the eye and the ear from natural objects and from the fine arts, deſerve a high place in our eſteem, becauſe of their ſingular and extenſive utility: in ſome caſes they riſe to a conſiderable dignity; and the very loweſt pleaſures of the kind are never eſteemed mean or groveling. The pleaſure ariſing from wit, humour, ridicule, or from what is ſimply ludicrous, is uſeful by relaxing the mind after the fatigue of more manly occupation: but the mind, when it ſurrenders itſelf to pleaſure of that kind, loſes its vigour, and ſinks gradually into ſloth. The place this pleaſure occupies in point of dignity, is adjuſted to theſe views; to make it uſeful as a relaxation, it is not branded with meanneſs; to prevent its uſurpation, it is removed from that place but a ſingle degree: no man values himſelf for that pleaſure, even during gratification; and if it have engroſſed more of his time than is requiſite for relaxation, he looks back with ſome degree of ſhame.

In point of dignity, the ſocial emotions riſe above the ſelfiſh, and much above thoſe of the eye and ear: man is by his nature a ſocial being; and to qualify him for ſociety, it is wiſely contrived, that he ſhould value himſelf more for being ſocial than ſelfiſh.

The excellency of man is chiefly diſcernible in the great improvements he is ſuſceptible of in ſociety: theſe, by perſeverance, may be carried on progreſſively, above any aſſignable limits; and even abſtracting from revelation, there is great probability, that the progreſs begun here will be completed in ſome future ſtate. Now, as all valuable improvements proceed from the exerciſe of our rational faculties, the author of our nature, in order to excite us to a due ſenſe of theſe faculties, hath aſſigned a high rank to the pleaſures of the underſtanding: their utility, with reſpect to this life as well as a future, entitles them to that rank.

But as action is the aim of all our improvements, virtuous actions juſtly poſſeſs the higheſt of all the ranks. Theſe, we find, are by nature diſtributed into different claſſes, and the firſt in point of dignity aſſigned to actions that appear not the firſt in point of uſe: generoſity, for example, in the ſenſe of mankind is more reſpected than juſtice, though the latter is undoubtedly more eſſential to ſociety; and magnanimity, heroiſm, undaunted courage, riſe ſtill higher in our eſteem: the reaſon of which is explained above.

DILIGENCE, in Scots law, ſignifies either that care and attention which parties are bound to give, in implementing certain contracts or truſts, and which varies according to the nature of the contract. Or it ſignifies certain forms of law, whereby the creditor endeavours to operate his payment, either by affecting the perſon or eſtate of the debtor.

DILLA, Mount, a remarkable promontory of the coaſt of Malabar, 20 miles N. by W. of Tillicherry. Long. 75. 2. E. Lat. 12. 1. N.

DIMOTUC, a town of Romania, with a Greek archbiſhop's ſee; ſeated on a mountain, ſurrounded by the Meriza, 12 miles S.W. of Adrianople. Long. 26. 15. E. Lat. 41. 35. N.

DINANT, a town of France, in the department of the North Coaſt, ſeated on a craggy mountain, at the foot of which is the river Rance, 20 miles S. of St. Malo. Long. 1. 58. W. Lat. 48. 20. N.

DINANT, a town of Germany, in the biſhopric of Liege, with a caſtle, ſeated near the Meuſe, 12 miles S. of Namur. Long. 4. 51. E. Lat. 50. 17. N.

DINASMONDY, a town in Merionethſhire, with a market on Friday, 18 miles S. of Bala, and 196 N W. of London. Long. 3 40. W. Lat 52. 37. N.

DINCHURCH, a village in Kent, in Romney Marſh, three miles N.E of Romney. Here are kept the records of the Marſh; and the court is held by the lords of the Marſh, and the members of the corporation, who are appointed by ſtatute, 33 Edward III. to regulate all affairs concerning the Marſh.

DINCKELSPIL, a free imperial town of Suabia. It has a great and a little council: the former is a mixture of Papiſts and Lutherans; but the little one are all Papiſts. It carries on a trade in cloth and reaping-hooks, and is ſeated on the Wernitz, 37 miles S.W. of Nuremberg. Long. 10. 20. E. Lat. 49. 0. N.

DINGELFING, a town of Lower Bavaria, ſeated on the Iſer, 20 miles N.E. of Landſchut. Long. 12. 36. E. Lat. 48. 40. N.

DINGLE, a ſea-port of Ireland, in the county of Derry, ſeated in Dingle Bay, four miles W. of Limerick. Long. 8. 40. W. Lat 52. 42. N.

DIO CASSIUS, a famous Greek hiſtorion, a native of Nicea, a city of Phrygia, was governor of Pergamus and Smyrna, and commanded in Africa and Pannonia. In the year 229, he was raiſed by Alexander Severus to the dignity of conſul; but not being agreeable to the troops, was obliged to retire to the place of his birth, where he ended his days. He compoſed a Roman Hiſtory in Greek, a part of which only has been handed down to us. He is accuſed of partiality againſt Pompey, Cicero, Seneca, and ſeveral other great men. He is chiefly eſteemed for the ſpeeches he puts into the mouths of Agrippa and Mecænas, when Auguſtus adviſed with them whether he ſhould preſerve the empire, or reſtore the ancient government

DIOCLESIAN. The bloody perſecutions of the Chriſtians, in the time of this emperor, forms a chronological æra, called the *æra of Dioclèſian*, or of the martyrs. The cauſes of a ſuppoſed extinction of Chriſtianity at that period, having been the ſubject of ſome literary controverſy, the following remarks on the ſubject, which appeared in the Britiſh Magazine for 1800, may not be unacceptable to many of our readers.

Let it be ſuppoſed, ſays the writer, that the Chriſtian religion, inſtead of obtaining a deciſive and laſting victory over Paganiſm, in the reign of Conſtantine the Great, was itſelf totally annihilated by the perſecution, commonly called the Dioclefian. In order to a more complete inverſion of the fact, let it be further ſuppoſed, that the progreſs of this religion, immediately upon its firſt promulgation, was exceedingly rapid, and that it gradually declined under ſucceſſive perſecutions, till it became extinct under that which has been mentioned. This period is fixed upon for the final overthrow of Chriſtianity, becauſe it ſupplies the moſt adequate cauſe of the ſuppoſed event, which comes neareſt in point of time to the oppoſite of the real one.

The patrons and adherents of the triumphant religion would, without doubt, aſcribe the deſtruction of an enemy, once ſo formidable, to the miraculous interpoſion of the deities whom they worſhipped. Not to interfere with this opinion, it may yet be allowed to the philoſopher, whoſe province it is to trace or ſupply the latent and intricate connection between cauſes and effects, to confine his conſideration to thoſe *natural and ſecondary cauſes*, which may be ſuppoſed to have at leaſt contributed to the production of the extraordinary and important event. And it does not appear that any cauſes of that deſcription can be aſſigned with greater probability than the *five following*; 1. the inflexible, and, if we may uſe the expreſſion, intolerant zeal of the Chriſtians; 2. the doctrine of a future life; 3. the miraculous powers aſcribed to the primitive church; 4. the pure and auſtere morals of the Chriſtians; 5. the union and diſcipline of the Chriſtian republic.

I. No qualities could be imagined more directly calculated to fruſtrate the attempts of the primitive Chriſtians than the inflexibility, and, if we may uſe the expreſſion, the intolerance, of their zeal. Their ſyſtem of proſelytiſm was fundamentally erroneous. The religion which they propoſed was indeed ſo far of a general nature, that none were excluded from the benefit of it: it was intended for a common bleſſing. Yet, with all this liberality, Chriſtianity was, in the ſtricteſt ſenſe, and to the laſt degree, an unſocial religion. It would neither accommodate itſelf to the reigning ſuperſtitions, nor would it admit any aſſociation with them. It was determined to ſtand alone; and wherever it prevailed, it muſt prevail upon the ruins of all other ſyſtems. With ſuch pretenſions, the heralds of the Goſpel could not reaſonably hope for a favourable reception. Their apparent arrogance could only ſerve to provoke the indignation of thoſe whom they endeavoured to convert; and the zeal with which they proſecuted their cauſe, eſpecially if it were ſo extravagant as has with great confidence been aſſerted, would, *according to the natural courſe of things*, have a direct tendency to defeat their object*.

II. The doctrine of a future ſtate of retribution, of reward to the good, and of puniſhment to the wicked, was by no means a peculiar doctrine of Chriſtianity. Heatheniſm had its Elyſium and its Tartarus. The natural apprehenſion, however, with reſpect to a future ſtate, had produced in the majority of the civiliſed Gentiles, the common people as well as the higher ranks of the philoſophers, a diſbelief and contempt of the doctrine;—at leaſt, of that part which relates to future puniſhment†. Socrates, Cicero, and Seneca, admitted only the alternative of the mortality of the ſoul, or of its future enjoyment or happineſs‡. Chriſtianity came forward to revive the exploded doctrine: it arrayed the happineſs of the righteous with new glories, and conferred new terrors upon the place of puniſhment. But the heathens had given up their Elyſium, and the ſpiritual heaven of the Chriſtians was not more alluring: they had ſucceeded in diſſipating the dread of their Tartarus, and it was not to be expected that they ſhould tamely ſubmit to the freſh impoſition of the doctrine, rendered more formidable both by the evidence which ſupported it, and by the additional horrors with which it was attended.

III. A claim to miraculous powers, when conſidered as a natural cauſe, muſt be underſtood of thoſe which are unjuſtly pretended to; or, which are falſe: for real miracles are a ſupernatural cauſe, and are only compatible with a true religion. Miracles, thus explained, were nothing new to the heathens. Their own religion was founded upon them. Neither were

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* For the indignation of the heathens againſt the Jews on account of the inſociability of their religion, ſee Joſephus cont. Apion, lib. 2. §. 7. For the ſame fact, more eſpecially with reſpect to the Chriſtians, ſee Warburton's Divine Legation, book 2. § 6.

† This is proved with triumphant evidence by Leland, in his Advantage and Neceſſity, &c. book 3. ch. 8.

‡ Apologia Socratis, § 22. Cicero de Senectute, ſub finem. Seneca, Ep. 24.

they averſe to admit the claims of Chriſtianity. But then they expected, they thought themſelves entitled to, a return of the compliment. When, therefore, they found that the religion propoſed to their acceptance, inſtead of being flattered, or even contented with this honour, aſpired to ſovereign and excluſive dominion, its arrogant pretenſions would naturally excite the indignation of the votaries of heatheniſm. And the leſs able they were to aſcribe to impoſture the miracles to which it pretended, the more violent would be their prejudices, and the more extravagant their reſentment.

IV. While the religion of the Chriſtians was calculated to make them benefactors to the world, by engaging them in the practice of the whole circle of duty, to God, their neighbour, and themſelves, they nevertheleſs conſidered that part of it which concerns the ſupreme Being as paramount to all the reſt, and in every caſe of competition entitled to the preference. From this principle flowed their purity, and what is denominated their auſterity. It was a principle which they held in common with Socrates*. But, however reaſonable, it could never fail to give offence; and it has always been obſerved, that a conſpicuous moral ſuperiority, on account of the reproof which it conveys to the generality, is almoſt ſure to create enemies †. Nor is there any hatred ſo virulent as that which has an unjuſt foundation ‡. Even the fortitude which the Chriſtians diſplayed in their martyrdom, could not eſcape a ſiniſter interpretation. It was branded as obſtinacy §. And then, inſtead of conciliating the compaſſion, or exciting the admiration of the heathens, it only ſerved for a more ſpecious pretence of proſecuting the perſecution of theſe unhappy ſufferers with increaſed ſeverity. Such were the fruits of the virtues of the primitive Chriſtians.

V. The Romans, who valued themſelves principally upon their knowledge of the art of government, would behold with extreme jealouſy the riſe and eſtabliſhment of an independent and increaſing ſociety within the boſom of their own dominions—an *imperium in imperio* ||. Nor would the aſſumption of the character of religion in any way abate this jealouſy; of which their treatment of the Bacchic myſteries at Rome is a remarkable inſtance ¶. When, therefore, the converts to Chriſtianity had, in the time of Nero, according to Tacitus**, become a vaſt multitude, and, in the exulting language of Tertullian, had filled every part of the empire††, it was not to be expected that the rulers of that empire would behold with indifference a ſociety, however peaceable the ſpirit of its inſtitution, and the conduct of its members, which their principles or their prejudices could only diſpoſe them to look upon as a conſpiracy. It was the fact. And the cauſes which have been mentioned, uniting their influence with this, produced that ſeries of progreſſive perſecutions, which had for their object not only the ſubjugation, but the extermination and deſtruction of Chriſtianity.

When Chriſtianity had thus armed againſt itſelf, the power and policy of a mighty empire, the jealouſy of its magiſtracy, both ſupreme and ſubordinate, the intereſts of its prieſthood, the virulent and well-diſciplined rancour of its philoſophers, and the furious paſſions of a ſuperſtitious and inflamed populace, it were juſtly to be eſteemed a miracle, if a religion, of which non-reſiſtance was the moſt ſpecious reproach, ſhould eſcape the deſtruction with which it was threatened.

Such are the natural cauſes by which the event here ſuppoſed may be accounted for. Nor will the objection, that preciſely the ſame cauſes have been aſſigned for a fact directly the oppoſite‡‡, have any weight with the philoſopher, who is ſatisfied that the *flexibility* of an argument, as it enlarges the ſphere of its operation, and gives it liberty to act in any direction, is rather a recommendation than a diſparagement to it. And it can with as little reaſon be expected, that he who is ſo juſtly offended at the *obſtinate inflexibility* of the Chriſtian, will ſo far loſe ſight of the conſiſtency of his character, as to regard it with greater indulgence, even though *truth herſelf* ſhould venture to aſſume it.

DIONYSIUS (Areopagita), was born at Athens, and educated there. He went afterwards to Heliopolis in Egypt; where, if we may believe ſome writers of his life, he ſaw that wonderful eclipſe which happened at our Saviour's paſſion, and was urged by ſome extraordinary impulſe to cry out, *Aut Deus patitur, aut cum patiente dolet*; "Either God himſelf ſuffers, or condoles with him who does." At his return to Athens he was elected into the court of Areopagus, from whence he derived his name of *Areopagite*. About the year 50 he embraced Chriſtianity; and, as ſome ſay, was appointed firſt biſhop of Athens by St. Paul. Of his converſion we have an account in the 17th chapter of the Acts of the Apoſtles.—He is ſuppoſed to have ſuffered martyrdom; but whether under Domitian, Trajan, or Adrian, is not certain. We have nothing remaining under his name, but what there is the greateſt reaſon to believe ſpurious.

DIONYSIUS (Biſhop of Corinth), flouriſhed under the reigns of Marcus Antoninus and Commodus; and is ſuppoſed to have ſuffered martyrdom about the year 178. We know little more of him than what appears from ſome of his epiſtles, preſerved by Euſebius: from which we learn, that he was not only very diligent in his paſtoral care over the flock committed to him, but that he extended his care likewiſe to the inhabitants of all other countries and cities. He wrote a letter to the Lacedæmonians, in which he exhorts them to peace and concord: another to the Athenians, in which he recommends purity of faith and evangelical holineſs: a third to the Nicomedians, to bid them beware of the hereſy of Marcion: a fourth to the churches of Crete: a fifth to the churches of Pontus: a ſixth to the Gnoſſians, in which he admoniſhes Pinytus, their biſhop, not to impoſe too ſeverely upon the brethren the heavy burthen of continence, but to conſider the frailties and infirmities of the fleſh. He wrote alſo a ſeventh letter to the Romans, in which he mentions the famous epiſtle of Clemens to the Corinthians; which, as we learn from him,

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* Plat. Ap. Sac. § 11.

† Virtutem incolumen odimus. Horat. Od. lib. 3. 24. Etiam gloria ac virtus infenſos habet, ut nimis ex propinquo diverſa arguens. Tacitus Annal. lib. 4. § 33.

‡ Odiis, quorum cauſæ acriores, quia iniquæ. Tac. Ann. lib. 1. § 33.

§ With Pliny it was "inflexibilis obſtinatio," lib. 10. ep. 97; with Marcus Antinoninus φιλε παραταξις, lib. 10. § 3. In another cauſe it might have ſuggeſted the—Juſtum et tenacem propoſiti virum, &c.

|| Tu regere imperio populos, Romane, memento, hæc tibi erunt artes, &c. Virg. En. lib. 6. 851. &c.

¶ Liv. Hiſt. lib. 39. § 8, particularly § 16.

** Ingens multitudo. Tac. Hiſt. lib. 15. § 44.

†† Heſterni ſumus et veſtra omnia implevimus, urbes, &c.——Sola vobis relinquimus templa. Tert. Ap. cap. 37.

‡‡ Gibbon's Decline and Fall, &c. ch. 15.

was wont, at that time, to be publicly read in their churches. But none of theſe letters are now extant.

Dionysius (Biſhop of Alexandria), was born a Heathen, and of an ancient and illuſtrious family. He was a diligent enquirer after truth, which he looked for in vain among the ſects of philoſophers; but at laſt found it in Chriſtianity, in which he was probably confirmed by his preceptor Origen. He was made a preſbyter of the church of Alexandria in 232; and, in 247, was raiſed to that ſee upon the death of Heracles. When the Decian perſecution aroſe, he was ſeized by the ſoldiers and ſent to Tapoſiris, a little town between Alexandria and Canopus; but he eſcaped without being hurt, of which there is a marvellous account in the fragments of one of his letters, which Euſebius has preſerved. He did not come off ſo well under the Valerian perſecution, which began in 257: for then he was forcibly hurried off in the midſt of a dangerous illneſs, and baniſhed to Cephrus, a moſt deſert and uncultivated region of Lybia, in which terrible ſituation he remained for three years. Afterwards, when Gallienus publiſhed an edict of toleration to the Chriſtians, he returned to Alexandria, and applied himſelf diligently to the offices of his function, as well by converting heathens, as by ſuppreſſing heretics. The Novatian hereſy he laboured to put a ſtop to; he endeavoured to quiet the diſpute, which was riſen to ſome height, between Stephen and Cyprian, concerning the rebaptization of heretics: but he attempted both theſe things with Chriſtian moderation and candour. For it muſt be acknowledged to his credit, that he ſeems to have poſſeſſed more of that ſpirit of gentleneſs and meekneſs, than was uſually to be found in thoſe primitive and zealous times. A little before his death he was called to a ſynod at Antioch, to defend the divinity of Jeſus Chriſt againſt Paul of Samoſata, who was biſhop of Antioch: but he could not appear by reaſon of his great age and infirmities. He wrote a letter however to that church, in which he explained his own opinion of the matter, and refuted Paul: whom he thought ſo very blameable for advancing ſuch an error, that he did not deign to ſalute him even by name. He died in the year 267; and, though his writings were very numerous, yet ſcarce any of them are come down to us, except ſome fragments preſerved by Euſebius.

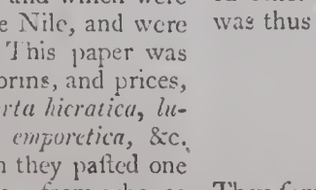
DIOPHANTUS, a celebrated mathematician of Alexandria, reputed to have been the inventor of algebra. When he lived, is not known: ſome have placed him before Chriſt, and ſome after, with equal uncertainty. He wrote 13 books of arithmetic; which the aſtronomer Regiomontanus tells us, are ſtill preſerved in MSS. in the Vatican library: Meziriac's edition of ſeven of theſe books has been ſeveral times reprinted, with notes and illuſtrations.

DIPLOMATICS (*Encycl.*). In order to underſtand the nature of diplomas, and manuſcripts, and to diſtinguiſh the authentic from the counterfeit, it is neceſſary to know that the paper of the ancients came from Egypt, and was formed of thin leaves or membranes, taken from the branches of a tree named *Papyrus*, or *Biblum Ægyptiacum*, and which were paſted one over the other with the ſlime of the Nile, and were preſſed and poliſhed with a pumice-ſtone. This paper was very ſcarce; and it was of various qualities, forms, and prices, which they diſtinguiſhed by the names of *charta hieratica, luria, auguſta, amphitheatrica, ſaitica, tanirica, emporetica*, &c. They cut this paper into ſquare leaves, which they paſted one to the other, in order to make rolls of them: from whence an entire book was called *volumen*, from *volvendo*; and the leaves of which it conſiſted, *paginæ*. Sometimes, alſo, they paſted the leaves all together by one of their extremities, as is now practiſed in binding; by this method they formed the back of a book, and theſe the learned call *cordices*. They rolled the volume round a ſtick, which they named *umbilicus*; and the two ends that came out beyond the paper, *cornua*. The title, wrote on parchment, in purple characters, was joined to the laſt ſheet, and ſerved it as a cover. They made uſe of all ſorts of ſtrings or ribbands, and even ſometimes of locks, to cloſe the book; and ſometimes alſo it was put into a caſe. But there is not now to be found, in any library or cabinet whatever, any one of theſe volumes. We have been aſſured, however, by a traveller, that he had ſeen ſeveral of them in the ruins of Herculaneum; but ſo damaged, the paper ſo ſtiff and brittle, by the length of time, that it was impoſſible to unrol them, and conſequently to make any uſe of them; for on the firſt touch they fell into ſhatters. We ſhall ſpeak hereafter of thoſe books they call *codices*.

We are ignorant of the preciſe time when our modern paper was invented; and when they began to make uſe of pens in writing, inſtead of the ſtalks of reeds. The ink that the ancients uſed, was not made of vitriol and galls, like the modern, but of ſoot. Sometimes alſo they wrote with red ink made of vermilion; or in letters of gold, on purple or violet parchment. It is not difficult for thoſe who apply themſelves to this ſtudy, to diſtinguiſh the parchment of the ancients from that of the moderns, as well as their ink and various exterior characters: but that which beſt diſtinguiſhes the original from the counterfeit, is the writing or character itſelf; which is ſo diſtinctly different from one century to another, that we may tell with certainty, within about 40 or 50 years, when any diploma was written. There are two works which furniſh the cleareſt lights on this matter, and which may ſerve as ſure guides in the judgments we may have occaſion to make on what are called ancient diplomas. The one is the celebrated treatiſe on the Diplomatic, by F. Mabillon; and the other, the firſt volume of the Chronicon Gotvicenſe. We there find ſpecimens of all the characters, the flouriſhes, and different methods of writing, of every age. For theſe matters, therefore, we muſt refer our readers to thoſe authors; and ſhall here only add, that

All the diplomas are wrote in Latin, and conſequently the letters and characters have a reſemblance to each other: but there are certain ſtrokes of the pen which diſtinguiſh not only the ages, but alſo the different nations; as the writings of the Lombards, French, Saxons, &c. The letters in the diplomas are alſo uſually longer, and not ſo ſtrong as thoſe of manuſcripts. There has been alſo introduced a kind of court-hand, of a very diſproportionate length, and the letters of which are called *Exiles litteræ, criſpæ ac protractiores*. The firſt line of the diploma, the ſignature of the ſovereign, that of the chancellor, notary, &c. are uſually wrote in this character.

The ſignature of a diploma conſiſts either of the ſign of the croſs, or of a monogram or cipher, compoſed of the letters of the names of thoſe who ſubſcribed it. The initial letters of the name, and ſometimes alſo the titles, were placed about this croſs. By degrees the cuſtom changed, and they invented other marks; as for example, the ſign of Charlemagne was thus:



They ſometimes added alſo the dates and epoch of the ſignature, the feaſts of the church, the days of the calendar, and other like matters. The ſucceſſive corruption of the Latin language, the ſtyle and orthography of each age, as well as their different titles and forms; the abbreviations, accentua-

tion, and punctuation, and the various methods of writing the diphthongs; all these matters united, form so many characters and marks by which the authenticity of a diploma is to be known.

The seal annexed to a diploma was anciently of white wax, and artfully imprinted on the parchment itself. It was afterward pendent from the paper, and inclosed in a box or case, which they called *bulla*. There are some also that are stamped on metal, and even on pure gold. When a diploma bears all the characters that are requisite to the time and place where it is supposed to be written, its authenticity is not to be doubted: but, at the same time, we cannot examine them too scrupulously, seeing that the monks and priests of former ages have been very adroit in making of counterfeits; and the more, as they enjoyed the confidence of princes and statesmen, and were even sometimes in possession of their rings or seals.

With regard to manuscripts that were wrote before the invention of printing, it is necessary (1) to know their nature, their essential qualities, and matter; (2) to be able to read them freely, and without error; (3) to judge of their antiquity by those characters which we have just mentioned with regard to the diplomas; and (4) to render them of use in the sciences. As there are scarce any of the ancient codes now remaining (see par. 2.) wrote on the Egyptian paper, or on wood, ivory, &c. we have only to consider those that are written on parchment or vellum *(membraneos)*, and such as are wrote on our paper *(chartaceos)*. The former of these are in most esteem. With regard to the character, these codes are written either in square and capital letters, or in half square, or round and small letters. Those of the first kind are the most ancient. There are no intervals between the words, no letters different from the others at the beginning of any word, no points, nor any other distinction. The codes which are wrote in letters that are half square, resemble those we have in Gothic characters, as well for the age as the form of the letters. Such as are wrote in round letters are not so ancient as the former, and do not go higher than the ninth or tenth century. These have spaces between the words, and some punctuation. They are likewise not so well wrote as the preceding, and are frequently disfigured with comments. The codes are divided, according to the country, into Lombard, Italian, Gaulic, Franco-Gaulic, Saxon, Anglo-Saxon, &c.

In the ancient Greek books, they frequently terminated the periods of a discourse, instead of all other division, by lines; and these divisions were called, in Latin, *versus*, from *vertendo*: for which reason these lines are still more properly named *versus* than *lineæ*. At the end of a work, they put down the number of verses of which it consisted, that the copies might be more easily collated: and it is in this sense we are to understand Trebonius, when he says, that the pandects contain 150,000 *pæne versuum*. These codes were likewise *vel probæ vel deterioris notæ*, more or less perfect, not only with regard to the calligraphy or beauty of the character, but to the correction of the text also.

It is likewise necessary to observe, in ancient codes, the abbreviations, as they have been used in different centuries. Thus, for example, A. C. D. signifies, Aulus Caius Decimus; Ap. Cn. Appius Cncius; Aug. Imp. Augustus Imperator. The characters that are called *notæ*, are such as are not to be found in the alphabet; but which, notwithstanding, signify certain words. All these matters are explained in a copious manner by Vossius, and in the Chronicon Gotvicense. Lastly, the learned divide all the ancient codes into *codices minus raros, rariores, editos, & anecdotos*. The critical art is here indispensably necessary: its researches, moreover, have no bounds; and the more, as the use of it augments every day, by the discoveries that are made in languages, and by the increase of erudition.

DISENTIS, a town of Switzerland, capital of a jurisdiction of the same name, in the country of the Grisons, with an abbey founded in the seventh century. It is situate near the sources of the Rhone, 10 miles S.S.W. of Ilantz.

DISMAL SWAMP, a marshy tract on the coast of N. Carolina, 50 miles long and 30 broad. It occupies the whole country between Albemarle Sound and Pamlico Sound.

DISPOSITION, in Scots law, is that deed or writing which contains the seale or grant of any subject: when applied to heritable subjects, it in some cases gets the name of *charter*, which differs from a disposition in nothing else than a few immaterial forms.

DISS, a town in Norfolk, with a market on Friday. It is seated on the river Waveney, on the side of a hill; and at the W. end of the town is a large muddy lake, abounding with eels. Here are manufactures of sail-cloth, linen cloth, hose, and stays. It is 19 miles S. of Norwich, and 92 N.N.E. of London. Long. 1. 9. E. Lat. 52. 25. N.

DISSEN, or TISSEN, a town of Germany, in the bishopric of Osnabrug, where are salt works belonging to the Elector of Hanover. It is 16 miles S.E. of Osnabrug.

DISSENTERS (*Encycl.*). The first dissenters from the establishment were called PURITANS, and generally adopted the presbyterian form of church government. Robert Brown, a disaffected minister, in the reign of Elizabeth, instituted a new sect, which afterwards rose into considerable consequence, under the title of INDEPENDENTS. The presbyterians at present are but very few; for most, if not all the dissenting congregations in England, are independent of any synodical assembly. There is another numerous and respectable class of dissenters called baptists, but a consideration of their state and principles already appears in another place.

At the time of the act of uniformity in 1662, and for many years afterwards, the non-conformists or dissenters were doctrinally Calvinists. About the close of the last century, Arianism began to shew itself among them, and when Dr. Clarke started the controversy on the Trinity, it spread more rapidly among the dissenters than in the established church. Most of the considerable congregations declined from the Calvinistical sentiments of their ancestors, and fell into Arian or Socinian principles. Some, however, while they adopted the Arminian doctrines, admitted that of the trinity, though it is doubtful whether most of these were not Semi-arians. All those who thus gave up the creed of the old nonconformists have assumed the title of rational dissenters, because they assert the full use of human reason on matters of faith. Socinianism was rather a private matter of opinion among particular ministers and others, till Dr. Lardner openly espoused it. Dr. Priestley's zeal and talents gave it considerable circulation; and the secession of Mr. Lindsey from the established church gave rise to a Socinian congregation in Essex-street, wherein a liturgy altered from that of the church of England is used. This congregation is now under the care of Dr. Disney, another clergyman who has seceded from the church on account of his principles. The number of Socinians, however, is far from being large; and the meeting in Essex-street is but thinly attended. Since the rise of methodism many independent congregations have returned to Calvinistic principles, and many new places of worship have been erected for those of that persuasion. Several of the preachers in Mr. Wesley's and Mr. Whitfield's connections, and also those who were brought up at the expence of the late Countess of Huntingdon, have forsaken the itinerant course of life, and settled as ministers of congregations on the independent plan. It happens that among these, few are found who possess the ad-

vantages of education; but they in general appear earneſt in their manner, and ready in their eloquence. The plain and familiar mode of addreſs ſeems beſt ſuited to common hearers, and in this reſpect the man of moderate talents may poſſeſs ſuperior advantages to the man of erudition. The ſyſtem of the rational Chriſtians is indifferently calculated to operate upon the minds of the ordinary part of mankind; and thoſe of a more aſſuming intellect will only be prepared by it for the reception of poſitive infidelity.

Dr. Prieſtley, before his departure for America, lamented greatly the rapid decline of Socinianiſm; and there is no ground to believe that the caſe has been altered ſince. Yet the diſſenters at large, it is imagined, have not decreaſed. If old congregations have diſſolved, new ones have ariſen of a different complexion; and it deſerves remark, that many who acquired religious ſentiments and habits of ſerioufneſs by attending ſome favourite and popular preacher in the eſtabliſhment, have forſaken the church on his death, and joined the diſſenters. This circumſtance has often happened, and is generally owing to the doctrine preached by the ſucceeding miniſter being different from that to which the people have been long accuſtomed. Much, indeed, may be attributed to the capriciouſneſs of hearers; but, in general, perſons of a ſerious turn, who have been in conſtant attendance on the ſervice of the church, will not leave it without ſome reaſon of this ſort.

The diſſenters have lately diſtinguiſhed themſelves by inſtituting, in conjunction with the methodiſts, a miſſionary ſociety. The deſign of propagating the goſpel is doubtleſs highly commendable, and forms, in fact, a Chriſtian duty. But in this, as in all other great undertakings, much prudence, wiſdom, and humility, are requiſite. Whether theſe have been evidenced in this famous project is a matter of ſome queſtion. Paſſing by all the intermediate regions of barbariſm, the managers of this inſtitution directed their firſt attention to the diſtant iſles of the ſouthern ocean. The perſons ſent out on this arduous work were moſtly mechanics, and ſuch as had little acquaintance with human nature, the various cuſtoms and characters of mankind, and the arts of inſinuating addreſs, calculated to effect a great change in the manners of the people to whom they were ſent. Some diſappointment attended this firſt miſſion; but in another which was afterwards undertaking among the Hottentots, by the Dutch, from the cape of Good Hope (under the direction of the London ſociety), great ſucceſs, it is ſaid, has been experienced, and there is a proſpect of much good being done in that quarter. There is evidently, however, much of oſtentation in the procedure of this ſociety. Their journals are publiſhed in a moſt pompous manner, and an elegant print has been engraved repreſenting the interview of the miſſionaries at Otaheite with the chiefs. This conduct is ridiculous before the event of the miſſion is exactly known, and that cannot be expected ſuddenly to take place. Theſe gentlemen ſeem to think that the divine power and direction are ſurely on their ſide, and, therefore, that they have no reaſon to doubt of ſucceſs. This is not acting as the apoſtles did, nor in the manner which their Maſter commanded them.

The ſame zealous perſons have recently been ſtirred up to undertake what they call miſſions at home; and, in conſequence, many itinerant preachers have gone into various parts of the country. This may, in ſome caſes, do good, but the ſcheme ought to put the clergy on their guard; and the only way by which they can counteract the itinerants is to outpreach, out-live, and out-labour them. The care and faithfulneſs of the eſtabliſhed miniſters will ſoon render the officiouſneſs of the others of none effect. The principal ſeminaries of education for the miniſtry among the diſſenters are at Hackney, Northampton, Mancheſter, Homerton, Wrexham (Denbighſhire), Swanſea (South Wales), Hoxton, Taunton, and Daventry.

DIVING (*Encycl.*). The following deſcription of a ſub-marine veſſel, or *diving-machine*, invented by Mr. Buſhnell, of Connecticut, is given in the Tranſactions of the American Philoſophical Society.

The external ſhape of the ſub-marine veſſel bore ſome reſemblance to two upper tortoiſe ſhells of equal ſize, joined together; the place of entrance into the veſſel being repreſented by the opening made by the ſwell of the ſhells, at the head of the animal. The inſide was capable of containing the operator, and air ſufficient to ſupport him thirty minutes without receiving freſh air. At the bottom, oppoſite to the entrance, was fixed a quantity of lead for ballaſt. At one edge, which was directly before the operator, who ſat upright, was an oar for rowing forward or backward. At the other edge was a rudder for ſteering. An aperture, at the bottom, with its valve, was deſigned to admit water, for the purpoſe of deſcending; and two braſs forcing-pumps ſerved to eject the water within, when neceſſary for aſcending. At the top, there was likewiſe an oar, for aſcending or deſcending, or continuing at any particular depth. A water-gauge, or barometer, determined the depth of deſcent, a compaſs directed the courſe, and a ventilator within ſupplied the veſſel with freſh air, when on the ſurface.

The entrance into the veſſel was elliptical, and ſo ſmall as barely to admit a perſon. This entrance was ſurrounded with a broad elliptical iron band, the lower edge of which was let into the wood of which the body of the veſſel was made, in ſuch a manner, as to give its utmoſt ſupport to the body of the veſſel againſt the preſſure of the water. Above the upper edge of this iron band there was a braſs-crown, or cover, reſembling a hat with its crown and brim, which ſhut watertight upon the iron band: the crown was hung to the iron band with hinges, ſo as to turn over ſidewiſe, when opened. To make it perfectly ſecure when ſhut, it might be ſcrewed down upon the band by the operator, or by a perſon without.

There were in the braſs crown three round doors, one directly in front, and one on each ſide, large enough to put the hand through. When open they admitted freſh air; their ſhutters were ground perfectly tight into their places with emery, hung with hinges, and ſecured in their places when ſhut. There were likewiſe ſeveral ſmall glaſs windows in the crown, for looking through, and for admitting light in the day-time, with covers to ſecure them. There were two air pipes in the crown. A ventilator within drew freſh air through one of the air pipes, and diſcharged it into the lower part of the veſſel; the freſh air introduced by the ventilator expelled the impure light air through the other air pipe. Both air pipes were ſo conſtructed, that they ſhut themſelves whenever the water roſe near their tops, ſo that no water could enter through them, and opened themſelves immediately after they roſe above the water.

The veſſel was chiefly ballaſted with lead fixed to its bottom; when this was not ſufficient, a quantity was placed within, more or leſs, according to the weight of the operator; its ballaſt made it ſo ſtiff, that there was no danger of overſetting. The veſſel with all its appendages, and the operator, was of ſufficient weight to ſettle it very low in the water. About two hundred pounds of the lead, at the bottom for ballaſt, would be let down forty or fifty feet below the veſſel; this enabled the operator to riſe inſtantly to the ſurface of the water, in caſe of accident.

When the operator would deſcend, he placed his foot upon the top of a braſs valve, depreſſing it, by which he opened a large aperture in the bottom of the veſſel, through which the water entered at his pleaſure; when he had admitted a ſuffi-

cient quantity, he deſcended very gradually; if he admitted too much, he ejected as much as was neceſſary to obtain an equilibrium, by the two braſs forcing pumps, which were placed at each hand. Whenever the veſſel leaked, or he would aſcend to the ſurface, he alſo made uſe of theſe forcing pumps. When the ſkilful operator had obtained an equilibrium, he could row upward, or downward, or continue at any particular depth, with an oar, placed near the top of the veſſel, formed upon the principle of the ſcrew, the axis of the oar entering the veſſel; by turning the oar one way he raiſed the veſſel, by turning it the other way he depreſſed it.

A glaſs tube eighteen inches long, and one inch in diameter, ſtanding upright, its upper end cloſed, and its lower end, which was open, ſcrewed into a braſs pipe, through which the external water had a paſſage into the glaſs tube, ſerved as a water-gauge or barometer. There was a piece of cork, with phoſphorus on it, put into the water-gauge. When the veſſel deſcended the water roſe in the water-gauge, condenſing the air within, and bearing the cork, with its phoſphorus, on its ſurface. By the light of the phoſphorus, the aſcent of the water in the gauge was rendered viſible, and the depth of the veſſel under water aſcertained by a graduated line.

An oar, formed upon the principle of the ſcrew, was fixed in the fore part of the veſſel; its axis entered the veſſel, and being turned one way, rowed the veſſel forward, but being turned the other way rowed it backward; it was made to be turned by the hand or foot.

A rudder, hung to the hinder part of the veſſel, commanded it with the greateſt eaſe. The rudder was made very elaſtic, and might be uſed for rowing forward. Its tiller was within the veſſel, at the operator's right hand, fixed, at a right angle, on an iron rod, which paſſed through the ſide of the veſſel; the rod had a crank on its outſide end, which commanded the rudder, by means of a rod extending from the end of the crank to a kind of tiller, fixed upon the left hand of the rudder. Raiſing and depreſſing the firſt-mentioned tiller turned the rudder as the caſe required.

A compaſs marked with phoſphorus directed the courſe, both above and under the water; and a line and lead ſounded the depth when neceſſary.

The internal ſhape of the veſſel, in every poſſible ſection of it, verged towards an ellipſis, as near as the deſign would allow, but every horizontal ſection, although elliptical, yet as near to a circle as could be admitted. The body of the veſſel was made exceedingly ſtrong; and to ſtrengthen it as much as poſſible, a firm piece of wood was framed, parallel to the conjugate diameter, to prevent the ſides from yielding to the great preſſure of the incumbent water, in a deep immerſion. This piece of wood was alſo a ſeat for the operator.

Every opening was well ſecured. The pumps had two ſets of valves. The aperture at the bottom, for admitting water, was covered with a plate, perforated full of holes to receive the water, and prevent any thing from choaking the paſſage, or ſtopping the valve from ſhutting. The braſs valve might likewiſe be forced into its place with a ſcrew, if neceſſary. The air pipes had a kind of hollow ſphere, fixed round the top of each, to ſecure the air-pipe valves from injury: theſe hollow ſpheres were perforated full of holes, for the paſſage of the air through the pipes: within the air-pipes were ſhutters to ſecure them, ſhould any accident happen to the pipes, or the valves on their tops.

Wherever the external apparatus paſſed through the body of the veſſel, the joints were round, and formed by braſs pipes, which were driven into the wood of the veſſel, the holes through the pipes were very exactly made, and the iron rods, which paſſed through them, were turned in a lathe to fit them; the joints were alſo kept full of oil, to prevent rust and leaking. Particular attention was given to bring every part, neceſſary for performing the operations, both within and without the veſſel, before the operator, and as conveniently as could be deviſed; ſo that every thing might be found in the dark, except the water-gauge and the compaſs, which were viſible by the light of the phoſphorus, and nothing required the operator to turn to the right hand, or to the left, to perform any thing neceſſary.

The inventor next purſues the ſubject under the following heads:—

1. Deſcription of a magazine, and its appendages, deſigned to be conveyed by the ſub-marine veſſel to the bottom of a ſhip.—In the fore part of the brim of the crown of the ſubmarine veſſel, was a ſocket, and an iron tube, paſſing through the ſocket; the tube ſtood upright, and could ſlide up and down in the ſocket, ſix inches: at the top of the tube was a wood-ſcrew, fixed by means of a rod, which paſſed through the tube, and ſcrewed the wood-ſcrew faſt upon the top of the tube: by puſhing the wood-ſcrew up againſt the bottom of a ſhip, and turning it at the ſame time, it would enter the planks; driving would alſo anſwer the ſame purpoſe; when the wood-ſcrew was firmly fixed, it could be caſt off by unſcrewing the rod, which faſtened it upon the top of the tube.

Behind the ſub-marine veſſel was a place, above the rudder, for carrying a large powder magazine; this was made of two pieces of oak timber, large enough, when hollowed out, to contain 150 pounds of powder, with the apparatus uſed in firing it, and was ſecured in its place by a ſcrew, turned by the operator. A ſtrong piece of rope extended from the magazine to the wood-ſcrew above mentioned, and was faſtened to both. When the wood-ſcrew was fixed, and to be caſt off from its tube, the magazine was to be caſt off likewiſe by unſcrewing it, leaving it hanging to the wood-ſcrew; it was lighter than the water, that it might riſe up againſt the object, to which the wood-ſcrew and itſelf were faſtened.

Within the magazine was an apparatus, conſtructed to run any propoſed length of time, under twelve hours; when it had run out its time, it unpinioned a ſtrong lock reſembling a gun lock, which gave fire to the powder. This apparatus was ſo pinioned, that it could not poſſibly move, till, by caſting off the magazine from the veſſel, it was ſet in motion.

The ſkilful operator could ſwim ſo low on the ſurface of the water, as to approach very near a ſhip, in the night, without fear of being diſcovered, and might, if he choſe, approach the ſtem or ſtern above water, with very little danger. He could ſink very quickly, keep at any depth he pleaſed, and row a great diſtance in any direction he deſired, without coming to the ſurface, and when he roſe to the ſurface, he could ſoon obtain a freſh ſupply of air, when, if neceſſary, he might deſcend again, and purſue his courſe.

2. Experiments made to prove the nature and uſe of a ſubmarine veſſel.—The firſt experiment made was with about two ounces of gunpowder, which were exploded four feet under water, to prove to ſome of the firſt perſonages in Connecticut that powder would take fire under water.

The ſecond experiment was made with two pounds of powder, incloſed in a wooden bottle, and fixed under a hogſhead, with a two-inch oak plank between the hogſhead and the powder; the hogſhead was loaded with ſtones as deep as it could ſwim; a wooden pipe deſcending through the lower head of the hogſhead, and through the plank, into the powder contained in the bottle, was primed with powder. A match put to the priming, exploded the powder, which produced a very great effect, rending the plank into pieces; demoliſhing the hogſhead; and caſting the ſtones and the ruins of the

hogſhead, with a body of water, many feet into the air, to the aſtoniſhment of the ſpectators. This experiment was likewiſe made for the ſatisfaction of the gentlemen above mentioned.

There were afterwards made many experiments of a ſimilar nature, ſome of them with large quantities of powder; they all produced very violent exploſions, much more than ſufficient for any purpoſe had in view.

In the firſt eſſays with the ſub-marine veſſel the inventor took care to prove its ſtrength to ſuſtain the great preſſure of the incumbent water, when ſunk deep, before he truſted any perſon to deſcend much below the ſurface: and he never ſuffered any perſon to go under water without having a ſtrong piece of rigging made faſt to it, until he found him well acquainted with the operations neceſſary for his ſafety. After that he made him deſcend, and continue at particular depths, without riſing or ſinking, row by the compaſs, approach a veſſel, go under her, and fix the wood-ſcrew mentioned before, into her bottom, &c. until he thought him ſufficiently expert to put any deſign into execution.

It required many trials to make a perſon of common ingenuity a ſkilful operator: the firſt employed was very ingenious, and made himſelf maſter of the buſineſs, but was taken ſick in the campaign of 1776, at New York, before he had an opportunity to make uſe of his ſkill, and never recovered his health ſufficiently afterwards.

3. Experiments made with a ſub-marine veſſel.—After various attempts to find an operator to his wiſh, Mr. Buſhnell ſent one, who appeared more expert than the reſt, from New York, to a fifty-gun ſhip, lying not far from Governor's Iſland. He went under the ſhip, and attempted to fix the wooden ſcrew into her bottom, but ſtruck, as he ſuppoſes, a bar of iron, which paſſes from the rudder hinge, and is ſpiked under the ſhip's quarter. Had he moved a few inches, which he might have done, without rowing, he would probably have found wood where he might have fixed the ſcrew; or, if the ſhip were ſheathed with copper, he might eaſily have pierced it: but not being well ſkilled in the management of the veſſel, in attempting to move to another place, he loſt the ſhip; after ſeeking her in vain, for ſome time, he rowed ſome diſtance, and roſe to the ſurface of the water, but found day-light had advanced ſo far, that he durſt not renew the attempt. The adventurer ſaid that he could eaſily have faſtened the magazine under the ſtem of the ſhip, above water, as he rowed up to the ſtern, and touched it before he deſcended. Had he faſtened it there, the exploſion of 150 pounds of powder (the quantity contained in the magazine), muſt have been fatal to the ſhip. In his return from the ſhip to New York, he paſſed near Governor's Iſland, and thought he was diſcovered by the enemy on the iſland; being in haſte to avoid the danger he feared, he caſt off the magazine, as he imagined it retarded him in the ſwell, which was very conſiderable. After the magazine had been caſt off one hour, the time the internal apparatus was ſet to run, it blew up with great violence.

Afterwards, there were two attempts made in Hudſon's river, above the city, but they effected nothing. One of them was by the afore-mentioned perſon. In going towards the ſhip, he loſt ſight of her, and went a great diſtance beyond her: when he at length found her, the tide ran ſo ſtrong, that, as he deſcended under water, for the ſhip's bottom—it ſwept him away. Soon after this, the enemy went up the river, and purſued the boat which had the ſub-marine veſſel on board; and ſunk it with their ſhot. "Though," ſays Mr. Buſhnell, "I afterwards recovered the veſſel, I found it impoſſible, at that time, to proſecute the deſign any further. I had been in a bad ſtate of health, from the beginning of my undertaking, and was now very unwell; the ſituation of public affairs was ſuch, that I deſpaired of obtaining the public attention, and the aſſiſtance neceſſary. I was unable to ſupport myſelf, and the perſons I muſt have employed, had I proceeded. Beſides, I found it abſolutely neceſſary, that the operators ſhould acquire more ſkill in the management of the veſſel, before I could expect ſucceſs: which would have taken up ſome time, and made no ſmall additional expence. I therefore gave over the purſuit for that time, and waited for a more favourable opportunity, which never arrived."

4. Other experiments made with a deſign to fire ſhipping.—In the year 1777, Mr. Buſhnell made an attempt from a whale-boat againſt the Cerberus frigate, then lying at anchor between Connecticut river and New London, by drawing a machine againſt her ſide, by means of a line. The machine was loaded with powder, to be exploded by a gun-lock, which was to be unpinioned by an apparatus, to be turned by being brought along-ſide of the frigate. This machine fell in with a ſchooner at anchor, aſtern of the frigate, and concealed from his ſight. By ſome means or other it was fired, and demoliſhed the ſchooner and three men; and blew the only one left alive over-board, who was taken up very much hurt.

After this he fixed ſeveral kegs under water, charged with powder, to explode, upon touching any thing, as they floated along with the tide: he ſet them afloat in the Delaware, above the Engliſh ſhipping at Philadelphia, in December, 1777. "I was unacquainted," ſays he, "with the river, and obliged to depend upon a gentleman very imperfectly acquainted with that part of it, as I afterwards found. We went as near the ſhipping as he durſt venture; I believe the darkneſs of the night greatly deceived him, as it did me. We ſet them adrift, to fall with the ebb, upon the ſhipping. Had we been within ſixty rods I believe they muſt have fallen in with them immediately, as I deſigned; but, as I afterwards found, they were ſet adrift much too far diſtant, and did not arrive until after being detained ſome time by froſt, they advanced in the day-time, in a diſperſed ſituation, and under great diſadvantages. One of them blew up a boat with ſeveral perſons in it, who imprudently handled it too freely, and thus gave the Britiſh that alarm which brought on *the battle of the Kegs*."

DIU, an iſland at the entrance of the gulf of Cambay, in the Deccan of Hindooſtan, three miles long and one broad. On it is a large fortified town of the ſame name, built of free-ſtone and marble; and it contains ſome fine churches, erected by the Portugueſe, about the time they took poſſeſſion of the iſland in 1515. The trade of the town, once ſo important, is almoſt entirely removed to Surat. It is 180 miles W. by S. of Surat, and 200 N.W. of Bombay. Long. 69. 52. E. Lat. 20. 43. N.

DIURESIS (from ουρον, *urine*). An exeretion of urine.

DIXAN, the firſt town in Abyſſinia, on the ſide of Taranta. It is built on the top of a conical hill; a deep valley ſurrounds it like a trench, and the road winds ſpirally up the hill till it ends among the houſes. The inhabitants conſiſt of Moors and Chriſtians, whoſe only trade is the ſelling of children. The Chriſtians bring ſuch as they have ſtolen in Abyſſinia to Dixan, where the Moors receive them, and carry them to a market at Maſuah, whence they are ſent to Arabia or India. The prieſts of the province of Tigre are openly concerned in this infamous traffic. Long. 40. 7. E. Lat. 14. 57. N.

DIXMUDE, a town of Auſtrian Flanders, which has been often taken, the laſt time by the French in 1794. It is cele-

brated for its excellent butter, and ſeated on the river Yperlee, ten miles N.W. of Ypres. Long. 2. 57. E. Lat. 51. 2. N.

DIZIER, St. a town of France, in the department of Upper Marne, ſeated on the Marne, where it begins to be navigable for boats, fifteen miles S.E. of Vitri-le-François. Long. 4. 54. E. Lat 48. 35. N.

DNIEPER, anciently the Boriſthenes, a large river of Ruſſia, which riſes in the government of Smolenſko, and flowing in a ſoutherly direction, enters the Black Sea, between Cherſon and Oczakow. From its ſource to its mouth, it now flows entirely through the Ruſſian dominions; and through this whole courſe, of above 800 miles, its navigation is only once interrupted by a ſeries of cataracts, which begin below the mouth of the Samara, and continue for above forty miles; but theſe may be paſſed in ſpring, without much hazard, even by loaded barks. In other ſeaſons of the year, the goods are landed at Kemenſk, oppoſite the mouth of the Samara, and tranſported forty miles by land to Kitchkaſe, ſix miles from the fortreſs of Alexandrowſk, where they are again embarked, and deſcend the ſtream to Cherſon.

DNIESTER, a fine river, which riſes in Galicia, in Auſtrian Poland, and viſits Chockzim, dividing Podolia from Moldavia; it then ſeparates Beſſarabia from the Ruſſian government of Catharinenſlaf, and having watered Bender, falls into the Black Sea, between the mouths of the Dnieper and the Danube.

DOBELIN, a town of Courland, twenty miles S.W. of Mittau. Long. 23. 35. E. Lat. 56. 28. N.

DOBRZIN, a town of Poland, in Maſovia, capital of a territory of the ſame name, ſeated on a rock, near the Viſtula, fourteen miles N.W. of Plockſko. Long. 19. 5. E. Lat. 52. 54. N.

DOCKUM, a town of the United Provinces, in W. Frieſland, at the mouth of the river Ee, ten miles N.E. of Lewarden. Long. 5. 41. E. Lat. 53. 18. N.

DODART (Denys), phyſician of Lewis XIV. and member of the French Academy of Sciences, was born at Paris in 1634. Among other things, he is the author of a Statica Medicina Gallica: and he greatly cultivated the theory of inſenſible perſpiration, treading cloſely in the ſteps of Sanctorius. He made the following experiment upon himſelf. Upon the firſt day of Lent 1677, he weighed 116 pounds and one ounce; after undergoing the diſcipline and abſtinence of Lent, he weighed, on Eaſter Eve, no more than 107 pounds and twelve ounces. He loſt during this ſeaſon, therefore, eight pounds and five ounces. Theſe attentions he is ſaid to have continued for 33 years. He died in 1707, univerſally regretted. He was, ſays Fontenelle, of a moſt religious and ſerious character, yet not auſtere and ſombrous. Guy Patin, who was as covetous of elogies, as he was prodigal of ſatire, called him *monſtrum ſine vitio*, a prodigy of wiſdom and ſcience without any defect.

Claude Dodart, his ſon, who was alſo firſt phyſician to the king, died at Paris in 1720, and left Notes ſur l'Hiſtoire Générale des Drogues, par Pierre Pomey.

DODSWORTH (Roger), ſon of Matthew Dodſworth, regiſtrar of York cathedral, and chancellor to Archbiſhop Matthews, was born July 24, 1585, at Newton-Grange, in the pariſh of St. Oſwald, in Rydale, Yorkſhire: he was a man of wonderful induſtry, but leſs judgment; always collecting and tranſcribing, but never publiſhed any thing. He was eſteemed as an indefatigable collector of the antiquities of York, who undertook and executed a work, which, to the antiquaries of the preſent age, would have been the ſtone of Tydides. One hundred and twenty-two volumes of his own writing, beſides original MSS. which he had obtained from ſeveral hands, making all together 162 volumes folio, now lodged in that grand repoſitory of our ancient muniments the Bodleian Library at Oxford, are laſting memorials what this country owes to him, as the two volumes of the Monaſticon (which though publiſhed under his and Dugdale's names conjointly, were both collected and written totally by him) will immortaliſe that extenſive induſtry which has laid the whole kingdom under obligation. The patronage of General Fairfax preſerved this treaſure, and bequeathed it to the library where it is now lodged. Fairfax preſerved alſo the fine windows of York cathedral; and when St. Mary's tower, in which were lodged innumerable records, both public and private, relating to the northern parts, was blown up during the ſiege of York, he gave money to the ſoldiers who could ſave any ſcattered papers, many of which are now at Oxford; though Dodſworth had tranſcribed and abridged the greateſt part before. Fairfax allowed Dodſworth a yearly ſalary to preſerve the inſcriptions in churches.

Fairfax died in 1671; his nephew Henry Fairfax, Dean of Norwich, gave Roger Dodſworth's 160 volumes of collections to the univerſity of Oxford; but the MSS. were not brought thither till 1673, and then in wet weather, when Wood with much difficulty obtained leave of the vice-chancellor to have them brought into the muniment-room in the ſchool-tower, and was a month drying them on the leads. Dodſworth died in Auguſt 1654, and was buried at Rufford, Lancaſhire.

DOEL, a town of Dutch Flanders, on the river Scheld, oppoſite Lillo, nine miles N.W. of Antwerp. Long. 4. 15. E. Lat. 51. 17. N.

DOG (*Encycl.*). By ſtat. 38 Geo. III. c. 41. ſ. 2. there ſhall be paid, from and after April 5, 1798, in lieu of the old duties repealed, the following rates and duties for every dog of the ſeveral deſcriptions herein-after mentioned, kept by or for the uſe of any perſon:

Number of dogs.	Duties payable for each dog.
For every greyhound, hound, pointer, ſetting dog, ſpaniel, lurcher, or tarrier, and for every dog of whatever deſcription or denomination the ſame may be, where any perſon ſhall keep two or more dogs - - -	£.0 6 0
For any dog (not being a greyhound, hound, ſetting dog, ſpaniel, lurcher, or terrier) kept by or for the uſe of any perſon inhabiting a dwelling-houſe, aſſeſſed to any of the duties on houſes, windows, or lights, or on inhabited houſes, where one ſuch dog and no more ſhall be kept by or for the uſe of ſuch perſon -	£.0 4 0

The ſaid duties to be paid by the perſons reſpectively keeping ſuch dogs, or for whoſe uſe the ſame ſhall be kept, and to be ſubject to all the exemptions contained in any act in force; and alſo to the regulations contained in the act of the 36th George III. which act contains the following proviſions:—

1ſt, That the duty ſhall not extend to dogs not ſix months old, the proof of which is to lie on the owner, on an appeal to the commiſſioners.

2dly, If any perſon ſhall be deſirous of compounding for the number of hounds by him kept, and ſhall give notice thereof to the collector, and ſhall pay within thirty days after April 5, yearly, the ſum of 24l. ſuch perſon ſhall not be liable to be aſſeſſed in reſpect of any hounds by him kept in the preceding year; and if they are kept in two or more pariſhes, he ſhall give notice in which pariſh ſuch compoſition is intended to be made. 38 Geo. III. c. 41. ſ. 2.

DOGADO, a province of the late Venetian ſtates, in

which is the capital. It is bounded on the E. by the gulf of Venice, on the S. by Polesino, on the W. by Paduano, and on the north by Trevisano. It comprehends many small islands near it, called the LAGUNES OF VENICE.

DOGGET (Thomas), an author and an actor, was born in Castle-street, Dublin, and made his first theatrical attempt on the stage of that metropolis; but not meeting with the encouragement there that his merit undoubtedly deserved, he came over to England, and entered himself in a travelling company, but from thence very soon was removed to London, and established in Drury-Lane and Lincoln's-Inn-Fields theatres, where he was universally liked in every character he performed, but shone in none more conspicuously than those of Fondlewife in the Old Batchelor, and Ben in Love for Love, which Mr. Congreve, with whom he was a very great favourite, wrote in some measure with a view to his manner of acting.

In a few years after he removed to Drury-Lane theatre, where he became joint-manager with Wilks and Cibber, in which situation he continued, till on a disgust he took in the year 1712, at Mr. Booth's being forced on them as a sharer in the management, he threw up his part in the property of the theatre, though it was looked on to have been worth 1000l. per annum. He had, however, by his frugality, saved a competent fortune to render him easy for the remainder of his life, with which he retired from the hurry of business in the very meridian of his reputation. As an actor he had great merit, and his contemporary Cibber informs us that he was the most original and the strictest observer of nature, of any actor of his time. His manner, though borrowed from none, frequently served for a model to many; and he possessed that peculiar art which so very few performers are masters of, viz. the arriving at the perfectly ridiculous, without stepping into the least impropriety to attain it. And so extremely careful and skilful was he in the dressing of his characters to the greatest exactness of propriety, that the least article of what he wore seemed in some measure to speak and mark the different humour he presented;—a necessary care in a comedian, in which many performers are but too remiss. He died Sept. 22, 1721.

Dogget, in his political principles, was a "Whig up to the head and ears;" and so strictly was he attached to the interests of the house of Hanover, that he never let slip any occasion that presented itself of demonstrating his sentiments in that respect. One instance, among others, is well known, which is, that the year after George I. came to the throne, this performer gave a waterman's coat and silver badge, to be rowed for by six watermen, on the 1st day of August, being the anniversary of that king's accession to the throne. And at his death bequeathed a certain sum of money, the interest of which was to be appropriated annually, for ever, to the purchase of a like coat and badge, to be rowed for in honour of that day. Which ceremony is every year performed on the 1st of August, the claimants setting out on a signal given at that time of the tide when the current is strongest against them, and rowing from the Old Swan near London-Bridge, to the White Swan at Chelsea.

As a writer, Dogget has left behind him only one comedy, which has not been performed in its original state for many years, entitled, The Country Wake. C. 1696, 4to. It has been altered however into a ballad farce, which frequently makes its appearance under the title of, Flora, or Hob in the Well.

DOL, a town of France, in the department of Isle and Vilaine. It was lately an episcopal see, and is situate in a morass, five miles from the sea, and 21 S.E. of St. Malo. Long. 1. 41. W. Lat. 48. 33. N.

DOLCE-AQUA, a town of Piedmont, capital of a marquisate of the same name, with a castle. It is seated on the Nervia, five miles N. of Vintimiglia. Long. 7. 42. E. Lat. 43. 58. N.

DOLCIGNO, a strong town of Albania, with a bishop's see, a good harbour, and a citadel. It is seated on the Drino, 10 miles S.E. of Antivari. Long. 19. 20. E. Lat. 42. 12. N.

DOLE, a town of France, in the department of Jura, seated on the river Doubs, 35 miles S.W. of Besançon. Long. 5. 38. E. Lat. 47. 6. N.

DOLET (Stephen), a very learned man, and memorable for being burnt at Paris for his opinions in religion, was born at Orleans in 1508. He applied himself to reform the French language, and polish it from the barbarity with which it was incrusted; nay, what is more, as Baillet tells us, he thought himself destined by Heaven to this task, and set himself to compose some treatises on the matter; but the public, it seems, was not disposed to listen to his pretended vocation. He wrote some Latin and French verses, which in Bayle's judgment are not amiss; for as to the severity and contempt with which Julius Scaliger treated him and his poetry, it has no weight with Bayle, who imputes it to a private motive of resentment, which Scaliger had conceived against Dolet, for interfering with him in defending the Ciceronians against the ridicule of Erasmus. Dolet's attempts to promote good literature gained him a great share in the affection of Castellan, who was a very learned prelate, and much beloved by Francis I. whose natural son, by the way, Dolet is said to have been; though Bayle is of opinion, that Francis was too young, when Dolet was born, to have been his father. We must not forget to observe, that Dolet, though a learned man and an author, was in the mean time a printer and bookseller at Lyons, and printed some of his own writings. He would have printed the French translation of most of Plato's works, which he himself had made, if he had lived; this translation however he must have made from the Latin, which he understood well, and not from the Greek, which he is said not to have understood at all. The first time he was imprisoned for religion, his friend Castellan interceded for him, and got him released, upon his promising to be a good Catholic. But Dolet relapsing into his former licentious way, nobody durst appear for him when he was imprisoned the second time: so that, being abandoned to the fury of the inquisitors, he was condemned to be burnt to death for atheism, and not for Lutheranism as some have declared: this punishment he underwent August 3, 1546, which was the day of his nativity. A letter was published by Almeveloeen, in his Amœnitates Theologico-Philologicæ, printed at Amsterdam in 1694, which testifies, that Dolet recommended himself to the holy Virgin, and to St. Stephen, a little before he was strangled, but these kind of testimonies are much to be suspected.

DOLGELLY, a town in Merionethshire, with a market on Tuesday. It is seated on the river Avon, in a vale so called, and at the foot of the great rock Cader-Idris, which is extremely high. It has a good manufacture of Welsh cotton, and is 31 miles N.W. of Montgomery, and 205 of London. Long. 9. 48. W. Lat. 52. 42. N.

DOLLART BAY, a large gulf, separating E. Friesland, in Germany, from Groningen, one of the United Provinces.

DOMAZLIZE, a town of Bohemia, in the circle of Pilsen, remarkable for a battle fought between the crusaders and the Hussites in 1466, to the great disadvantage of the former. It was taken by the Swedes in 1541. It is seated on the river Cadbuza, 17 miles S. of Pilsen.

DOMBACA, a ſmall iſland near the coaſt of Ava, in the Bay of Bengal. Long. 94. 35. E. Lat. 17. 32. N.

DOMBES, a late principality and ſmall country of France, in Burgundy, of which Trevoux was the capital. It is now part of the department of Ain.

DOMBROWAZ, a town of Poland, in the palatine of Lemberg, 60 miles S.W. of Lemberg.

DOMFRONT, a town of France, in the department of Orne, ſeated on a craggy rock, which has a large cleft from the ſummit to the baſe, through which flows the little river Varenne. It is 35 miles N.W. of Alençon. Long. 0. 43. W. Lat. 48. 38. N.

DOMICILE, in Scots law, is the dwelling-place where a perſon lives with an intention to remain.

DOMINIUM EMINENS, in Scots law, that power which the ſtate or ſovereign has over private property, by which the proprietor may be compelled to ſell it for an adequate price where public utility requires.

DOMINIUM *Directum*, in Scots law, the right which a ſuperior retains in his lands, notwithſtanding the feudal grant to his vaſſal.

DOMINIUM *Utile*, in Scots law, the right which the vaſſal acquires in the lands by the feudal grant from his ſuperior.

DOMINO, ST. one of the Tremiti Iſlands, in the gulf of Venice, 15 miles from the coaſt of Naples.

DOMITZ, a town of Mecklenberg Schwerin, with a fort, ſeated at the confluence of the Elbe and Elve, 25 miles S. of Schwerin. Long. 11. 41. E. Lat. 53. 15. N.

DOMMEL, a river of Brabant, which receives the Aa below Bois-le-Duc, and then falls into the Meuſe.

DOMO-D'OSSOLA, a town of Italy, in the duchy of Milan, with a caſtle, ſeated on the Toſa, at the foot of the Alps, 20 miles N. of Varallo.

DOMPAIRE, a town of France, in the department of the Voſges, formerly the reſidence of the kings of Auſtraſia and dukes of Lorrain, 10 miles W.N.W. of Epinal.

DOMREMY-LA-PUCELLE, a village of France, in the department of Meuſe, remarkable for the birth of Joan of Arc, the Maid of Orleans. It is ſeated on the Meuſe, five miles from Neufchateau.

DON, a river in Yorkſhire, which waters Sheffield, Rotheram, and Doncaſter, and joins the Aire near its termination with the Ouſe.

DONAGHADEE, a ſea-port of Ireland, in the county of Down, 20 miles W. by S. of Port Patrick, in Scotland, between which two places a packet-boat ſails every day.

DONATUS (JEROM), a nobleman of Venice, who died in the beginning of the 16th century. He was very uſeful to his country; ſerved it as a commander more than once: and was the means of reconciling that republic and pope Julius II. though he had the misfortune to be carried off by a violent fever at Rome before the treaty was concluded between them. He was alſo a man of learning: and publiſhed a tranſlation of Alexander Aphrodiceus de Anima. His letters are likewiſe well written; which made Eraſmus ſay of him, that he was capable of performing any thing in the way of learning, if his mind had not been diſſipated by other employments. Pierius Valerianus has placed him in the liſt of unfortunate learned men, for which he gives three reaſons: firſt, becauſe his domeſtics obeyed him ill; ſecondly, becauſe he did not live to ſee the happineſs which would ariſe to his country from the concluſion of his treaty; thirdly, becauſe a great many books, which he had written to immortaliſe his name, remained unpubliſhed. Now, as it ſeems to us, the firſt of theſe grievances might have been redreſſed; the ſecond was no grievance at all, ſince he had actually attained his point; and, thirdly, we cannot think it any misfortune to a dead man, that ſuch a number of ſyllables, as uſed to compoſe his name, are no longer put together and ſounded amongſt the living.

DONAUESCHINGEN, or DONESCHINGEN, a town of Suabia, in the principality of Furſtenburg. It is the chief reſidence of the prince; in the court-yard of whoſe palace are ſome ſprings, collected in a reſervoir about 30 feet ſquare, from which iſſues a little brook; and though the rivulets Bribach and Brege, uniting below the town, are far more conſiderable than this ſtream, which flows into them ſoon after their junction, yet has this alone the honour of being called the head of the Danube.

DONCHERRY, a town of France, in the department of Ardennes, ſeated on the Meuſe, three miles from Sedan. Long. 5. 2. E. Lat. 49. 42. N.

DONEGAL, a county of Ireland, in the province of Ulſter, 68 miles long and 44 broad; bounded on the E. by Londonderry and Tyrone, on the W. and N. by the ocean, and on the S. by Fermanagh and the bay of Donegal. It contains 40 pariſhes, and ſends 12 members to parliament. It is in general a champaign country, and abounds with harbours.

DONEGAL, a town of Ireland, capital of a county of the ſame name, ſeated on the bay of Donegal, 10 miles N. of Ballyſhannon. Long. 7. 47. W. Lat. 54. 42. N.

DONERAILE, a town of Ireland, in the county of Cork. Near it are quarries of beautiful variegated marble. It is ſituate on the Awbeg, 19 miles N.W. of Cork, and 113 S.W. of Dublin. Long. 8. 42. W. Lat. 52. 5. N.

DONGALA, or DONCALA, a town of Nubia, with a caſtle. It contains 10,000 houſes of wood, and is ſeated on the Nile, among mountains, 150 miles N. of Sennar. Long. 30. 35. E. Lat. 21. 0. N.

DONJON, a town of France, in the department of Allier, 24 miles S.E. of Moulins. Long. 3. 42. E. Lat. 46. 21. N.

DONZY, a town of France, in the department of Nievre, 22 miles N. of Nevers. Long. 3. 14. E. Lat. 47. 22. N.

DOOAB, or DOABAH, a fertile tract of Hindooſtan Proper, between the Ganges and Jumna, and formed by the confluence of thoſe rivers. It is ſo named by way of eminence; the word ſignifying a tract of land formed by the approximation of two rivers. The principal part of it is ſubject to the nabob of Oude.

DOON, LOCH, a lake of Ayrſhire, in the diſtrict of Kyle, ſix miles in length, and of conſiderable breadth. On an iſland in this lake ſtands Balloch Caſtle.

DOON, a river of Scotland, which iſſues from Loch Doon, and taking a N.W. direction, divides the diſtrict of Kyle from Carrick, the ſouthern diviſion of Ayrſhire, and falls into the frith of Clyde.

DOOR-CLOSER, a machine or contrivance, calculated to be morticed into the bottom of a door, in order to keep the wind from coming in, and ſo that the door may yet paſs freely over the carpet, &c. It is ſhewn in Plate 20, where,

Fig. 1. repreſents the machine laid open to ſhew the work.

Fig. 2. the ſame repreſented as if the door were ſhut.

a, A ſpring, which, when the door is open, by compreſſing the inner ends of the rods, *bb*, turning on the centres, *cc*, cauſe the outer ends to riſe along with the ſlip of wood, *d*, by which the door may paſs over the carpet; *e* is the end of one rod, which, when ſhut againſt the ſtrikening-plate, *f*, on the door-poſt, cauſes the ſlip of wood, *d*, to cloſe on the floor, and prevent any wind coming underneath the door.

DORAN, a town of Arabia, in Yemen, 28 miles S. of Sanaa. Long. 44. 4. E. Lat. 14. 55. N.

DORAT, a town of France, in the department of Upper

Vienne, ſeated on the Abran, near its junction with the Sevre, 25 miles N. of Limoges. Long. 1. 24. E. Lat. 46. 12. N.

DORCHESTER, a town in Oxfordſhire, which was a ſtation of the Romans, and ruined in the wars with the Danes. It was a biſhop's ſee, till 1086, when William the Conqueror tranſlated it to Lincoln; and it had five ſtately churches, though now but one. It gives the title of baron to the family of Carleton, and is ſeated on the Tame, 10 miles S E. of Oxford, and 49 W.N.W. of London. Long. 1. 0. W. Lat. 51. 39. N.

DORDOGNE, a department of France, which includes the late province of Perigord. It receives its name from a river, which riſes in the mountains of Auvergne, and falls into the Garonne, near Bourdeaux.

DORN, a village in a detached part of Worceſterſhire, three miles S.E. of Camden in Glouceſterſhire. The Roman foſſiway runs through it. There are evident tokens of its antiquity, and of its having been a Roman colony; abundance of coins, both Roman and Britiſh, having been found here.

DORNBURG, a town of Upper Saxony, in the principality of Weimar, 14 miles E. of Weimar.

DORNOCH, the county-town of Sutherlandſhire, at the entrance of a frith of the ſame name, over which it has a ferry to Tain. It is a ſmall place, and half in ruins, but was the reſidence of the biſhops of Caithneſs. Part of the cathedral ſerves for the pariſh church; the other part is in ruins. It is 40 miles N.E. of Inverneſs. Long. 3. 48. W. Lat. 57. 52. N.

DORPT, or Dorpat, a town of Livonia, on the Ember, between the lakes Woſero and Pepas, 60 miles S. of Narva. Long. 27. 52. E. Lat 58. 18. N.

DORSTEN, a town of Germany, in the circle of Lower Rhine. Though ſtrong, it was ſeveral times taken and retaken by the Swedes and Heſſians during the long war of Germany. It is ſeated on the Lippe, 30 miles N. of Duſſeldorf, and 31 S.W. of Munſter. Long. 6. 50. E. Lat. 51. 42. N.

DOUBLE-EMPLOYMENT (*Encycl.*). With reſpect to what M. D'Alembert adds in his Elements of Muſic, p. 80, and which he repeats in the Encyclopédie, article Double-emplai, viz. that the chord of the ſeventh *re fa la ut*, though we ſhould even regard it only as an inverſion of *fa la ut re*, cannot be followed by the chord *ut mi ſol ut*; "I cannot (ſays Rouſſeau) be of his opinion in this point.

"The proof which he gives for it is, that the diſſonance *ut* of the firſt chord cannot be reſolved in the ſecond; and this is true, ſince it remains in its place: but in this chord of the ſeventh *re fa la ut*, inverted from this chord of the ſuperadded ſixth *fa la ut re*, it is not the *ut*, but the *re*, which is the diſſonance; which, of conſequence, ought to be reſolved in aſcending upon *mi*, as it really does in the ſubſequent chord; ſo that this procedure in the baſs itſelf is forced, which, from *re*, cannot without an error return to *ut*, but ought to aſcend to *mi*, in order to reſolve the diſſonance.

"M. D'Alembert afterwards ſhews, that this chord *re fa la ut*, when preceded and followed by that of the tonic, cannot be authoriſed by the double-employment: and this is likewiſe very true; becauſe this chord, though figured with a 7, is not treated as a chord of the ſeventh, neither when we make our entrance to it, nor our exit from it; or at leaſt that it is not neceſſary to treat it as ſuch, but ſimply as an inverſion of the ſuperadded ſixth, of which the diſſonance is the baſs: in which caſe we ought by no means to forget, that this diſſonance is never prepared. Thus, though in ſuch a tranſition the double-employment is not in queſtion, though the chord of the ſeventh be no more than apparent, and impoſſible to be reſolved by the rules, this does not hinder the tranſition from being proper and regular, as I have juſt proved to theoriſts, and as I ſhall immediately prove to practical artiſts, by an inſtance of this tranſition; which certainly will not be condemned by any one of them, nor juſtified by any other fundamental baſs except my own. (See the Muſical Dictionary, Plate D, fig. 14.)

"I acknowledge, that this inverſion of the chord of the ſixth ſuperadded, which transfers the diſſonance to the baſs, has been cenſured by M. Rameau. This author, taking for a fundamental chord the chord of the ſeventh, which reſults from it, rather choſe to make the fundamental baſs deſcend diatonically, and reſolve one ſeventh by another, than to unfold this ſeventh by an inverſion. I had diſſipated this error, and many others, in ſome papers which long ago had paſſed into the hands of M. D'Alembert, when he was compoſing his Elements of Muſic; ſo that it is not his ſentiment which I attack, but my own opinion which I defend."

For what remains, the double-employment cannot be uſed with too much reſerve, and the greateſt maſters are the moſt temperate in putting it in practice.

DOUBLET (*Encycl.*). The manner of making doublets is as follows:

Let the cryſtal or glaſs be firſt cut by the lapidaries in the manner of a brilliant, except that, in this caſe, the figure muſt be compoſed from two ſeparate ſtones, or parts of ſtones, formed in the manner of the upper and under parts of a brilliant, if it was divided in an horizontal direction, a little lower than the middle. After the two plates of the intended ſtone are thus cut, and fitted ſo exactly that no diviſion can appear when they are laid together, the upper part muſt be poliſhed ready for ſetting; and then the colour muſt be put betwixt the two plates by this method. "Take of Venice or Cyprus turpentine two ſcruples; and add to it one ſcruple of the grains of maſtich choſen perfectly pure, free from foulneſs, and previouſly powdered. Melt them together in a ſmall ſilver or braſs ſpoon ladle, or other veſſel, and put to them gradually any of the coloured ſubſtances below mentioned, being firſt well powdered; ſtirring them together as the colour is put in, that they may be thoroughly commixed. Warm then the doublets to the ſame degree of heat as the melted mixture; and paint the upper ſurface of the lower part, and put the upper one inſtantly upon it, preſſing them to each other, but taking care that they may be conjoined in the moſt perfectly even manner. When the cement or paint is quite cold and ſet, the redundant part of it, which has been preſſed out of the joint of the two pieces, ſhould be gently ſcraped off the ſide, till there be no appearance of any colour on the outſide of the doublets: and they ſhould then be ſkilfully ſet; obſerving to carry the mounting over the joint, that the upper piece may be well ſecured from ſeparating from the under one."

The colour of the ruby may be beſt imitated, by mixing a fourth part of carmine with ſome of the fineſt crimſon lake that can be procured.

The ſapphire may be counterfeited by very bright Pruſſian blue, mixed with a little of the above-mentioned crimſon lake, to give it a caſt of the purple. The Pruſſian blue ſhould not be very deep-coloured, or but little of it ſhould be uſed: for otherwiſe, it will give a black ſhade that will be injurious to the luſtre of the doublets.

The emerald may be well counterfeited by diſtilled verdigreaſe, with a little powdered aloes. But the mixture ſhould not be ſtrongly heated, nor kept long over the fire after the verdigreaſe is added: for the colour is to be ſoon impaired by it.

The reſemblance of the garnet may be made by dragon's blood; which, if it cannot be procured of ſufficient brightneſs, may be helped by a very ſmall quantity of carmine.

The amethyſt may be imitated by the mixture of ſome

Pruſſian blue with the crimſon lake; but the proportions can only be regulated by directions, as different parcels of the lake and Pruſſian blue vary extremely in the degree of ſtrength of the colour.

The yellow topazes may be counterfeited by mixing powdered alocs with a little dragon's blood, or by good Spaniſh anotto: but the colour muſt be very ſparingly uſed, or the tinge will be too ſtrong for the appearance of that ſtone.

The chryſolite, hyacinth, vinegar garnet, eagle marine, and other ſuch weaker or more diluted colours, may be formed in the ſame manner, by leſſening the proportions of the colours, or by compounding them together correſpondently to the hue of the ſtone to be imitated; to which end it is proper to have an original ſtone, or an exact imitation of one, at hand when the mixture is made, in order to the more certain adapting the colours to the effect deſired: and when theſe precautions are taken, and the operation well conducted, it is practicable to bring the doublets to ſo near a reſemblance of the true ſtones, that even the beſt judges cannot diſtinguiſh them, when well ſet, without a peculiar manner of inſpection.

DOUBS, a department of France, including part of the late province of Franche Comté. It is ſo named from a river which falls into the Rhone.

DOUE, a ſmall town of France, in the department of Maine and Loire. It has one of the fineſt fountains in France; and near it is a vaſt Roman amphitheatre, cut out of the ſolid rock. It had, in the time of the monarchy, a conſiderable manufacture of druggets and tammies. It is nine miles S.W. of Saumer.

DOVE, a river in Derbyſhire, which riſes in the Peak, parts the county from Staffordſhire, and falls into the Trent, four miles N. of Burton.

DOVEDALE, one of the moſt romantic ſpots in Derbyſhire, in the neighbourhood of Aſhborn. Here the river Dove runs in a chaſm between precipitous rocks.

DOUERO, or DOURO, a river of Spain, which riſes in Old Caſtile, in the mountains of Urbion, runs W. by ſeveral towns, and croſſing Portugal, falls into the Atlantic Ocean, near Oporto.

DOUGLAS, CAPE, a lofty promontory, on the W. coaſt of America, within the entrance of Cook's Inlet. Its ſummit appears above the clouds, forming two very high mountains. Long. 153. 30. W. Lat. 58. 56. N.

DOUGLAS (Gavin), biſhop of Dunkeld in Scotland, was the third ſon of Archibald earl of Angus, and born in the year 1474. Where he was educated, is not known; but it is certain that he ſtudied theology: a ſtudy, however, which did not eſtrange him from the muſes; for he employed himſelf at intervals in tranſlating into beautiful verſe the poem of Ovid *de Remedio Amoris*. The advantages of foreign travel, and the converſation of the moſt learned men in France and Germany, to whom his merit procured the readieſt acceſs, completed his education. With his ſuperior recommendations and worth, it was impoſſible he could remain unnoticed. His firſt preferment was to be provoſt of the collegiate church of St. Giles in Edinburgh; a place, at that time, of great dignity and revenue. In the year 1514, the queen mother, then regent of Scotland, appointed Douglas, abbot of Aberbrothock, and ſoon after archbiſhop of St. Andrew's; but, the queen's power not being ſufficient to eſtabliſh him in the poſſeſſion of that dignity, he relinquiſhed his claim in favour of his competitor Foreman, who was ſupported by the pope. In 1515 he was by the queen appointed biſhop of Dunkeld; and that appointment was ſoon after confirmed by his holineſs Leo X. Nevertheleſs it was ſome time before he could obtain peaceable poſſeſſion of his ſee. The duke of Albany, who in this year was declared regent, oppoſed him becauſe he was ſupported by the queen; and, in order to deprive him of his biſhopric, accuſed him of acting contrary to law in receiving bulls from Rome. On this accuſation he was committed to the caſtle of Edinburgh, where he continued in confinement above a year; but the regent and the queen being at laſt reconciled, he obtained his liberty, and was conſecrated biſhop of Dunkeld. In 1517 he attended the duke of Albany to France; but returned ſoon after to Scotland. In 1521, the diſputes between the earls of Arran and Angus having thrown the kingdom into violent commotion, our prelate retired to England, where he became intimately acquainted with Polydore Virgil the hiſtorian. He died in London, of the plague, in 1522; and was buried in the Savoy.

He wrote, 1. The Palace of Honour: a moſt ingenious poem under the ſimilitude of a viſion; in which he paints the vanity and inconſtancy of all worldly glory. It abounds with incidents, and a very rich vein of poetry. The palace of happineſs, in the picture of Cebes, ſeems to be the ground-work of it.—2. Aureæ Narrationes: a performance now loſt; in which, it is ſaid, he explained, in a moſt agreeable manner, the mythology of the poetical fictions of the ancients.—3d Comœdiæ aliquot Sacræ: none of which are now to be found. 4. Thirteen Bukes of Eneades, of the famoſe Poet Virgil, tranſlatat out of Latin verſes into Scottiſh metre, every buke having its particular prologe. Imprinted at Lond. 1553, in 4to.; and reprinted at Edinburgh 1710, in folio.—The laſt is the moſt eſteemed of all his works. He undertook it at the deſire of Lord Henry Sinclair, a munificent patron of arts in thoſe times: and he completed it in 18 months; a circumſtance which his admirers are too fond of repeating to his advantage. David Hume of Godſcroft, an author of uncommon merit, and an admirable judge of poetry, gives the following teſtimony in his favour: "He wrote (ſays he), in his native tongue, divers things; but his chiefeſt work is his tranſlation of Virgil, yet extant, in verſe: in which he ties himſelf ſo ſtrictly as is poſſible; and yet it is ſo well expreſſed, that whoſoever will eſſay to do the like, will find it a hard piece of work to go through with it. In his prologues before every book where he hath his liberty, he ſheweth a natural and ample vein of poetry, ſo pure, pleaſant, and judicious, that I believe there is none that hath written before or ſince, but cometh ſhort of him."

It has been ſaid, that he compiled an hiſtorical treatiſe De Rebus Scoticis; but no remain of it hath deſcended to the preſent times.

DOULAINCOURT, a town of France, in the department of Upper Marne, 10 miles S.W. of Joinville.

DOURAK, a town of Perſia, near the confluence of the Euphrates and Tigris, remarkable for the reed of which they make pens. Long. 56. 57. E. Lat. 32. 15. N.

DOURDAN, a Town of France, in the department of Seine and Oiſe, with a manufacture of ſilk and worſted ſtocking. It is ſeated on the Orge, 25 miles S. W. of Paris. Long. 2. 10. E. Lat. 48. 35. N.

DOURLACH, a town of Suabia, capital of Baden Dourlach. It was burnt by the French in 1689. The inhabitants are Proteſtants. It is ſeated on the Gieſſen, 12 miles S. of Philipſburg. Long. 9. 28. E. Lat. 49. 2. N.

DOURLENS, or DOULENS, a town of France, in the department of Somme, with two citadels. It is ſeated on the Autie, 15 miles N. of Amiens. Long. 2. 23. E. Lat. 50. 10. N.

DOUSA (Janus), a very learned man, was born of a noble family at Nortwick in Holland, in 1545. He loſt his parents when very young, and was ſent to ſeveral ſchools; to one at Paris, among the reſt, where he made a great progreſs in Greek and Latin learning. When he had finiſhed his educa-

tion, he returned to his own country, and married; and though he was ſcarcely grown up, he applied himſelf to affairs of ſtate, and was ſoon made a curator of the banks and ditches, which poſt he held above twenty years, and then reſigned it. Douſa was not only a ſcholar and a ſtateſman, but likewiſe a ſoldier; and he behaved himſelf ſo well in that capacity at the ſiege of Leyden 1574, that the Prince of Orange thought he could commit the government of the town to none ſo properly as to him. In 1575 the univerſity was founded there, and Douſa made firſt curator of it; which place he was very fit for, as well on account of his learning, as for his other deſerts. His learning was indeed prodigious; and he had ſuch a memory, that he could at once give an anſwer to any thing that was aſked him, relating to ancient or modern hiſtory, or, in ſhort, to any branch of literature. He was, ſays Melchior Adam, and Thuanus ſays the ſame, a kind of living library; the Varro of Holland, and the oracle of the univerſity of Leyden. His genius lay principally towards poetry, and his various productions in that way were numerous; and what ſeems remarkable enough, he compoſed the annals of his own country, which he had collected from the public archives, in verſe. He wrote alſo a great many things in the critical way; as, notes upon Horace, Salluſt, Plautus, Petronius, Catullus, Tibullus, &c. His moral qualities are ſaid to have been no leſs meritorious, than his intellectual and literary; for he was modeſt, humane, benevolent, and open. He was admitted into the ſupreme aſſembly of the nation, where he kept his ſeat, and diſcharged his office worthily, for the laſt thirteen years of his life. He died in 1604, and his funeral oration was made by Daniel Heinſius.

He left four ſons behind him; the eldeſt of which, Janus Dauſa, would, had he lived, have been a more extraordinary man than his father. Joſeph Scaliger called him the ornament of the world; and ſays, that in the flower of his age he had reached the ſame maturity of wiſdom and erudition, as others might expect to reach after a life ſpent in ſtudy. Grotius alſo aſſures us, that his poems exceeded thoſe of his father; and that he aſſiſted his father in compoſing the Annals of Holland. He was born in 1572; and before he was well out of infancy, became, through the great care of his father, not only a good linguiſt and poet, but alſo a good philoſopher and mathematician. To all this he afterwards added an exquiſite knowledge of the civil law and of hiſtory. Beſides a great many poems, which he compoſed in a very tender age, we have notes and obſervations which he made upon ſeveral Latin poets. Thoſe upon Plautus were the produce of his 16th year; and he was not above 19 when he publiſhed his book De Rebus Cœleſtibus, and his Panegyric upon a Shadow. His commentaries upon Catullus, Tibullus, and Propertius, were publiſhed the ſame year. His extraordinary fame and merit cauſed him to be made preceptor to the Prince of Orange, and afterwards firſt librarian of the univerſity of Leyden. He died at the Hague, in his return from Germany; very immaturely, for his death happened in 1597, when he had not quite completed his 26th year.

Douſa's three other ſons, George, Francis, and Theodorus, were all of them men of learning, though not ſo much above the common rate as Janus was. George was a good linguiſt; travelled to Conſtantinople; and publiſhed a relation of his journey, with ſeveral inſcriptions which he found there and elſewhere. Alſo, in 1607, he printed George Cedrenus's book, entitled, De Originibus urbis Conſtantinopolitanæ, with Meurſius's notes upon it. Francis was far from wanting learning: for, in 1600, he publiſhed the epiſtles of Julius Cæſar Scaliger; his annotations upon Ariſtotle's Hiſtory of Animals; and ſome fragments of Lucilius, with notes of his own upon them. Theodorus, lord of Barkenſtyen, publiſhed the Chronicon of George Logotheta with notes, in 1614; and, in 1638, wrote a treatiſe, called Farrago Ethica variarum Linguarum, variorumque auctorum, &c.

DOWLATABAD, formerly called Amednagur, a province of the Deccan of Hindooſtan. It is bounded on the N. by Candeiſh and Malway, on the W. by the Gauts, on the S. by Viſiapour and Golconda, and on the E. by Berar. Aurungabad is the capital.

Dowlatabad, a fortreſs in the Deccan of Hindooſtan, 15 miles N.W. of Aurungabad. In the neighbourhood are the pagodas of Elora, moſt of which are cut out of the natural rock. Long 76. 0. E. Lat. 19. 55. N

DRABICIUS (Nicholas), a celebrated enthuſiaſt, was born about 1587, at Stranſnitz in Moravia, where his father was burgomaſter. He was admitted miniſter in 1616, and exerciſed his function at Drakotutz; and, when he was obliged to ſeek a retreat in foreign countries, on account of the ſevere edicts of the emperor againſt the Proteſtant religion, he retired to Leidnitz, a town in Hungary, in 1629. Having no hopes of being reſtored to his church, he turned woollen-draper; in which occupation his wife, who was the daughter of one, was of great ſervice to him. Afterwards he forgot the decorum of his former character ſo much that he became a hard drinker; but the other miniſters, juſtly diſpleaſed at his conduct, informed their ſuperiors of it, who, in a ſynod which was called in Poland, examined into the affair. Here it was reſolved, that Drabicius ſhould be ſuſpended from the miniſtry, if he did not live in a more edifying manner; and this obliged him to behave himſelf with more decency.

When he was upwards of 50 years of age, he commenced prophet. He had his firſt viſion in the night of Feb. 23, 1638, and the ſecond in the night of Jan. 23, 1643. The firſt viſion promiſed him in general great armies from the North and Eaſt, which ſhould cruſh the houſe of Auſtria; the ſecond declared particularly, that Ragotſki, prince of Tranſylvania, ſhould command the army from the Eaſt, and ordered Drabicius to inform his brethren, that God was about to reſtore them to their own country, and to revenge the injuries done to his people; and that they ſhould prepare themſelves for this deliverance by faſting and prayer. He received orders to write down what had been revealed to him; and to begin in the manner of the ancient prophets, "The words of the Lord came unto me." His viſions, however, were not paid much regard to at firſt. Theſe two were followed by many others in the ſame year 1643; and there was one, which ordered, that he ſhould open the whole affair to Comenius, who was then at Elbing in Pruſſia. One of his viſions in 1644 aſſured him, that the imperial troops ſhould not deſtroy the refugees. They committed great ravages upon the territories of Ragotſki, plundered the town of Leidnitz, and beſieged the caſtle. Drabicius ſhut himſelf up there, and did not depend ſo entirely upon the Divine aſſurances, as to think human means unneceſſary. He even ſet his hand to the work: and fired one of the cannon himſelf. The Imperialiſts raiſed the ſiege; but ſoon after, beſieged the place again, and took it. The refugees were plundered, and Dabricius fell into the hands of the Imperialiſts. This did not prevent him from going to Ragotſki, and telling him, Aug. 1645, that God commanded him to deſtroy the houſe of Auſtria and the pope; and that, "if he refuſed to attack that neſt of vipers, he would draw down upon his family a general ruin, which ſhould not ſpare even him that piſſeth againſt the wall." The prince already knew, that Drabicius had aſſumed the character of a prophet: for Drabicius, according to the repeated orders which he had received in his extaſies, had ſent him a copy of his revelations, which Ragotſki threw into the fire. The death of that prince, in Oct. 1647, plunged Drabicius into extreme ſorrow; who

was in the utmoſt fear, leſt his revelation ſhould vaniſh into ſmoke, and himſelf be expoſed to ridicule. But he had one extatic conſolation, which re-animated him; and that was, that God would ſend him Comenius, to whom he ſhould communicate his writings. Comenius, having buſineſs in Hungary in 1650, ſaw Drabicius there, and his prophecies; and made ſuch reflections as he thought proper, upon the viſion's having for three years before promiſed Drabicius, that he ſhould have Comenius for a coadjutor. Muſt it not ſeem ſtrange, that Sigiſmond Ragotſki, being urged by Drabicius to make war againſt the emperor, and by his mother to continue in peace with him, could not tell what to do, being attacked on both ſides with terrible threats? Drabicius denounced againſt him the judgments of the Almighty, in caſe of peace; and his mother threatened him with her curſe, in caſe of war. Should not the prince have followed where reaſon and good policy would have led, and have left theſe mad people to have raved as long as they pleaſed, each in their own way? He ſat down however in the utmoſt perplexity, recommended himſelf to the prayers of Drabicius and Comenius, and kept himſelf quiet till his death.

June 1654. Drabicius was reſtored to his miniſtry, and his viſions preſented themſelves more frequently than ever; ordering from time to time, that they ſhould be communicated to his coadjutor Comenius, that he might publiſh them to all nations and languages, and particularly to the Turks and Tartars. Comenius found himſelf embarraſſed between the fear of God, and that of men: he was apprehenſive, that by not printing the revelations of Drabicius he ſhould diſobey God, and that by printing them he ſhould expoſe himſelf to the ridicule and cenſure of men. He took a middle way: he reſolved to print them, and not to diſtribute the copies; and upon this account, he entitled the book, Lux in Tenebris. But his reſolution to conceal this light under a buſhel did not continue long: it gave way to two remarkable events, which were taken for a grand criſis, and the unravelling of the myſtery. One of theſe events was the irruption of George Ragotſki into Poland: the other, the death of the emperor Ferdinand III. But theſe events, far from anſwering the predictions, ſerved only to confound them. Ragotſki periſhed in his deſcent upon Poland; and Leopold king of Hungary was elected emperor in the room of his father Ferdinand III. by which election, the houſe of Auſtria was almoſt reſtored to its former grandeur, and the Proteſtants in Hungary abſolutely ruined. Drabicius was the greateſt ſufferer by this; for the court of Vienna, being informed that he was the perſon who founded the trumpet againſt the houſe of Auſtria, ſought means to puniſh him, and, as it is ſaid, ſucceeded in it. What became of him, we cannot learn: ſome ſay, that he was burnt for an impoſtor and falſe prophet; others, that he died in Turkey, whither he had fled for refuge: but neither of theſe accounts is certain.

The Lux in Tenebris was printed by Comenius at Amſterdam in 1657; and contains not only the revelations of our Drabicius, but thoſe alſo of Chriſtopher Kotterus, and of Chriſtina Poniatovia. Comenius publiſhed an abridgment of it in 1660, with this title, Revelationum divinarum in Uſum Sæculi noſtri factarum Epitome: that is, An Epitome of the divine Revelations communicated for the Uſe of this our Age. He reprinted the whole work, with this title, Lux è Tenebris novis Radiis aucta, &c. Theſe new rays were a ſequel of Drabicius's revelations, which extended to the year 1666.

DRACHENFELS, a town of Germany, in the electorate of Cologn, with a citadel, ſeven miles N.N.W of Lintz.

DRAG-CART, an invention of Lord Somerville, which promiſes to be eminently uſeful to the farmers of this country. The following deſcription of it and of the method of adjuſting the centre of gravity of the load, is publiſhed in the Communications of the Honourable Board of Agriculture.

Fig. 1, in Plate 24, is a perſpective-view of a cart, for a ſingle horſe, calculated to carry 35 cwt.; in the front of which is repreſented the method of adjuſting the poſition of the centre of gravity of the load, to prevent its preſſing too much on the cattle in going down hill, the front of the cart being elevated by means of a toothed rack ſcrewed to the front of the cart, and worked by a pinion, and the handle *a* immediately connected with the ſhaft *e*. By means of this pinion and racks, the front of the carriage is elevated more or leſs, in proportion to the declivity of the hill, by which means the weight of the load is made to bear more on the axis, and leſs on the horſe.

On the ſide-view of the cart is repreſented the manner of applying the *friction-drag*, which is made to preſs, more or leſs, on the ſide of the wheel, according to the ſteepneſs of the deſcent: *b b*, is the friction-bar, or drag; one end of which is connected with the tail of the cart by a ſmall chain, and the other end to the front, by means of a toothed-rack *b d*, which catches on a ſtaple in the front of the cart, by which the friction-bar may be made to preſs on the ſide of the wheel, more or leſs, at the diſcretion of the driver; the notches of teeth in this rack ſhould be as cloſe to each other as circumſtances will permit.

The friction-bar is here applied lower upon the wheel than was at firſt purpoſed, in order to divide the preſſure and friction more equally on the oppoſite ſide of the wheel, ſo that the preſſure on each is diminiſhed; the riſk of over-heating and deſtroying the friction bars is alſo rendered leſs than if the whole preſſure was applied in one point at the top of the wheel.

Fig. 2, in Plate 24, is a view of a drag-cart calculated to carry 25 cwt.

As the advantages of the friction-drag have been fully ſtated in Mr. Cumming's obſervations on wheel-carriages, it would be ſuperfluous to repeat them here.

By an attentive compariſon of carts drawn by ſhafts with thoſe drawn by the yoke and bows, the ſuperiority of the pole to the ſhafts *, and the advantage of making the cattle draw by the yoke, in preference to drawing by the forehead, become evident.

When cattle draw by the ſhafts (the one before the other), it is impoſſible for the driver to know that each exerts an equal force, ſo as to contribute equally to the draught; but when they draw by the pole and yoke, the point of draught being in the middle of the yoke, when the beaſt draws equally, the yoke will ſtand ſquare with the pole, and the poſition of the yoke will always enable the driver to diſcover the defaulter, and to bring it to a proper exertion: it is this harmony of draught, and equality of exertion, that gives ſo great an advantage to drawing by the yoke, that it is ſcarcely poſſible to ſay what weight of a load too good large oxen can draw on a level road. The powers of cattle drawing by the forehead, on Lord Shannon's eſtate, are recorded by Mr. Young and Mr. Billingſley: an ox of the late Mr. Tatterſall, near Ely, drew four ton of wood on a level ſurface without apparent difficulty. What then might not be expected from the equal exertions of two ſuch powerful animals, acting at the equal ends of the ſame yoke!

WHEEL-DRAG, an implement of iron, which, being chained to the wheel of a cart or waggon, ſupports it while the horſes ſtop upon a hill. See CART, *Supp.* and Pl. 19.

* The apparatus for adjuſting the centre of gravity of the load may in ſuch caſe be fixed to the pole of the cart, in the ſame manner as above deſcribed to be fixed on the ſhaft.

DRAGOMESTRO, a town of European Turkey, in Livadia, taken by the Venetians in 1684, but abandoned ſoon after. It is 44 miles W.N.W. of Lepanto.

DRAGUIGNAN, a town of France, in the department of Var, 10 miles N.W. of Frejus. Long. 6. 35. E. Lat. 43. 31. N.

DRAIN (*Encycl.*). The following ſketch of the drainage and improvement of a marſh, near Marazion in Cornwall, deſcribing a peculiar mode of taking off the water, and ſecuring the land from the overflowing of the ſea, by Mr. Richard Moyle, of Marazion, is taken from the Communications to the Board of Agriculture.

A piece of land called the marſh, or bog, near Marazion in Cornwall, containing thirty-ſix ſtatute acres, has, from time immemorial, been covered with two or three feet of water, and which, at ſpring-tides, was overflowed with the ſea, by means of a river which paſſed through the land. This ground looks towards the ſouth, and is ſeparated from the ſea by a long ſkirting of ſand of about ſeventeen acres, over which the turnpike road paſſes towards Penzance, on its moſt elevated part: on the north of the marſh lies ſome croft ground (*i. e.* higher and not ſubject to inundations), which gradually riſes as it retires from the bog, ſo that the marſh is ſurrounded on the north and ſouth by elevated ſpots; and the water on its ſurface uſually crept away to the ſea by means of a river, through which the water at high ſpring-tides always had acceſs. From the depreſſed ſituation of this marſh, it was impoſſible to take off all the ſurface water through the river, and recourſe was had, for this purpoſe, to a ſquare wooden pipe of nine inches diameter, which was introduced at that part of the ſhore called half-ebb, and which was eight feet lower than the ſurface of the marſh. This pipe was introduced through the ſandy ſoil, in ſome places twenty-four feet deep, till it arrived at the ſouth part of the bog, where it was found to be ſix feet under the ſurface. At this place a reſervoir of eighteen feet ſquare, and eight feet deep, was immediately cut out; and the water draining from the marſh, during the time the tide was in, was received in the reſervoir, and diſcharged when the tide was out, through the pipe with great velocity. The ſea, at high water, covers this pipe with nine or ten feet of water: a long trench, of three feet deep and five wide, was extended from this place, eaſt and weſt, on the ſouth ſide of the bog, for its whole length, bordering on the ſandy ſoil; and at the diſtance of every ſixty yards, a ſimilar trench was cut up directly north towards the croft, which divided the whole marſh into oblong ſquare fields. By the means of theſe trenches, or open drains, the whole ſurface water was conveyed directly to the reſervoir, and thence to the ſea. The pipe at both its extremities was guarded with valves, which ſhut at the approach of the tide; and during its flowing, the water accumulated about two, or two and a half feet high in the reſervoir; and as the ſea retires, the collected water runs off without any interruption, till the next return of the tide: the pipe is covered with the ſea ſix hours in every twelve. This ſingular mode of drainage anſwers uncommonly well, and has never once failed in five years: the extremities of the pipe have alſo iron bars placed before them, to prevent the intruſion of extraneous bodies. As ſoon as the ſurface water was removed, a ſtrong embankment of turf was made on the ſouth and eaſt ſides, to prevent the overflowing of the tides; and the water, which formerly diffuſed itſelf over the whole of this ground, was collected into a river, and carried to the ſea on the outſide of this embankment. In cutting the open drains, a pot of copper coins, containing about a thouſand, was diſcovered three feet under the ſurface, and which appeared to belong to the Emperor Victorinus, who reigned in the third century. Theſe coins were much injured by the corroſion of the ſalt water; but ſeveral were ſtill perfect enough to trace the outlines of the Emperor. As ſoon as the evaporation had aſſiſted the conſolidation of the ſurface, the air, within a mile of the marſh, became ſo ſtrongly impregnated with a ſulphureous ſmell, as to render the place quite obnoxious to paſſengers.

On examining the different ſtrata, we found that two feet and a half of the ſurface conſiſted of mud and a peaty ſubſtance, moſt ſtrongly interwoven with the roots of goſs (*arundo phragmites*) and common ruſhes, which were the only ſubſtance that grew ſpontaneouſly on its ſurface; below this, was a ſtratum of three feet and a half of pure peat, of a very inflammable nature, and which ſeems to have extended over twenty acres of the marſh: under the peat lay a bed of ſand, from four to ſix feet deep; from which we may conjecture that the whole was formerly an arm of the ſea, and that the dropping of vegetables, and depoſition of mud (which poſſibly formed the peat), had gradually expelled the ſea; except at ſpring-tides. This ſtratum of ſand does not appear to be the original bed of the ſea; for, on ſtreaming for tin, another floor from ſix to ten feet deeper was diſcovered, conſiſting of round ſmooth pebbles, and gravelly ſubſtances, containing tin; among which were willow trees and hazel nuts, in the moſt perfect ſtate.

The *mode of improvement* adopted was the following:—The ſurface was pared and burned; and after repeated ploughings, &c. for two years, large bodies of clay, with manure, were then carried on its ſurface, and a ſlight crop of white oats with ever-graſs (ray), common and Dutch clover, ſown in the ſpring. The ſaltneſs of this ground was ſo very powerful for the firſt three years, as to deſtroy every crop; on the fourth, the land began to vegetate partially; but on the fifth, or preſent year, 1798, every part ſeems to be quite alive; ſo that every kind of vegetable now flouriſhes with great luxuriancy. It has afforded this ſummer very good crops of hay, and an abundant and rich paſture, with a proſpect of improvement the next ſeaſon. The expences of draining this ground, with trenching, paring, ploughing, burning, and manuring it, with the failure of three years' crops, amount to a very conſiderable ſum; and this diſtreſſing circumſtance is increaſed, on its being only a leaſehold for three lives.

The ſandy land has been partly incloſed, and covered with large bodies of clay and manure; it has afforded remarkably fine crops of turnips, and the graſs of this ſeaſon has been very luxuriant. The crofty land on the north (twenty-two acres) has been all cultivated, firſt with potatoes, and afterwards ſown with wheat, barley, oats, and turnips, and produced very good crops.

The whole of this improved ground has been productive of conſiderable advantages to the public, particularly to the poor. Four hundred perſons yearly receive turf from it; two hundred and fifty are fed moſt plentifully with potatoes, which are planted here by very poor people, who are, in conſequence of having land given them, become uncommonly induſtrious; and the whole neighbourhood, by its drainage, have got rid of low nervous fevers and agues, with which it was continually peſtered.

The whole ground under improvement conſiſts of ſeventy-five acres, of which thirty-ſix are marſh, twenty-two croft, and ſeventeen of ſand. In 1798, forty acres were under different crops; *viz.* wheat two acres and a half, barley nine, oats eight, turnips two, potatoes five, hay and paſture thirteen and a half.

On the ſides of every open trench is planted a row of quick-ſets, interſperſed with a few planes and pineaſtres. Theſe are defended from the cattle and blights by means of a temporary turf hedge, and promiſe to afford a pleaſing diviſion of the land

in a few years. To every inclosure of the marsh a part of the rising ground of the croft is annexed to accommodate cattle in wet seasons.

In the year 1798 this land was visited and examined on the spot as to the facts, by Sir John Call, and the above particulars given him by the proprietor.

We shall conclude this article with an account of the effect of a luxuriant weed, called by botanists the *Equisetum Palustris*, upon drains. Sir Joseph Banks, in a letter to the Secretary of the Board of Agriculture, communicates the following particulars:

"Few objects of agricultural utility," says the Baronet, "have ever interested me so much, and I have no hesitation in saying that none are, in my opinion, so interesting to the increasing prosperity of the landed interest of this kingdom, as the theory of draining whole districts, by tapping the mother springs that overflow their surface, and conducting drains through the principal valleys, so contrived as not only to render the boggy parts of them sound land, but also to free the sides of the hills which form them, from all out-bursts of water.

"Mr. Elkington is certainly the father of this system of drainage, but Mr. Farey has perfectly comprehended all the works done by that gentleman, for the Duke of Bedford, and in the mode of conducting the operations now carrying on, has, in some instances, excelled them, founding his practice on an extensive and enlightened theory, applicable to all valley bogs, in the drainage of which, it appears to me almost impossible that his method should fail, under any circumstances.

"One thing, however, has occurred, in the short experience of the Woburn operations (about five years), which appears to me of consequence enough to warrant the trouble this will give to you and the Board. Some bogs, drained by under drains made at a great expence through the most miry parts of them, appeared at first perfectly dry, but have since been found to grow by degrees less and less so. On examination, these drains have been found more or less choked up by a plant vegetating within them, and forming both stems and roots, the whole several yards in length, intercepting the course of the water, weakening the current by degrees, and at last wholly choking up the drain.

"This plant is the *equisetum palustris*, a weed common in moorish and swampy places, but hitherto little noticed by naturalists; its root, or rather its stem under ground, is a yard or more in length, and in size like packthread; from this, a root of twice the size of the stem runs horizontally in the ground, taking its origin from a lower root, which strikes downwards perpendicularly to a depth I have not hitherto been able to trace, as thick as a small finger; this perpendicular root forms in some places beds, which occupy a large portion of the more solid part of a peaty bog, as may be seen in some parts of the banks of the Duke's open drains.

"As the bud by which the plant appears to renew itself in spring, is situated on the horizontal root, a yard or more in depth, the shoot must, in its progress upwards, be liable to meet with under drains, and penetrate into them, through the openings left for the passage of the water. When once entered, nature, which has given to the plant the power of piercing the soil upwards from a great depth, enables it to live in the confined atmosphere of a drain, where, as it is continually drawn forward by the current, the joints lengthen themselves beyond their natural dimensions; hence it is probable that when drains choked with it, are taken up and carefully examined, the length of the plants will be found very much to exceed those I have observed."

The author hopes that this will lead to further discussion, and to the discovery of a remedy for this evil, which seems likely to put a stop to the practice of draining bogs, where this mischievous plant grows, by under drains. It is necessary for the evil to be known, in order that those who possess bogs that have become miry after being drained, may be apprised of an evil, which can certainly be cured by the simple expedient of casting the under drains into open ones.

Common earth-drains are sometimes dug two or three spits deep, with a broad spade, the bottom is taken out with a narrow one, and filled with stones.—Sometimes a furrow is drawn with a plough, and cleared by a common spade: the draining instrument fig. 1, Plate 17, is then introduced to the depth of 18 inches from the surface; afterwards taking out the loose mold with the scoop fig. 2.

Hollow drains, without stones, have been tried on stiff lands: they are made narrow at the bottom, and covered half way up with sods, or square pieces of the surface-sward, resting on ledges cut for that purpose.

It is much to be lamented, that we possess, in this cold climate, no grain similar to *rice*, that would grow in watery grounds which cannot be drained, nor indeed any esculent roots or foliage, except water-cresses. In such situations, some plants may perhaps be cultivated with profit to the proprietor, as the *festuca fluitans*, or floating fescue; *callitriche*, or star-grass, or star-wort; to which may be added the *orchis*, for the purpose of making salep, by drying the peeled roots in an oven. If these plants should not completely succeed, other vegetables of quick growth may be raised for manures, such as the *typha*, or cat's-tail; the *caltha*, or marsh-marigold, &c.; which should be mown twice a-year, while they are young, and abound with saccharine and mucilaginous matter, ready to pass into fermentation.

DRAKE (James), a celebrated political writer and physician, was born at Cambridge, in 1667; and, at 17, admitted a member of that university, where he soon distinguished himself by his uncommon parts and ingenuity. Some time before the Revolution, he took the degree of B. A. and after that of M. A. but, going to London, in 1693, and discovering a particular genius to the study of physic, he was encouraged in the pursuit of it by Sir Thomas Millington, and the most eminent members of the college of physicians. In 1696 he took the degree of doctor in that faculty; and was soon after elected F. R. S. as likewise of the college of physicians. But whether his own inclination led him, or whether he did it purely to supply the defects of a fortune, which was not sufficient to keep him a proper equipage as a physician in town, he applied himself to writing for the booksellers. In 1697 he was concerned in the publication of a pamphlet, entitled, Commendatory Verses upon the Author of Prince Arthur and King Arthur. In 1702 he published, in 8vo. The History of the last Parliament, begun at Westminster Feb. 10, in the 12th year of King William, A.D. 1700. This created him some trouble; for the House of Lords, thinking it reflected too severely on the memory of King William, summoned the author before them in May 1702, and ordered him to be prosecuted by the attorney-general; who brought him to a trial, at which he was acquitted the year following.

In 1704, being dissatisfied with the rejection of the bill to prevent occasional conformity, and with the disgrace of some of his friends who were sticklers for it, he wrote, in concert with Mr. Poley, member of Parliament for Ipswich, The Memorial of the Church of England; humbly offered to the Consideration of all true Lovers of our Church and Constitution, 8vo. The treasurer, Godolphin, and the other great officers of the crown in the Whig interest, being therein severely reflected on, were so highly offended at the publication of it, that they represented it to the queen as an insult upon her honour, and intimation that the church was in danger under her administration. Accordingly her Majesty took no-

tice of it in her ſpeech to the enſuing parliament, Oct 27, 1705; and was addreſſed by both houſes upon that occaſion. Soon after, the queen, at the petition of the Houſe of Commons, put out a proclamation for diſcovering the author of the Memorial; but no diſcovery could be made. The parliament was not the only body that ſhewed their reſentment to this book; for the grand jury of the city of London having preſented it at the ſeſſions, as a falſe, ſcandalous, and traiterous libel, it was forthwith burnt in the ſight of the court then ſitting, and afterwards before the Royal Exchange, by the hands of the common hangman. But though Drake then eſcaped, yet as he was very much ſuſpected of being the author of that book, and had rendered himſelf obnoxious upon other accounts to perſons then in power, occaſions were ſought to ruin him if poſſible; and a newſpaper he was publiſhing at that time under the title of Mercurius Politicus, afforded his enemies the pretence they wanted. For, taking exception at ſome paſſages therein, they proſecuted him in the Queen's-Bench in 1706. His caſe was argued at the bar of that court April 30; when, upon a flaw in the information, the trial was adjourned, and in November following the doctor was acquitted; but the government brought a writ of error. The ſeverity of this proſecution, joined to repeated diſappointments and ill uſage from ſome of his party, is ſuppoſed to have flung him into a fever, of which he died at Weſtminſter, March 2, 1706-7, not without violent exclamations againſt the rigour of his proſecutors. The Memorial was reprinted in 8vo. in 1711, with an introductory preface containing the author's life and death.

Beſides the performances already mentioned, he made an Engliſh tranſlation of Herodotus, which was never publiſhed. He wrote a comedy, called, The Sham-Lawyer, or the Lucky Extravagant; which was acted at the Theatre-Royal in 1697. It is chiefly borrowed from two of Fletcher's plays, namely, The Spaniſh Curate, and Wit without Money. He was the editor of Hiſtoria Anglo-Scotica; or, an impartial Hiſtory of all that happened between the Kings and Kingdoms of England and Scotland, from the Beginning of the Reign of William the Conqueror to the Reign of Queen Elizabeth, 1703, 8vo. But whatever merit there might be in his political writings, or however they might diſtinguiſh him in his life-time, he is chiefly known now by his medical works: by that New Syſtem of Anatomy particularly, which was finiſhed a little before his deceaſe, and publiſhed in 1707, with a preface by W. Wagſtaffe, M. D. and reader of anatomy at Surgeons-Hall.

Drake (Francis), a ſurgeon at York, and an eminent antiquary, was much eſteemed by Dr. Mead, Mr. Folkes, the two Mr. Gales, and all the principal members of the Royal and Antiquarian Societies. He publiſhed, in 1736, Eboracum; or, the Hiſtory and Antiquities of the City of York, from its Original to the preſent Time; together with the Hiſtory of the Cathedral Church, and the Lives of the Archbiſhops of that See, &c. By Francis Drake of the City of York, Gent F. R. S. and Member of the Society of Antiquaries in London; a copy of which, with large MS. additions by the author, is in the hands of his ſon, the Rev. William Drake, F. A. S. late maſter of the free-ſchool at Felſted in Eſſex, and, in 1783, vicar of Iſleworth, Middleſex, who has diſtinguiſhed himſelf by ſeveral curious articles in the Archæologia, IV. 143, V. 137, 139, and would republiſh his father's book if the plates could be recovered. A metzotinto print of Mr. Drake, by Val. Green, was publiſhed in 1771, from a picture by N. Drake, with this inſcription: Franc. Drake, Armiger, Eboracenſis, Reg. Soc. necnon Antiqu. Socius.

Drake (Samuel), was fellow of St. John's College, Cambridge, and contemporary with the above Dr. Drake, who publiſhed in 1729, in folio, a fine edition of Archbiſhop Parker's work, De Antiquitate Britannicæ Eccleſiæ, & Privilegiis Eccleſiæ Cantuarienſis, cum Archiepiſcopis ejuſdem LXX. The archbiſhop's own edition, publiſhed by himſelf in 1572, was exactly followed, which contained not only the lives of the archbiſhops, but alſo a catalogue of the chancellors, vice-chancellors, proctors, and commencers in the univerſity of Cambridge, from the year 1500 to 1571, with many other matters relating to that univerſity. The copies of the archbiſhop's edition almoſt all varying from one another, the correcteſt was made the text, and the variations of the reſt were taken notice of. Copper-plates were taken, by the beſt hand, of all the arms, frontiſpieces, and other decorations, in the edition of 1572.

DRAMA (*Encycl.*). To what has been already offered under this head, we purpoſe to add a brief hiſtory of the *German* Drama.

The German theatre continued a long time an object of little curioſity to other nations. It was about the year 1760 that the Arminius of Schlegel was tranſlated into the French language; and about the ſame period the Death of Adam, by Klopſtock, alſo appeared in the ſame tongue. In the year 1769 was publiſhed at Amſterdam, a volume, entitled, *Théâtre Allemand, ou Recueil de diverſes Pièces traduites de l'Allemand, en Proſe et en Vers, avec des Remarques: par C. D.* This volume compriſes the Cato of Gottſched; the Falſe Devotee, an excellent comedy by Gellert; and the Sick Woman, an interlude, by the ſame. The tranſlator has prefixed ſome curious introductory matter, concerning the hiſtory of the German ſtage, to which the following remarks are greatly indebted.

The hiſtory of the German theatre may be divided into four periods.

PERIOD I.

Germany, like the other countries of Chriſtendom, had its myſteries, or religious plays. The knights of the Teutonic order had recourſe ſometimes to dramatic exhibitions, in order to explain the myſteries of the faith to the rude underſtandings of the inhabitants of Courland and Livonia. It is not a little remarkable that Hroſwitha, a German nun, about the year 950, compoſed not only religious dramas, but ſome plays in imitation of Terence. They were printed at Nuremberg, A.D. 1500, in a very ſcarce folio volume, ornamented with wooden plates. Whether this attempt excited any imitators, muſt be left to the inveſtigation of German antiquaries.

PERIOD II.

In the ſixteenth century, the religious plays gave way to a kind of moral farces. Hans Sachſen is the earlieſt German dramatiſt, in his native language, whoſe name merits record. He was a ſhoemaker of Nurenberg, and has rivalled the famous Lopez de Vega, in the aſtoniſhing multitude of his dramatic performances.

PERIOD III.

A company of Dutch comedians paſſing into Germany, about the year 1620, operated the firſt reform in the German theatre. The Dutch had, at that time, made conſiderable progreſs in the dramatic art, and their theatre was on a reſpectable footing. They taught the Germans greater regularity and ſkill in the conſtruction of the drama. Yet the Dutch tragedy was then very atrocious and ſanguinary, and was intermingled with groſs buffoonery; and their comedy was little better than an unnatural farce. In the latter department, Veiſs was one of the moſt celebrated writers of Germany.

Nevertheleſs, the Germans to this day boaſt of John Opitz, Andrew Gryphius, and Gaſper de Lohenſtein. Riccoboni, in his *Recherches ſur les différents Théâtres de l' Europe*, has given a liſt of their pieces, which may be conſulted by the curious reader. Opitz is regarded as a father of German poetry: he wrote a didactic treatiſe on the drama; and compoſed lyric poems and operas. National vanity has compared Gryphius to Shakſpeare; and with more juſtice to Corneille, whom he ſomewhat reſembles in the pomp of his verſe, the depth of his thought, and the abundance of maxims and political diſcourſe. To Shakſpeare he can only be compared on account of the inequality of his ſcene. When Lohenſtein is paralleled with Seneca, we ſufficiently diſcover that he is only the ſkeleton of a dramatic author.

About this time pantomime alſo began to appear on the German ſtage; but their Harlequin bore as little reſemblance of the Italian gentleman without bones, as a bear does of a monkey. They called him *hans vourſt*, in plain Engliſh, jack-pudding. Mr. Addiſon has remarked, that moſt nations have expreſſed their delight in this witty perſonage, by beſtowing upon him the appellation of their favourite food. In one inſtance, however, he is unfortunate, by ſuppoſing that the Dutch term correſponds with our *pickled herring*; whereas, in the original, *pickel heeren* implies a facetious little maſter.

PERIOD IV.

At length the German drama gradually became worthy of attracting the attention of Europe. Gottſched, anxious to redeem his country from dramatical barbariſm and low buffoonery, about the year 1740 produced his Cato, conſtructed in imitation of the French regular drama. This tragedy deſerves, however, very little praiſe; it is feeble and languid; faults not to be redeemed by the merit of regularity. Not contented with exerciſing his pen in this laudable deſign, he uſed his perſonal influence and advice; and the theatre of Leipſic, where he reſided, became one of the beſt in Germany. A remarkable circumſtance relative to that theatre muſt not be omitted: it is ſaid, that for ſome time the company of actors there conſiſted of only one family; the father being manager, while the mother, the ſons, the daughters, and the ſons-in-law, ſhared the labours of the ſtage; and gave complete ſatisfaction to an audience not accuſtomed to ſevere criticiſm, nor diſpoſed to exchange their cheap and eaſy pleaſure for the vanity of finding fault.

Prior to this epoch, people of rank and taſte had been accuſtomed to attend only the French and Italian repreſentations; leaving the German drama to the *Bourgeoiſie*, to whoſe uneducated taſte its plain morality and groſs buffoonery were adapted. But when Gottſched had been followed by Bodmer, Schlegel, Gellert, Klopſtock, and others, who either produced original pieces, or good tranſlations from the Dutch, the Italian, the Daniſh, and the Engliſh, and particularly from the French, the caſe became changed; and the German ſtage began to ſhare the favour of the noble, the opulent, and the learned. By degrees the French drama, which had at firſt delighted by its regularity of plot, and artificial concatenation of ſcenes, began to diſguſt by its monotony; and the Engliſh theatre, which, with leſs regularity and art, preſents far more variety and animation, obtained the preference. Almoſt the whole plays of Shakſpeare were clothed in the Teutonic language; and even feeble transfuſions of his wonderful page obtained the warm applauſe of a foreign audience.

Miraturque novos fructus, et non ſua poma.

To the plays of Shakſpeare, and the novels of Richardſon, modern German dramatiſts appear to be deeply indebted: but it is not the intention of this ſlight eſſay to criticiſe the late celebrated productions of the German theatre, many of which have been tranſlated into Engliſh, and have become generally known. It is ſufficient to have arranged theſe few notices, concerning the origin and progreſs of the German drama.

When Gottſched was endeavouring to reform the German drama, about the year 1740, he aſked one of the actors why they never repreſented any of the plays of Gryphius, a grave writer, and good dramatiſt, of the preceding century? The actor anſwered that ſuch pieces could not be endured, becauſe they were in verſe, were too ſerious, and had not one buffoon to divert an audience!

When the Germans began to tranſlate plays from the Engliſh, their moſt favourite pieces were our domeſtic tragedies, ſuch as the Orphan, the Gameſter, &c. &c. The German language ſeems more adapted to this kind of compoſition, than to the heroic and ſublime.

The German Theatre, by Gottſched, was publiſhed betwixt the years 1746 and 1750, in 6 vols. 8vo. The firſt volume begins with a tranſlation of the Thoughts of the great Fenelon, upon the dramatic Art: but perhaps the diſcourſe of Corneille upon the three Unities ought to have been preferred. Many of the pieces are tranſlated from the French; ſuch as the Miſanthrope of Moliere, which is diſfigured with the ceremonious expreſſion of the Germans, and the Cid of Corneille. Some are from the Daniſh; for inſtance, the Political Pewterer by the celebrated Holberg, a piece ſomewhat ſimilar to our Upholſterer. The Drummer of Addiſon is given in the ſecond volume: and few original pieces of conſequence appear till we come to the fourth volume, which contains the Arminius of Schlegel; and the Unequal Marriage, a comedy, by Madame Gottſched, &c. In the ſame volume is the Baniſa of Grimm, a piece that deſerves to be better known. The ſcene is laid in Pegu in Aſia; and the ſtage effect, and cataſtrophe, are conceived, and expreſſed, with great vigour. The fifth and ſixth volumes are wholly filled with original German productions, of various merit.

All plays, ſay the ancient critics, muſt be either tragedy or comedy. Shakſpeare, or ſome other about his age, however, added to theſe, hiſtory and tragi-comedy. Theſe terms need no explanation. Modern times have invented the Comédie larmoyante, which is cenſured for producing the contrary effect to that which is peculiarly the province of comedy. This cannot be denied; but it is a great miſtake to conſider the tears ſhed at theſe repreſentations as ariſing from grief, and perhaps it is this miſtake which has occaſioned the cenſure.

Tears are the natural conſequence of being ſtrongly affected, from whatever cauſe ariſing. We weep at Sealand's diſcovery of his daughter, and at the reconciliation of Lord and Lady Townly; but they are not tears of ſorrow; therefore the ſenſation is as far diſtant from tragedy as comedy, but may, by accident, belong to either.

Modern times have alſo given birth to the ſentimental comedy, which is ſtill further removed from this ſpecies of the drama; for a grave, moral, or religious thought, is much leſs connected with comedy than a tender incident: indeed, as it never has the effect of fairly growing out of the piece, it may be conſidered as perfectly out of place.

Many of the German pieces, but eſpecially the play of *Lovers' Vows*, cannot be made to belong to either of theſe claſſes. The character of Agatha is as much tragic as Jane Shore, and yet it is not a tragedy. Amelia is much more comic than many of our comic characters, and yet it is not a comedy. The incidents all tend to fill the mind with thoſe ſenſations which produce tears; but yet we cannot call it a crying comedy, and moſt certainly theſe tears cannot with

propriety be referred to tragic feelings, nor are we ſatisfied to call it a tragi-comedy. It is, in our opinion, a new ſpecies of drama, and this is eaſier ſaid than to define its principles. The author poſſibly might wiſh to give a ſtory with ſuch tender ſentiment, ſuch tragic adventure, and ſuch comic character, as might naturally belong to it, and held tragedy and comedy equally from his deſign. If we judge from immediate perception, we find a great deal to commend, and but little to cenſure.

It may not be improper to add to the many modern variations from the ancient drama, that union of romance, magic, muſic, and ſpectacle, which at preſent has taken ſuch firm poſſeſſion of the ſtage as almoſt to exclude the old tragedy and comedy. If amuſement be the end of theatrical repreſentations, it is undoubtedly beſt attained by a variety of attraction. If feelings of a better ſort are to be gratified, it muſt be by the drama as it was invented by the Greeks, continued by the Romans, and practiſed, with many improvements, on the theatres of modern Europe.

DRAMBURG, a town of Germany, in Upper Saxony, 40 miles S.S.E. of Colberg, and 118 N.E. of Berlin.

DRAPER (Sir William), was a gentleman who diſtinguiſhed himſelf much in the war that was conducted with ſuch ſpirit and ſucceſs by Pitt. He is ſuppoſed to have received his grammar learning at Eton, and to have completed his education at the King's College, Cambridge. After going through the regular gradations of ſervice, he was employed about the period of the capture of Fort St. David's, to raiſe a regiment of foot (the 79th) to ſerve in the Eaſt Indies. The regiment was ſoon completed at Chelmsford, in Eſſex; and Colonel Draper, while the regiment lay in that town, exhibited the model of an excellent officer, not merely by the ſtricteſt attention to military evolutions and diſcipline, but by taking care to inculcate in his men a becoming reverence for the Supreme Being, as well as of the neceſſity of a life of ſobriety and decorum. That they might not want, moreover, the beſt means of inſtruction, he purchaſed, at his own expence, a large number of bibles and common-prayers, to be diſtributed among them. In 1759 he behaved with the greateſt gallantry at Madras; and to his efforts, in conjunction with thoſe of Colonel Laurence and Major Brereton, the raiſing of the ſiege of that important fortreſs was owing. In 1760 he returned to England; and, in 1761, he was promoted to the rank of brigadier-general in the expedition againſt Belleiſle. Being ſent again to the Eaſt Indies, he conducted, in conjunction with Admiral Corniſh, the expedition againſt Manilla, the capital of the Philippine Iſlands, which ſurrendered on the 6th of October, 1763, and was preſerved from plunder by a ranſom of four millions of dollars, which, however, the Spaniards never paid. The colours taken at this place were preſented to King's College, Cambridge, and hung up, with proper ſolemnity, in its beautiful chapel. The ſervices of Colonel Draper were rewarded by a red ribband; and, upon the reduction of his regiment, the 79th, which had ſerved ſo glorioufly in the Eaſt Indies, his majeſty, unſolicited, gave him the 16th regiment of foot as an equivalent. This he reſigned to Colonel Giſborne, for his half pay, 1200l. Irith annuity. In 1769 we find him a literary character engaged in defence of his friend the Marquis of Granby, in a conteſt with the celebrated political writer Junius. Unequal perhaps to his antagoniſts, he claimed nevertheleſs the praiſe of excellence in this kind of writing. In October of the ſame year, he made a voyage to South Carolina for the recovery of his health, and took that opportunity of making the tour of North America. He married, in this year, Miſs De Lancey, the daughter of the chief juſtice of New-York. She died, July 1773, leaving him a daughter, born in 1773, who ſurvived her father and enjoyed an ample fortune which came to her from her mother's relations. In 1779, Sir William Draper, having then the rank of lieutenant-general, was appointed lieutenant-governor of Minorca. During the ſiege of that important place, he was unfortunately upon ill terms with the governor-general Murray, and, upon their return to England, the conqueror of Manilla exhibited 29 charges againſt the gallant veteran of Quebec. The court-martial deemed 27 frivolous and groundleſs, and for the other two the governor was ordered to be reprimanded; which order was remitted, and Sir William Draper then ordered to make an apology to the general for having inſtituted the trial againſt him: this Sir William did, and afterwards lived in retirement at Bath. He died January 8, 1787.

DRAWING (*Encycl.*). The following is extracted from the ſpecification of a patent granted to Mr. Gueſt, of Portſmouth, for his invention of certain boxes of a new conſtruction, of various forms and ſizes, to contain materials and other neceſſary articles for drawing and painting, to be arranged on ſcientific principles. It is dated June 2, 1801, and runs thus:

"My ſaid invention conſiſts of a new box or boxes, and materials, for painting and drawing, and my new manner of arranging the pallet of colours, and certain new materials that are to be contained therein, by which the art of drawing or painting in colours will be rendered more ſimple and generally uſeful, is deſcribed as follows.

"The boxes, of whatever ſize or ſhape or material they may be made, are to be ſo formed as to contain, with convenience, either a round, or ſquare, or oval, or any other ſhaped piece of marble, or wood, or metal, or ſtone, or porcelain, or pottery, or glaſs, or other proper material or compoſition, or combination of materials of any kind, either coated or plain; which piece of marble, or wood, or metal, or ſtone, or porcelain, or pottery, or glaſs, or other material, is *abſolutely neceſſary for or to* my new arrangement of the pallet of colours, and which I ſhall hereafter, in this ſpecification, call by the name of a *pallet of colours*. And the box or boxes will be made ſubſervient to it, and ſo contrived, that this *pallet of colours* will be ſometimes fitted in the top or cover, or in a drawer, either in the front, end, or ſide, or ſome other convenient place, for the purpoſe of receiving it, but in ſuch a manner that this *pallet of colours* may be eaſily removed, if wanted for uſe, by the artiſt or perſon, drawing or painting; and that the colours are to be arranged or fixed on, or let into it, by certain places being made or ſunk into the pallet to receive them; and theſe places will ſometimes be of a long ſquare, or of an oval or a round, or indeed any other ſhape that may be found beſt adapted for the purpoſes intended, by which means the colours are guarded from all dirt or duſt, they cannot be miſplaced, the artiſt has no occaſion to apply to a plate or other material to rub his colours on when uſed, the pallet on which they are arranged and fixed ſerving for that purpoſe, and which may be eaſily cleaned, when neceſſary, with a damp ſponge. The colours are to be fixed, or let into the pallet, ſo as not to be removed, or to fall out, which is done by firſt caking them in the uſual manner, and afterwards faſtening them in, while damp, by ſome mucilaginous mixture, ſuch as gum-water, or any other that will not injure them. It is hardly neceſſary to obſerve, that of whatever material the pallet be made, it ſhould be preſented in an unglazed or unpoliſhed ſtate: thus, if made of marble or other ſtone, it ſhould be left as ſmooth as poſſible, but unpoliſhed. If of wood, it muſt be coated with a compoſition of oil, flake white, and calx of tin, or any other compoſition that will anſwer the purpoſe of reſiſting the penetration of water, and left as ſmooth as poſſible, but not poliſhed nor glazed. If of metal,

it ſhould be enamelled, and ground ſmooth, but left with a tooth, and without poliſh. If of porcelain, to be left in the biſcuit ſtate. If of glaſs, it ſhould, in the vitrification, be mixed with the calx of tin, or any other material that will make an opaque white enamel of it, and when made of the proper ſhape, it ſhould be ground, and left without poliſh. Let it be obſerved, that I do not wiſh to ſtate that the colours may not be mixed on glazed or poliſhed ſubſtances, but unglazed and unpoliſhed bodies for that purpoſe are much ſuperior.

"The convenience and utility of this *pallet of colours* every experienced and profeſſional man will ſee; and it will remove the inconvenience above mentioned, which the younger practitioners have hitherto laboured under. The colours will likewiſe be arranged, and fixed on or into the pallet, in the following order, according to the *principia optica, viz.* The three original colours, yellow, red, and blue, will be fixed on or into the pallet, and ſo arranged as to ſhew their intermediate ſhades, *viz.* from yellow, the degrees of orange to red; from red the degrees of purple to blue, with the different degrees of green and the browns reſulting from a mixture of the three original colours: which arrangements will include every poſſible tone or tint that can be preſented to the eye, and the colours and tints will be arranged on or in the pallet, ſo that the numbers 1, 2, 3, &c. will indicate the tone or tint of each, and may be called yellow, orange, red, purple, blue, green, and brown, &c. without any reference to the original name of any particular pigment or chemical preparation at preſent in uſe, unlike the preſent method, which by naming the pigment contrary to its real tone or colour (though the experienced artiſt may remove the difficulties from himſelf), ſerves only to miſlead the ſtudent, and thoſe not previouſly acquainted with the uſe of colours, without conveying any idea of the tone or tint of colour wanted; but by the above arranged pallet of colours the maſter is eaſed, the ſtudent improved, and a rational and ſimple theory will go hand in hand with the practical part. The colours in the larger boxes, and on the larger pallets, will likewiſe be divided into *tranſparent, or glazing*, and *opaque, or body colours*. The tranſparent being fixed on, or let into one ſide, and the opaque on or into the other ſide of the pallet, to prevent confuſion. And the tranſparent and opaque colours are to be arranged in the ſame manner with regard to the degrees of tone and ſituation, which will enable the artiſt to produce the effect he wiſhes, according to his ſtyle or mode of practice with the opaque; and he may, by turning his pallet, enrich and glaze his painting with the tranſparent colours without rendering them foul or muddy."

Having deſcribed the nature of his invention, as regards the boxes, and the *arrangement of the pallet of colours*, Mr. Gueſt proceeds to ſtate the means of rendering his invention ſtill more convenient to the public, in adding to the boxes ſuch articles as will ſupply the artiſt with every utenſil and material that he can want; but in this it is not neceſſary we ſhould follow him.

DRAYTON, a town in Shropſhire, with a market on Wedneſday, ſeated on the river Torn, which ſeparates this county from Staffordſhire. It is 17 miles N.E. of Shrewſbury, and 154 N.W. of London. Long. 2. 22. W. Lat. 52. 54 N.

DRENTELBURG, a town of Germany, in the principality of Heſſe, 18 miles N.N.W. of Caſſel, and 32 E.S.E. of Paderborn. Long. 8. 57. E. Lat. 51. 23. N.

DRESDEN (*Encycl.*). J. G. Lipſius has publiſhed a deſcription of the gallery of antiques, at Dreſden, in a quarto volume of 526 pages, with thirty pages of tables and ten plates. The origin of this gallery is as old as the reign of Auguſtus, elector of Saxony, by whoſe order, medals, and other remains of antiquity, were purchaſed in 1560. Under his ſucceſſors, this collection continued to increaſe, till by the munificent exertions of ſeveral ſovereigns it became of the higheſt value and importance. Till the year 1785, the collection lay ſcattered in different pavilions of the large garden, where it was very ill arranged, and in ſuch a ſtate as to be of very little uſe to artiſts. The preſent elector, therefore, aſſigned a place for it in the Japaneſe palace, and enriched it with ſeveral new and valuable acquiſitions. M. Wacker, the inſpector of this gallery, had made out a deſcription of every thing it contains; but as he died before it was publiſhed, M. Lipſius made uſe of his manuſcript for the work there announced, and which muſt be of great utility to artiſts and amateurs, as the ten plates at the end of the volume exhibit plans on which the different articles are indicated by letters correſponding to the deſcriptions.

DRESSERUS (Matthew), a learned German, was born at Erfort, the capital of Thuringia, in 1536. The firſt academical lectures which he heard, were thoſe of Luther and Melancthon, at Wittemberg; but he had not the advantage of them long, becauſe the air of that country not agreeing with his conſtitution, he was obliged to return to Erfort, where he ſtudied Greek. When he had taken the degree of M.A. in 1559, he read lectures in rhetoric at home, and afterwards taught polite literature and the Greek tongue in the college of Erfort. When he had gone on in this way ſixteen years in his own country, he was invited to Jena, to ſupply the place of Lipſius, as profeſſor of hiſtory and eloquence. He pronounced his inaugural oration in 1574, which was afterwards printed with other of his orations. Some time after, he went to Meiſſen, to be head of the college there; and having continued there ſix years, he obtained, in 1581, the profeſſorſhip of polite learning in the univerſity of Leipſic; and a particular penſion was ſettled on him to continue the Hiſtory of Saxony. Upon his coming to Leipſic, he found dreadful diſputes among the doctors. Some endeavoured to introduce the ſubtleties of Ramus, rejecting the doctrine of Ariſtotle, while others oppoſed it; and ſome were deſirous of advancing towards Calviniſm, while others would ſuffer no innovations in Lutheraniſm. Dreſſerus deſired to avoid both extremes: and becauſe the diſpute concerning the novelties of Ramus greatly diſturbed the philoſophical community, he was very ſolicitous to keep clear of it. But the electoral commiſſary diverted him from his pacific deſign; and he became the moſt zealous oppoſer of Ramiſm that ever was known in that country.

Dreſſerus ſpent the remainder of his life at Leipſic, where he died in 1607. He married in 1565; and, becoming a widower in 1598, he married again two years after. He was a man of great induſtry, and not eaſily tired with applying, as he ſhewed at Erfort; for he brought all his colleagues, who, except one, were Roman-catholics, to conſent, that the confeſſion of Augſburg and Hebrew ſhould be taught in the univerſity. He was the author of ſeveral works, which now are not uſeful or curious enough to deſerve a particular account.

DRIESSEN, a town of Germany, in the new march of Brandenburg, with a ſtrong fort, on the river Warta, 20 miles E. of Landſperg. Long. 15. 43. E. Lat. 52. 53. N.

DRINAWARD, a town of Turkey in Europe, in Servia. It ſtands on a ſmall iſland formed by the Drino, on the confines of Boſnia.

DRINKER (Edward), was born on the 24th of December 1680, in a ſmall cabin near the preſent corner of Walnut and Second ſtreets in the city of Philadelphia. His parents came from a place called Beverly, in Maſſachuſet's Bay. The banks of the Delaware, on which the city of Philadelphia

now ſtands, were inhabited, at the time of his birth, by Indians, and a few Swedes and Hollanders. He often talked to his companions of picking wortleberries, and catching rabbits, on ſpots now the moſt populous and improved of that city. He recollected the ſecond time William Penn came to Pennſylvania, and uſed to point to the place where the cabin ſtood, in which he and his friends that accompanied him were accommodated upon their arrival. At twelve years of age he went to Boſton, where he ſerved an apprenticeſhip to a cabinet-maker. In the year 1745 he returned to Philadelphia with his family, where he lived till the time of his death. He was four times married, and had eighteen children, all of whom were by his firſt wife. At one time of his life he ſat down at his own table with fourteen children. Not long before his death he heard of the birth of a grand-child to one of his grand children, the fifth in ſucceſſion from himſelf.

He retained all his faculties till the laſt years of his life; even his memory, ſo early and ſo generally diminiſhed by age, was but little impaired. He not only remembered the incidents of his childhood or youth, but the events of later years, and ſo faithful was his memory to him, that his ſon ſaid that he never heard him tell the ſame ſtory twice, but to different perſons and in different companies. His eye-ſight failed him many years before his death, but his hearing was uniformly perfect and unimpaired. His appetite was good till within a few weeks before his death. He generally ate a hearty breakfaſt of a pint of tea or coffee, as ſoon as he got out of his bed, with bread and butter in proportion. He ate likewiſe at eleven o'clock, and never failed to eat plentifully at dinner of the groſſeſt ſolid food. He drank tea in the evening, but never ate any ſupper. He had loſt all his teeth thirty years before his death (his ſon ſays, by drawing exceſſive hot ſmoke of tobacco into his mouth); but the want of ſuitable maſtication of his food did not prevent its ſpeedy digeſtion, nor impair his health. Whether the gums, hardened by age, ſupplied the place of his teeth in a certain degree, or whether the juices of the mouth and ſtomach became ſo much more acrid by time, as to perform the office of diſſolving the food more ſpeedily and more perfectly, is not known; but it has been often obſerved, that old people are more ſubject to exceſſive eating than young ones, and that they ſuffer fewer inconveniences from it. He was inquiſitive after news in the laſt years of his life; his education did not lead him to increaſe the ſtock of his ideas in any other way. But it is a fact well worth attending to, that old age, inſtead of diminiſhing, always increaſes the deſire of knowledge. It muſt afford ſome conſolation to thoſe who expect to be old, to diſcover, that the infirmities to which the decays of nature expoſe the human body, are rendered more tolerable by the enjoyments that are to be derived from the appetite for intellectual food.

Drinker was remarkably ſober and temperate. Neither hard labour, nor company, nor the uſual afflictions of human life, nor the waſtes of nature, ever led him to an improper or exceſſive uſe of ſtrong drink. For the laſt twenty-five years of his life he drank twice every day a draught of toddy, made with two table-ſpoonfuls of ſpirit in half a pint of water. His ſon, a man of 59 years of age, declared he had never ſeen him intoxicated. The time and manner in which he uſed ſpirituous liquors, contributed to lighten the weight of his years, and probably to prolong his life.

He enjoyed an uncommon ſhare of health, inſomuch that in the courſe of his long life he was never confined more than three days to his bed. He often declared that he had no idea of that moſt diſtreſſing pain called the head ach. His ſleep was interrupted a little in the laſt years of his life with a defluxion in his breaſt, which produced what is commonly called the old man's cough.

The character of this aged citizen was not ſummed up in his negative quality of temperance; he was a man of a moſt amiable temper; old age had not curdled his blood; he was uniformly cheerful and kind to every body; his religious principles were as ſteady as his morals were pure; he attended public worſhip above thirty years in the Rev. Dr. Sproat's church, and died in a full aſſurance of a happy immortality. The life of this man is marked with ſeveral circumſtances which perhaps have ſeldom occurred in the life of an individual: he ſaw and heard more of thoſe events which are meaſured by time, than have ever been ſeen or heard by any man ſince the age of the patriarchs; he ſaw the ſame ſpot of earth in the courſe of his life covered with wood and buſhes, and the receptacle of beaſts and birds of prey, afterwards become the ſeat of a city, not only the firſt in wealth and arts in the new, but rivalling in both many of the firſt cities in the old world. He ſaw regular ſtreets where he once purſued a hare; he ſaw churches riſing upon moraſſes, where he had often heard the croaking of frogs; he ſaw wharfs and warehouſes where he had often ſeen Indian ſavages draw fiſh from the river for their daily ſubſiſtence; and he ſaw ſhips of every ſize and uſe in thoſe ſtreams where he had been uſed to ſee nothing but Indian canoes; he ſaw a ſtately edifice filled with legiſlators on the ſame ſpot, probably, where he had ſeen an Indian council fire; he ſaw the firſt treaty ratified between the newly-confederated powers of America and the ancient monarchy of France, with all the formalities of parchment and ſeals, on the ſame ſpot, probably, where he once ſaw William Penn ratify his firſt and laſt treaty with the Indians without the formalities of pen, ink, or paper; he ſaw all the intermediate ſtages through which a people paſs from the moſt ſimple to the moſt complicated degrees of civilization; he ſaw the beginning and end of the empire of Great Britain in Pennſylvania.

He had been the ſubject of ſeven crowned heads, and afterwards died a citizen of the newly-created republic of America, Nov. 17, 1782, aged 102.

DRINO, a river of Turkey in Europe, which has its ſource on the frontiers of Albania, and falls into the bay of Drino, in the gulf of Venice.

DRINO, a ſea-port of Turkey in Europe, on a bay of the ſame name, in the gulf of Venice, 50 miles S.E. of Raguſa. Long. 10. 19. E. Lat. 42. 48. N.

DROME, a department of France, including part of the late province of Dauphiny. It is ſo called from a river of the ſame name.

DRONERO, a town of Piedmont, ſeated at the foot of the Alps, on the river Macra, over which is a bridge of prodigious height, 14 miles S.S.W. of Saluzzo.

DRONFIELD, a town in Derbyſhire, with a market on Thurſday. It is ſituate at the edge of the Peak, in ſo wholeſome an air, that the inhabitants commonly live to a great age; and it is therefore much reſorted to, and has many fine buildings. It is 28 miles N. of Derby, and 155 N.N.W. of London. Long. 1. 25. W. Lat. 53. 18. N.

DRONTHEIM, a city of Norway, capital of a government of the ſame name, with an archbiſhop's ſee, and a good harbour. It carries on a great trade; is almoſt ſurrounded by the ſea and the river Piddet; and it is 270 miles N.W. of Stockholm. Long. 11. 9. E. Lat. 63. 26. N.

DROSENDORF, a town of the Archduchy of Auſtria, on the Taya, 46 miles N.W. of Vienna. Long. 15 38. E. Lat. 48. 45. N.

DROSSEN a town of Germany, in the new march of

Brandenburg, 12 miles S.E. of Cuſtrin, and 14 E. of Frankfort on the Oder.

DROWNED LANDS, a valuable tract of about 50,000 acres, in the ſtate of New York, on the N. ſide of the mountains, in Orange County. The waters which deſcend from the ſurrounding hills, being ſlowly diſcharged by the river Wallkill, cover theſe vaſt meadows every winter, and render them extremely fertile; but they expoſe the inhabitants in the vicinity to intermittents. The river Wallkill, which paſſes through this extenſive tract, and falls into Hudſon's River, is, in the ſpring, very plentifully ſtored with large eels.

DROWNING (*Encycl.*). To what has been ſaid already, we think it of importance to add Dr. Cullen's obſervations on this ſubject.—"With reſpect," ſays he, "to the particular means to be employed for the recovery of drowned perſons, it is to be obſerved, in the firſt place, That ſuch as were recommended and practiſed, upon a ſuppoſition that the ſuffocation was occaſioned by the quantity of water taken into the body, and therefore to be evacuated again, were very unhappily adviſed. The hanging up of perſons by the heels, or ſetting them upon the crown of the head, or rolling the body upon a caſk, were generally practiſed, upon a ſuppoſition altogether falſe; or upon the ſuppoſition of a caſe which, if real, is apprehended to be irrecoverable. At the ſame time, theſe practices were always attended with the danger of burſting ſome veſſels in the brain or lungs, and of rendering thereby ſome caſes incurable, that were not ſo from the drowning alone. All ſuch practices, therefore, are now very properly diſapproved of and forbid.

"In thoſe caſes in which the body has not been long in the water, and in which therefore the natural heat is not entirely extinguiſhed, nor the irritability of the moving fibres very greatly impaired, it is poſſible that a good deal of agitation of the body may be the only means neceſſary to reſtore the action of the vital organs; but in other caſes, where the heat and irritability have ceaſed to a greater degree, it is to me very doubtful, if much agitation can be ſafe, and if any degree of it can be uſeful, till the heat and irritability are in ſome meaſure reſtored. In all caſes, any violent concuſſion cannot be ſafe, and, I believe, is never neceſſary. It may be proper here to obſerve alſo, that, in tranſporting the body from the place where it is taken out of the water, to the place where it may be neceſſary for applying the proper means of its recovery, all poſtures expoſing to any improper compreſſion, as that of the body's being carried over a man's ſhoulder, are to be avoided. The body is to be kept ſtretched out, with the head and upper parts a little raiſed; and care is to be taken to avoid the neck's being bent much forward. In this manner, laid upon one ſide, and upon ſome ſtraw in a cart, it may be moſt properly conveyed; and the agitation which a pretty briſk motion of the cart may occaſion, will, in moſt caſes, do no harm.

"From the account I have given above of the cauſes, or of the appearances, of death, in drowned perſons, it is evident, that the firſt ſtep to be taken for their recovery is to reſtore the heat of the body, which is abſolutely neceſſary to the activity of the moving fibres. For this purpoſe, the body, as ſoon as poſſible, is to be ſtripped of its wet clothes, to be well dried, and to be wrapped up in dry, and (if poſſible) warm, coverings: and it is to be wiſhed, in all caſes, as ſoon as the report of a perſon's being drowned is heard, that blankets ſhould be immediately carried to the water-ſide; ſo that, as ſoon as the body is got out of the water, the change of covering juſt now mentioned may be inſtantly made; or, if the body has been naked when drowned, that it may be immediately dried, and defended againſt the cold of the air. Beſides covering the body with blankets, it will be further of advantage, if it can be done without loſs of time, to cover the drowned body with a warm ſhirt or waiſtcoat immediately taken from a living perſon.

"When, at the time of a perſon being drowned, it happens that the ſun ſhines out very hot, I think there can be no better means of recovering the heat, than by expoſing the naked body, in every part, to the heat of the ſun; while, at the ſame time, all other means neceſſary or uſeful for the recovery of life are alſo employed.

"When the heat of the ſun cannot be employed, the body ſhould be immediately tranſported to the neareſt houſe that can be got convenient for the purpoſe: the fitteſt will be one that has a tolerably large chamber, in which a fire is ready, or can be made; and, if poſſible, the houſe ſhould afford another chamber, in which alſo a fire can be provided.

"When the drowned body is brought into ſuch houſe, and care is at the ſame time taken that no more people are admitted than are abſolutely neceſſary to the ſervice of the drowned perſon, every endeavour muſt be immediately employed for recovering the heat of the body, and that by different meaſures, as circumſtances ſhall direct.

"If, in the neighbourhood of the place, there be any brewery, diſtillery, dyery, or fabric, which gives an opportunity of immediately obtaining a quantity of warm water and a convenient veſſel, there is nothing more proper than immerſing the body in a warm bath. Even where a ſufficient quantity of warm water cannot be had at once, the bath may be ſtill practiſed, if the accident has happened in or very near a town or village, when a great many fires may be at once employed in heating ſmall quantities of water; for in this way the neceſſary quantity may be ſoon obtained. To encourage this practice, it is to be obſerved, That one part of boiling water is more than ſufficient to give the neceſſary heat to two parts of ſpring or ſea water, as it is not proper to apply the bath at firſt very warm, nor even of the ordinary heat of the human body, but ſomewhat under it; and, by the addition of warm water, to bring it gradually to a heat very little above it.

"If the drowned body be of no great bulk, it may be conveniently warmed by a perſon's lying down in bed with it, and taking it near to their naked body, changing the poſition of it frequently, and at the ſame time chaffing and rubbing with warm clothes the parts which are not immediately applied to their warm body.

"If none of theſe meaſures can be conveniently practiſed, the body is to be laid upon a bed before a moderate fire, and frequently turned, to expoſe the different parts of it; and thus, by the heat of the fire gradually applied, and by rubbing the body well with coarſe towels, or other cloths well warmed, pains are to be taken for reſtoring its heat. This will be promoted by warm cloths applied and frequently renewed under the hams and arm pits; and by hot bricks, or bottles of warm water, laid to the feet.

"In the practice of rubbing, it has been propoſed to moiſten the cloths applied with camphorated ſpirits, or other ſuch ſtimulating ſubſtances: but I think this muſt prove an impediment to the rubbing; and I would not recommend any practice of this kind, except, perhaps, the application of the volatile ſpirit of ſal ammoniac to the wriſts and ankles only.

"For recovering the heat of the body, it has been propoſed, to cover it all over with warm grains, aſhes, ſand, or ſalt; and where theſe, ſufficiently warm, are ready at hand, they may be employed; but it is very ſeldom they can be ob-

tained, and the application might often interfere with other meaſures that may be neceſſary. All therefore that I can propoſe, with reſpect to the uſe of theſe, is to obſerve, that bags of warm and dry ſalt may be amongſt the moſt convenient applications to the feet and hands of drowned perſons: and the quantity neceſſary for this purpoſe may be got pretty quickly by heating the ſalt in a frying-pan over a common fire.

" While theſe meaſures are taking for recovering the heat, means are at the ſame time to be employed for reſtoring the action of the moving fibres. It is well known, that the inteſtines are the parts of the body which, both from their internal ſituation and peculiar conſtitution, retain the longeſt their irritability; and therefore, that, in drowned perſons, ſtimulants applied may have more effect upon the inteſtines than upon other parts. The action, therefore, of the inteſtines is to be ſupported or renewed as ſoon as poſſible; as the reſtoring and ſupporting the action of ſuch a conſiderable portion of moving fibres as thoſe of the inteſtines, muſt contribute greatly to reſtore the activity of the whole ſyſtem.

" For exciting the action of the inteſtines, the moſt proper mean is, the application of their ordinary ſtimulus of dilatation; and this is moſt effectuallly applied, by forcing a quantity of air into them by the fundament. Even the throwing in cold air has been found uſeful: but it will certainly be better if heated air can be employed; and further, if that air can be impregnated with ſomething which, by its acrimony, alſo may be powerful in ſtimulating the inteſtines.

" From all theſe conſiderations, the ſmoke of burning tobacco has been moſt commonly applied, and has upon many occaſions proved very effectual. This will be moſt properly thrown in by a particular apparatus, which, for other purpoſes as well as this, ſhould be in the hands of every ſurgeon; or at leaſt ſhould, at the public expence, be at hand in every part of the country where drownings are likely to happen. With regard to the uſe of it, I have to obſerve, that till the tobacco is kindled in a conſiderable quantity, a great deal of cold air is blown through the box and tube; and as that, as hinted above, is not ſo proper, care ſhould be taken to have the tobacco very well kindled, and to blow through it very gently, till the heated ſmoke only paſſes through. If, upon certain occaſions, the apparatus referred to ſhould not be at hand, the meaſure however may be executed by a common tobacco pipe, in the following manner: A common clyſter-pipe that has a bag mounted upon it, is to be introduced into the fundament, and the mouth of the bag is to be applied round the ſmall end of a tobacco-pipe. In the bowl of this, tobacco is to be kindled; and, either by a playing card made into a tube and applied round the mouth of the bowl, or by applying upon this the bowl of another pipe that is empty and blowing through it, the ſmoke may be thus forced into the inteſtines, and, in a little time, in a conſiderable quantity.

" If none of theſe means for throwing in the ſmoke can be employed, it may be uſeful to inject warm water to the quantity of three or four Engliſh pints. This may be done by a common clyſter-bag and pipe, but better by a large ſyringe; and it may be uſeful to diſſolve in the water ſome common ſalt, in the proportion of half an ounce to an Engliſh pint; and alſo, to add to it ſome wine or brandy.

" While theſe meaſures for recovering the heat of the body and the activity of the moving fibres are employed, and eſpecially after they have been employed for ſome time, pains are to be taken to complete and finiſh the buſineſs, by reſtoring the action of the lungs and heart.

" On this ſubject, I am obliged to my learned and ingenious colleague, Doctor Monro, who has made ſome experiments for aſcertaining the beſt manner of inflating the lungs of drowned perſons. By theſe experiments he finds it may be more conveniently done by blowing into one of the noſtrils, than by blowing into the mouth. For blowing into the noſtril, it is neceſſary to be provided with a wooden pipe, fitted at one extreinity for filling the noſtril, and at the other for being blown into by a perſon's mouth, or for receiving the pipe of a pair of bellows, to be employed for the ſame purpoſe. Dr. Monro finds, That a perſon of ordinary ſtrength can blow into ſuch a pipe with a ſufficient force to inflate the lungs to a conſiderable degree; and thinks the warm air from the lungs of a living perſon will be moſt conveniently employed at firſt; but when it is not ſoon effectual in reſtoring the reſpiration of the drowned perſon, and that a longer continuation of the inflation is neceſſary, it may be proper to employ a pair of bellows, large enough at once to contain the quantity of air neceſſary to inflate the lungs to a due degree.

" Whether the blowing-in is done by a perſon's mouth, or by bellows, Dr. Monro obſerves, that the air is ready to paſs by the gullet into the ſtomach; but that this may be prevented, by preſſing the lower part of the larynx backwards upon the gullet. To perſons of little knowledge in anatomy, it is to be obſerved, that the preſſure ſhould be only upon the cricoid cartilage, by which the gullet may be ſtraightened, while the paſſage through the larynx is not interrupted.

" When, by blowing thus into the noſtril, it can be perceived, by the raiſing of the cheſt or belly, that the lungs are filled with air, the blowing-in ſhould ceaſe; and, by preſſing the breaſt and belly, the air received into the lungs ſhould be again expelled; then the blowing and expulſion ſhould be again repeated: and thus the practice is to be continued, ſo as to imitate, as exactly as poſſible, the alternate motions of natural reſpiration.

" It is hardly neceſſary to obſerve, that when the blowing into the noſtril is practiſed, the other noſtril and the mouth ſhould be accurately cloſed.

" If it ſhould happen, that, in this practice, the air does not ſeem to paſs readily into the lungs, Doctor Monro informs me, it is very practicable to introduce directly into the glottis and trachea a crooked tube, ſuch as the catheter uſed for a male adult. For this he offers the following directions: The ſurgeon ſhould place himſelf on the right ſide of the patient; and, introducing the fore finger of his left hand at the right corner of the patient's mouth, he ſhould puſh the point of it behind the epiglottis; and uſing this as a directory, he may enter the catheter, which he holds in his right hand, at the left corner of the patient's mouth, till the end of it has paſſed beyond the point of his forefinger; and it is then to be let fall, rather than puſhed into the glottis; and through this tube, by a proper ſyringe applied to it, air may be with certainty blown into the lungs. I obſerve, that ſome ſuch method had been propoſed by Monſ. Le Cat in France; but I have not learned that it has ever been put in practice, and I am afraid it may be attended with ſeveral difficulties, and muſt be left to the diſcretion of ſurgeons, who may be properly provided and inſtructed for this purpoſe.

" For throwing air with more certainty into the lungs, it has been propoſed to open the windpipe in the ſame manner as is done in the operation which the ſurgeons call *bronchotomy*, and by this opening to blow into the lungs; and when the blowing into the noſtril does not ſeem to ſucceed, and a ſkilful operator is at hand, I allow that the meaſure may be tried; but I can hardly ſuppoſe, that it will be of any advantage when the blowing-in by the noſtril has entirely failed.

" It is to be hoped, that by blowing into the lungs one way or other, even a quantity of water which had been taken into the lungs may be again waſhed out; and the ſame ſeems to

be the only effectual means of waſhing out that frothy matter which is found to fill the lungs of drowned perſons, and which proves, if I miſtake not, the moſt common cauſe of their mortal ſuffocation. This practice, therefore, is to be immediately entered upon, and very aſſiduouſly continued for an hour or two together.

" I have now mentioned the meaſures chiefly to be purſued and depended upon for the recovery of drowned perſons; but muſt ſtill mention ſome others that may prove conſiderable helps to it.

" One of theſe is, the opening the jugular veins to relieve the congeſtion, which almoſt conſtantly occurs in the veins of the head, and is probably a frequent cauſe of the death of drowned perſons. For relieving this congeſtion, the drawing ſome blood from the jugulars, very early, may certainly be of ſervice; and it will be particularly indicated by the livid and purple colour of the face. It may even be repeated, according to the effect it ſeems to have in taking off that ſuffuſion; but when the drowned perſon is in ſome meaſure recovered, and ſome motion of the blood is reſtored, it will be proper to be very cautious in making this evacuation, and at leaſt to take care not to puſh it ſo far as to weaken too much the recovering, but ſtill weak, powers of life.

" Another meaſure for recovering the activity of the vital principle, is the application of certain ſtimulants to the more ſenſible parts of the body, ſuch as holding the quick-lime ſpirit of ſal ammoniac to the noſe, or putting a little of it upon a rag into the noſtrils. It has been uſual to pour ſome liquids into the mouth; but it is dangerous to pour in any quantity of liquid, till it appear that the power of ſwallowing is in ſome meaſure reſtored.

" When a ſurgeon is at hand, and is provided with proper apparatus, a crooked pipe may be introduced into the gullet; and by this a gill or two of warm wine may be poured down into the ſtomach, and probably with advantage. But when no ſuch apparatus is at hand, or ſurgeon to employ it, and the power of ſwallowing is ſtill doubtful, the trial of pouring liquids into the mouth ſhould be made by a ſmall quantity of warm water alone; and when, from ſuch trial, the power of ſwallowing ſhall appear to be recovered, it may then be allowable to favour the further recovery of the perſon, by pouring in ſome wine or brandy.—In ſhort, till ſome marks of the recovery of ſwallowing and reſpiratian appear, it will not be ſafe to apply any ſtimulants to the mouth, excepting that of a few drops of ſome acrid ſubſtance to the tongue, and which are not of bulk enough to ſlide back upon the glottis: I can think of no ſtimulant, more conveniently and ſafely to be applied to the mouth and noſtrils, than a moderate quantity of tobacco-ſmoke blown into them.

" Though I do not imagine that drowned perſons are ever hurt by the quantity of water taken into their ſtomach, yet, as a ſtimulus applied to the ſtomach, and particularly as the action of vomiting proves a ſtimulus to the whole ſyſtem, I can have no objection to the French practice of throwing in an emetic as ſoon as any ſwallowing is reſtored. For this purpoſe, I would ſucceſſively throw in ſome tea-ſpoonfuls of the ipecacuanha wine; and, when it does not interfere with other neceſſary meaſures, the ſauces may be gently irritated by an oiled feather thruſt into them.

" With regard to the ſtimulants, I muſt conclude with obſerving, That when a body has lain but for a ſhort time in the water, and that therefore its heat and irritability are but little impaired, the application of ſtimulants alone has been often found effectual for the recovery: but, on the contrary, when the body has lain long in the water, and the heat of it is very much extinguiſhed, the application of any other ſtimulants than that of tobacco-ſmoke to the inteſtines can be of very little ſervice; and the application of others ought never to interfere with the meaſures for recovering heat and the motion of reſpiration.

" With reſpect to the whole of theſe practices, I expect, from the principles upon which they are in general recommended, it will be underſtoed, that they are not to be ſoon diſcontinued, though their effects do not immediately appear. It is obvious, that, in many caſes, it may be long before the heat of the body, and the activity of the vital principle, can be reſtored, although, in a longer time, it may very poſſibly be accompliſhed. In fact, it has often happened, that though means, employed for one hour, have not ſucceeded, the ſame continued for two or more hours, have, at length, had the wiſhed-for effects. It ſhould therefore be a conſtant rule, in this buſineſs, that the proper means ſhould be employed for ſeveral hours together; unleſs it happen, that, while no ſymptoms of returning life appear, the ſymptoms of death ſhall, at the ſame time, go on conſtantly increaſing.

" In the whole of the above I have kept in view chiefly the caſe of drowned perſons: but it will be obvious, that many of the meaſures propoſed will be equally proper and applicable in other caſes of ſuffocation; as thoſe from ſtrangling, the damps of mines, the fumes of charcoal, &c.; and a little attention to the difference of circumſtances will lead to the meaſures moſt proper to be employed."

Mr. Hunter, in the before-mentioned paper, differs pretty conſiderably from De Haen and Dr. Cullen. He obſerves, that when aſſiſtance is ſoon called in after immerſion, blowing air into the lungs will in ſome caſes effect a recovery; but when any conſiderable time has been loſt, he adviſes ſtimulant medicines, ſuch as the vapour of volatile alkali, to be mixed with the air; which may eaſily be done, by holding ſpirits of hartſhorn in a cup under the receiver of the bellows. And, as applications of this kind to the olfactory nerves tend greatly to rouſe the living principle, and put the muſcles of reſpiration into action, it may probably, therefore, be moſt proper to have air impregnated in that manner, thrown in by the noſe. To prevent the ſtomach and inteſtines from being too much diſtended by the air ſo injected, the larynx is directed to be gently preſſed againſt the œſophagus and ſpine. But having detailed, in our original article, the means to be employed for the recovery of the drowned, we ſhall here cloſe this part of the ſubject, and proceed to deſcribe the implements repreſented in Pl. 25. to be employed in *ſearching for the bodies of drowned perſons* when ſunk in the water.

Fig. 1, Is a forked inſtrument with blunt points, for making a ſuperficial ſearch after the drowned body, and ſounding the particular ſituation in which it ſunk.

Fig. 2, A ladder with a long, jointed handle, and which we have already mentioned (*Supp.* p. 403), when treating of the Ice-boats: a model of theſe boats may be inſpected in the Repoſitory of the " Society for the Encouragement of Arts, Manufactures," &c. Adelphi, London.

Fig. 3, An *extractor*, or a linked pair of tongs, which in the plate appears cloſed; but, on immerſing it into water, opens by its own weight, as well as by the ſliding down of the iron ring *o* from the part marked *x* to that of *u*. It may again be cloſed, by pulling the double rope faſtened to the ring *o*, which is thus ſhifted upward from *u* to *x*: by means of expanding the iron arms *n n*, which are likewiſe connected with this ring, the mouth or flaps of the inſtrument *r r* may be ſhut: and to prevent their opening till required, the two ropes are firmly tied round the iron bolt *s s*; in which ſituation they remain till the body is extracted.—This inſtrument, together with that repreſented, Fig. 1, coſt about 2l. at Hamburgh.

Great attention is required in preſerving them from the effects of ruſt; and, independently of the weight of iron-work, fig. 3 is perhaps the moſt complete piece of machinery that can be contrived for this purpoſe.

Deſcription of the Engraving in which the "Implements of reſtoration from drowning" *are repreſented* (Pl. 25).

Fig. 1, A pair of bellows with two ſeparate bags, ſo contrived that by opening them, when applied to the noſtrils or mouth of a patient, one bag will be filled with common air, and the other with the mephitic air extracted from the lungs; and, by ſhutting them again, pure atmoſpheric air will be introduced into theſe organs, and that drawn out conſequently diſcharged into the room. Thus, the artificial breathing may be continued, while the other operations on the ſurface of the body are carried on; which could not be conveniently done, if the muzzle of a common pair of bellows were introduced into the noſtril.

a, Is an intermediate board, but which admits of no communication between the two bags. In the external board of each ſide, there is the uſual hole, marked *b*, provided with a valve; and the cylindrical part through which the air is expelled in common bellows, is here ſoldered to a copper box, within which two other valves are applied to the tubes conducting the air. The cover *d* of this box, which may be unſcrewed by means of an interpoſed leather ring, is almoſt of the ſhape of a funnel, to the neck of which is faſtened a flexible tube *e* made of varniſhed ſilk cloth, and a ſpiral wire that forms the cavity. To the extremity of this tube is attached a ſmall ivory pipe *f*, the front of which may either be tubular and round, for introducing it into the noſtril; or flat, like the top-piece of a clarionet, if it be intended for the mouth. The valves (which cannot be repreſented in a plate) conſiſt of ſtiffened taffety. and are ſo arranged, that the correſponding ones ſtand in an inverted order. If, therefore, both bags of the bellows be expanded, *two* of the valves open themſelves towards the internal part of the machine: one of theſe is fixed to one of the ſide-boards, but the other is within the box, on the mouth of the conducting tube belonging to the oppoſite bag of the bellows. By this contrivance, the air enters both bags of the bellows at the ſame time, and is, on compreſſion, again expelled by means of two other valves, which open from within toward the external parts. Both bags of the bellows terminate below the valve in one principal tube of communication; becauſe, though the action of both bellows is *ſimultaneous*, the ſtream of air, conformably to the arrangement before pointed out, can only enter, and eſcape, *alternately*.—In uſing this machine, the ſmall ivory pipe is applied either to one of the noſtrils, or put into the mouth: in the former caſe, the other noſtril and the mouth muſt be cloſed; in the latter, both noſtrils. When the bellows are ſet in action, one of the bags receives a column of atmoſpheric air through its valve; while the other, by means of its flexible tube and its valve, extracts a portion of air from the lungs. But, if the bellows are again ſhut, one of the bags parts with the impure gas drawn out of the pulmonary veſſels; and the ſecond conveys pure atmoſpheric air to the organs of reſpiration. By properly repeating this alternate proceſs, the patient may again be enabled to exerciſe the important function of breathing. As, however, a precipitate and irregular method of proceeding might be productive of injury, this delicate operation ought to be performed by perſons who are acquainted with the mechaniſm of reſpiration.—In ſome caſes, where the patient has, for a conſiderable time, lain under water, or was afterwards neglected for want of due aſſiſtance, it would be deſirable to introduce into his lungs *oxygen*, or pure vital dephlogiſticated air, inſtead of that of the common atmoſphere; as the latter is generally more or leſs corrupted on ſuch occaſions by the breath of many perſons in the ſame room. For this purpoſe, may be uſed a bladder, marked *g*, which is provided with a cock and pipe fitted or ſcrewed to the board of the inſpiring valve and bag of the bellows. If, therefore, after opening the cock, the machine is ſet in motion, it will extract the pure air contained in the bladder, and, on the ſubſequent compreſſion of the bellows, force it into the lungs of the patient.

Fig. 2, A machine for injecting the ſmoke of tobacco by way of clyſter, in thoſe deſperate caſes which require the application of this remedy. It conſiſts of a pair of bellows, to the muzzle of which is fitted a metal box, *a*, provided with a ring, in the middle of which it may be unſcrewed, and again cloſed, after being filled with tobacco, and ſet on fire: the pipe *c* (which, by miſtake, is repreſented with a ſharp point in our plate, but ſhould be perfectly round and blunt at the top) of the flexible tube *b*, is introduced into the fundament; and thus, by means of the bellows *d*, the ſmoke is forced into the rectum.

Fig. 3, A bier of wicker-work, in the form of a ſlanting, oblong baſket, for conveying the body of the drowned, in a poſture ſomewhat raiſed. This ſimple contrivance has the advantage, that the water may eaſily run off, while the patient is carried: and, as many unfortunate perſons are materially injured by rough treatment, before they arrive at a houſe of reception, ſo that their recovery is thus often fruſtrated, we recommend the univerſal adoption of this uſeful implement. It coſts at Hamburgh only ten marks currency, or about 15s.

Fig. 4, The *Warming Machine* of block tin, or other metal, was originally invented by Mr. Harvey, of London, who ſuggeſted it to our Royal Humane Society, and it was ſubſequently improved by M. Braaſch, an ingenious mechanic of Hamburgh. Its object is to procure an uniform degree of warmth, throughout the apparatus, in the moſt expeditious manner, by filling the hollow or double bottom and ſides of the whole implement with boiling water.—*a* is the body of the machine, ſeven feet long, and made of ſolid pieces of block-tin, to prevent the neceſſity of ſoldering them, and conſequently the formation of iron-ruſt: it reſts on two wooden legs *f f*, and may be eaſily carried by the handle *g g*. The water is poured in through both funnels *d*, *d*, in order to warm it more ſpeedily; and each of theſe is provided with a ſtopper (as repreſented in the plate, ſuſpended on a chain), with a view to prevent, if neceſſary, too ſudden evaporation and cooling of the water:—*h* is the intermediate ſpace between the two metallic plates, producing a vacuum of $2\frac{1}{2}$ inches, in which the fluid is diffuſed over the whole machine;—*b* is a wooden deſk to ſupport the head of the patient, and to protect it from the immediate contact with the heated parts; but, on the oppoſite end of the machine, there is an enlarged intermediate ſpace, *c*, for holding ſuch a quantity of water and vapours as will procure an additional, or at leaſt a more permanent, degree of heat towards the lower extremities, than to the trunk of the body. For diſcharging the water, when it is not wanted, or changing it when too cold, there is a cock at *e*. The hollow ſides of this machine are about twelve inches high; and in order to enſure an uniform warmth, the body apparently dead ſhould be placed on a ſtraw mattreſs, and tucked in with blankets. A pailful of water is required to fill the whole machine, as a ſmaller quantity would warm the ſides only for a ſhort time, by means of the vapour.

It deſerves to be remarked, that this ingenious contrivance may alſo be uſed for a *warm bath*; for which purpoſe, the inner ſpace in which the body lies, ſhould be ſupplied with water. The whole apparatus, in its preſent improved ſtate,

made of *copper*, coſts at Hamburgh about 200 marks, or from 14 to 15l.

Laſtly, we cannot conclude this ſubject without affording the reader a view of the different articles belonging to a complete cheſt of inſtruments, and other materials, employed in the various proceſſes for recovering ſuſpended animation from drowning. The merit of theſe inſtitutions in England, is due to Drs. Cogan and Hawes, the founders of the Royal Humane Society at London; but the improved arrangement of the cheſt now to be deſcribed, together with the choice of internal and external remedies, were made by a reſpectable ſurgeon at Deptford, Mr. Kite, in 1788, though conſiderably extended in 1790, by Mr. Redlich, medical practitioner of reſpectability at Hamburgh. This gentleman is likewiſe one of the moſt active members of the Humane Society in that city, and has offered the following articles for ſixty-five marks, or about four guineas and a half. His complete cheſt contains:

A ſmall bottle of rectified ſpirit of wine.
Ditto, white-wine vinegar.
Ditto, ſweet oil.
Ditto, white French brandy.
Ditto, volatile ſal ammoniac.
Ditto, vitriolic æther.
Ditto, muſtard-ſeed.
A machine for injecting the ſmoke of tobacco.
A leather tube, together with a pair of bellows, for inflating the lungs.
Another tube of leather, for introducing medicines into the ſtomach.
A ſmall ſyringe for clearing the throat of mucus.
Three woollen covers or blankets.
Four bruſhes, and ſix woollen cloths, for performing friction.
Several emetics.
Two lancets for blood-letting.
One pound of tobacco.
A roller and cuſhion, to be uſed in venæſection.
Two quills, a ſponge, and ſome lint.
A pocket-knife.
An apparatus for ſtriking fire.
Chamomile and elder-flowers.
Common ſalt:—and a printed copy (in German) of rules and directions for treating the drowned.

Conceiving that a cheſt containing all theſe articles could not be purchaſed in London for leſs than double the price above ſtated, beſide the additional trouble of procuring them, we have borrowed this account from our reſpectable fellow-labourer, the Editor of the Domeſtic Encyclopædia; eſpecially as the commercial intercourſe between Hamburgh and this country is daily increaſing.

On Thurſday, 15th October, 1801, trial was made on the river Thames, off Greenwich Hoſpital, in preſence of ſeveral reſpectable gentlemen, of a copper tube, invented by Lawrence Collin, brazier and tinman, for floating the heavieſt perſon, though unacquainted with ſwimming, having his feet at reſt, while the arms might be freely uſed out of the water. The inſtrument can be fixed by any perſon on himſelf in about half a minute, and keeps him upright in the water, ſo as to have the full uſe of his hands; and he may either float on his ſide, back, or belly, with his hands and feet at reſt, or take a ſitting poſture, with his legs at right angles to his body. This inſtrument, which is called a *collinette*, may be made portable of copper, tin, or leather. The weight of the copper one, with which the late ſucceſsful trial was made, was about five pounds; but if leather can be well manufactured ſo as to reſiſt the fluid and retain atmoſpheric air, it would be ſo light, that no perſon going on an excurſion on the water would be without one of them. In caſes of ſhipwreck, many lives that would otherwiſe periſh would be ſaved, ſince a dozen or twenty of theſe inſtruments might facilitate the means of extending ropes to a lee-ſhore, and thereby ſave a numerous crew. A certificate was given to the ingenious inventor by the gentlemen before whom the trial was made.

DRUMBOTE, a town of Ireland, in the county of Monaghan, eight miles W. of Dundalk. Long. 6. 31. W. Lat. 54. 10. N.

DRUMLANRIG, a town in Dumfrieſhire, in the diſtrict of Nithſdale; remarkable for a wood of oak ſix miles in length. Here is a noble ſeat of the Duke of Queenſbury, ſkreened by woody hills, and adorned with beautiful gardens. In one of the parks here, Mr. Gilpin ſaw a few of the wild cattle which anciently inhabited the woods of Scotland. Drumlanrig is ſeated on the river Nith, 13 miles N. of Dumfries. Long. 3. 31. W. Lat. 55. 25. N.

DRUNKENNESS (*Encycl.*). To ſave the lives of perſons who are in danger of dying from having drank large draughts of any ſpirituous liquors, Dr. Houlſton recommends *diluting it in the ſtomach* by pouring in, through a tin tube, or even a common funnel, carefully paſſed into the *throat*, large quantities of water.

DRUSENHEIM, a fortified town of France, in the department of Lower Rhine, ſeated on the river Moter, near the Rhine, five miles S.E. of Haguenau.

DRYDEN (John). Notwithſtanding we have already introduced the life of this great poet in our third volume, and that at ſome length, the following account of his life and writings, extracted from Mr. Malone's recent publication of Dryden's Critical and Miſcellaneous proſe Works, abounds with ſo many curious circumſtances, not recorded by any other of his biographers, that we are tempted to preſent it to our readers without alteration.

In whatever point of view he is contemplated, whether as a poet, a critic, or a man, the character of Dryden is highly intereſting, and the labour undertaken for the purpoſe of making him better known, is entitled to the moſt grateful conſideration. Mr. Malone's account of this diſtinguiſhed ornament of Britiſh literature is a ſpecimen of laudable exactneſs, the fruit of an unwearied ſolicitude to render the deſire of deſcribing elegantly ſubſervient to the neceſſity of recording truly. The diligence employed in tracing genealogies, comparing dates, and ſearching amid the records of public offices, has afforded a topic for the ſarcaſms of ſome men whoſe vivacity outruns their judgment; but thoſe who know how to appreciate truth, and who feel its importance in matters apparently minute, will diſcriminate between raillery and argument, and not ſuffer the momentary illuſion of a fanciful image to divert their attention from thoſe objects which, in biography and criticiſm, afford the greateſt, perhaps the only genuine, ſatisfaction. To narrate on truſt, and repeat, without any other novelty than that of expreſſion, the hackneyed fallacies of preceding writers, is indeed a mean ſervility; but if, in order to avoid this diſgrace, a writer of more judgment and induſtry takes the pains to explore thoſe receſſes in which truth lies concealed, his meed of fame ought to be commenſurate with the extent of his labour: the duſt which affords occaſion to ſneer, conſtitutes rather a title to glory; nor can the laurel be ignobly worn which is tarniſhed with the duſt of Shakſpeare and of Dryden. It is not the intention of this eſſay to criticiſe Mr. Malone's work, but as the account of Dryden, which he has ſupplied, corrects many miſſtatements received by Dr. Johnſon, and adopted by his ſucceſſors, and records many new facts, it would have appeared unjuſt to omit that laudatory notice which the ſubject ſo fairly claimed. Let it not, however, be conſidered that the errors of Johnſon

are irreverently mentioned. Mr. Malone is ſo perfectly ſenſible of the great talents of that illuſtrious biographer, that he has purpoſely avoided all critical diſcuſſion of the merits of Dryden, from a conviction that ſuch an examination may be well diſpenſed with, after Dr. Johnſon's elaborate and admirable diſquiſition; than which a more beautiful and judicious piece of criticiſm, perhaps, has not appeared ſince the days of Ariſtotle. On the ſubject of Johnſon's miſtakes, Mr. Malone thus expreſſes himſelf:—"When I mention theſe ſlight inaccuracies of Dr. Johnſon, for whom perſonally when living I had the greateſt reſpect and veneration, and for whoſe writings I have the higheſt admiration, I hope not to be miſunderſtood. Such trivial errors can diminiſh little from the value of his incomparable Lives of the Poets, and, as I have elſewhere obſerved, but wiſh to repeat it here, are merely ſpecks in the fineſt body of criticiſm extant in any language."

John Dryden was the eldeſt ſon of Eraſmus, third ſon of Sir Eraſmus Driden*, bart. and Mary, daughter of the Rev. Henry Pickering. The time of his birth is uncertain, it is commonly ſuppoſed to have been the 9th† of Auguſt, 1631, but the date thus aſſumed reſts only a miſtake in the quarto edition of Pope, publiſhed in 1735, where the inſcription on Dryden's tomb is erroneouſly given. Nor is the account correct which ſtates the ſtock of his family to have been in the county of Huntingdon: it was in Cumberland. The place of his birth was Aldwincle, in Northamptonſhire. He received the firſt rudiments of learning at Tichmarſh, and probably was indebted for part of his education to the ſchool at Oundle. From one of theſe ſeminaries he was removed to Weſtminſter, where he was admitted a king's ſcholar, under the tuition of the celebrated Dr. Buſby; he was contemporary with Locke, South, Dr. Henry Stubbe, Dr. Walter Pope, Dr. John Mapletoft, Henry Bagſhaw, and Edward Bagſhaw. While at Weſtminſter he gave proof of his extraordinary talent, by tranſlating the third ſatire of Perſius for a Thurſday night's exerciſe; but the tradition which aſſigns to him the celebrated pentameter on the miracle of changing water into wine,

"Lympha pudica Deum, vidit et erubuit."

is unfounded. The line is found, with a ſlight variation, in an epigram on the ſubject by Richard Craſhaw, publiſhed in his Epigrammata Sacra, 1634‡. At Weſtminſter, Dryden, in 1649, made his firſt attempt in Engliſh poetry, by a copy of verſes on the death of Lord Haſtings, which are diſgraced by the conceits uſually found in the poetry of that period.

He was elected to one of the ſcholarſhips of Trinity College, Cambridge, where he was admitted the 11th of May, 1650, and matriculated the 6th of July. In the ſame year, he wrote ſome commendatory verſes, prefixed to the poems of John Hoddeſdon§. It is erroneouſly aſſerted that Dryden obtained no degree; he was made a bachelor at the regular time in January 1653-4, and in 1657 was made maſter of arts, but did not obtain a fellowſhip in his college. It has excited ſurpriſe that his name is not found in any of the Cambridge verſes compoſed in his time on public occaſions, but that ſenſation is removed by the accuracy of Mr. Malone; from him we learn, that only one general collection of verſe was iſſued out by the univerſity of Cambridge during the unfortunate and diſgraceful period of Dryden's being a member. It appeared in Auguſt or September, 1654, under the title of Oliva Pacis, &c. To this volume Dryden might have been expected to contribute, but his father died in June, 1654, and the neceſſity of attending him during his laſt illneſs, and the coincidence of the academic vacation, account for his apparent omiſſion of an opportunity to diſplay his poetic talent.

The patrimony to which he now ſucceeded, did not induce him to abandon his ſtudies. He returned to the univerſity, but his habits and modes of life cannot be aſcertained. In all probability the fair ſex, who even at ſeventy "ſtill inſpired his wit," then claimed much of his attention, and gave occaſion to ſome productions of his muſe, which are now loſt. Mr. Malone has recovered a letter written about the year 1655, to Honour Dryden, the poet's couſin, containing a copy of amatory verſes, diſtinguiſhable only for thoſe conceits which were the vice of the age.

In 1657, after reſiding ſeven years at Cambridge, he removed to London. On the credit of one of that hoſt of foes whom his ſubſequent celebrity excited, it has been believed that he quitted the univerſity from fear of being expelled for a libel on a nobleman's ſon, but there is no evidence of this fact, nor any probability in the circumſtances by which it is ſupported. He had ſtaid at the univerſity three years beyond the uſual period, and had reaſon to expect advancement from the influence of his relation Sir Gilbert Pickering, who was extremely intimate with Oliver Cromwell.

What benefits he derived from this connection are not known; the death of the Protector deſtroyed his proſpects, and gave a ſubject to his muſe. He produced "Heroic Stanzas on the Death of Oliver Cromwell," which were publiſhed ſeparately in the beginning of 1659, and afterwards united with the verſes of Waller and Sprat on the ſame occaſion. Like many other panegyriſts of the uſurper, he with equal facility paid homage to the reſtored monarch, and in 1660 publiſhed Aſtræa redux, a Poem on the happy Reſtoration of his moſt ſacred Majeſty. Both theſe productions gave promiſe of greater efforts.

Dryden is repreſented by his enemies to have been now a mere literary drudge under Herringman the bookſeller, and to have been reduced to dine at a three-penny ordinary, till raiſed to affluence by his connection with Sir Robert Howard; but this account is obviouſly fictitious, founded only on the circumſtances of his intimacy with Howard, to whoſe poems, printed for Herringman in 1660, he prefixed ſome encomiaſtic verſes. His own fortune was ſufficient to preſerve him from a ſtate ſo abject. It was probably through Sir Robert that Dryden became acquainted with Lady Elizabeth Howard, daughter of Thomas earl of Berkſhire, whom he married about the year 1665. The libellers of the poet have aſſerted that the circumſtances attending this match were not honourable to either party. Johnſon repeats the allegation, but evidence of a better kind is not found, and the proof reſts principally on the ſarcaſms with which the poet occaſionally aſſailed the marriage ſtate.

In 1661 he addreſſed A Panegyric to the King on his Coronation, and on New Year's-day, 1662, An encomiaſtic Poem to the Lord Chancellor Clarendon. In 1663 he prefixed ſome elegant lines to his friend Dr. Charleton's Ac-

* Dryden changed the orthography of the family name; for ſome time he wrote it Dreyden: this licence gave great offence to his relatives.

† Anderſon ſays 6th Auguſt.

‡ See Andrews's Anecdotes, p. 290.

§ They are not noticed by Johnſon. Anderſon mentions them in his Life of Dryden, but they are not found among the poems Mr. Malone has given them, p. 14.

count of Stonehenge. A tribute was paid to his rising reputation, by electing him a member of the newly-instituted Royal Society, 19th November, 1662.

We now enter on Dryden's dramatic career: Eusden, Gildon, Jacob, and others, have expressed surprise at his tardiness in beginning, as he produced no play till after he had attained his thirtieth year. But these persons did not reflect that from 1640 to 1660 plays were not permitted, and Dryden himself informed a more attentive perusér, that in the very year of the restoration he began his first play, The Duke of Guise. This piece being shewn to his friends, was not deemed sufficiently correct for representation, and, therefore, it was kept back for some years.

In February 1662-3, his first play, The Wild Gallant, was put on the stage. It was only saved from total condemnation by the Countess of Castlemaine, afterwards Duchess of Cleveland, to whom he addressed some verses on the occasion.

Mr. Malone divides Dryden's dramatic life into four periods: 1. From his outset as a play-writer to the temporary suspension of dramatic exhibitions in 1665. 2. From their revival to the time when the king's theatre was destroyed by fire in 1671-2. 3. From that era to 1682, when he discontinued writing for the stage. 4. From 1690 to 1694, in which period his last five plays were produced. In the first period, besides the Wild Gallant, Dryden wrote The Rival Ladies, in 1663; he assisted Sir Robert Howard in the Indian Queen, and wrote the Indian Emperor, acted in 1664-5.

The plague broke out soon afterwards, and in consequence of that, and the fire in 1666, dramatic entertainments were suspended for eighteen months. During this interval, Dryden married, and resided principally in the country. Here he amused himself by writing his elegant Essay of Dramatic Poesy; it is a colloquy between Eugenius, Crites, Lisideius, and Neander. By Eugenius was represented Charles lord Buckhurst, afterwards earl of Dorset; Crites was Sir Robert Howard; Lisideius, Sir Charles Sidley (commonly called Sedley), transposed from Sidleyius; and Neander, Dryden himself. In this retirement he seems to have projected, and perhaps written, his poem in quatrains, called Annus mirabilis, which was published in 1667. He also wrote Secret Love, or the Maiden Queen, and revised his unsuccessful drama, The Wild Gallant.

Soon after the recommencement of dramatic exhibitions in London, Dryden took a more secure method of obtaining emolument than the patronage of any individual, however elevated by rank or fortune, could afford; that of contracting with the king's theatre for an annual stipend, on condition of furnishing a certain number of plays in each year. The emolument was agreed to be one share and a quarter, out of twelve shares and three quarters, into which the theatrical stock was divided; the number of plays to be supplied was not four, as Johnson, misled, perhaps, by the Key to the Rehearsal, has stated, nor two, as Cibber has advanced, but three. The mistakes which have prevailed respecting this contract, have given rise to many stories of Dryden's writing for bread, and producing three, four, and even six, plays in a year. Malone, by a more accurate investigation, disproves these fallacies: between 1667 and 1674, that is, in about seven years, Dryden produced but ten plays; and if the examination is extended to a later period, December 1682, it will be found that in sixteen years he had written but eighteen. The era of his greatest exertion seems to have been from 1667 to 1670; in which period probably he wrote five or six plays. This statement is important to the fame of Dryden, for his facility and elegance of composition are recorded by so many indisputable facts, that they can derive no advantage from fiction.

On the death of Sir William d'Avenant, April 7th, 1668, Dryden was made Laureat, but not immediately, as has been supposed; he did not obtain the appointment till the 18th of August, 1670. The death of James Howell in 1666, occasioned a vacancy in the office of Historiographer, which was also conferred on Dryden. The patent granted him the salary of 200l. a-year retrospectively from Midsummer 1668, with the privilege of receiving each year a butt of canary wine from the king's cellars at Whitehall.

The conduct of Dryden and Sir Robert Howard towards each other is considered, by Dr. Johnson, as not easily to be explained. They disagreed on the subject of writing plays in rhyme; and as the contest was carried on with great earnestness in several publications, a degree of rancour ensued, but the interposition of friends and the placability of Dryden, facilitated a reconciliation, and they continued ever after on good terms.

From the re-opening of the theatres in the beginning of the year 1667, to the middle of 1670, Dryden produced five original plays, and two in which he was assisted by others. The five are: The Maiden Queen; The Mock Astrologer; Tyrannic Love, or the Royal Martyr; and the Conquest of Grenada, in two parts. The others are, The Tempest, altered from Shakspeare, in conjunction with d'Avenant; and Sir Martin Mar-all, translated from the French by the Duke of Newcastle, and revised for the stage by Dryden.

He was now sufficiently eminent to be an object of envy, and on the 7th of December, 1671, the Rehearsal was produced. This play was the joint production of George Villiers duke of Buckingham; Martin Clifford, master of the Charter-house; Butler, Sprat, and others; and is stated to have engaged their attention for ten years. An examination of its merits would extend this sketch to too great a length, and may, therefore, occupy a separate paper. It is a mistake that the success of the Rehearsal banished plays in rhyme from the stage; they continued to be acted for many years, and several pieces condemned in it were afterwards revived with applause.

Dryden, though he never answered the Rehearsal, had the good sense and forbearance not to oppose the current, and in 1672 produced two comedies, Marriage à la Mode, and The Assignation, or Love in a Nunnery; the first was successful, the latter damned. In 1673, he wrote Amboyna, for the purpose of exasperating the nation against the Dutch. After the production of these pieces the author seems to have suspended his dramatic labours, for The State of Innocence, published in 1674, could not have been intended for a stage exhibition. It is said that before he entered on this task, Dryden waited on Milton, and asked leave to turn his poem into rhyme; "Aye," said the blind bard, "you may *tag* my verses if you please."

As the State of Innocence only employed a month, Dryden had full leisure for the composition of Aurengzebe, which was acted in 1675. Charles II. perused the piece in manuscript, and "the most considerable event of it was modelled by his royal pleasure." In 1676 and 1677 he was engaged in writing All for Love, and the comedy of Limberham. All for Love, Dryden says, was the only play he wrote for himself, the rest were given to the people. Limberham expired on the third night: various reasons are alleged for its want of success; the author attributes it to his having "expressed too much of the vices it decries;" Langbaine suggests that it was condemned for exposing the *keeping* part of the town. It has also been affirmed that in the character of Limberham, Dryden had Lord Shaftesbury particularly in view, and his partisans contributed to its fate.

Dryden's contract with the king's company was dissolved about this time, in consequence of disagreements, the causes of

which cannot now be diſcovered. Limberham was acted by the rival company, as well as Œdipus, written in conjunction with Lee, about 1679, and Truth found too late, altered from Shakſpeare's Troilus and Creſſida. His next play, The Spaniſh Friar, was acted with great ſucceſs about February 1681-2. The two companies of players, called the King's and Duke's, now united, and Dryden furniſhed a prologue and an epilogue on their opening the theatre, 16th November, 1682. On the 30th was performed The Duke of Guiſe, of which Lee contributed two-thirds. The ſubject of this play was political, and the aim of it, to form a parallel between the leaguers of France and the Scottiſh covenanters. For ſome time after this, Dryden was chiefly occupied in political controverſy: this, therefore, terminates the third portion of his dramatic life.

In this period Dryden was at firſt patroniſed, and afterwards perſecuted, by the fickle and profligate Rocheſter, who raiſed up as rivals Otway, Settle, and Crowne. Dryden's ſenſibility was excited to a degree which prudence did not juſtify by the temporary ſucceſs of Settle's Empreſs of Morocco, in contributing to which, Rocheſter contrived to occaſion ſome perſonal affronts to the laureat. After his controverſy with Settle, a ſufficient ſpecimen of which is preſerved by Johnſon, Dryden, in conjunction with the Duke of Buckingham, wrote An Eſſay on Satire, in which Rocheſter was treated with great ſeverity. In revenge, on the 18th of December, 1679, he cauſed Dryden to be way-laid, and cudgelled, as he was returning home from Will's, through Roſe-ſtreet, Covent-garden. As Loniſe de Querouaille, ducheſs of Portſmouth, was alſo mentioned in terms of great contempt in this production, ſhe is ſuppoſed to have joined with Rocheſter in his revenge.

The conſtant labour in which he was engaged for the theatres, hindered Dryden from turning any great portion of his attention to productions either in poetry or proſe which were not of a dramatic form. From the year 1667 to 1680 he wrote only a few papers of verſes, and tranſlated two epiſtles of Ovid—Canace to Macareus, and Dido to Æneas; to which may be added, that from Helen to Paris, which he engliſhed in conjunction with Lord Mulgrave. He often lamented his ſervile drudgery, and traced the plan of two epic poems, either of which would not only have immortaliſed the author, but have been an ineſtimable addition to the ſtock of Britiſh literature. The ſubject propoſed for the one was the Conqueſt of the Saxons by King Arthur; the other that of Edward the Black Prince ſubduing Spain, and reſtoring it to Don Pedro, the lawful ſovereign. This noble deſign he was never ſufficiently at eaſe to execute.

In 1681 he relieved and diverſified his dramatic purſuits by that exquiſite political ſatire, Abſalom and Achitophel, which he is ſaid to have undertaken at the expreſs deſire of the king, and calculated to have completed in nine months. It was read with ſuch avidity, that in four years ſix editions were publiſhed; a prodigious circulation in thoſe days. In the ſecond edition, twelve new lines were added to the character of Shafteſbury, in which he was praiſed for his integrity and diſcernment as chancellor. This circumſtance gave riſe to a report, that the poet received a bribe for his complaiſance; and others aſſert that he was actuated by gratitude for Shafteſbury's liberality in nominating his ſon to a ſcholarſhip in the Charter-houſe, without any ſolicitation. This ſtory is diſproved by the laudable diligence of Mr. Malone, who has aſcertained that Dryden's ſon was not admited at the Charter-houſe till after Shafteſbury's death, and then, at the recommendation of the king. The added lines were, in fact, a mere amplification of the ſame thought leſs clearly expreſſed in the firſt edition of the poem.

On the 24th of November, 1681, the Grand Jury at the Old Bailey returned *ignoramus* on the bill preſented againſt Shafteſbury, and he was taken from the Court-houſe with ſhouts of applauſe, which laſted for an hour. To perpetuate their triumph on this occaſion, his adherents ſoon afterwards employed George Bower, an able ſculptor, to engrave a medal in commemoration of that event, which gave riſe to Dryden's poem, entitled The Medal, or a Satire againſt Sedition. The king ſuggeſted the ſubject, while walking in the Mall with Dryden, and made him a preſent of a hundred broad pieces when it was finiſhed. It was compoſed with vigour and poignancy, equal to Abſalom and Achitophel.

While he attacked with ſuch vigour and ſucceſs, Dryden was neceſſarily expoſed to the efforts of many opponents. A poem, entitled Dryden's Satire to his Muſe, which appeared about this period, is ſaid to have given him ſome uneaſineſs. The author was never aſcertained: it was aſcribed to Lord Somers, but he diſclaimed all knowledge of it. Among the foremoſt of Dryden's avowed adverſaries, was Shadwell, a poet of very little talent, and who had been in ſome degree protected by the poet-laureat, for whom he frequently avowed his friendſhip. In his former ſatires, Dryden took no notice of the inferior retainers of the whig party, but, at length, rouſed by repeated injuries, he diſcharged his reſentment againſt Shadwell, in the poem called Mac Flecknoe; an admirable ſatire, which afforded him an ample triumph over his corpulent antagoniſt, and afterwards formed the model of the Dunciad. This poem was publiſhed the 4th of October, 1682. It has been erroneouſly aſſerted by Dryden's biographers, Dr. Johnſon not excepted, that this poem proceeded from the poet's reſentment at being ſucceeded in the laureatſhip by Shadwell, but it was publiſhed upwards of ſix years before that event took place. Although he might ſeem in this great effort to have exhauſted the whole quiver of ſatire, he returned to the charge in leſs than a month, and in the ſecond part of Abſalom and Achitophel, which was publiſhed November the 10th, 1682, expoſed Shadwell, under the name of Og, to additional contempt, with every grace of variety, and the ſame charms of novelty, which characteriſed his firſt attack. Under the appellations of Doeg, Judas, and Ben Jochanan, he ſtigmatiſed Settle, Ferguſon, and Samuel Johnſon, and at the ſame time puniſhed three or four ſcribblers of inferior note. All theſe characters are wrought with no leſs felicity than thoſe of Zimri and Achitophel. The reſt of the poem, which has great merit, is written by Tate.

In the ſame month, Dryden produced his Religio Laici, a ſenſible and well-written poem, highly deſerving attentive and frequent peruſal. At this period began his intimacy with Southerne, which ended only with his life. He was alſo conſtantly attached to the unfortunate Lee, who was generally called by his contemporaries, "Honeſt Nat Lee," and after his inſanity, "Poor Nat Lee." Having now diſcontinued writing for the ſtage, and the ſtate of the exchequer not permitting a regular diſcharge of his ſtipend, Dryden became ſeriouſly diſtreſſed, and addreſſed Lawrence earl of Rocheſter, to remove at once his apprehenſions of poverty, by aſſigning to him a place in the cuſtoms or the exciſe, but, to the diſgrace of the age, neither his poetry nor his loyalty were ſufficient recommendations to enſure ſucceſs.

Yet did he not reſign himſelf to unmanly deſpair, or permit his enemies to triumph over the miſery reſulting from an union of poverty and indolence. He tranſlated, by the king's command, De Maimbourg's Hiſtory of the League, which appeared in 1684; and, in the mean time, wrote a Preface and Life of the Author to a new tranſlation of Plutarch's Lives, which was then undertaken by a number of perſons. He alſo, in 1683-4, publiſhed the firſt volume of his Miſcellanies, containing tranſlations of detached pieces, from Virgil, Horace, and Theocritus, and ſome of his ſmaller poems, together with

occaſional prologues and epilogues already publiſhed. Early in 1685 he publiſhed a ſecond volume of Miſcellanies.

A few days afterwards he was deprived of his gracious protector and patron, Charles II. whoſe death he conſecrated in a pindaric ode, or elegy, called, Threnodia Auguſtalis. Before this event, Dryden had finiſhed a political opera, called Albion and Albanius; it was rehearſed before the king, who expreſſed himſelf highly pleaſed, and the poet probably formed great expectations from its ſucceſs. It was afterwards performed, but always unfortunate. On the ſixth night, the 13th of June, 1685, during the repreſentation, news arrived that the Duke of Monmouth was landed in the weſt; the playhouſe was immediately deſerted, and the piece was not again produced *.

Soon after King James the Second's acceſſion, Dryden was converted to popery. The bulk of mankind, ever happy to credit ſuch allegations as tend to diminiſh the pride of genius, have imputed this change to ſordid motives, but there is no reaſon for ſuch a charge. In the early part of his career, Dryden, like his contemporaries, laughed at religion and derided prieſts. When he wrote Religio Laici, he was advanced in years, but ſeems rather to have been impreſſed with the grand truths of Chriſtianity, than attached to any particular church; the poem was rather occaſional than the fruit of long premeditation, as it was addreſſed to a friend who had recently tranſlated Father Simon's Critical Hiſtory of the Old Teſtament. In the reign of King Charles, religion was left to make its own impreſſion on the minds of individuals, but after the acceſſion of James, converts were aſſiduouſly ſought, and no means were left for evading religious diſcuſſion. Dryden's wife was ſuſpected to be a papiſt; her brother Charles, the ſecond earl of Berkſhire, undoubtedly was one; and thus ſurrounded and biaſſed, it is not ſurpriſing that the poet, now firſt called upon to chooſe a creed, choſe that of Rome. He could not have done ſo on ſpeculative probabilities, and of certain reward he does not appear to have had a promiſe. He knew how great a triumph he was going to afford his enemies, but yet purſued the dictates of his conſcience: he might, after the Revolution, have retained the ſituation of Laureat and Hiſtoriographer, and have inſured ſplendid patronage by a time-ſerving re-converſion, but conſtantly refuſed to do any thing derogatory to his principles, or injurious to his honour.

Dryden's attachment, at a period when the Duke of York was very unpopular, entitled him to expect from his acceſſion to the throne the proviſion he had before ſolicited. But he only obtained a penſion of one hundred pounds a-year, which was granted by letters patent dated the 4th of March, 1685-6. About this time he wrote his much-admired Ode on the death of Mrs. Anne Killegrew, and a Poem to Northleigh, author of the Parallel.

He alſo entered into a controverſy with Dr. Stillingfleet, in defence of a paper, written by Anne Hyde, ducheſs of York, in vindication of her change of religion; and he is ſaid to have entertained a deſign of tranſlating Monſ. Varilla's Hiſtory of Hereſies, but to have abandoned it.

In 1687 Dryden publiſhed The Hind and the Panther, the longeſt of his original poems. It was read with avidity, and ſpeedily went through three or four editions. It is an allegorical dialogue between the churches of Rome and England, repreſented by two beaſts, the firſt milk-white, unſpotted, and unchanged; the other beauteous, but ſpotted. The thought was not fortunate, though the poem contains many beauties. Such an argument conducted by ſuch perſonages afforded a fine ſubject for ridicule; and one of the happieſt efforts in this way was The Country Mouſe and City Mouſe, tranſverſed from the Hind and the Panther. This was the production of Charles Montague, afterwards earl of Halifax, and Matthew Prior, but chiefly the latter: Dryden felt this attack with great ſenſibility, and was the more hurt as it proceeded from two young men whom he had always treated with great civility.

During the latter years of King James, and immediately after the Revolution, Dryden ſeems to have relaxed in his efforts; he did not publiſh ſo much; but probably perceiving himſelf to be unpopular, and the ſeaſon unfit, he preferred a delay, which would be ultimately beneficial. In 1687 he wrote his firſt Ode on St. Cecilia's day, which was ſet to muſic by Giovanni Baptiſta Draghi; and in June, 1688, produced Britannia Rediviva, an ode on the birth of the prince, afterwards known by the title of the Pretender. In the ſame or the preceding year, he wrote, in Hudibraſtic verſe, and with great vigour and ſprightlineſs, An Epiſtle to Sir George Etherege, on his being appointed envoy to Ratiſbon. He was alſo a ſubſcriber to the folio edition of Milton, publiſhed in 1688, by Jacob Tonſon, and ſupplied that elegant Epigram which has ever ſince accompanied the picture of the author of Paradiſe Loſt.

After the Revolution, an oath became neceſſary to be taken by thoſe who hold certain offices; Dryden could not take this oath, and was therefore deprived of his places of Laureat and Hiſtoriographer, which he had the mortification to ſee beſtowed on Shadwell.

He was now compelled again to direct his attention to the theatre, and in 1690 produced Don Sebaſtian, which was acted with great ſucceſs. In the ſame year he brought out Amphytrion, altered from Plautus and Moliere, which was equally well received. King Arthur was written before the death of Charles II. but not acted till 1691; it was ſet to muſic by Purcell, and formed a popular entertainment: it ſtill keeps poſſeſſion of the ſtage, under the name of Arthur and Emmeline. In the ſummer of 1691; Dryden was employed in writing the tragedy of Cleomenes; but being prevented by illneſs from finiſhing it, he conſigned it to the care of his friend Southerne, and it was acted in May 1692. About December 1693, he concluded his dramatic labours with Love Triumphant, a tragi-comedy, which was damned on the firſt repreſentation.

Having thus quitted the ſtage, of which, with only a few intervals, he had kept poſſeſſion one-and-thirty years, producing ſeven-and-twenty pieces, which included every ſpecies of dramatic compoſition †; he was compelled for the laſt ten years of his life to exert himſelf with increaſed activity to keep off poverty, the bittereſt enemy of genius. In 1691 he wrote a Preface to Walſh's Dialogue on Women, and an Elegy on the Death of the Counteſs of Abingdon, whom he had never ſeen, but whom he celebrated under the name of Eleanora. In 1692, aſſiſted by his two ſons and ſome of the contemporary poets, he gave to the world a complete tranſlation of Juvenal and Perſius; and he wrote for his friend Sir Henry Shere, who had tranſlated Polybius, a Life of that hiſtorian. In 1693 he publiſhed his third Miſcellany, and appears to have tranſlated from the Greek, the poem of Hero and Leander, but it was not printed, and the manuſcript cannot be found. He

* Dr. Johnſon has inadvertently transferred this anecdote to a piece afterwards written by Dryden, called Prince Arthur; the miſtake was noticed by Anderſon.

† To this muſt be added, that in the courſe of his life he wrote near a hundred Prologues and Epilogues of extraordinary merit.

alſo aſſiſted Congreve, to whom he was much attached, in preparing the Old Bachelor for repreſentation, and wrote a commendatory copy of verſes on the Double Dealer. In 1694, Tonſon publiſhed a volume under the title of the Annual Miſcellany, to which Dryden contributed only a verſion of the third Georgic of Virgil and an Epiſtle to Kneller.

He now commenced his moſt arduous literary labour, the complete tranſlation of Virgil. Many efforts were made to induce him to undertake this taſk, and the nation ſeemed to conſider its honour intereſted in the event: Mr. Gilbert Dolben gave him the various editions of his author; Dr. Knightly Chetwood furniſhed him with the Life of Virgil, and the Preface to the Paſtorals; and Addiſon ſupplied the arguments of the ſeveral books, and an Eſſay on the Georgics. The firſt lines of this great poet which he tranſlated, he wrote with a diamond on a pane of glaſs in one of the windows of Cheſterton-houſe, in Huntingdonſhire, the reſidence of his kinſman and nameſake, John Driden, eſq. The verſion of the firſt Georgic and a great part of the laſt Æneid was made at Denham-Court, in Buckinghamſhire, the ſeat of Sir William Bowyer, baronet: and the ſeventh Æneid was tranſlated at Burleigh, the noble manſion of the Earl of Exeter. Theſe circumſtances endear thoſe places to the votaries of the muſes, and give them a kind of celebrity which neither the beauties of nature nor the exertions of art can beſtow. The work was printed by ſubſcription, as Paradiſe Loſt had been ſome years before, and Wood's Athenæ Oxonienſis in 1691. Dryden completed this great taſk in three years, and not in ſix, as Pope has aſſerted. For this tranſlation, which Pope with juſtice pronounced the moſt noble and ſpirited tranſlation that he knew in any language, Dryden acquired, at the utmoſt, but 1396l. 12s. 6d. Swift, who hated Dryden, though he might have derived honour from their relationſhip, decries him for dedicating the different parts of his works to three ſeveral patrons. The practice was not new; as Spenſer, Chapman, Fuller, and others, had done the ſame. Dryden has been often cenſured for the praiſes which he laviſhed on his patrons, but that was the vice of the times. Every dedicator did the ſame, and Dryden in that inſtance, as in moſt others, ſhewed a pre-eminence in facility and elegance. Tonſon was extremely anxious that the Æneid ſhould be dedicated to King William, and made the engraver who retouched the old plates uſed by Ogilby, always repreſent the hero with a hooked noſe*; but the poet, perſevering in his attachment to King James, refuſed to offer incenſe to his ſucceſſor. The tranſlation was publiſhed in July 1697, and the whole impreſſion was ſold, and a new edition demanded, in the courſe of a year.

From the time employed in this great work, Dryden borrowed two months in 1695, to tranſlate Du Freſnoy's Art of Painting, and in the ſame year he wrote An Ode on the Death of Purcell. In the next year he wrote the Life of Lucian, to be prefixed to a tranſlation of his works, which was not publiſhed till after Dryden's death.

In 169-, at the ſolicitation of the ſtewards of the Anniverſary Muſical Feſtival, he wrote the celebrated ode called Alexander's Feaſt, a poem which tranſcends all praiſe, and places the Britiſh lyric poetry above that of any other nation. It does not, however, appear to be true, that it was compoſed and finiſhed at one ſitting; nor is this circumſtance neceſſary to inſure our admiration of a poem which alone would have ſufficed to immortaliſe its author. It was firſt compoſed by Jeremiah Clarke, afterwards by Clayton, and laſtly by Handel.

In March 1697-8, Jeremy Collier, a non-juring clergyman, publiſhed his Short View of the Immorality and Profaneneſs of the Britiſh Stage, in which he pointedly attacked Dryden, Congreve, and Vanburgh. The two latter defended themſelves; but Dryden, with great candour, acknowledged ſuch parts of his works as were reprehenſible, and merely advanced circumſtances in extenuation. He at this time meditated a tranſlation of Homer, and by the experiment of the firſt Iliad was led to believe the Grecian bard a poet more according to his genius than Virgil.

In the middle of 1698 he began to moderniſe Chaucer, and having completed two thirds of his undertaking, contracted in the ſpring of 1699 to furniſh his bookſeller with ten thouſand verſes for three hundred pounds. The accompliſhment of this taſk gave to the public that beautiful collection of poetry known by the name of Dryden's Fables, which was publiſhed in March 1699-1700. About this time one of his friends having reviſed Fletcher's Pilgrim for the ſtage, ſtipulated that Dryden ſhould have the benefit of the third night's performance, which was allowed, in conſequence of his ſupplying a prologue and epilogue, a dialogue between two mad lovers, and other additions.

Conceiving that the ſeventeenth century ended with the year 1699, Dryden wrote a ſecular maſque to be preſented at the end of this play, which was to have been performed on the 25th of March, the day when the new year then began. If Dryden was miſtaken in this particular, he did not live to ſee the eighteenth century. He had for ſome years been haraſſed with the gravel and gout, and in December 1699 was afflicted with an eryſipelas in one of his legs. He recovered ſufficiently to reſume his labours, but in March and April was again confined, and in conſequence of neglecting an inflammation in one of his feet a mortification enſued. He refuſed to ſubmit to an amputation, and having taken an affectionate leave of his friends, died with perfect compoſure, and in the profeſſion of the Roman-catholic religion, on the 1ſt of May, 1700.

He was interred in Weſtminſter-abbey, after laying in ſtate ten days, on Monday, the 13th of May; his funeral was ſplendid, and moſt honourably attended†. A monument was

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* This circumſtance gave riſe to the following Epigram, which is preſerved among the Harleian MSS. in the Britiſh Muſeum:

"To be publiſhed in the next edition of Dryden's Virgil:

Old Jacob, by deep judgment ſway'd,
To pleaſe the wiſe beholders,
Has plac'd old Naſſau's hook-nos'd head
On poor Æneas' ſhoulders.

To make the parallel hold tack,
Methinks there's little lacking;
One took his father pick-a-pack,
And t'other ſent his packing."

† An account was printed thirty years after his death, of a ſcene of riot and indecorum excited by Lord Jefferies, but this is proved to be a mere fiction, invented by a Mrs. Elizabeth Thomas, better known by the name of Corinna, who founded her narrative on a letter of Farquhar. The unravelling of this invention does great credit to Mr. Malone's ſagacity, and merits peruſal as an antidote againſt literary credulity.

erected by Sheffield duke of Buckingham, in 1720, with a ſhort Latin inſcription.

Soon after Dryden's death, Henry Playford, a publiſher of muſic, ſolicited the followers of the muſes to expreſs their ſorrow for the loſs of ſo great a poet, and was, in leſs than two months, enabled to publiſh a collection of Engliſh and Latin verſes, under the title of Luctus Britannici, or the Tears of the Britiſh Muſes for the Death of John Dryden. This was preceded or followed by ſeveral ſeparate elegies, and a collection of plaintive verſes, entitled the Nine Muſes, written by nine ladies.

In perſon, Dryden was ſhort and fat, with a florid complexion. He is ſuppoſed by Mr. Malone not to have been ſo entirely deficient in talents for converſation as is generally believed. His being a conſtant frequenter of Will's coffee-houſe, in Ruſſel-ſtreet, Covent-garden, is too well known to be circumſtantially repeated. He lived in Gerard-ſtreet; his houſe was the fifth on the left hand in coming from little Newport-ſtreet. His predilection for aſtrology is mentioned by all his biographers *, and he had ſome faith in oneirocriticiſm, or the prognoſtication of future events by dreams.

Dryden does not appear to have been happy in marriage, which, conſidering the acknowledged ſweetneſs and placability of his diſpoſition, could hardly be conſidered his fault. His wife was remarkable for a waywardneſs of temper, which ended in a total derangement of intellect, and in that ſtate ſhe ſurvived till the year 1714. By this lady, Dryden had three ſons, Charles, John, and Eraſmus Henry, all of them fine, ingenious, and accompliſhed gentlemen.

The education of theſe three young men, in which their father was honourably liberal, occaſioned many of the complaints of poverty found in his works, for a more ſelfiſh man might have accumulated conſiderable ſums with the ſame advantages. His paternal eſtate was worth 40l. a-year. On his marriage with Lady Elizabeth Howard, an eſtate in Wiltſhire was ſettled on her, which is computed at 60l. a-year. From the theatre his emoluments may be calculated at 100l. and during his contract at 200l. a-year. In 1670 he was made poet-laureat and hiſtoriographer, and from that period to the end of 1676, his income was about 557l. per annum, equal to, at leaſt, 1500l. in theſe times. From 1685 to 1689 he derived nothing from the ſtage, but his ſalary was increaſed to 300l. and that, with his own eſtates augmented by the death of his mother, made 420l or full 1200l. a-year. In Auguſt 1689 his diſtreſs truly began; for being then deprived of his places, his revenue was reduced to 120l. a-year, with contingent acceſſions derived from his literary exertions, or the benevolence of his patrons. But diſtreſs could never make him deviate from the honourable firmneſs of his principles, though a proſpect of immediate reward preſented itſelf as a motive. "The court," he ſays in a letter to Mrs. Steward, dated 7th November, 1699, "rather ſpeaks kindly of me, than does any thing for me, though they promiſe largely; and perhaps they think I will advance as they go backward; in which they will be much deceived, for I can never go an inch beyond my conſcience and honour. If they will conſider me as a man who has done my beſt to improve the language, and eſpecially the poetry, and will be content with my acquieſcence under the preſent government, and forbearing ſatire on it, that I can promiſe, becauſe I can perform it; but I can neither take the oaths, nor forſake my religion."

This copious extract will place many points of Dryden's character and literary hiſtory in a new light, and ſufficiently excuſe us with the reader for introducing it: but an ample fund of information and delight awaits the readers of Mr. Malone's elegant publication; the biography abounds in anecdote, and juſt and uſeful diſcuſſion; and the proſe of Dryden is enriched with notes remarkable for learning, good taſte, and critical acumen.

DUAREN (Francis), profeſſor of civil law at Bourges, was born at St. Brien, a city of Bretagne in France, 1509. He was the ſon of John Duaren, who exerciſed a place of judicature in Bretagne; which place he ſuccceded his father in, and performed the functions of it for ſome time. He read lectures on the Pandects at Paris, in 1536; and, among other ſcholars, had three ſons of the learned Budæus. He was ſent for to Bourges in 1538 to teach civil law, three years after Alciat was retired; but quitted his place in 1548, and went to Paris, in order to frequent the bar: for he was very deſirous to join the practice to the theory of the law. He attended the bar of the parliament of Paris, but conceived a prodigious averſion to the chicanery of the court: diſguſted therewith, Duaren had great reaſon to rejoice at the advantageous offers made him by the Ducheſs of Berri, ſiſter of Henry II. which gave him a favourable opportunity to retire from the bar, and to reſume with honour the employment he had at Bourges. He returned to his profeſſorſhip of civil law there, in 1551; and no profeſſor, except Alciat, had ever ſo large a ſtipend in the univerſity, as himſelf. He ſeems to have deſerved it: for to his honour it may be ſaid, that he was the firſt of the French civilians who cleared the civil-law chair from the barbariſm of the gloſſators, in order to introduce the pure ſources of the ancient juriſprudence. He was indeed unwilling to ſhare this honour with any perſon; and therefore viewed with an envious eye his colleague Eguinard Baron, who blended likewiſe polite literature with the ſtudy of the law. This jealouſy prompted him to write a book, in which he endeavoured to leſſen the eſteem the world had for his colleague; however, after the death of Baron, he ſhewed himſelf one of the moſt zealous to immortalize his memory, and erected a monument in honour of the deceaſed at his own expence. He had other colleagues, who revived his uneaſineſs. He could not behold without pain the great reputation of Balduinus or Baudouin, who was younger than himſelf; and, after he was delivered from that thorn, he perceived, that Cujacius, who ſucceeded Baudouin, had ſtill greater merit. He did not at all love this new-comer; and there aroſe between them ſuch diſputes, that the conſequences of them might have occaſioned great diſorders in the univerſity of Bourges. if Cujacius had not left the field, and retired to Valence, in order to teach civil law there.

He died in 1559, without having ever married. He had great learning and an excellent judgment, but a very bad memory; ſo that he was obliged always to read his lectures from his notes. His Treatiſe of Benefices, which he publiſhed in 1550, rendered him ſuſpected of hereſy; and it was inſerted in the Index Expurgatorius at Rome. Baudouin treated him as a prevaricator and diſſembler, and reproached him with being a plagiary from Calvin, in his book relating to the prieſthood: which reproach Baudouin is ſuppoſed to have caſt upon him, in order to expoſe him to the rage of perſecutors. Duaren was highly incenſed at it, and complained by letter, as well as by word of mouth, to Calvin, who pacified him.

A collection of his works was made in his life-time, and printed at Lyons in 1554: but, after his death, another edition more complete was publiſhed in 1579, under the inſpec-

* He calculated the nativity of one of his ſons, but the prognoſtic founded on it, and its ſubſequent verſification, are fictions of Corinna.

tion of Nicholas Ciſner, who had been his ſcholar, and was afterwards profeſſor of civil law at Heidelberg, which contains: 1. Commentaria in varios Titulos Digeſti et Codicis. 2. Diſputationum Anniverſariarum, Libri duo. 3. De Jure Accreſcendi, Libri duo. 4. De Ratione docendi diſcendique Juris. 5. De Juriſdictione et Imperio. 6. Apologia adverſus Euguinarium Baronem. 7. De Plagiariis. This Bayle calls "a curious treatiſe, but too ſhort for ſo copious a ſubject." 8. In Conſuetudines Feudorum Commentarius. 9. De ſacris Eccleſiæ Miniſteriis ac Beneficiis. 10. Pro Libertate Eccleſiæ Gallicanæ adverſus Artes Romanas Defenſio. 11. Epiſtola ad Sebaſt. Albeſpinam, Regis Galliæ Oratorem. 12. Epiſtola de Franciſco Balduino. 13. Defenſio adverſus Balduini Sycophante Maledicta.

DUBLIN (*Encycl.*) In the beginning of the year 1797, an act of parliament was paſſed in Ireland, for the regulation of the Dublin houſe of induſtry. It had been under the direction of the corporation for the relief of the poor in Dublin; conſiſting of the principal officers of ſtate, the aldermen of the city, and others, in all about 200 governors; a number, which promiſed very little regular attention, and afforded no perſonal reſponſibility. Count Rumford had, in May 1796, viſited Dublin, at the inſtance of Mr. Secretary Pelham; and had concerted with him the neceſſary arrangements, for the improvement of the eſtabliſhment, and for the correction of the exiſting defects. By the new act (which was brought into the Iriſh houſe of commons by Mr. Pelham in the enſuing ſeſſion) the conduct of the inſtitution was confided to ſeven acting governors, or directors, to be annually elected by, and out of, the members of the corporation.

The average number of the perſons then in the houſe exceeded 1700. Theſe were formed into claſſes, according to their ages, conduct, abilities, and other peculiar circumſtances; and from among them was ſelected a *claſs of merit* (lodged and fed apart from the others) conſiſting of thoſe who had diſtinguiſhed themſelves by ſuperior induſtry, by moral and regular conduct, and by obedience to the rules of the houſe.

Each claſs was placed under the immediate ſuperintendance of one of the directors; who engaged to pay daily attention to it, and to make his report regularly to the board: ſo that a regiſter was obtained of the circumſtances and conduct of all the perſons in the houſe; a line was drawn between the idle vagrant and the diſtreſſed manufacturer; their wants were accurately known, and immediately attended to.—For the religious duties of the poor, there were two chaplains on the eſtabliſhment; one a Proteſtant, the other a Roman-catholic.

Many perſons had originally entered the houſe with an expectation of receiving better and more food, *without any labour*, than what they could have obtained *by their induſtry* out of the houſe. In order to diminiſh the effect of this potent encouragement to idleneſs (the inconvenience of which is not confined to the city of Dublin excluſively) the directors recurred to the principle, which had been acted upon at Hamburgh, and which has been ſtated in a preceding Report. They reduced the *ordinary* diet of the houſe below what any induſtrious labourer, out of the houſe, could obtain by his earnings at the loweſt rate of wages: at the ſame time, in order that the poor perſons upon the eſtabliſhment might *enjoy* the profits of their work, in the manner moſt pleaſant and moſt advantageous to themſelves, the directors opened a ſhop in the houſe; where every article of reaſonable luxury, and innocent gratification, is ſold at prime coſt, upon a plan ſimilar to that of the ſhop eſtabliſhed at Mongewell by the Biſhop of Durham; an account whereof is given in another place.

The expence of the diet of the houſe had been very great. This had been occaſioned, partly by the kind of food with which they had been ſupplied, and partly by the peculation of the perſons employed. In order to correct the latter, the following mode of diſtribution has been adopted: the head porter, every morning early, returns to the ſecretary the number to be provided with food for the day. The ſecretary then calculates the quantity neceſſary to be iſſued from the ſtores; and the ſeveral officers acknowledge the receipt in paſs books, which being compared once a week with the ſteward's ſtore book, the balance is aſcertained.

The directors alſo adopted a cheaper and more nutritive ſyſtem of diet. An ox-head ſtew, and ſoups prepared upon Count Rumford's principle (ſee Soup), have been diſtributed to the poor: and the practice which exiſted among them, of exchanging their bread for whiſkey, has been put an end to; the bread being now mixed with the ſoup, before the diſtribution.—The improvement in the health of the poor, in conſequence of the new ſyſtem, has been almoſt commenſurate to the increaſed economy of the houſe: the expence of diet for the half-year from Midſummer 1797 (when the new regulations took place), being very little more than half, and the proportionate mortality in the houſe leſs than three-fifths, of what they had been in the preceding half year.

In promoting the health and the economy of the houſe, the directors have alſo had the benefit of Count Rumford's aſſiſtance. His double boilers, with cloſe covers, have been put up under his direction. He has invented, and conſtructed in one of their lumber rooms, *a perpetual oven*, which would be very uſeful in all our public eſtabliſhments. It occupies a circular ſpace, about 7 feet in diameter, in the centre of the room; and contains ſix cells for baking bread, or dreſſing food, all heated by one ſmall fire, and ready in ſucceſſion (or at the ſame time if wanted) for baking or for any operation of cookery.

What Count Rumford has done for warming and ventilating their larger rooms, is very deſerving of imitation. There are two fire-places, one in the office of the maſter of the work, the other in the hall of merit; with flues extending horizontally, at the height of five feet from the floor, to a chimney in the centre. Theſe communicate a ſufficient and equable degree of heat, through the two great dining halls. Two of Count Rumford's louvres * carry off the vitiated air; and a freſh ſupply of *atmoſpheric* air is ob-

* Theſe louvres ought to be uſed, not only in houſes of induſtry, manufactories, and gaols, but in all crowded rooms, where thoſe who have the misfortune to be confined in them, ſuffer extremely both in health and ſpirits, by exhauſted and corrupted air. They are made on a very ſimple conſtruction; and they not only act very powerfully, and are eaſily regulated, but their action may be totally ſuſpended at pleaſure. They are ſo conſtructed, that every wind that blows, acts at the ſame time, both by *compreſſion* and by *exhauſtion*, to ventilate the apartments with which they communicate. Part of thoſe put up by Count Rumford at Dublin, were intended for a long garret over the hall. This garret, which was fitted up as a dormitory for ſome of their moſt induſtrious children, was ſo very low, that thoſe who were deſtined to ſleep in it, would certainly have felt the want of freſh air, had not ſome extraordinary means been uſed to procure a ſupply of it. The neceſſary ventilation is obtained by means of three ſix-ſided vertical wooden tubes, which, paſſing through the roof of the building, project 3 or 4 feet above it, and communicate with the room below. By two of theſe tubes, placed at the two ends of the dormitory, and terminating in two long wooden

tained by ſmall apertures, which are made at the bottom of the ſide walls, and covered with perforated boxes.

Difficulties have always exiſted with regard to the mode of ſupplying the neceſſitous poor with clothing. Where it is given *gratuitouſly and indiſcriminately*, it is neither ſufficiently valued, nor properly preſerved; it is *often* commuted for ſpirituous liquors, and it *always* has a tendency to relax induſtry. By the regulations adopted at Dublin, the clothing of all perſons capable of labour, is to be ſupplied ſolely from their own exertions. At the ſame time, inſtead of *one ſixth*, their former allowance, they have *two-thirds of all their earnings*; the remaining third being deemed nearly ſufficient to defray the expence of machinery and ſuperintendence. As an additional encouragement, they whoſe clothing is furniſhed by their own induſtry, are permitted to have one day in the week to go out and viſit their friends; the indulgence being, in their caſe, not liable to the general objection, that, while they were out of the houſe, they often made away with part of their clothes.

The labour of the directors of the houſe of induſtry at Dublin, has been extremely diminiſhed by a proper diſtribution of attention, of authority, and of reſponſibility; by the power being placed in very few hands, *and by each director having the whole merit of his own perſonal exertions.* But, where there is much miſery * and depravity to correct, which appears to have been the caſe with the paupers on this eſtabliſhment, it is requiſite that prudence, activity, firmneſs, and perſeverance, ſhould all be employed, as they have been in this inſtance, much to the honour of the directors.

It muſt give great ſatisfaction to every one, who is aware that religion, morality, induſtry, and prudence, have, like the arts, a common bond of union, and produce their full effects in thoſe inſtances only where they act in concert, to obſerve, that in this eſtabliſhment, where there are ſo many Roman-catholics, objects of its protection, there is a prieſt of their own perſuaſion, provided for their religious improvement.—No reform of the poor can be *completely* brought about, without the aid of *religion*.—This muſt be the *foundation* of every thing effectual, to be done for them:—the *ſuperſtructure* ſhould be aid, encouragement, and diſtinction.

In reſpect alſo of that ſuperſtructure, the arrangement in the Dublin houſe of induſtry is wiſe and judicious. The aid and encouragements given to induſtry, in this inſtance, have exceeded thoſe of any ſimilar eſtabliſhment. But the peculiar feature of the inſtitution, is *the diſtinction of claſſes*, particularly that of the ſeparate and favoured *claſs of merit*;—which muſt, gradually, become an object of ambition to every perſon in the houſe, to the amendment even of the moſt idle, and the moſt profligate.

The regulation which fixes (as at Hamburgh) their ſtandard of the common diet, below what may be obtained by the earnings of the induſtrious labourer out of the houſe, is deſerving of obſervation, and of imitation in England. Much injury is done to the ſpirit and feelings of the Engliſh cottager, not merely by the wanton and oſtentatious profuſeneſs of the rich and vain, but alſo by the groſs and offenſive waſte that is apparent in moſt of our workhouſes and public charities.

It is no ſmall merit in the directors (we wiſh we could offer our public eſtabliſhments in England the ſame tribute of commendation), that they have readily adopted the improvements ſuggeſted by Count Rumford; and, by attention and proper management, have given them their due ſucceſs. They have taken the full benefit of his aſſiſtance in reſpect of the diet of the houſe—of the boilers and oven which he has conſtructed for them—and of the economical mode which he has ſuggeſted of warming and purifying the air of their larger rooms. The introduction of his improvements into *all our public eſtabliſhments*, particularly thoſe improvements which contribute to temper and ſweeten the air in crowded buildings, would be an important and national benefit. Indeed, we are unreaſonable enough to wiſh, that the other claſſes of ſociety in England, inſtead of being kept from the habitations of the poor by their want of cleanlineſs, and by the dread of offenſive or contagious air, would exert themſelves effectually in aſſiſting and enabling them to correct the evil.

It muſt be a ſubject of real ſatisfaction to every well-wiſher to his country, that, in the courſe of the preceding ſpring, a ſociety has been formed at Dublin, *for promoting the comforts of the poor*; the Preſident of which is the Marquis Cornwallis, the Lord Lieutenant of that kingdom; the ſix Vice-preſidents, the Chancellor, the Speaker, and four other perſons of the firſt rank; and the 34 members of the committee, ſome of the moſt reſpectable characters in that country.

In their account of the plan and regulations of the ſociety, they ſtate, that ſome individuals having obſerved with pleaſure the progreſs of a ſociety, inſtituted in England in the year 1796, "*for bettering the condition, and increaſing the comforts of the poor*," were encouraged by their ſucceſs to form themſelves into a ſociety, founded upon ſimilar principles, to be

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boxes, which are bored full of ſmall holes, and reſt on the floor of the room, freſh atmoſpheric air from without is *forced* into the room, while the foul air is carried off by means of the third tube, placed over the middle of the room, with its lower opening even with the ceiling. This tube is furniſhed with a regiſter, or damper. The whole of this machinery is made of wood; and as no part of it is moveable, except the regiſter, it is not expenſive, nor liable to be put out of order.

* It is hardly poſſible to enter into a detail of the late improvements in the Dublin houſe of induſtry, without adverting to the general ſituation of the lower claſs of our fellow-ſubjects in Ireland. Much, indeed, has been recently done by individuals, in particular diſtricts; by Mr. Pelham, in encouraging the induſtry and good habits of the poor in the vicinity of Dublin, and in introducing a friendly communication between them and their more opulent neighbours; and by the Speaker, Mr. Foſter, in the promotion of agriculture, manufactures, and commerce. Theſe are of the higheſt order of national improvement; and afford a fair proſpect, that what is ſo well begun, will be purſued with that energy and perſeverance, which the importance of the ſubject demands.—The diſadvantages of many of the poor in Ireland, originate in want of education, in a total ignorance of the comforts of life, and a conſequent indifference about them. With ſuch perſons, the ſpur that ſhould impel them to action, and *the bond that ſhould connect them with ſociety*, are wanting. Having neither property, nor the means of preſerving it—conſiſting in the mildneſs of the climate, in the fertility of the ſoil, and in the facility of obtaining thoſe mere neceſſaries of exiſtence with which they are acquainted—what ſecurity can their country poſſeſs for conduct, what impulſe to induſtry and exertion?—The neceſſary remedies—the introduction of a proper ſyſtem of education, of habits of cleanlineſs, and of a taſte for the comforts of life, as applied to food, habitation, and clothes;—the extending of the power of acquiring property, and the means of preſerving it;—the promoting of more connection, and more intercourſe of kindneſs and benevolence, between the different ranks of life:—theſe are meaſures, which require *ſuperior talents and induſtry* to arrange and conduct;—meaſures, eſſential, not merely to the proſperity of Ireland, but, at the preſent criſis, to the ſecurity of Great Britain.

denominated "*the ſociety for promoting the comforts of the poor.*"—That the general object of the ſociety (being the ſame as the declared object of the Engliſh ſociety) is to collect and circulate ſuch uſeful and practical information, derived from experience, reſpecting the circumſtances and ſituation of the poor, and the moſt effectual means of meliorating their condition, as may induce and enable all well-diſpoſed perſons to unite in the promotion of meaſures ſo important to the happineſs and welfare of the community at large.—That they are determined ever to keep in view this principle—"that the beſt relief the poor can receive, is from themſelves; and that the moſt effectual method of improving their condition, is by the encouragement of *induſtry, prudence, and cleanlineſs:*" and they truſt that the local experience of humane individuals, whether employed for the encouragement of induſtry and increaſe of comfort, for the prevention and relief of diſtreſs, or for the general improvement of the morals and condition of the lower claſſes, being thus collected, and afterwards diffuſed over the kingdom at large, will animate and inſtruct the nation in the purſuit of theſe important objects.

Their regulations do not materially differ from thoſe of the Engliſh ſociety.—See SOCIETY, in this SUPPLEMENT.

It cannot but be flattering to the latter, to ſee another inſtitution, profeſſedly originating out of the ſucceſs attending its progreſs, founded in a neighbouring iſland, on the ſame principles, and under the higheſt patronage.

Nothing can be more honourable to this country, than the diſpoſition ſo generally prevalent amongſt individuals in the higher orders of ſociety, to exert themſelves for the benefit of the poorer claſſes of their fellow-ſubjects; and nothing can be of greater importance, than to give this diſpoſition a proper direction, that the efforts of beneficence may not be defeated, by a miſapplication of its aſſiſtance.

The knowledge required for this purpoſe muſt be the reſult of experience, to which nothing can more certainly lead, than inveſtigations how the comforts of the poor may be beſt promoted; not by relaxing their induſtry, or weakening their habits of frugality, but by ſtrengthening and increaſing the motives to both; for "if the manner in which relief is given, is not a ſpur to induſtry, it becomes, in effect, a premium to ſloth and profligacy."

The reports of the London ſociety prove, that the object, though difficult of attainment, is not impracticable:—that the means for this purpoſe may be ſo adapted, as to relieve the poor, and excite their induſtry; to increaſe their means of ſubſiſtence, and yet encourage economy, and render the effects of liberality ſubſervient to the beſt of moral uſes, that of promoting good habits.

Every new inſtitution having the ſame objects in view, muſt in its progreſs augment the general maſs of experimental information; and whilſt we anticipate with pleaſure the proſpect of our own gains in this reſpect, from the eſtabliſhment of the Dublin ſociety, we cannot but participate the ſatisfaction which the poor of that country muſt feel, from the public demonſtration which this eſtabliſhment affords, of a general attention to their intereſts, and an anxiety to promote their comforts; nor could any more effectual means be deviſed to conciliate their affections.

The comparative experience, which will be found in the reports of ſimilar ſocieties in different countries, muſt lead to important and beneficial concluſions. The ſame modes of relieving the induſtrious poor, are not adapted to all ſtates and ſituations, although the principle which ſhould govern the application of them cannot be varied. Much has been done, and more may be ſucceſsfully performed by the efforts of individuals in England, in correcting the prejudicial effects of the poor laws, workhouſes, mendicity, &c. and in Ireland the field appears to be equally extenſive for the exertions of individual benevolence.

Amongſt other recent improvements calculated to encourage induſtry and promote good habits among the poor in this city, is a ſociety of farmers, who confer rewards on thoſe who exert themſelves in the labours of agriculture.

At a quarterly meeting of the farmers' ſociety, eſtabliſhed by Mr. Pelham, for the diſtrict of Caſtleknock, Blancherſtown, and Porterſtown, near Dublin, held in March 1798, the following premiums were offered to labourers and their families within the diſtrict.

Premiums propoſed by the Farmers' Society for the Union of Caſtleknock, for the year 1798.

	£.	s.	d.
1. To the beſt ploughman with oxen - -	2	2	0
2. To ditto, with horſes - - - -	2	2	0
The qualifications neceſſary to gain the above premiums, to be ſettled by a committee appointed for that purpoſe.			
3. To the labourer who ſhall appear to have brought up the greateſt number of legitimate children in the habits of induſtry to the age of twelve years - - - - - - - -	2	2	0
4. To the labourer, for the next greateſt number	1	11	6
5. To the labourer, for the third greateſt number	1	1	0
6. To the labourer in farming, who ſhall have lived the greateſt number of years (not leſs than five) in the ſame ſervice, and behaved with ſobriety, honeſty, and induſtry, during that time, and who ſhall produce a ſatisfactory certificate from his maſter, of ſuch continued good behaviour - -	2	2	0
7. To the dairy-maid, who ſhall have lived the greateſt number of years under the above conditions	1	1	0
8. To the wife or widow of a labourer or manufacturer, who ſhall have done the greateſt number of days' work in huſbandry - - - - -	1	1	0
9. To ditto, for the next greateſt number -	0	10	6
The above Premiums not to exceed 3d. a-day for the firſt, nor 2d. a-day for the ſecond.			
10. To ſix labourers, who ſhall obtain from their reſpective clergymen and employers, certificates of their being moſt attentive to religious duties, the moſt ſober, honeſt, and induſtrious, and in every reſpect the beſt-conducted labourers within the union	3	3	0
11. To ſix boys and ſix girls, who ſhall be returned from the ſchool of Caſtleknock, Blancherſtown, and Porterſtown, as being the moſt attentive to learning, and the beſt-behaved children of ſaid ſchools -	3.	3	0
The certificates to be ſigned by the maſters, and counterſigned by their reſpective clergymen; theſe premiums to be given in books or clothes.			
12. Reſolved, that we will every year give the ſum of one guinea, to purchaſe uſeful tracts for each of the three ſchools in the union - - - -	3	3	0
The tracts to be choſen by a committee appointed for the purpoſe: an examination to be held, and premiums given to ſuch of the ſcholars as ſhall give the beſt account of ſaid tracts.			
13. To three boys and three girls, under the age of twelve years, who ſhall appear to the ſociety by certificates from their employers, to have earned the moſt money in the year in country buſineſs -	3	3	0
14. To the ſame number of boys and girls, from twelve to ſixteen years old, under the ſame conditions - - - - - - - -	3	3	0
The firſt premium not to exceed 2d. nor the other 3d. per day.			

	£.	s.	d.
15. To three labourers, or widows of labourers, who ſhall be returned, by inſpectors appointed for the purpoſe, as having kept their children, cabbins, and gardens, in the neateſt, cleanlieſt, and moſt decent order (gentlemen's lodge excepted), one guinea for each diviſion of the union - - - - -	3	3	0
16. To the wife or widow of a labourer, who ſhall (with the aſſiſtance of her children, under the age of ſixteen years) have ſpun the greateſt quantity of linen or woollen yarn, and prepared the ſame for the loom, within the year - - - - - -	1	1	0
17. To ditto, for the next greateſt quantity -	0	15	0
18. To ditto, for the third greateſt quantity -	0	10	6
19. To the wife or widow of a labourer, who with the aſſiſtance of her children under ſixteen years of age, ſhall have knit the greateſt number of pairs of ſtockings within the year - - - - -	1	1	0
20. To ditto, for the next greateſt number -	0	15	0
21. To ditto for the third greateſt number -	0	10	6
The quantity of yarn, and number of pairs of ſtockings, to be certified on oath.			
22. To three labourers, who ſhall be returned by judges appointed for the purpoſe, as being the moſt expert and handy in the different works of huſbandry, viz. ditching, draining, thatching, plaſhing hedges, &c. (ploughing excepted) - - -	3	3	0
Total of premiums - -	£. 40	7	0

The premiums for ploughing, ditching, draining, and for handy labourers, &c. to be determined by a committee appointed for that purpoſe.

Premiums No. 1, 2, 3, 4, 5, 6, 7, and 22, to be determined the laſt Monday in June, 1798: all claims for ſaid premiums to be ſent in to the ſecretary, on or before the 11th of June, 1798. The other premiums require a year for their determination; which year begins the 1ſt of April, 1798, and ends the 1ſt of April, 1799. All claims for ſaid premiums to be ſent in to the ſecretary, on or before the 1ſt of April, 1799, and to be determined at the quarterly meeting of the ſociety, on the laſt Monday in June following.

The beneficial tendency of the meaſures adopted by this ſociety, for encouraging the virtues of the poor, is ſo obvious, and the expediency and utility of them ſo apparent, that it is difficult to ſuggeſt any obſervation on the ſubject, which the good ſenſe and intelligence of the reader will not have already anticipated. No accumulation of criminal law, no penalties on imprudence and idleneſs, no repairs of the ſtocks and the cage, no additions to our gaols and houſes of correction—in ſhort, no ſeverity of puniſhment, though it may in ſome degree deter from crimes, can ever produce, among the great maſs of the people, any increaſe of energy and good habits, which will bear a compariſon with that which muſt neceſſarily ſpring from the judicious and benevolent encouragement afforded to their poor neighbours, in this inſtance, by the Iriſh gentlemen and farmers.

There is ſo little trouble, expence, or difficulty in the meaſure, that we may venture *to call upon* the inhabitants of our different pariſhes and diſtricts, as they regard either their own intereſt or the welfare of others, to imitate this uſeful example; and generally to adopt a plan, the good effects of which muſt be unqueſtionable. There are ſeveral ſocieties in England, which have done very eſſential ſervice to their neighbourhoods, by embracing part of theſe objects: but the framer of theſe reſolutions has contrived, in this inſtance, to awaken at once *all orders and all ages* of the labouring poor in his neighbourhood; and, by the kindeſt and moſt acceptable incitement to action, to ſtimulate them *all* to progreſs and perſeverance in thoſe courſes of life, which will prove moſt uſeful and moſt beneficial to themſelves and their country.

DUCHAL (James), a learned miniſter among the Diſſenters, was born in Ireland in 1697. He had his early education under the direction of an uncle; his preparatory ſtudies were greatly aſſiſted by the well-known and juſtly-admired Mr. Abernethy; and he finiſhed his courſe of ſtudy at the univerſity of Glaſgow: which, in teſtimony of his merit, conferred on him the degree of D.D. He reſided for ten or eleven years at Cambridge, as the paſtor of a ſmall congregation there; where he enjoyed his beloved retirement, the advantage of books, and of learned converſation, which he improved with the greateſt diligence. On Mr. Abernethy's removal from Antrim, he ſucceeded him in that place; and, on the death of the ſaid worthy perſon, was choſen to be miniſter to the Proteſtant Diſſenting congregation of Wood-ſtreet, Dublin. In this ſituation he continued to his death; which happened in 1761.

It is very remarkable, and worth recording, that, during his reſidence here, when he was in the decline of life, of a valetudinary habit, and had frequent avocations in the way of his profeſſion, he compoſed and wrote ſermons to an amount almoſt beyond belief; more, it appears on the beſt computation, than 700. From this maſs, a collection was taken after his death, and publiſhed in 3 vols. 8vo. in 1764. They are moſtly on new and uncommon ſubjects; and a vein of ſtrong manly ſenſe and rational piety runs through the whole.

During his life, he publiſhed a volume of excellent diſcourſes on the preſumptive arguments in favour of the Chriſtian religion: and many occaſional tracts both in England and Ireland.

DUCHAT (Jacob le), a Frenchman, diſtinguiſhed among the literati, was born at Metz in 1658. He was trained to the law, and followed the bar, till the Reformed were driven out of France, by the revocation of the edict of Nantz. In 1701 he ſettled at Berlin; became a member of the Academy of Sciences; and died there in 1735. He was regarded as a very learned perſon, yet is diſtinguiſhed as an editor, rather than an author. He had, it ſeems, a great taſte for the ancient French writers; and gave new editions of the Menippean Satires, of the Works of Rabelais, of the Apologie for Herodotus, by Henry Stephens, &c. all accompanied with remarks of his own. He held a correſpondence with Bayle, whom he furniſhed with many particulars for his Dictionary. After his death was publiſhed a "Ducatiana," at Amſterdam, in 1738, 2 vols. 12mo.

DUCK (Arthur), a civilian, was born in Devonſhire in 1580, of a conſiderable family; and at fifteen years of age became a ſtudent at Exeter College in Oxford, where he took a degree in arts in 1599. From thence he removed to Hart-hall, and afterwards was elected fellow of All-Souls; but his genius leading him to the ſtudy of the civil law, he took his other degrees in that faculty. He travelled into France, Italy, and Germany; and, after his return, was made chancellor of the dioceſe of Bath and Wells. He was afterwards made chancellor of London, and at length maſter of the Requeſts; but the confuſions, which were then beginning, probably hindered him from riſing higher. In 1640 he was elected burgeſs for Minehead in Somerſetſhire, and ſoon after ſiding with King Charles in the time of the rebellion, became a great ſufferer in the fortunes of his family. In 1648 he was ſent for by his majeſty to Newport in the Iſle of Wight, to be aſſiſting in his treaty with the commiſſioners from the parliament; but, that treaty taking no effect, he retired to his habitation at Chiſwick near London, where he died in 1649. He was an excellent civilian, a tolerable poet, eſpecially

in his younger days, and very well verſed in hiſtory, eccleſiaſtical as well civil. He left behind him "Vita Henrici Chichele, &c." and "De Uſu & Anthoritate Juris Civilis Romanorum in Dominiis Principum Chriſtianorum:" a very uſeful and entertaining work, which has been printed ſeveral times at home and abroad. He was greatly aſſiſted in this work by the learned Dr. Gerard Langbaine.

DUCK CREEK, a town of the ſtate of Delaware, which carries on a conſiderable trade with Philadelphia. It is 12 miles N. W. of Dover.

DUDLEY (Robert), baron of Denbigh, and earl of Leiceſter, ſon to John duke of Northumberland, and brother to Ambroſe earl of Warwick, before mentioned, was born about 1532; and coming early into the ſervice and favour of King Edward, was knighted in his youth. June 1550 he eſpouſed Amy, daughter of Sir John Robſart, at Sheen in Surrey, the king honouring their nuptials with his preſence; and was immediately advanced to conſiderable offices at court. In the firſt year of Mary, he fell into the ſame misfortunes with the reſt of his family; was impriſoned, tried, and condemned; but pardoned for life, and ſet at liberty in October 1554. On the acceſſion of Elizabeth, he was immediately entertained at court as a principal favourite: he was made maſter of the horſe, inſtalled knight of the Garter, and ſworn of the privy-council, in a very ſhort time. He obtained moreover prodigious grants, one after another, from the crown: and all things gave way to his ambition, influence, and policy. In his attendance upon the queen to Cambridge, the higheſt reverence was paid him: he was lodged in Trinity College, conſulted in all things, requeſts made to the queen through him; and, Auguſt 10, 1564, he on his knees entreated the queen to ſpeak to the univerſity in Latin, which ſhe accordingly did. At court, however, Thomas earl of Suſſex ſhewed himſelf averſe to his counſels, and ſtrongly promoted the overture of a marriage between the queen and the Archduke Charles of Auſtria; as much more worthy of ſuch a princeſs, than any ſubject of her own, let his qualities be what they would. This was reſented by Dudley, who inſinuated, that foreign alliances were always fatal; that her ſiſter Mary never knew an eaſy minute after her marriage with Philip: that her majeſty ought to conſider, ſhe was herſelf deſcended of ſuch a marriage as by thoſe lofty notions was decried: ſo that ſhe could not contemn an alliance with the nobility of England, but muſt at the ſame time reflect on her father's choice, and her mother's family. This diſpute occaſioned a violent rupture between the two lords, which the queen took into her hands, and compoſed; but without the leaſt diminution of Dudley's aſcendancy, who ſtill continued to ſolicit and obtain new grants and offices for himſelf and his dependants, who were ſo numerous, and made ſo great a figure, that he was ſtyled by the common people "The Heart of the Court."

To give ſome colour to theſe marks of royal indulgence, which, indeed, ſeemed to require an oſtenſible motive, the queen propoſed him as a ſuitor to Mary queen of Scots; promiſing to that princeſs all the advantages ſhe could expect or deſire, either for herſelf or her ſubjects, in caſe ſhe conſented to the match. The ſincerity of this was ſuſpected at the time, when the deepeſt politicians believed that, if the Queen of Scotland had complied, it would have ſerved only to countenance the preferring him to his ſovereign's bed. The Queen of Scots rejected the propoſal in a manner that, ſome have thought, proved as fatal to her, as it had done to his own lady, who was ſuppoſed to be ſacrificed to his ambition of marrying a queen. The death of this unfortunate perſonage happened September 8, 1560, at a very unlucky juncture for his reputation; becauſe the world at that time conceived it might be much for his conveniency to be without a wife, this iſland having then two queens, young, and without huſbands. The manner too of this poor lady's death, which was by a fall from a high ſtation, filled the world with great conſternation.

Sept. 1564, the queen created him baron of Denbigh, and, the day after, earl of Leiceſter, with all the pomp and ceremony imaginable; and, before the cloſe of the year, he was made chancellor of Oxford, as he had been ſome time before high-ſteward of Cambridge. His great influence in the court of England was not only known at home, but abroad, which induced the French king, Charles IX. to ſend him the order of St. Michael, then the moſt honourable in France; and he was inſtalled with great ſolemnity in 1565. About 1572, it is ſuppoſed that the earl married Douglas, baroneſs-dowager of Sheffield: which, however, was managed with ſuch privacy, that it did not come to the queen's ears, though a great deal of ſecret hiſtory was publiſhed, even in thoſe days, concerning the adventures of this unfortunate lady. We call her unfortunate, becauſe, though the earl had actually married her, and there were legal proofs of it, yet he never would own her as his wife. Some of the wits in Queen Elizabeth's court, after the earl's public marriage with the Counteſs-dowager of Eſſex, ſtyled theſe two ladies, Leiceſter's two Teſtaments; calling Lady Douglas the Old, and Lady Eſſex the New Teſtament. The earl, in order to ſtifle this affair, propoſed every thing he could think of to Lady Douglas Sheffield, to make her deſiſt from her pretenſions: but, finding her obſtinate, and reſolved not to comply with his propoſals, he attempted to take her off by poiſon. It is however beyond all doubt, that the earl had by her a ſon, Sir Robert Dudley, of whom we have ſpoken elſewhere, and to whom, by the name of his *baſe ſon*, he left the bulk of his fortune; and alſo a daughter

In 1576 happened the death of Walter earl of Eſſex, which drew upon Lord Leiceſter many ſuſpicions, eſpecially after his marriage with the Counteſs of Eſſex was declared; as it was two years after. For, in 1578, when the Duke of Anjou preſſed the match that had been propoſed between himſelf and the queen, his agent, believing Lord Leiceſter to be the greateſt bar to the duke's pretenſions, informed the queen of his marriage with Lady Eſſex; upon which her majeſty was ſo enraged, that, as Camden relates, ſhe commanded him not to ſtir from the caſtle of Greenwich, and would have committed him to the Tower, if ſhe had not been diſſuaded from it by the Earl of Suſſex. Lord Leiceſter being now in the very height of power and influence, many attempts were made upon his character, in order to take him down: and, in 1584, came out a moſt virulent book againſt him, commonly called Leiceſter's Commonwealth. The drift of it was to ſhew, that the Engliſh conſtitution was ſubverted, and a new form imperceptibly introduced, to which no name could be ſo properly given, as that of a Leiceſtrian Commonwealth. To make this paſs the better, the earl was repreſented as an atheiſt in point of religion, a ſecret traitor to the queen, an oppreſſor of her people, an inveterate enemy to the nobility, a complete monſter with regard to ambition, cruelty, and luſt; and not only ſo, but as having thrown all offices of truſt into the hands of his creatures, and uſurped all the power of the kingdom. The queen, however, did not fail to countenance and protect her favourite; and, to remove as much as poſſible the impreſſion this bitter performance was ſure to make upon the vulgar, cauſed letters to be iſſued from the privy-council, in which all the facts contained therein were declared to be abſolutely falſe, not only to the knowledge of thoſe who ſigned them, but alſo of the queen herſelf. Nevertheleſs, this book was univerſally read, and the contents of it generally received for true; and

the great ſecrecy with which it was written, printed, and publiſhed, induced a ſuſpicion, that ſome very able heads were concerned either in drawing it up, or at leaſt in furniſhing the materials. It is not well known what the original title of it was, but ſuppoſed to be A Dialogue between a Scholar, a Gentleman, and a Lawyer; though it was afterwards called Leiceſter's Commonwealth. It has been ſeveral times reprinted, particularly in 1600, 8vo. in 1631, 8vo. the running-title being A Letter of State to a Scholar of Cambridge; in 1641, 4to. and 8vo. with the addition of Leiceſter's Ghoſt; and again in 1706, 8vo. under the title of Secret Memoirs of Robert Dudley, Earl of Leiceſter, with a preface by Dr. Drake, who pretended it to be printed from an old manuſcript. The deſign of reprinting it in 1641, was, to give an ill impreſſion of the government of Charles I. and the like was ſuppoſed to be the deſign of Dr. Drake in his publication. Indeed, it may be conſidered as a ſtanding check upon all overgrown miniſters, and governments by faction.

Dec. 1585, Lord Leiceſter embarked for the Proteſtant Low-countries, whither he arrived in quality of governor. At this time the affairs of thoſe countries were in a perplexed ſituation; and the States thought that nothing could contribute ſo much to their recovery, as prevailing upon Queen Elizabeth to ſend over ſome perſon of great diſtinction, whom they might ſet at the head of their concerns, civil and military: which propoſition, ſays Camden, ſo much flattered the ambition of this potent earl, that he willingly conſented to paſs the ſeas upon this occaſion; as being well aſſured of moſt ample powers. Before his departure, the queen admoniſhed him to have a ſpecial regard to her honour, and to attempt nothing inconſiſtent with the great employment to which he was advanced: nevertheleſs, ſhe was ſo diſpleaſed with ſome proceedings of his and the States, that the year after ſhe ſent over very ſevere letters to them, which drew explanations from the former, and deep ſubmiſſions from the latter. He returned to England, Nov. 1585; and, notwithſtanding what was paſt, was well received by the queen. What contributed to make her majeſty forget his offence in the Low-countries, was the pleaſure of having him near her, when ſhe wanted his counſel extremely: for now the affair of Mary queen of Scots was upon the carpet, and the point was, how to have her taken off with the leaſt diſcredit to the queen. The earl thought it beſt to have her poiſoned; but that ſcheme was not found practicable, ſo that they were obliged to have recourſe to violence. The earl ſet out again for the Low-countries in June 1587; but, great diſcontents ariſing on all ſides, was recalled in November. Camden relates, that on his return, finding an accuſation preparing againſt him for mal-adminiſtration there, and that he was ſummoned to appear before the council, he privately implored the queen's protection, and beſought her "not to receive him with diſgrace upon his return, whom at his firſt departure ſhe had ſent out with honour; nor bring down alive to the grave, whom her former goodneſs had raiſed from the duſt." Theſe expreſſions of humility and ſorrow wrought ſo far upon her, that he was admitted into her former grace and favour.

In 1588, when the nation was alarmed with the apprehenſions of the Spaniſh armada, Lord Leiceſter was made lieutenant-general, under the queen, of the army aſſembled at Tilbury. This noble perſonage ſtood high in the favour of his miſtreſs to the laſt: for he died this year, Sept. 4, at his houſe at Cornbury in Oxfordſhire, while he was upon the road to Kenilworth. His corpſe was removed to Warwick, and buried there in a magnificent manner. He is ſaid to have inherited the parts of his father. His ambition was great, but his abilities ſeem to have been greater. He was a finiſhed courtier in every reſpect; and managed his affairs ſo nicely, that his influence and power became almoſt incredible. He had a competent knowledge of the Latin tongue, and was thoroughly verſed in the French and Italian.

DUDLEY, a town in Worceſterſhire, with a market on Saturday, and a great manufacture of nails and other iron-wares. There is a church at each end of the longeſt ſtreet. It is 10 miles N. W. of Birmingham and 120 of London. Long. 2. 0. W. Lat. 52. 33. N.

DUFFET (Thomas). This author was a milliner in the New-Exchange; but, his genius leading him to dramatic poetry, he wrote ſeveral pieces for the ſtage, which at firſt met with good ſucceſs, but afterwards ſunk into contempt and oblivion. Traveſtie and burleſque will ever create a laugh; but, however intended, can never do any eſſential hurt to performances of real worth; nor could The Mock Tempeſt, Pſyche, or Empreſs of Morocco, leſſen, in the opinion of the judicious, the value of the originals on which they are founded. The pieces Mr. Duffet has left behind him, the beſt of which were thoſe which met with the worſt ſucceſs, are ſix in number. They are enumerated in the Biographia Dramatica.

DUGARD (William), an eminent ſchool-maſter and learned man, was the ſon of Henry Dugard, a clergyman, and born at Bromſgrove in Worceſterſhire in 1606. He was inſtructed in claſſical learning at a ſchool in Worceſter; and from thence ſent, in 1622, to Sidney College, Cambridge. In 1626 he took the degree of B.A. and that of M.A. in 1630. Soon after he was appointed maſter of Stamford-ſchool in Lincolnſhire; from whence, in 1637, he was elected maſter of the free-ſchool in Colcheſter. He reſigned the care of this ſchool Jan. 1642-3; and, May 1644, was choſen head-maſter of Merchant-Taylors' ſchool in London. This ſchool flouriſhed exceedingly under his influence and management; but for ſhewing, as was thought, too great an affection to the royal cauſe, and eſpecially for being concerned in printing Salmaſius's defence of Charles I. he was deprived of it Feb. 1649-50, and impriſoned in Newgate; his wife and ſix children turned out of doors; and a printing-office, which he valued at a thouſand pounds, ſeized. That he was very well affected to Charles I. and to the royal intereſt, appears from a curious regiſter he kept of his ſchool, which is ſtill extant in Sion-College library, wherein are entered two Greek verſes, on the beheading of that monarch, to this effect: "Charles, the beſt of kings, is fallen by the hands of cruel and wicked men, a martyr for the laws of God and of his country." There are alſo two more Greek verſes on the burial of Oliver Cromwell's mother in Weſtminſter Abbey to this effect: "Here lieth the mother of a curſed ſon, who has been the ruin of two kings, and of three kingdoms." However, it was not for theſe verſes that he was diſmiſſed the ſchool, but for being concerned in printing Salmaſius's book.

Being ſoon releaſed from this confinement, he opened, April 1650, a private ſchool on Peter's-hill, London; but, in September, was reſtored to his former ſtation, by means of the ſame council of ſtate who had cauſed him to be removed. There he continued with great ſucceſs and credit, till about 1661; when he was diſmiſſed for breaking ſome orders of the Merchant-Taylors, though he had been publicly warned and admoniſhed of it before. He preſented a remonſtrance to them upon that occaſion, but to no purpoſe; whereupon he opened a private ſchool in Coleman-ſtreet, July 1661, and, by March following, had gathered an hundred and ninety-three ſcholars: ſo great was his reputation, and the fame of his abilities. He lived a very little while after, dying in 1662. He gave by will ſeveral books to Sion-College library. He publiſhed ſome few pieces for the uſe of his ſchools; as,

1. Lexicon Græei Teſtamenti Alphabeticum; unà cum Explicatione Grammaticâ Vocum ſingularum, in uſum Tironum, Necnon Concordantiâ ſingulis dictionibus appoſitâ, in uſum Theologiæ Candidatorum, 1660. 2. Rhetorices compendium, 8vo. 3. Luciani Samoſatenſis dialogorum ſelectorum libri duo. A. G. Dugardo recogniti, et variis collatis exemplaribus, multo caſtigatius quam ante editi. Cum interpretatione Latina, multis in locis emendata, et ad ealcem adjecta, 8vo. 4. A Greek Grammar.

DUGUET (James-Joſeph), a French writer, and author of almoſt twenty works in the French language, was born in 1649, and became a prieſt of the Oratory. In 1685 he quitted the Oratory, and went to Bruſſels to his great friend Arnauld: but, the air of this place not agreeing with him, he returned the ſame year to France, and lived a very retired life in the midſt of Paris. He afterwards lived with preſident Le Menars. His oppoſition to the Bull Unigenitus, and his attachment to the doctrine of his friend Queſnel, occaſioned him much trouble, by obliging him often to ſhift his quarters. He was in Holland, at Troyes, and Paris; but there was a ſweetneſs and moderation in his make, which kept him always tranquil. He died at Paris in 1733. All his works are upon ſubjects of theology and piety, except De l'Education d'un Prince; firſt printed in 4to. and afterwards in 4 vols. 12mo. with his life prefixed by Abbé Goujet. The ſtyle of Duguet is clear, pure, and elegant, but too diffuſe.

DUINS, or Doino, a ſea-port of Germany, in the duchy of Carniola, eight miles N. W. of Trieſt. Long. 13. 46. E. Lat. 45. 55. N.

DUISBURGH, a town of Weſtphalia, in the duchy of Cleves, with a univerſity; ſeated on the Roer, near the Rhine, 12 miles N. of Duſſeldorff. Long. 6. 50. E. Lat. 51. 22. N.

DUITZ, or Duytz, a town of Weſtphalia, on the E. ſide of the Rhine, oppoſite Cologne, It is chiefly inhabited by Jews, who are not allowed to dwell at Cologne, or even enter that city without permiſſion.

DUKE (Richard), was bred at Weſtminſter and Cambridge, and was ſome time tutor to the Duke of Richmond. He appears from his writings to have been well qualified for poetical compoſitions: and, conſcious of this when he left the univerſity, he enliſted himſelf among the wits. He was the familiar friend of Otway, and was engaged, among other popular names, in the tranſlations of Ovid and Juvenal. In his Review, though unfinithed, are ſome vigorous lines. With the wit he ſeems to have ſhared the diſſoluteneſs of the times; for ſome of his compoſitions he muſt have reviewed himſelf with deteſtation in his later days, when he publiſhed thoſe ſermons which Fenton has commended. In 1683, being then M. A. and fellow of Trinity College in Cambridge, he wrote a poem on the marriage of Lady Anne with George prince of Denmark. He took orders, and being made prebendary of Glouceſter, became a proctor in convocation for the church, and chaplain to Queen Anne. In 1710 he was preſented by the Biſhop of Wincheſter to the wealthy living of Witney in Oxfordſhire, which he enjoyed but a few months. Feb. 10, 1711, having returned from an entertainment, he was found dead the next morning.

DUKE OF YORK'S ISLAND, an iſland in the S. Pacific Ocean, diſcovered by commodore Byron in 1765, lying N. of the Friendly Iſlands. The ground was covered by land-crabs, but no other animal was ſeen. Long. 172. 30. W. Lat. 8. 0. S.

Duke of York's Island, an iſland in the S. Pacific Ocean, about 10 miles long, lying between Lord Howe's Group and the S.E. point of New Ireland. The natives go entirely naked; are ſtout, well made, and of a light copper colour: their hair is woolly, but they dreſs it with greaſe and powder, and make it hang ſtraight. Their huts are neatly made, chiefly of bamboo, and placed under the ſhade of cocoa-nut trees, with a fence before them, within which the plantain, banana, yam, ſugar-cane, &c. are cultivated. The iſland is a perfect garden, and produces, beſides the plants above mentioned, betel-nut, mangoes, bread-fruit, and guavas. Here are alſo dogs, hogs, poultry, and ſome ſpices. The nutmeg was ſeen by Captain Hunter, who anchored in Port Hunter Bay, in this iſland, in May 1791. Long. 152. 42. E. Lat. 4. 7. S.

DULAS, a village on the N.E. ſide of the iſle of Angleſey, much frequented on account of the corn and butter trade; and for fern-aſhes. Near it is a red ochrey earth, and veins of lead ore.

DULCIGNO, a town of Turkey in Europe, in Albania, on the coaſt of the Adriatic, with a good harbour, 15 miles S.W. of Scutari. Long. 18. 56. E. Lat. 42. 23. N.

DULDERSTADT, a town of Germany, in the duchy of Brunſwick, ſubject to the elector of Mentz, ſeated on the Whipper, 15 miles E. of Gottingen, and 130 N.E. of Mentz. Long. 10. 14. E. Lat. 51. 28. N.

DULMEN, a town of Weſtphalia, in the biſhopric of Munſter, 18 miles S.W. of Munſter. Long. 7. 4. W. Lat. 51. 47. N.

DULVERTON, a town in Somerſetſhire, with a market on Saturday, ſeated on a branch of the Ex, 24 miles E. of Barnſtaple, and 164 W. by S. of London. Long. 3. 30. W. Lat. 51. 3. N.

DULWICH, a village in Surrey, five miles S. of London. It is famous for a college, founded by Edward Alleyn, a principal performer of Shakſpeare's plays, in the reign of Elizabeth. He called it The College of God's Gift, and endowed it for a maſter, warden, and four fellows; three of whom were to be divines, and the fourth an organiſt; for ſix poor men and ſix poor women, and for 12 poor boys, to be educated by two of the fellows. The maſter and warden are always to be of the name of Alleyn or Allen, and to be ſingle men.

DUMARING, a town of the iſland of Borneo, on the E. coaſt. Long. 117. 30. E. Lat. 2. 10. N.

DUMBLANE, a village in Perthſhire, remarkable for a battle, called the battle of Sheriff-muir, between the Duke of Argyle and the rebel Earl of Mar, in 1715. At the upper end of the village is a ruinous cathedral. It is 30 miles N.W. of Edinburgh.

DUMFRIES, a town of Virginia, on the N. ſide of Quantico Creek, four miles above its entrance into the Potomac. It is 185 miles S.W. of Philadelphia. Long. 77. 26. W. Lat. 38. 36. N.

DUN, a town of France, in the department of Meuſe, ſituate on the Meuſe, 15 miles N.N.W. of Verdun.

DUNAMOND, a town of Ruſſia, in the government of Riga. It formerly belonged to the duchy of Courland, but was taken by the Swedes in their wars with the Poles. In 1700 it was taken by the Poles, but was retaken the next year, by Charles XII. In 1710 it was taken by the czar, Peter the Great. It is ſituate at the mouth of the Dwina, 15 miles N.W. of Riga, and 20 N. of Mittau. Long. 23. 41. E. Lat. 57. 5. N.

DUNEBURG, a town of Livonia, on the Dwina, 90 miles S.E. of Riga. Long. 27. 0. E. Lat. 56. 8. N.

DUNGENESS, a cape on the coaſt of Kent, eight miles S. by W. of Romney. Long. 0. 59. E. Lat. 50. 52. N.

DUNLEER, a borough of Ireland, in the county of Louth, ſeven miles N. of Drogheda.

DUNLOP, ſometimes pronounced Delep, a village in Ayrſhire, in the diſtrict of Cunningham, celebrated for rich and delicate cheeſe.

DUNNINGTON, a town in Lincolnſhire, with a market on Saturday, 27 miles S.E. of Lincoln, and 111 N. of London. Long. 0. 7. W. Lat. 52. 55. N.

DUNNOSE, a cape on the S. ſide of the Iſle of Wight. Long. 116. W. Lat. 50. 33. N.

DUNSE, a town in Berwickſhire, ſituated between the forks of the rivers Blackadder and Whiteadder, in a rich and fertile country, 12 miles W. of Berwick upon Tweed. Long. 2. 5. W. Lat. 55. 46. N.

DUNSTER, a town in Somerſetſhire, with a market on Friday, and a harbour on the Briſtol Channel. It has a caſtle on a ſteep knoll; and at one corner of the terrace is an ancient turret, ſuppoſed to be a part of the original caſtle, built in the time of the Conqueror. A priory ſtood on the N.W. ſide of the caſtle, the church of which now ſerves for the pariſh church. It is 20 miles N.W. of Taunton, and 158 W. of London. Long. 3. 41. W. Lat. 51. 13. N.

DUNWICH, a borough in Suffolk, with a market on Saturday. It is ſeated at the top of a looſe cliff, and was formerly a biſhop's fee, but it is now only the remains of a town, all but two pariſhes being waſhed away by the ſea. It ſends two members to parliament, and is 24 miles S. of Yarmouth, and 99 N. of London. Long. 1. 55. E. Lat. 52. 21. N.

DUPORT (James), a learned Engliſh divine, and particularly ſkilled in the Greek language, was born in the beginning of the 17th century, and educated at Cambridge; in which univerſity he was afterwards choſen Greek profeſſor, and maſter of Magdalen College. He was preferred at length to the deanery of Peterborough, and died in 1680. He left behind him ſeveral learned works, amongſt which is a Latin verſion of the Pſalms. His Gnomologia Homeri cum duplice paralleliſmo, viz. ex ſacra ſcriptura et gentium ſcriptoribus, printed at Cambridge, in 1660, ſhews his extenſive reading, and great knowledge of the Greek tongue, and was then deemed very uſeful for the underſtanding of that poet. In 1712, when Theophraſtus's Characters were publiſhed by Needham, there were printed along with them ſome lectures of Profeſſor Duport upon the firſt ſixteen characters, the fifth excepted. Theſe lectures had lain in the library of More biſhop of Ely for many years, and were at firſt ſuppoſed to have been drawn up by the learned Stanley, who wrote The Lives of the Greek Philoſophers; but, upon their being communicated, they were ſoon known to belong to Profeſſor Duport, and to be what he had read to his pupils at Cambridge, during the time of the great rebellion.

DUQUELLA, a province of Morocco, about 80 miles long and 60 broad, exceedingly fertile in corn and paſture.

DURAMPOUR, a town of the Deccan of Hindooſtan, in the province of Guzarat, 45 miles S.S.E. of Surat, and 96 N.N.E. of Bombay. Long. 73. 14. E. Lat. 20. 32. N.

DURANCE, a river of France, which is formed near Briançon, of the rivulets Dure and Ance, and watering Embrun, Tallard, Siſteron, Monoſque, and Cavillon, falls into the Rhone, below Avignon.

DURANGO, a populous town of Spain, in Biſcay, 14 miles S.E. of Bilboa. Long. 2. 56. W. Lat. 43. 18. N.

DURANGO, a town of New Spain, in New Biſcay, with a biſhop's ſee, and good ſalt-works, in a fertile country. Long. 105. 0. W. Lat. 24. 50. N.

DURAZZO, a village of Albania, with a Greek archbiſhop's ſee. It has a ruined fortreſs, and a good harbour on the gulf of Venice, 50 miles N. of Valona. Long. 19. 19. E. Lat. 41. 54. N.

DURBY, a town of French Luxemburgh, capital of a county of the ſame name, ſeated on the Outre, 20 miles S. of Liege. Lon. 5. 28. E. Lat. 58. 18. N.

DURCKEIM, a town of Germany in the palatinate of the Rhine, 12 miles N.E. of Neuſtadt. Long. 8. 21. E. Lat. 49. 26. N.

DURELL (John), a celebrated divine, was born in the iſle of Jerſey in 1626, and ſent to Merton College in Oxford when he was fifteen years old: but when that city came to be garriſoned for Charles I. and the ſcholars took arms for him, he left it, at the end of two years, and went to France; where, at Caen in Normandy, he was admitted to the degree of maſter of arts in 1644. Afterwards he returned to his own country: but driven from thence a ſecond time, he received epiſcopal ordination at Paris, in the chapel of Sir Richard Brown, his majeſty's then reſident in France, from the hands of Thomas biſhop of Galloway, about 1651; ſo that, as Wood ſays, being a native of Jerſey, ordained in France, and by a Scotch biſhop, did make ſome doubt whether he was, what he calls himſelf in his books, "eccleſiæ Anglicanæ preſbyter." Soon after he was invited by the Reformed Church at Caen, by an expreſs on purpoſe, to come and ſupply the place of the famous orientaliſt and critic Samuel Bochart, who was then going into Sweden upon an invitation from Queen Chriſtina; and by the Landgrave of Heſſe, to preach in French at his highneſs's court: but it happened, that he could not accept of either of theſe invitations, being made chaplain to the Duke de la Force, father to the Princeſs of Turenne. Upon the reſtoration of Charles II. he returned to England; and was very inſtrumental in ſetting up the new epiſcopal French church at the Savoy in London. In 1663 he had a prebend conferred upon him in the church of Saliſbury, another ſoon after in that of Windſor, and another after that in the church of Durham; being all the while chaplain in ordinary to his majeſty. In 1669 he was created doctor in divinity at Oxford, by virtue of the chancellor's letters. In 1677 he was made dean of Windſor, but did not live long enough to be a biſhop, though he lived ſome years after. All theſe preferments he obtained, partly through his own qualifications, being not only a good ſcholar, but alſo a perfect courtier; and partly through his intereſt with Charles II. to whom he was perſonally known both in Jerſey and France. He publiſhed ſeveral things; and, among the reſt, 1. The Liturgy of the Church of England aſſerted, in a ſermon preached in French at the chapel of the Savoy before the French congregation. Tranſlated into Engliſh by G. B. doctor in phyſic, 1662. 2. A View of the Government and public Worſhip of God in the reformed Churches beyond the Seas: wherein is ſhewed their conformity and agreement with the church of England, as it is eſtabliſhed by the act of uniformity, 1662. Exceptions being made to this book by the Nonconformiſts, he publiſhed, 3. A Vindication of the Church of England againſt the unjuſt and impudent Accuſations of the Schiſmatics, 1669. He died in 1683, and was buried at Windſor.

DUREN, a town of Germany, in the duchy of Juliers, on the river Roer, 12 miles S. of Juliers. Long. 6. 40. E. Lat. 50. 44. N.

DURSLEY, a town in Glouceſterſhire, with a market on Thurſday, and a caſtle, now in ruins. It is inhabited by clothiers, and ſeated near the Severn, 13 miles S. W. of Glouceſter, and 107 W. of London. Long. 2. 23. W. Lat. 51. 40. N.

DURTAL, a town of France, in the department of Mayne and Loire. Its chief trade is tanning. It is 16 miles N.E. of Angers.

DUSKY BAY, a bay of the iſland of New Zealand, in the S. Pacific Ocean. The country here is ſteep, and the hills near the ſea-ſide are covered with intricate and impenetrable foreſts. Long. 166. 18. E. Lat. 45. 47. S.

DUTLINGEN, a town of Suabia, with a bridge over the Danube, and a caſtle, ſeated on a mountain. It belongs to

the Duke of Wirtemberg, and is 33 miles N.W. of Conſtance. Long. 9. 2. E. Lat. 48. 10. N.

DYEING OF WOOD. The methods by which that proceſs is effected are fully ſet forth in the "*Annales des Arts et Manufactures*" by Mr. Nils Nyſtrom, of Norkoping in weden, who alſo has invented a ſuperior mode of preparing a proper varniſh for wood with amber. See AMBER in this SUPPLEMENT.

After deſcribing the proceſs for making the varniſh of amber, he proceeds to direct the method of preparing the iron dye for ſtaining wood.

Iron dye.—Take eight parts of iron filings, and thirty-two of aqua fortis. The nitric acid (or aqua fortis) ſhou d previouſly be diluted with ſixteen parts of water, in a veſſel of ſtone-ware, before we add the iron filings. We ſhould then ſtir this mixture with a wooden ſpatula. This preparation ought to be made under a chimney, on account of the effervefcence and diſengagement of inflammable air (hydrogene gas) which takes place The veſſel which we uſe ought to be twice as large, at leaſt, as the quantity of the mixture would fill, in order that it may be prevented from overflowing during the effervefcence. When the iron has been diſſolved, the mixture has acquired a yellowiſh-brown colour, and as ſoon as it has cooled, let it be put into an open bottle, and placed upon a ſand-bath; and there let it remain for the ſpace of eight-and-forty hours, taking care frequently to ſhake the bottle during that time. When the depoſition has taken place, the ſolution ſhould be poured into flaſks, which ought to be carefully corked: it will then be fit for uſe.

If this preparation has been made with the requiſite care, we ſhall obtain a ſolution of a yellowiſh colour, which is fit for colouring different kinds of wood. If we have added too much water, or if the aqua fortis has been too weak, a deep brown colour is produced; in which caſe, we muſt add a quantity of nitric acid, till the yellow ſhade appears.

This dye may be applied to every kind of wood, except the oak, which, as ſoon as it is applied to it, becomes entirely black; it alſo communicates to other kinds of wood different colours, according as it is applied in a larger or ſmaller quantity. The moſt common ſhades are the yellow-brown, and the deep-brown, with ſtreaks or ſpots of a browniſh red.

The experience of four years has demonſtrated the durability of this kind of dye; it reſiſts the action of the air, of the light, and even of the direct rays of the ſun, without undergoing any alteration. M. Nyſtrom has expoſed ſpecimens of wood, ſtained in this manner, in the moſt diſadvantageous ſituations, without their colours having been perceptibly affected.

Dye of Fernambouc wood.—Take eight parts of Fernambouc wood, four of alum, and four of red ochre pulveriſed. Pour water upon this mixture, and let it infuſe for the ſpace of twenty-four hours; then reduce it to a quarter of the quantity, by boiling, after which, ſtrain it through a piece of fine linen, and put the liquid into bottles, to be uſed as you may have occaſion for it.

When we make uſe of theſe dyes, we may plunge the pieces of wood into them, ſo that they may penetrate into them on all ſides. If we take one part of the iron dye, and dilute it again with three parts of water; if we then pour it upon ſeveral pieces of wood, which are to be kept by force under the fluid; and finally, if we depoſit this preparation in a warm chamber, the wood will in a ſhort time be penetrated by the liquor to the depth of a quarter of an inch, and in ſome parts the liquor will penetrate ſtill deeper.

It is to be obſerved, that the dyeing liquid ſhould be more or leſs diluted with water, according as the natural colour of the wood is more or leſs deep, or charged with gallic acid. The pieces of wood muſt be frequently turned in order that all their ſurfaces may be equally expoſed to the action of the dye, and acquire an uniform tinge. The ſame proceſs may alſo be uſed with the Fernambouc dye. This method, however, is only applicable to pieces of wood of certain dimenſions; for dyeing large pieces a different one muſt be adopted.

In order to dye the white woods with the two compoſitions already deſcribed, the piece of wood ought to be rubbed, five different times, with a ſponge dipped in the iron dye, till it has acquired a mahogany colour. During this application, we muſt remember frequently to ſhake the liquor, as the oxyde of iron always falls to the bottom. It is alſo neceſſary that we ſhould ſuffer the wood to dry, after each application, before we proceed to the next. When the wood has properly dried, it muſt be rubbed once or twice with linſeed oil, always letting it dry after each application. The more the wood is imbued with the linſeed oil, the more mellow are the colours. Another advantage which reſults from this proceſs is, that the wood does not abſorb ſo much of the amber-varniſh, which is expenſive, and which is thus compelled to remain upon the ſurface, to which it gives a gloſs.

The wood being prepared in this manner, it is done over with an uniform coat of amber-varniſh, by paſſing once or twice over it a ſponge dipped in this varniſh, till the ſurface has acquired a very bright gloſs. If the wood has been well imbued with linſeed oil, a ſingle coating of varniſh will be ſufficient; though ſome articles of furniture, ſuch as bedſteads, cheſts of drawers, chairs, &c. which are expoſed to conſtant uſe, and to conſiderable friction, require the application of ſeveral coatings, between each of which the varniſh ſhould be ſuffered to dry.

When the wood has been varniſhed, any inequalities or ruggedneſſes that may remain upon it are removed, after the varniſh has completely dried, by poliſhing it with reeds, after which one more coating of varniſh is applied, to cover the parts that have been laid bare. For applying the varniſh, a ſponge has been found to be by far the beſt inſtrument. It covers the wood in a more uniform manner than the painter's bruſh, which in general forms ſtreaks in the coating, and frequently leaves hairs in it, which afterwards ſeparate themſelves from the ſurface of the wood. The varniſhing-ſponge ought, as ſoon as we have done uſing it, to be put into a bottle, to preſerve it from the contact of the air; for, without this precaution, it would grow hard, and crack, ſo as to become unfit for uſe.

In applying the Fernambouc dye, we may proceed according to the ſame method. When this dye is applied to the wood of the birch, or knotty alder, undulated ſtreaks are formed upon the ſurface, the dye running in the direction of the fibres. The ſame effect takes place with the wood of the pine and red fir: for the reſinous veins do not attract the dye ſo ſtrongly as the reſt of the wood: but this circumſtance, inſtead of being a diſadvantage, frequently adds very much to the beauty of the wood.

Theſe varniſhes have been employed by M. Nyſtrom, after the manner that we have deſcribed, for all kinds of furniture, and with great ſucceſs. They have been uſed for the ſpace of nearly three years, and no change has as yet been obſerved in their appearance. When the varniſh has become dry and hard, it reſiſts the effects of friction and of boiling water; neither is it ſubject to loſe its gloſs by age, provided it be not ſcratched by any hard ſubſtance. If ink, or any other coloured liquid, ſhould drop upon it, it does not penetrate, but may be removed by waſhing the ſurface of the varniſh with warm water. This advantage might alone be ſufficient to recommend the application of this varniſh to mahogany itſelf. It poſſeſſes the property of hardening the ſurface of ſoft woods. Its uſe is not attended with much expence, eight ounces being ſufficient

for varniſhing a common table—a card-table for inſtance. If ſtreaks form in it, the ſpots that have been injured may be repaired with a new coating of varniſh; finally, by varniſhing furniture in this manner every four or five years, we may make it appear perpetually new.

Tables, and other large pieces of furniture, made of ſtained wood, which require a high degree of poliſh, may be finiſhed with pumice-ſtone: thoſe of the moſt even grain and the ſmootheſt ſurface are to be preferred. The white, or ſoft woods, generally puff up when the varniſh is applied, and thus loſe their poliſh; it is therefore very neceſſary that they ſhould previouſly be rubbed with pumice-ſtone.

In treating of amber-varniſh, it might perhaps have been obſerved, that it may be applied to gilding without producing any conſiderable change in its luſtre, particularly if applied in very thin layers, and in an uniform manner. It is eaſy to conceive the advantage of an application, which enables us to clean gilt frames, or other furniture, by waſhing them with ſpirit of wine, or even with ſoap and water, without injury to their brilliancy. It cannot, however, be uſed for covering falſe gilding, as this is attacked and diſcoloured by the varniſh. We ſhall ſtill remark, that it may be uſed for varniſhing all ſorts of oil colours, except the blue, to which it gives a greeniſh tinge. This varniſh poſſeſſes the advantage, that it never cracks, like thoſe which are prepared with gum-lac and ſpirit of wine. A prodigious quantity of amber grows on the coaſts of the Baltic, from whence it might eaſily be obtained.

DYNAMICS, a name applied to that department of phyſico-mathematical ſcience which contains the *abſtract doctrine of moving forces*; that is, whatever neceſſarily reſults from the relations of our idea of motion, and of the immediate cauſes of its production and variations.

E.

EAR

EAOOWE, one of the Friendly Iſlands, in the S Pacific Ocean, diſcovered by Taſman, in 1643, and by him named Middleburg. The land gently riſes to a conſiderable height, preſenting a beautiful proſpect of extenſive meadows, adorned with tufts of trees, and intermixed with plantations. Long. 174. 30. W. Lat. 21. 24. S.

EARLSTON, or EARSILTON, a town in Berwickſhire, ſeated on the river Leader, 35 miles S.E. of Edinburgh. It is the birth-place of the celebrated Thomas the Rhymer, whoſe real name was Thomas Lermont: the ruins of the little tower he poſſeſſed, ſtill remain at the weſt end of the town. A little below Earlſton, on a rocky bank overlooking the Leader, ſtands Cowdenknows, an old building, now ſomewhat modernized; and on the adjacent knolls may be ſeen the remains of its *broom*, ſo renowned in Scottiſh ditty.

EARN, a river, which iſſues from a lake of the ſame name, in Perthſhire. It meanders for above 20 miles, through the valley of Strathearn, and joins the Tay, below Perth.

EARNE, a lake of Ireland, in the county of Fermanagh, 30 miles in length. It is narrow in the middle; and in this part is an iſland on which ſtands Inniſkilling.

EARTH *(Encycl.)*. In that article, from a ſuppoſition that our limits would not admit of the detailed opinions of philoſophers on ſo copious a ſubject, we avoided an account of the different *theories of the Earth*. In this place, however, we think it neceſſary to trace thoſe which are allowed to deſerve the greateſt ſhare of attention.

For a long time, the philoſophy of Ariſtotle prevailed, and the world was thought to be upheld by forms, qualities, and other unintelligible and imaginary beings.—At laſt the French philoſopher, Deſcartes, ſuperſeded the Ariſtotelian, by introducing the atomic, or Democritic, and Epicurean philoſophy. The Carteſian ſyſtem, however, was quickly ſuperſeded by the Newtonian; which ſtill continues, though conſiderably different from what it was left by that great man.—His opinions, indeed, concerning the coſmogony ſeem to have been in a fluctuating ſtate; and hence he delivers himſelf in ſuch a manner, that he hath often incurred the charge of contradicting himſelf.—He maintained, for inſtance, that matter was infinitely diviſible, and the mathematical demonſtrations of this propoſition are well known. Notwithſtanding this, however, when he comes particularly to ſpeak of the original conſtruction of the world, he ſeems to retract this opinion, and adopt the atomic philoſophy. He tells us, that it ſeems probable, that in the beginning God formed matter in *ſolid, maſſy, impenetrable* particles, &c.; and that of theſe particles, endowed with various powers of attraction and repulſion, the preſent ſyſtem of nature is formed. His primary laws of nature are only three in number, and very ſimple. The firſt is, that all matter has a tendency to continue in that ſtate in which it is once placed, whether of reſt or motion. If it is at reſt, for example, it will continue at reſt for ever, without beginning motion of itſelf; but if it is once ſet in motion, by any cauſe whatever, it will for ever continue to move in a right line, until ſomething either ſtops it altogether, or forces it to move in another direction. 2. That the change of motion is always equivalent to the moving force employed to produce it, and in the direction of the right line in which it is impreſſed; that is, if a certain force produces a certain motion, double that force will produce double that motion, &c. 3. Reaction is always contrary and equal to action; or the actions of two bodies upon one another are always equal and contrary to one another.

From theſe three laws, together with the two contrary forces of attraction and repulſion, Sir Iſaac Newton and his followers have attempted to explain all the phenomena of nature. When they come to explain the nature of the attractive and repulſive forces, however, they are exceedingly embarraſſed. Sir Iſaac hath expreſſed himſelf in two different ways concerning them. In his Principia, he pretty poſitively determines them to be owing to a cauſe that is not material: and in his queries, he ſuppoſes they may be effects of ſome ſubtile matter which he calls *ether*. This diſagreement with himſelf hath produced no ſmall diſagreement among his followers. One party, laying hold of his aſſertions in the Principia, determine the world to be upheld by *immaterial* powers; while the other, neglecting the Principia, and taking notice only of the queries at the end of the Optics, ſtrenuouſly maintain, that attraction and repulſion are owing to the action of ſome exceedingly fine and ſubtile ether.—The firſt of theſe ſuppoſitions, it is argued, neceſſarily involves us in one of the following dilemmas. 1. If the attractive and repulſive forces are not material, they muſt either be occaſioned by ſpiritual beings, or they muſt be *qualities* of matter. If they are occaſioned by the action of immaterial beings, theſe beings muſt either be created or uncreated. If they are produced by the action of created beings,

we run into the ſuppoſition of ſome of the ancient heathens, that the world is governed by demons or ſubordinate intelligences; and thus may make an eaſy tranſition to polytheiſm. If attraction and repulſion are the immediate action of the Deity himſelf, we run into the doctrine of making God the ſoul of the world.—This laſt hypotheſis hath been moſt ſtrenuouſly adopted by Mr. Baxter in his treatiſe of the Immateriality of the human Soul. Mr. Boſcovich, Mr. Mitchel, and Dr. Prieſtley, have likewiſe adopted the hypotheſis of immaterial powers to ſuch a degree, that, according to them, the whole world conſiſts of nothing elſe but *attractions* and *repulſions* mixed with *phyſical points*. 2. If we ſuppoſe the attractive and repulſive powers to be only *properties, qualities*, or *laws*, impreſſed on matter by the Deity, we might as well have been contented with the occult qualities of Ariſtotle.—If attraction and repulſion are occaſioned by the action of mere matter, and all the powers in nature are only material, the charge is incurred of making nature direct itſelf in ſuch a manner, that there is no occaſion for the interpoſition, or even the exiſtence, of a Deity at all.

Thus we ſee, the Newtonian coſmogony muſt incline either to the Platonic and Ariſtotelian, or to the Atomic or Epicurean; according to the hypotheſis we lay down concerning the nature of attraction. Des Cartes's ſyſtem was plainly a revival of that of Democritus and Epicurus with ſome corrections and improvements. It was further improved and corrected by Mr. Hutchinſon, who added to it the authority of revelation. The created agents he choſe in his coſmogony were fire, light, and air. Theſe, we ſee, have indeed a very conſiderable ſhare in the operations of nature; but unleſs we explain the manner in which they operate, our knowledge is not at all increaſed, and we might as well have been contented with the Newtonian attraction and repulſion, or even the occult qualities of Ariſtotle. Attempts have indeed been made to ſolve the phenomena of nature, from the action of theſe three agents, both by Hutchinſon himſelf, and many of his followers.—Theſe attempts, however, have always proved unſucceſsful. Some phenomena indeed may be explained pretty plauſibly from the known action of theſe three; but when we come to ſpeak of what may be called the *nicer operations* of nature, ſuch as the growth of plants or animals, we are utterly at a loſs.

The manifeſt deficiency of active principles in all the theories of the earth that have yet been invented, hath occaſioned a conſtant ſearch after others which ſhould be able, by their ſuperior activity, to fill up the blank which neceſſarily remained in the ſyſtem.—Pythagoras, Plato, and Ariſtotle, being unable to account for the formation of the earth from their four elements, called in the aſſiſtance of a *fifth*, which was never yet diſcovered. Epicurus, finding the motions attributed to his atoms by Democritus to be inſufficient, had recourſe to an imaginary, and on his own principles *impoſſible*, declination of the atoms. Deſcartes finding the atoms themſelves inſufficient, aſſerted that they were not atoms, but might be broken into ſmaller parts, and thus conſtitute matter of various degrees of ſubtilty. The Newtonian philoſophers have found Des Cartes's ſyſtem inſufficient; but being greatly diſtreſſed in their attempts to ſolve all the phenomena of nature by mere attraction and repulſion, have been obliged to call in the action of *mind* to their aſſiſtance. The Hutchinſonians were hardly put to it in accounting for every thing by the action of fire, light, and air, when luckily the diſcoveries in electricity came to their aſſiſtance. It muſt be owned, that this fluid does indeed come in like a kind of fifth element, which in many caſes appears to be the animating principle of nature. For ſome time paſt, almoſt all the remarkable phenomena in nature have been explained by electricity, or the action of the electric fluid. But unleſs this action is explained, we are got no further than we were before. To ſay any thing is done by electricity, is not more intelligible than to ſay it was done by attraction. If we explain an effect by a material cauſe, it ought to be done upon mechanical principles. We ought to be ſenſible how one part of matter acts upon another part in ſuch a manner as to produce the effect we deſire to explain. The electrical philoſophers, however, have not yet been able to inveſtigate the manner in which this ſubtile fluid operates; and hence the many diſcoveries in electricity have not contributed to throw that light on the theory of the earth, which perhaps they may do hereafter. With ſome philoſophers, however, the electric fluid itſelf, and indeed all the powers of nature, ſeem in danger of being ſuperſeded by a principle, at preſent very little known, called the *phlogiſton*.—Thus, Mr. Henly tells us (*Phil. Tranſ.* vol. 67), that Mr. Clarke, an ingenious gentleman in Ireland, hath diſcovered all the different kinds of air produced from metals, &c. by Dr. Prieſtley, to be only *phlogiſtic vapours* ariſing from theſe ſubſtances. Dr. Prieſtley himſelf ſuppoſes, that the electric light is a modification of *phlogiſton*; and conſequently thinks it probable, that all light is a modification of the ſame. Fire or flame is thought to be a chemical combination of air with the phlogiſton; and phlogiſton is thought to give the elaſticity to air, and every other elaſtic fluid, &c.—Be this as it will, however, the late diſcoveries in electricity have tended very much to change the form of the Newtonian philoſophy, and to introduce that *materialiſm* into our theories of the natural phenomena which is by ſome people ſo much complained of.

From this general hiſtory of the different agents which philoſophers have choſen to account for the original formation of the earth, and for its preſervation in the preſent form, it appears, that ſcarce any advance in true knowledge hath yet been made. All the agents have been prodigiouſly defective; electricity itſelf, as far as yet known, not excepted. But, before entering into a particular conſideration of thoſe theories which ſeem moſt worthy of notice, it will be neceſſary to point out the principal difficulties which ſtand in the way of one who attempts to give a complete theory of the earth.

1. The earth, although pretty much of a ſpherical figure, is not completely ſo; but protuberates conſiderably about the equatorial parts, and is proportionably flattened at the poles, as is undeniably proved by the obſervations of modern mathematicians. The queſtion here is, Why the natural cauſe which gave the earth ſo much of a ſpherical figure, did not make it a complete and exact ſphere?

2. The terraqueous globe conſiſts of a vaſt quantity of water as well as dry land. In many places, ſuch as the Iſthmus of Darien, a narrow neck of land is interpoſed betwixt two vaſt oceans. Theſe beat upon it on either ſide with vaſt force; yet the iſthmus is never broke down nor diminiſhed. The caſe is the ſame with the iſthmus of Suez which joins Aſia and Africa, and with that which joins the Morea or ancient Peloponneſus to the continent. The difficulty is, By what natural power or law are theſe narrow necks of land preſerved amidſt the waters which threaten them on both ſides with deſtruction?

3. The ſurface of the earth is by no means ſmooth and equal; but in ſome places raiſed into enormous ridges of mountains, and in others ſunk down in ſuch a manner as to form deep valleys. Theſe mountains, though they have been expoſed to all the injuries of the weather for many thouſand years, exhibit no ſigns of decay. They ſtill continue of the ſame ſize as before, though vaſt quantities of earth are frequently waſhed down from them by the rains, which, together with the force of gravity, tending to level and bring them on

an equality with the plains on which they ſtand, we might reaſonably think, ought by this time to have rendered them ſmaller than before. It muſt therefore be enquired into, By what natural cauſe the mountains were originally formed, and how they come to preſerve their ſize without any remarkable diminution?

4. The internal parts of the earth are ſtill more wonderful than the external. The utmoſt induſtry of man, indeed, can penetrate but a little way into it. As far as we can reach, however, it is found to be compoſed of diſſimilar ſtrata lying one upon another, not commonly in a horizontal direction, but inclined to the horizon at different angles. Theſe ſtrata ſeem not to be diſpoſed either according to the laws of gravity or according to their denſity, but as it were by chance. Beſides, in the internal parts of the earth are vaſt chaſms and vacuities. By what means were theſe ſtrata originally depoſited, the fiſſures and chaſms made, &c.?

5. In many places of the earth, both on the ſurface, and at great depths under it, vaſt quantities of marine productions, ſuch as ſhells, &c. are to be met with. Sometimes theſe ſhells are found in the midſt of ſolid rocks of marble and lime-ſtone. In the very heart of the hardeſt ſtones alſo, ſmall vegetable ſubſtances, as leaves, &c. are ſometimes to be found. The queſtion is, By what means were they brought thither?

Theſe are ſome of the moſt ſtriking difficulties which preſent themſelves to one who undertakes to write a natural hiſtory or theory of the earth. The moſt remarkable attempts to produce a theory of this kind are thoſe of Burnet, Woodward, Whiſton, and Buffon.

According to Dr. Burnet, the earth was originally a fluid maſs, or chaos, compoſed of various ſubſtances differing both in denſity and figure. Thoſe which were moſt heavy ſunk to the centre, and formed there a hard ſolid body: thoſe which were ſpecifically lighter remained next above; and the waters, which were lighteſt of all, covered the earth all round. The air, and other ethereal fluids, which are ſtill lighter than water, floated above it, and ſurrounded the globe alſo. Between the waters, however, and the circumambient air, was formed a coat of oily and unctuous matters lighter than water, The air at firſt was very impure, and muſt neceſſarily have carried up with it many of thoſe earthy particles with which it was once blended: however, it ſoon began to purify itſelf, and depoſit thoſe particles upon the oily cruſt above mentioned; which, ſoon uniting together, the earth and oil became the cruſt of vegetable earth, with which the whole globe is now covered. His account of the deſtruction of the primæval world by the flood, by the falling down of the ſhell of earth into the waters of the abyſs, is given under the article DELUGE. It only remains then to give his account of the manner in which he relieves the earth from this univerſal deſtruction; and this he does as follows. Theſe great maſſes of earth, ſays he, falling into the abyſs, drew down with them vaſt quantities alſo of air; and by daſhing againſt each other, and breaking into ſmall parts by the repeated violence of the ſhock, they at length left between them large cavities filled with nothing but air. Theſe cavities naturally offered a bed to receive the influent waters; and in proportion as they filled, the face of the earth became once more viſible. The higher parts of its broken ſurface, now become the tops of mountains, were the firſt that appeared; the plains ſoon after came forward; and at length the whole globe was delivered from the waters, except the places in the loweſt ſituations; ſo that the ocean and ſeas are ſtill a part of the ancient abyſs, that have had no place to which they might return. Iſlands and rocks are fragments of the earth's former cruſt; continents are larger maſſes of its broken ſubſtance; and all the inequalities that are to be found on the ſurface of the preſent earth are effects of the confuſion into which both earth and water were at that time thrown.

Dr. Woodward begins with aſſerting, that all terrene ſubſtances are diſpoſed in beds of various natures, lying horizontally one over the other, ſomewhat like the coats of an onion: that they are replete with ſhells, and other productions of the ſea; theſe ſhells being found in the deepeſt cavities, and on the tops of the higheſt mountains. From theſe obſervations, which are warranted by experience, he proceeds to obſerve, that theſe ſhells, and extraneous foſſils, are not productions of the earth, but are all actual remains of thoſe animals which they are known to reſemble; that all the ſtrata or beds of the earth lie under each other in the order of their ſpecific gravity, and that they are diſpoſed as if they had been left there by ſubſiding waters. All this he very confidently affirms, though daily experience contradicts him in ſome of them; particularly, we often find layers of ſtone over the lighteſt ſoils, and the ſofteſt earth under the hardeſt bodies. However, having taken it for granted, that all the layers of the earth are found in the order of their ſpecific gravity, the lighteſt at top, and the heavieſt next the centre, he conſequently aſſerts, that all the ſubſtances of which the earth is compoſed, were originally in a ſtate of diſſolution. This diſſolution he ſuppoſes to have taken place at the flood: but being aware of an objection, that the ſhells, &c. ſuppoſed to have been depoſited at the flood are not diſſolved, he exempts them from the ſolvent power of the waters, and endeavours to ſhew that they have a ſtronger coheſion than minerals; and that, while even the hardeſt rocks are diſſolved, bones and ſhells may remain entire.

Mr. Whiſton ſuppoſes the earth to have been originally a comet; and conſiders the Moſaic account of the creation as commencing at the time when the Creator placed this comet in a more regular manner, and made it a planet in the ſolar ſyſtem. Before that time, he ſuppoſes it to have been a globe without beauty or proportion; a world in diſorder, ſubject to all the viciſſitudes which comets endure; which, according to the preſent ſyſtem of philoſophy, muſt be alternately expoſed to the extremes of heat and cold. Theſe alternations of heat and cold, continually melting and freezing the ſurface of the earth, he ſuppoſes to have produced, to a certain depth, a chaos reſembling that deſcribed by the poets, ſurrounding the ſolid contents of the earth, which ſtill continued unchanged in the midſt; making a great burning globe of more than 2000 leagues in diameter. This ſurrounding chaos, however, was far from being ſolid: he reſembles it to a denſe, though fluid atmoſphere, compoſed of ſubſtances mingled, agitated, and ſhocked againſt each other; and in this diſorder he ſuppoſes the earth to have been juſt at the eve of the Moſaic creation. But upon its orbit being then changed, when it was more regularly wheeled round the ſun, every thing took its proper place, every part of the ſurrounding fluid then fell into a certain ſituation according as it was light or heavy. The middle, or central part, which always remained unchanged, ſtill continued ſo; retaining a part of that heat which it received in its primæval approaches towards the ſun; which heat he calculates may continue about 6000 years. Next to this fell the heavier parts of the chaotic atmoſphere, which ſerve to ſuſtain the lighter: but as in deſcending they could not entirely be ſeparated from many watery parts, with which they were intimately mixed, they drew down theſe alſo along with them; and theſe could not mount again after the ſurface of the earth was conſolidated: they therefore ſurrounded the heavy firſt-deſcending parts in the ſame manner as theſe ſurrounded the central globe. Thus the entire body of the earth is compoſed next the centre of a great burning globe: next this is placed an heavy terrene ſubſtance that encompaſſes it; round which is

circumfuſed a body of water. Upon this body of waters is placed the cruſt of earth on which we inhabit: ſo that, according to Mr. Whiſton, the globe is compoſed of a number of coats, or ſhells, one within the other, all of different denſities. The body of the earth being thus formed, the air, which is the lighteſt ſubſtance of all, ſurrounded its ſurface, and the beams of the ſun darting through, produced the light, which, we are told by Moſes, firſt obeyed the Divine command.

The whole economy of the creation being thus adjuſted, it only remained to account for the riſings and depreſſions on the ſurface of the earth, with the other ſeeming irregularities of its preſent appearance. The hills and valleys are by him conſidered as formed by their preſſing upon the internal fluid which ſuſtains the external ſhell of the earth, with greater or leſs weight; thoſe parts of the earth which are heavieſt ſink the loweſt into the ſubjacent fluid, and thus become valleys: thoſe that are lighteſt riſe higher upon the earth's ſurface, and are called *mountains*.

Such was the face of nature before the deluge: the earth was then more fertile and populous than it is at preſent; the life of men and animals was extended to ten times its preſent duration; and all theſe advantages aroſe from the ſuperior heat of the central globe, which has ever ſince been cooling. As its heat was then in its full power, the genial principle was alſo much greater than at preſent; vegetation and animal increaſe were carried on with more vigour; and all nature ſeemed teeming with the ſeeds of life. But as theſe advantages were productive only of moral evil, it was found neceſſary to deſtroy all living creatures by a flood; and in what manner this puniſhment was accompliſhed, according to Mr. Whiſton, is taken notice of under the article DELUGE.

Mr. Buffon's theory differs very widely from all the reſt. He begins with attempting to prove, that this world which we inhabit is no more than the ruins of a world. "The ſurface of this immenſe globe (ſays he), exhibits to our obſervation, heights, depths, plains, ſeas, marſhes, rivers, caverns, gulfs, volcanoes; and, on a curſory view, we can diſcover in the diſpoſition of theſe objects neither order nor regularity. If we penetrate into the bowels of the earth, we find metals, minerals, ſtones, bitumens, ſands, earths, waters, and matter of every kind, placed as it were by mere accident, and without any apparent deſign. Upon a nearer and more attentive inſpection, we diſcover ſunk mountains, caverns filled up, ſhattered rocks, whole countries ſwallowed up, new iſlands emerged from the ocean, heavy ſubſtances placed above light ones, hard bodies incloſed within ſoft bodies; in a word, we find matter in every form, dry and humid, warm and cold, ſolid and brittle, blended in a chaos of confuſion, which can be compared to nothing but a heap of rubbiſh, or the ruins of a world."

When taking a particular ſurvey of the external ſurface of the globe, he begins with the ocean, and the motion communicated to it by the influence of the ſun and moon which produces the tides.—"In examining the bottom of the ſea (ſays he), we perceive it to be equally irregular as the ſurface of the dry land. We diſcover hills and valleys, plains and hollows, rocks and earths of every kind; we diſcover likewiſe, that iſlands are nothing but the ſummits of vaſt mountains, whoſe foundations are buried in the ocean. We find other mountains whoſe tops are nearly on a level with the ſurface of the water; and rapid currents which run contrary to the general movement. Theſe currents ſometimes run in the ſame direction; at other times their motion is retrograde; but they never exceed their natural limits, which ſeem to be as immutable as thoſe which bound the efforts of land-rivers. On one hand we meet with tempeſtuous regions, where the winds blow with irreſiſtible fury; where the heavens and the ocean, equally convulſed, are mixed and confounded in the general ſhock; violent inteſtine motions, tumultuous ſwellings, water-ſpouts, and ſtrange agitations, produced by volcanoes, whoſe mouths, though many fathoms below the ſurface, vomit forth torrents of fire; and puſh, even to the clouds, a thick vapour, compoſed of water, ſulphur, and bitumen; and dreadful gulfs or whirlpools, which ſeem to attract veſſels for no other purpoſe than to ſwallow them up. On the other hand we diſcover vaſt regions of an oppoſite nature, always ſmooth and calm, but equally dangerous to the mariner. To conclude, directing our eyes toward the ſouthern or northern extremities of the globe, we diſcover huge maſſes of ice, which, detaching themſelves from the polar regions, advance, like floating mountains, to the temperate climates, where they diſſolve and vaniſh from our view. The bottom of the ocean and the ſhelving ſides of rocks produce plentiful crops of plants of many different ſpecies: its ſoil is compoſed of ſand, gravel, rocks, and ſhells; in ſome places it is a fine clay, in others a compact earth: and in general, the bottom of the ſea has an exact reſemblance to the dry land which we inhabit.

"Let us next take a view of the dry land. Upon an attentive obſervation of this, we ſhall find, that the great chains of mountains lie nearer the equator than the poles; that in the old continent their direction is more from eaſt to weſt than from ſouth to north; and that, on the contrary, in the new continent they extend more from north to ſouth than from eaſt to weſt. But what is ſtill more remarkable, the figure and direction of theſe mountains, which have a moſt irregular appearance, correſpond ſo wonderfully, that the prominent angles of one mountain are conſtantly oppoſite to the concave angles of the neighbouring mountain, and of equal dimenſions, whether they be ſeparated by an extenſive plain or a ſmall valley. I have further remarked, that oppoſite hills are always nearly of the ſame height; and that mountains generally occupy the middle of continents, iſlands, and promontories, dividing them by their greateſt lengths. I have likewiſe traced the courſes of the principal rivers, and find that their direction is nearly perpendicular to the ſea-coaſts into which they empty themſelves; and that, during the greateſt part of their courſes, they follow the direction of the mountains from which they derive their origin. The ſea-coaſts are generally bordered with rocks of marble, and other hard ſtones; or rather with earth and ſand accumulated by the waters of the ſea, or brought down and depoſited by rivers. In oppoſite coaſts, ſeparated only by ſmall arms of the ſea, the different ſtrata or beds of earth are of the ſame materials. I find that volcanoes never exiſt but in very high mountains; that a great number of them are entirely extinguiſhed; that ſome are connected to others by ſubterranean paſſages, and their eruptions not unfrequently happen at the ſame time. There are ſimilar communications between certain lakes and ſeas. Some rivers ſuddenly diſappear, and ſeem to precipitate themſelves into the bowels of the earth. We likewiſe find certain mediterranean or inland ſeas, that conſtantly receive from many and great rivers prodigious quantities of water, without any augmentation of their bounds; probably diſcharging by ſubterraneous paſſages all thoſe extraneous ſupplies. It is likewiſe eaſy to diſtinguiſh lands which have been long inhabited, from thoſe new countries where the earth appears in a rude ſtate, where the rivers are full of cataracts, where the land is nearly overflowed with water or burnt up with drought, and where every place capable of producing trees is totally covered with wood.

"Proceeding in our examination, we diſcover that the upper ſtratum of the earth is univerſally the ſame ſubſtance: that this ſubſtance, from which all animals and vegetables derive their growth and nouriſhment, is nothing but a compoſition of the decayed parts of animal and vegetable bodies;

reduced into ſuch ſmall particles that their former organic ſtate is not diſtinguiſhable. Penetrating a little deeper, we find the real earth, beds of ſand, limeſtone, clay, ſhells, marble, gravel, chalk, &c. Theſe beds are always parallel to each other, and of the ſame thickneſs throughout their whole extent. In neighbouring hills, beds or ſtrata of the ſame materials are uniformly found at the ſame levels, though the hills be ſeparated by large and deep valleys. Strata of every kind, even of the moſt ſolid rocks, are uniformly divided by perpendicular fiſſures. Shells, ſkeletons of fiſhes, marine plants, &c. are often found in the bowels of the earth, and on the tops of mountains, even at the greateſt diſtances from the ſea. Theſe ſhells, fiſhes, and plants, are exactly ſimilar to thoſe which exiſt in the ocean. Petrified ſhells are to be met with almoſt every-where in prodigious quantities: they are not only encloſed in rocks of marble and lime-ſtone, as well as in earths and clays, but are actually incorporated and filled with the very ſubſtances in which they are encloſed. In fine, I am convinced, from repeated obſervation, that marbles, lime-ſtones, chalks, marles, clays, ſand, and almoſt all terreſtrial ſubſtances, wherever ſituated, are full of ſhells and other ſpoils of the ocean."

From theſe poſitions, which he lays down as facts, Mr. Buffon draws the following concluſions:

1. The changes which the earth has undergone within theſe laſt 2000 or 3000 years muſt be inconſiderable, when compared with the great revolutions that took place in thoſe ages immediately ſucceeding the creation. The reaſon he gives for this aſſertion is, that terreſtrial ſubſtances could not acquire ſolidity but by the continued action of gravity: hence, the earth muſt have been originally much ſofter than it is now, and therefore more apt to be changed by cauſes which cannot now affect it.

2. It ſeems an uncontrovertible fact, that the dry land which we now inhabit, and even the ſummits of the higheſt mountains, were formerly covered with the waters of the ſea; for ſhells and other marine bodies are ſtill found upon the very tops of mountains.

3. The waters of the ſea have remained for a long track of time upon the ſurface; becauſe in many places, ſuch immenſe banks of ſhells have been diſcovered, that it is impoſſible ſo great a multitude of animals could exiſt at the ſame time.

4. From this circumſtance it likewiſe appears, that although the materials on the ſurface of the earth were then ſoft, eaſily diſunited, moved, and tranſported by the waters, yet theſe tranſportations could not be ſuddenly effected: they muſt have been gradual and ſucceſſive, as ſea-bodies are ſometimes found more than 1000 feet below the ſurface: and ſuch a thickneſs of earth, or ſtone, could not be accumulated in a ſhort time.

5. It is impoſſible theſe effects could be owing to the univerſal deluge. For, though we ſhould ſuppoſe that all the ſhells in the bottom of the ocean ſhould be depoſited upon the dry land; yet, beſides the difficulty of eſtabliſhing this ſuppoſition, it is plain, that as ſhells are found incorporated in marble, and in the rocks of the higheſt mountains, we muſt ſuppoſe theſe rocks and marbles to have been formed all at the very inſtant when the deluge took place; and that before this grand revolution, there were neither mountains, nor marbles, nor rocks, nor clays, nor matter of any kind ſimilar to what we are now acquainted with; as they all, with few exceptions, contain ſhells, and other productions of the ocean. Beſides, at the time of the univerſal deluge, the earth muſt have acquired a conſiderable degree of ſolidity, by the action of gravity for more than 16 centuries. During the ſhort time the deluge laſted, therefore, it is impoſſible that the waters ſhould have overturned and diſſolved the whole ſurface of the earth to the greateſt depths.

6. It is certain (for what reaſon he does not mention), that the waters of the ſea have, at ſome period or other, remained for a ſucceſſion of ages upon what we now know to be dry land; and conſequently that the vaſt continents of Aſia, Europe, Africa, and America, were then the bottom of an immenſe ocean, replete with every thing which the preſent ocean produces.

7. It is likewiſe certain, that the different ſtrata of the earth are horizontal and parallel to each other. This parallel ſituation muſt therefore be owing to the operation of the waters, which have gradually accumulated the different materials, and given them the ſame poſition which the water itſelf invariably aſſumes.

8. It is certain that theſe ſtrata muſt have been gradually formed, and are not the effect of any ſudden revolution; becauſe nothing is more frequent than ſtrata compoſed of heavy materials placed above light ones; which never could have happened, if, according to ſome authors, the whole had been blended and diſſolved by the deluge, and afterwards precipitated.

9. No other cauſe than the motion and ſediments of water could poſſibly produce the regular poſition of the various ſtrata of which the ſuperficial part of this earth conſiſts. The higheſt mountains are compoſed of parallel ſtrata, as well as the loweſt valleys. Of courſe, the formation of mountains cannot be attributed to the ſhocks of earthquakes, or to the eruptions of volcanoes. Such ſmall eminences as have been raiſed by volcanoes or convulſions of the earth, inſtead of becoming compoſed of parallel ſtrata, are mere maſſes of weighty materials, blended together in the utmoſt confuſion.

Having now, as he thinks, *proved*, that the dry and habitable part of the earth has remained for a long time under the waters of the ſea, and conſequently muſt have undergone the ſame changes that now take place at the bottom of the ſea, he proceeds to enquire what theſe changes are.

10. The ocean, ſince the creation of the world, has been conſtantly agitated by the tides, occaſioned by the action of the ſun and moon; and this agitation is greater in the equatorial than in the other parts of the globe, becauſe the action of the ſun and moon is there ſtrongeſt.

11. The earth performs a rapid motion on its axis; and conſequently its parts have a centrifugal force, which is alſo greateſt at the equator.

12. From the combined action of the two laſt-mentioned cauſes, the tides, and the motion of the earth, it may be fairly concluded, that although this globe had been originally a perfect ſphere, its diurnal motion, and the ebbing and flowing of the tides, muſt neceſſarily, in a ſucceſſion of time, have elevated the equatorial parts, by gradually carrying mud, earth, ſand, ſhells, &c. from other climates, and depoſiting them at the equator.

13. On this ſuppoſition, the greateſt inequalities on the ſurface of the earth ought to be found, and in fact are found, in the neighbourhood of the equator.

14. As the alternate motion of the tides has been conſtant and regular ſince the exiſtence of the world, it is natural to think, that at each tide, the water carries from one place to another a ſmall quantity of matter, which falls to the bottom as a ſediment, and forms theſe horizontal and parallel ſtrata that every-where appear. Here it may indeed be objected, that as the flux is equal to, and regularly ſucceeded by, the reflux, the two contrary motions will balance each other; and whatever is brought in by the flux will be carried back by the reflux. The motion of the ocean, therefore, could

never be the cauſe of the formation even of parallel ſtrata; much leſs of mountains, and all the inequalities to be obſerved in this globe. To this Mr. Buffon replies, that the alternate motion of the waters is by no means equal; for the ſea has a continual motion from eaſt to weſt: the agitations occaſioned by the winds likewiſe produce great inequalities in the tides. It muſt alſo be acknowledged, that, by every motion of the ſea, particles of earth and other matter muſt be carried from one place and depoſited in another: and that theſe collections of matter muſt aſſume the form of parallel and horizontal ſtrata. Laſtly, this objection is obviated by a well-known fact. On all coaſts where the ebbing and flowing of the ſea is diſcernible, numberleſs materials are brought in by the flux, which are not carried back by the reflux. The ſea gradually increaſes on ſome places and recedes from others; narrowing its limits by depoſiting earth, ſand, ſhells, &c. which naturally take a horizontal poſition. Theſe materials when accumulated, and elevated to a certain degree, gradually ſhut out the water, and remain for ever in the form of dry land.

15. The poſſibility of a mountain's being formed at the ſea by the motion and ſediments of the water, will appear from the following conſiderations. On a coaſt which the ſea waſhes with violence during the flow of tide, ſome part of the earth muſt be carried off at every ſtroke of the waves. Even where the ſea is bounded by rock, it is a known fact, that the rock itſelf is greatly waſted by the water; and conſequently that ſmall particles are carried off by the retreat of every wave. Thoſe particles of earth or ſtone are neceſſarily tranſported to ſome diſtance. Whenever the agitation of the water ceaſes, the particles are precipitated in the form of a ſediment, and lay the foundation of a firſt ſtratum, which is either horizontal or inclined, according to the ſituation of the ſurface on which they fall. This ſtratum is ſoon ſucceeded by another, produced by the ſame cauſe; and thus a conſiderable quantity of matter will be amaſſed, and depoſited in parallel beds. In proceſs of time this gradually accumulating maſs will become a mountain in the bottom of the ſea, exactly reſembling both in external and internal ſtructure, thoſe mountains which we ſee on the dry land. If there happened to be ſhells in that part of the bottom of the ſea where we have ſuppoſed the ſediments to be depoſited, they will be covered, filled, and incorporated with the depoſited matter, and form a part of the general maſs. Theſe ſhells will be lodged in different parts of the mountain, correſponding to the times in which they were depoſited: thoſe which lay at the bottom before the firſt ſtratum was formed, will occupy the loweſt ſtation; the others will be found in places more elevated.

16. It has been imagined that the agitation of the ſea produced by the winds and tides is only ſuperficial, and does not affect the bottom, eſpecially where it lies very deep. But it ought to be remembered, that whatever be the depth, the whole maſs is put in motion by the tides at the ſame time; and that, in a fluid globe, this motion would be communicated even to the centre. The attractive power, which occaſions the flux and reflux, is penetrating. It acts equally upon every particle of the maſs; ſo that the quantity of its force at different depths may be determined by calculation. We cannot therefore heſitate in pronouncing, that the tides, the winds, and all other cauſes of motion in the ſea, muſt produce heights and inequalities in its bottom; and that theſe heights muſt uniformly be compoſed of regular ſtrata either horizontal or inclined. The heights thus produced will gradually augment; like the waves which formed them, they will mutually reſpect each other; and if the extent of the baſe be great, in a courſe of years they will form a vaſt chain of mountains.

Whenever eminences are formed, they interrupt the uniform motion of the waters, and produce currents. Between two neighbouring heights in the bottom of the ocean there muſt be a current which will follow their common direction, and, like a river, cut a channel, the angles of which will be alternately oppoſite through the whole extent of its courſe. Theſe heights muſt continually increaſe: for, during the flow, the water will depoſit its ordinary ſediment upon their ridges; and the waters which are impelled by the current will force along, from great diſtances, quantities of matter, which will ſubſide between the hills, and, at the ſame time, ſcoop out a valley with correſponding angles at their foundation. Now, by means of theſe different motions and ſediments, the bottom of the ocean, though formerly ſmooth, muſt ſoon be furrowed and interſperſed with hills and chains of mountains, as we actually find it at preſent. The ſoft materials of which the eminences were originally compoſed, would gradually harden by their own gravity. Such of them as conſiſted of ſandy and cryſtalline particles, would produce thoſe enormous maſſes of rock and flint, in which we find cryſtals and other precious ſtones. Others, compoſed of ſtony particles mixed with ſhells, give riſe to thoſe beds of lime-ſtone and marble in which vaſt quantities of ſea-ſhells are ſtill found incorporated.

18. Theſe cauſes, as before obſerved, act with greater force under the equator than in other climates; for there the tides are higher, and the winds more uniform. The mountains of Africa and Peru are the higheſt in the world; often extending through whole continents, and ſtretching to great diſtances under the waters of the ocean. The mountains of Europe and Aſia, which extend from Spain to China, are not ſo high as thoſe of Africa and South America. According to the relations of voyagers, the mountains of the north are but ſmall hills, when compared with the mountains of the equatorial regions. Thoſe prodigious chains of mountains which run from eaſt to weſt in the old continent, and from north to ſouth in the new, muſt have been formed by the general motion of the tides. But the origin of the leſs conſiderable hills muſt be aſcribed to particular motions occaſioned by the winds, currents, and other irregular agitations of the ſea.

Having thus diſcuſſed ſome very important points reſpecting the theory of the earth, our author now proceeds to anſwer other queſtions which ſeem ſtill more difficult of ſolution.

19. But how has it happened that this earth, which we and our anceſtors have inhabited for ages, which, from time immemorial, has been an immenſe continent, dry, compact, and removed from the reach of water, ſhould, if formerly the bottom of an ocean, be now exalted to ſuch a height above the waters, and ſo completely ſeparated from them? Since the waters remained ſo long upon the earth, why have they now deſerted it? What accident, what cauſe, could introduce a change ſo great? A little reflection, ſays he, will furniſh us with at leaſt plauſible ſolutions to theſe ſeemingly ſo difficult queſtions. We daily obſerve the ſea gaining ground on certain coaſts, and loſing it on others. We know that the ocean has a general and uniform motion from eaſt to weſt; that it makes violent efforts againſt the rocks and low grounds which encircle it; that there are whole provinces which human induſtry can hardly defend againſt the fury of the waves; and that there are inſtances of iſlands which have but lately emerged from the waters, and of regular inundations. Hiſtory informs us of inundations and deluges of a more extenſive nature. Ought not all this to convince us, that the ſurface of the earth has experienced very great revolutions, and that the ſea may have actually given up poſſeſſion of the greateſt part of the ground which it formerly occupied? For example, let us ſuppoſe,

that the old and new worlds were formerly but one continent; and that, by a violent earthquake, the ancient Atlantis of Plato was ſunk. The conſequence of this mighty revolution muſt neceſſarily be, that the ſea would ruſh in from all quarters, and form what is now called the *Atlantic ocean*; and vaſt continents, perhaps thoſe we now inhabit, would of courſe be left dry. This great revolution might be effected by the ſudden failure of ſome immenſe cavern in the interior parts of the globe, and an univerſal deluge would infallibly ſucceed.

20. But, however conjectures of this kind may ſtand, it is certain that ſuch a revolution hath happened; and we may even believe that it hath happened naturally; for if a judgment of the future is to be formed from the paſt, we have only to attend carefully to what paſſes before our eyes. It is a fact eſtabliſhed by the repeated obſervation of voyagers, that the ocean has a conſtant motion from eaſt to weſt. This motion, like the trade-winds, is not only perceived between the tropics, but through the whole temperate climates, and as near the poles as navigators have approached. As a neceſſary conſequence of this motion, the Pacific ocean muſt make continual efforts againſt the coaſts of Tartary, China, and India; the Indian ocean muſt act againſt the eaſt coaſt of Africa; and the Atlantic muſt in a ſimilar manner act againſt all the eaſtern coaſts of America. Hence the ſea muſt have gained, and will always continue to gain, on the eaſt, and to loſe on the weſt. This of itſelf would be ſufficient to prove the poſſibility of the change of the ſea into land, and land into ſea. If ſuch is the natural effect of the ſea's motion from eaſt to weſt, may it not reaſonably be ſuppoſed, that Aſia, and all the eaſtern continent, is the moſt ancient country in the world; and that Europe, and part of Africa, eſpecially the weſt parts of theſe continents, as Britain, France, Spain, &c. are countries of a more recent date?

21. The cauſe of the perpendicular fiſſures with which the earth abounds, is eaſily inveſtigated. As various materials conſtituting the different ſtrata were tranſported by the waters, and depoſited in the form of ſediments, they would at firſt be in a very diluted ſtate, and would gradually harden and part with the ſuperfluous quantity of moiſture they contained. In proceſs of time, drying, they would naturally contract and ſplit at irregular diſtances. Theſe fiſſures neceſſarily aſſumed a perpendicular direction; becauſe in this direction the action of gravity of one particle upon another is equal to nothing: but it acts directly oppoſite to this deſcription, in a horizontal ſituation: the diminution in bulk could have no ſenſible effect but in a vertical line. The contraction of the parts in drying, therefore, and not the contained water forcing an iſſue, as has been alleged by ſome, is the cauſe of perpendicular fiſſures; for it may be often remarked, that the ſides of thoſe fiſſures, through their whole extent, correſpond as exactly as the two ſides of a ſplit piece of wood.

22. Perpendicular fiſſures vary greatly as to the extent of their openings. Some are about half an inch or an inch; others a foot or two feet; ſome extend ſeveral fathoms, and give riſe to thoſe vaſt precipices which ſo frequently occur between oppoſite parts of the ſame rocks, in the Alps and other high mountains. It is plain, that the fiſſures, the openings of which are ſmall, have been occaſioned ſolely by drying. But thoſe which extend ſeveral feet are partly owing to another cauſe; namely, the ſinking of the foundation upon one ſide, while that of the other remains firm. If the baſe ſinks but a line or two, when the height is conſiderable, an opening of ſeveral feet, or even fathoms, will be the conſequence. When rocks are founded on clay or ſand, they ſometimes ſlip a little to one ſide; and the fiſſures are of courſe augmented by this motion.

23. The large openings, however, and prodigious cuts, which are to be met with in rocks and mountains, are to be aſcribed to another cauſe. They could be produced no other way than by the ſinking of immenſe ſubterraneous caverns, that were unable any longer to ſuſtain their incumbent load. But theſe cuts or intervals in mountains are not of the ſame nature with the perpendicular fiſſures: they appear to have been ports opened by the hand of nature for the communication of nations. This ſeems to be the intention of all large openings in chains of mountains, and of thoſe ſtraits by which different parts of the ocean are connected; as the ſtraits of Thermopylæ, of Gibraltar, &c. the gaps or ports in mount Caucaſus, the Cordileras, &c.

24. But the greateſt changes upon the ſurface of the earth are occaſioned by rains, rivers, and torrents from the mountains. Theſe derive their origin from vapours raiſed by the ſun from the ſurface of the ocean, and which are tranſported by the winds through every climate. The progreſs of theſe vapours, which are ſupported by the air, and tranſported at the pleaſure of the winds, is interrupted by the tops of the mountains, where they accumulate into clouds, and fall down in the form of rain, dew, or ſnow. At firſt, theſe waters deſcended into the plains without any fixed courſe; but they gradually hollowed out proper channels for themſelves. By the power of gravity they ran to the bottom of the mountains; and penetrating or diſſolving the lower grounds, they carried along with them ſand and gravel, cut deep furrows in the plains, and thus opened paſſages to the ſea, which always receives as much water by rivers as it loſes by evaporation. The windings in the channels of rivers have uniformly correſponding angles on their oppoſite banks; and as mountains and hills, which may be regarded as the banks of the valleys by which they are ſeparated, have likewiſe ſinuoſities with correſponding angles, this circumſtance ſeems to demonſtrate, that the valleys have been gradually formed by currents of the ocean, in the ſame manner as the channels of rivers have been produced. Rivers produce conſiderable changes on the ſurface of the earth; they carry off the ſoil, wear away the moſt ſolid rocks, and remove every thing that oppoſes their paſſage. The waters of the clouds alſo, which deſcend upon the mountains, by continually waſhing away ſome part of the earth, tend to level them with the plains; and would undoubtedly do ſo, if time enough were allowed for that purpoſe.

25. From what has been advanced, we may conclude, that the flux and reflux of the ocean have produced all the mountains, valleys, and other inequalities on the ſurface of the earth: that currents of the ſea have ſcooped out the valleys, elevated the hills, and beſtowed on them the correſponding directions: that the ſame waters of the ocean, by tranſporting and depoſiting earth, &c. have given riſe to the parallel ſtrata: that the waters from the heavens gradually deſtroy the effects of the ſea, by continually diminiſhing the heights of the mountains, filling up the valleys, and choking up the mouths of rivers; and by reducing every thing to its proper level, they will in time reſtore the earth to the ſea, which by its natural operations will again create new continents interſperſed with mountains and valleys, and every way ſimilar to thoſe which we now inhabit.

Thus far our author preſerves ſome degree of plauſibility in his reaſoning; but in his account of the original formation of the earth, he certainly goes to the utmoſt verge of *probability*, or perhaps of *poſſibility*, in his ſuppoſitions. According to him, all the planets in our ſyſtem were originally parts of the ſun himſelf. They were detached from his body all at once by a mighty ſtroke of a comet. The poſſibility of driving off ſuch a quantity of matter from the ſun by a ſingle ſtroke, he labours hard to prove; but this is far from being the greateſt difficulty in his ſyſtem.—"To this theory," ſays he, "it may

be objected, that if the planets had been driven off from the ſun by a comet, in place of deſcribing circles round him, they muſt, according to the law of projectiles, have returned to the ſame place from whence they had been forced; and therefore, that the projectile force of the planets cannot be attributed to the impulſe of a comet.

"I reply, that the planets iſſued not from the ſun in the form of globes, but in the form of torrents; the motion of whoſe anterior particles behoved to be accelerated by thoſe behind, and the attraction of the anterior particles would alſo accelerate the motion of the poſterior; and that this acceleration, produced by one or both of theſe cauſes, might be ſuch as would neceſſarily change the original motion ariſing from the impulſe of the comet; and that, from this caſe, might reſult a motion ſimilar to what takes place in the planets; eſpecially when it is conſidered, that the ſhock of the comets removes the ſun out of its former ſtation. This reaſoning may be illuſtrated by an example. Suppoſe a muſket-ball diſcharged from the top of a mountain, and that the force of the powder was ſufficient to ſend it beyond a ſemidiameter of the earth: it is certain that this ball would revolve round the earth, and return at every revolution to the place from whence it had been diſcharged. But, inſtead of a muſket-ball, if a rocket were employed, the continued action of the fire would greatly accelerate the original impulſive motion. This rocket would by no means return to the ſame point like the ball; but, *cæteris paribus*, would deſcribe an orbit, the perigee of which would be more or leſs diſtant from the earth in proportion to the greatneſs of the change produced in its direction by the accelerating force of the fire. In the ſame manner, if the original projectile force impreſſed by the comet on the torrent of ſolar matter was accelerated, it is probable, that the planets formed by this torrent acquired their circular or eliptical movements around the ſun."

In like manner, he accounts for the formation and circulation of the ſecondary planets. The revolutions of the primaries on their axes, he accounts for from the obliquity of the original ſtroke impreſſed by the comet. The oblate ſpheroidal figure of the earth is eaſily deduced from its diurnal motion, and the fluidity of the whole at its firſt formation. The flattening at the poles he eſtimates at about one 230th part of the whole. As this computation differs conſiderably from the account given by the mathematicians who were ſent to different parts of the world on purpoſe to determine the figure of the earth, and who made the flatneſs at the poles equal to one 175th part of the whole, he ſuppoſes this difference to have ariſen from changes that have ſince taken place on the ſurface of the earth, occaſioned by the cauſes already mentioned. He then proceeds to account for the formation of all things, in the following manner.—"It is therefore evident, that the earth aſſumed its figure when in a melted ſtate: and, to purſue our theory, it is natural to think, that the earth, when it iſſued from the ſun, had no other form but that of a torrent of melted and inflamed matter: that this torrent, by the mutual attraction of its parts, took on a globular figure, which its diurnal motion changed into a ſpheroid: that when the earth cooled, the vapours, which are expanded like the tail of a comet, gradually condenſed, fell down in the form of water upon the ſurface, depoſiting at the ſame time a ſlimy ſubſtance mixed with ſulphur and ſalts; part of which was carried by the motion of the waters into the perpendicular fiſſures of the ſtrata, and produced metals; and the reſt remained on the ſurface, and gave riſe to the vegetable mold, which abounds in different places, with more or leſs of animal or vegetable particles, the organization of which is not obvious to the ſenſes.

"Thus the interior parts of the globe were originally compoſed of vitrified matter; and, I believe, they are ſo at preſent. Above this vitrified matter were placed thoſe bodies which the fire had reduced to the ſmalleſt particles, as ſands, which are only portions of glaſs; and above theſe, pumice-ſtones, and the ſcoriæ of melted matter, which produced the different clays. The whole was covered with water to the depth of 500 or 600 feet, which originated from the condenſation of the vapours when the earth began to cool. This water depoſited a ſtratum of mud, mixed with all thoſe matters which are capable of being ſublimed or exhaled by fire: and the air was formed of the moſt ſubtile vapours, which, from their levity, roſe above the water.

"Such was the condition of the earth when the tides, the winds, and the heat of the ſun, began to introduce changes on its ſurface. The diurnal motion of the earth, and that of the tides, elevated the waters in the equatorial regions, and neceſſarily tranſported thither great quantities of ſlime, clay, and ſand; and by thus elevating thoſe parts of the earth, they perhaps ſunk thoſe under the poles about two leagues, or a 230th part of the whole, as was formerly remarked: for the waters would eaſily reduce into powder, pumice-ſtones, and other ſpongy parts of the vitrified matter upon the ſurface; and by this means excavate ſome places and elevate others; which, in time, would produce iſlands and continents, and all thoſe inequalities on the ſurface, which are more conſiderable towards the equator than towards the poles. The higheſt mountains lie between the tropics and the middle of the temperate zones, and the loweſt from the polar circles towards the poles. Indeed, both the land and ſea have moſt inequalities between the tropics, as is evident from the incredible number of iſlands peculiar to thoſe regions."

From the preceding extracts, the theories of Drs. Burnet and Woodward, as well as Meſſrs. Whiſton and Buffon, will be eaſily underſtood; but the deficiency of all of them muſt be exceedingly obvious even to the moſt ſuperficial reader. They all aſſume only the powers of attraction and repulſion as agents; without conſidering, that theſe two powers, or indeed any other two with which mankind are acquainted, could only have compoſed matters nearly ſimilar to each other. If the original particles of matter are homogeneous, and endowed with ſimilar powers, all the matters we ſee ought to be homogeneous alſo. But this is far from being the caſe. Some parts of it we ſee are exceedingly hard, others proportionably ſoft. The parts of ſome bodies attract each other violently; thoſe of others have hardly any attraction for each other, but are ſeparable by the ſmalleſt force. And though it ſhould be granted, that the powers of attraction and repulſion were originally different in different parts of matter, we have ſtill to explain by what means the ſimilar parts of matter found out each other in ſuch a chaos as the earth originally was. This ſeems an inſuperable difficulty in the ſyſtems of Drs. Burnet and Woodward; and is equally, though leſs conſpicuouſly ſo, in thoſe of Whiſton and Buffon.

EARTH-NUTS, or GROUND-NUTS (*Encycl.*). The roots of the water-hemlock, a poiſonous plant which bears ſome general reſemblance to that of the arachis, are ſometimes miſtaken for the latter. See an inſtance of this under POISONS in this SUPPLEMENT.

EAR-WAX, or CERUMEN (*Encycl.*). Citizens Fourcroy and Vauquelin have analyſed the ear-wax, and found that it conſiſts of the following ſubſtances. 1. Of an oily matter, more reſembling the fat which is contained in the gall than any other animal fat. 2. Of an albuminous animal ſubſtance. 3. Of a colouring principle, which, by its bitter taſte and its cloſe combination with fat, comes near to the colouring principle of the bile.

EASTBOURN, a town in Suſſex, noted for plenty of the birds called wheatears, and as a place of reſort for bathing. It is ſeated near the Engliſh Channel, 15 miles E.S.E. of Lewes, and 65 S.S.E. of London.

EAST-LOOE, a mean borough in Cornwall; 16 miles W. of Plymouth; 232 from London.

EASTON, a town of Pennſylvania, capital of the county of Northampton, ſeated at the confluence of the Leigh and Delaware, 46 miles N. by W. of Philadelphia. Long. 75. 17. W. Lat. 40. 21. N.

EASTONNESS, the moſt eaſterly cape on the coaſt of Suffolk, and the N. point of Southwold Bay.

EAU-DE-LUCE (*Encycl.*), is prepared in the following manner: ten or twelve grains of white ſoap are diſſolved in four ounces of rectified ſpirit of wine; after which the ſolution is ſtrained. A dram of rectified oil of amber is then added, and the whole filtrated: with this ſolution ſhould be mixed ſuch a proportion of the ſtrongeſt volatile ſpirit of ſal-ammoniac, in a cryſtal glaſs bottle, as will, when ſufficiently ſhaken, produce a beautiful milk-white liquor. If a kind of cream ſhould ſettle on the ſurface, it will be requiſite to add a ſmall quantity of the ſpirituous ſolution of ſoap.—Thoſe who may wiſh to have this liquor perfumed may employ lavender or Hungary water inſtead of the ſpirit of wine.

This compoſition is, however, ſeldom obtained in a genuine ſtate when purchaſed at the ſhops. Its uſe, as an external remedy, is very extenſive; for it has not only been employed for curing the bites of vipers, waſps, bees, gnats, ants, and other inſects, but alſo for burns, and even the bite of a mad dog, though not always with uniform ſucceſs. Beſides, it affords one of the ſafeſt ſtimulants in caſes of ſuffocation from mephitic vapours, and in that ſtate of apoplexy which is termed *ſerous*, as likewiſe after exceſſive intoxication, and in all thoſe paralytic complaints where the veſſels of the ſkin, or the muſcular fibre, require to be excited into action. Nevertheleſs, it ought to be uſed with due precaution.

Mr. Nicholſon, in his Journal, has related the following experiments, made to procure this liquid. He conſiders *maſtic* as a principal ingredient, and the great ſecret by which the *milkineſs* has been communicated to it.

One dram of the rectified oil of amber was diſſolved in four ounces of the ſtrongeſt ardent ſpirit of the ſhops; its ſpecific gravity being .840 at 60 degrees of Fahrenheit. A portion of the clear ſpirit was poured upon a larger quantity of fine powdered maſtic than it was judged could be taken up. This was occaſionally agitated without heat; by which means the gum reſin was for the moſt part gradually diſſolved. One part of the oily ſolution was poured into a phial, and to this was added one part of the ſolution of maſtic. No opacity or other change appeared. Four parts of ſtrong cauſtic volatile alkali were then poured in, and immediately ſhaken. The fluid was of a denſe opake white colour, affording a ſlight ruddy tinge when the light was ſeen through a thin portion of it. In a ſecond mixture, four parts of the alkali were added to one of the ſolution of maſtic; it appeared of a leſs denſe and more yellowiſh white than the former mixture. More of the gum reſinous ſolution was then poured in; but it ſtill appeared leſs opake than that mixture. It was ruddy by tranſmitted light. The laſt experiment was repeated with the oily ſolution inſtead of that of maſtic. The white was much leſs denſe than either of the foregoing compounds, and the requiſite opacity was not given by augmenting the doſe of the oily ſolution. No ruddineſs nor other remarkable appearance was ſeen by tranſmitted light. Theſe mixtures were left at repoſe for two days; no ſeparation appeared in either of the compounds containing maſtic; the compound conſiſting of the oily ſolution and alkali became paler by the ſeparation of a cream at the top.

It appears, therefore, that the firſt of theſe three mixtures, ſubject to variation of the quantity of its ingredients, and the odorant additions which may be made, is a good eau-de-luce.

In a ſubſequent number of the ſame journal, we have the following recipe by one of the author's correſpondents, who had often proved its value by experience. "Digeſt ten or twelve grains of the whiteſt pieces of maſtic, ſelected for this purpoſe, and powdered, in two ounces of alcohol; and, when nearly diſſolved, add twenty grains of elemi (ſee AMYRIS, *Encycl.*). When both the reſins are diſſolved, add ten or fifteen drops of rectified oil of amber, and fifteen or twenty of eſſence of bergamot: ſhake the whole well together, and let the fæces ſubſide. The ſolution will be of a pale amber colour. It is to be added, in very ſmall portions, to the beſt aqua ammoniæ puræ, until it aſſumes a milky whiteneſs, ſhaking the phial well after each addition, as directed by Macquer. The ſtrength and cauſticity of the ammoniac are of moſt eſſential conſequence. If, upon the addition of the firſt drop or two of the tincture, a denſe opake coagulated precipitate is formed, not much unlike that which appears on dropping a ſolution of ſilver into water ſlightly impregnated with common ſalt, it is too ſtrong, and muſt be diluted with alcohol. A conſiderable proportion of the tincture, perhaps one to four, ought to be requiſite to give the liquor the proper degree of opacity."

EAUSE, an ancient town of France, in the department of Gers, 17 miles S.W. of Condon. Long. 0. 10. E. Lat. 43. 51. N.

EBENEZER, a town of the United States, in Georgia, ſituate on the Savannah, 25 miles N.N.W. of Savannah. Long. 81. 22. W. Lat. 32. 28. N.

EBENFURTH, a town of the archduchy of Auſtria, built by the Knights Templars, on the Leyta, 18 miles S. of Vienna.

EBERBACH, a town of Germany, in the palatinate of the Rhine, remarkable for its wine. It is ſeated on the Neckar, 10 miles N.E. of Heidelberg. Long. 8. 56. E. Lat. 49. 26. N.

EBERBERG, a caſtle of Germany, in the palatinate of the Rhine, ſeated at the confluence of the Nahe and Alſen, eight miles S.W. of Creutznach. Long. 7. 52. E. Lat. 49. 38. N.

EBERSTEIN, a diſtrict and caſtle of Suabia, ſubject to the margrave of Baden. The caſtle is the chief place, ſix miles S.E. of Baden. Long. 8. 20. E. Lat. 48. 46. N.

EBERSTEIN, a town of France, in the department of Lower Rhine, eight miles S.W. of Straſburg. Long. 7. 46. E. Lat. 48. 29 N.

EBERVILLE, a town of France, in the department of Puy-de-Dome, with a late rich Benedictine abbey. It is ſeated on the Scioule, eight miles N.E. of Riom. Long. 3. 15. E. Lat. 45. 59. N.

EBULLITION, the ſame with BOILING. The word is alſo uſed in a ſynonymous ſenſe with EFFERVESCENCE.

ECCLEFECHAN, a village in Dumfrieſſhire, noted for its great monthly market for cattle. It is 10 miles S.E. of Dumfries.

ECCLESHAL, a town in Staffordſhire, with a market on Friday. It is ſeated on a branch of the river Sow, and the biſhop of Lichfield and Coventry has a caſtle here. It is ſix miles N.W. of Stafford and 143 of London. Long. 2. 9. W. Lat. 53. 2. N.

ECHTERNACH, a town of Luxemburg, on the river Sout, in a valley ſurrounded by mountains, 18 miles N.E. of Luxemburg. Long. 6 33. E. Lat. 49. 50. N.

ECKEREN, a village of Brabant, five miles N. of Bra-

bant. A battle was fought here in 1703, between the French and the allies.

ECYA, or EXIJA, an epiſcopal town of Spain, in Andaluſia. It contains 20 convents, and about 9,000 inhabitants, whoſe principal trade is in wool and hemp. It is ſeated on the Xenil, 28 miles S.W. of Cordova. Long. 4. 27. W. Lat. 37. 39. N.

EDAM, a town of North Holland, famous for its red-rind cheeſes; ſeated on the Zuider-Zee, 20 miles N. by E. of Amſterdam. Long. 4. 58. E. Lat. 52. 32. N.

EDDYSTONE, the name of ſome rocks in the Engliſh Channel, which cauſe variety of contrary ſets of the tide or current in their vicinity. They are ſituate S.S.W. from the middle of Plymouth Sound, at the diſtance of 14 miles. They are almoſt in the line which joins the Start and the Lizard Points, and their ſituation with regard to the Atlantic is ſuch, that all the heavy ſeas from the S.W. come uncontrolled upon the Eddyſtone rocks, and break over them with the utmoſt fury. On the principal rock (for the reſt are under water) Mr. Winſtanley, in 1696, undertook to build a lighthouſe; and he completed it in 1700. This architect was ſo certain of the ſtability of this ſtructure, that he declared it to be his wiſh to be in it during the moſt tremendous ſtorm. Unfortunately he had his wiſh: it was deſtroyed in the dreadful ſtorm, November 27, 1703, when he periſhed in it. In 1709, another built of wood, but on a different conſtruction, was erected by Mr. Rudyard, which was conſumed by fire in 1755. Another, of ſtone, was begun by Mr. Smeaton, on April 2, 1757, and finiſhed Auguſt 4, 1759. The rock, which ſlopes towards the S.W. is cut into horizontal ſteps, into which are dove-tailed, and united by a ſtrong cement, Portland ſtone, and granite. The whole, to the height of 35 feet from the foundation, is a ſolid of ſtones, engrafted into each other, and united by every means of additional ſtrength. The building has four rooms, one over the other, and at the top a gallery and lantern. The ſtone floors are flat above, but concave beneath, and are kept from preſſing againſt the ſides of the building by a chain let into the walls. It is nearly 80 feet high, and ſince its completion has been aſſaulted by the fury of the elements, without ſuffering the ſmalleſt injury. Its diſtance from the Ram Head, the neareſt point of land, is 12 miles. Long. 4. 24. W. Lat. 50. 8. N.

EDEN, a river which riſes in Weſtmoreland, on the confines of Yorkſhire, and running N. by Appleby and Carliſle, falls into Solway Frith.

EDENTON, a town of North Carolina, on the N. ſide of Albemarle Sound, with an epiſcopal church. It is the capital of the Chowan County, and 78 miles S. by W. of Williamſburgh. Long. 76. 40. W. Lat. 35. 58. N.

EDGHILL, a village in Warwickſhire, where the firſt battle was fought between Charles I. and the parliament, in 1642. It is 14 miles S. of Warwick.

EDGWARE, a town in Middleſex, with a market on Thurſday, eight miles N.W. of London. Long. 0. 14. W. Lat. 51. 37. N.

EDIKOFEN, a town of Germany, in the palatinate of the Rhine, near which a battle was fought between the French and Pruſſians on July 12, 1794; the conteſt was long and bloody, and the victory doubtful; but the battle was renewed the next day, and terminated in favour of the French.

EDINBURGH (*Encycl.*). As many of our readers may feel a ſatisfaction in being acquainted with the manner in which medical education is conducted in a ſeminary ſo much celebrated as that of Edinburgh, we here inſert it, from vol. VI. of the Medical and Phyſical Journal.

The univerſity of Edinburgh was founded by James the VIth of Scotland, about the year 1581, and is denominated in all official writings, *Academia Jacobi Sexti, Regis Scotorum quæ Edinburgi eſt.* It conſiſts of a principal and profeſſors, who have ſmall ſalaries, and all of them, except the regius profeſſors, are appointed by the town-council of Edinburgh, who have likewiſe the power of inſtituting new profeſſorſhips when they ſhall ſee occaſion. The principal, with the whole body of profeſſors, form the Senatus Academicus, which enacts laws for the regulation of the college, and ſettles all matters relating thereto. Degrees are confirmed, at certain periods, by the principal with the conſent and approbation of this body. There is an endowment of a few pounds per annum for a ſmall and limited number of burſars, but there are no fellows.

Moſt of the profeſſors, and the whole number of ſtudents, live in the town; the latter wear no particular dreſs, are ſubject to no college laws, and may attend the lectures at ſuch times only as they pleaſe. There is indeed a ſmall fine for abſence or inattention, at one or two of the junior claſſes, as the Latin and Greek. The college exerciſes, beſides thoſe of conſtruing, tranſlating, or demonſtrating, at the Latin, Greek, or mathematical claſſes, are writing occaſional eſſays on ſubjects connected with their ſtudies; at the logic, the higher Latin and Greek claſſes, the divinity, and of late years at the moral philoſophy. The only claſs, we believe, at which there is any examination on what has been previouſly heard, is the logic. It is rather to be lamented that there are not more frequent opportunities of competition in the various claſſes of this univerſity; and it is a circumſtance which muſt naturally excite conſiderable wonder among thoſe who are informed of it, that there is not a ſingle medal or prize of any kind ever offered for the beſt eſſay on any ſubject, whether literary or philoſophical. When it is conſidered how great is the inducement afforded to induſtry by an honorary reward of this kind, how trifling is the expence attending it, and how very many there are of diſtinguiſhed rank, fortune, and reputation, who have had the elements, if not the whole of their education, at this univerſity, it is extremely ſingular that no endowment of this nature has ever been made. The profeſſors themſelves, who amount to a conſiderable number, and are highly reſpectable for their learning and talents, might, by a very ſmall individual contribution, raiſe a ſufficient ſum annually for defraying the expence of a ſmall number of prize medals.

The profeſſorſhips in the univerſity of Edinburgh are divided into four faculties, viz. the *faculty of theology*, of *law*, of *medicine*, and of *arts*; and the whole number of profeſſors amounts to about twenty-four.

In the *faculty of theology* is compriſed divinity, church hiſtory, Hebrew and oriental languages:

In the *faculty of law*, civil law, law of nature and nations, univerſal hiſtory, and Scot's law:

In the *faculty of medicine*, anatomy and ſurgery, practice of phyſic, chemiſtry, materia medica, theory of phyſic, botany, and midwifery.

In the *faculty of arts*, Latin or humanity (literæ humaniores), Greek, mathematics, logic, moral philoſophy, natural philoſophy, rhetoric and belles-lettres, natural hiſtory, practical aſtronomy, agriculture.

Till near the revolution there were no medical profeſſors at this univerſity, and even till the year 1720 they were merely titular. About that period the late celebrated Profeſſor Monro commenced his anatomical lectures, and from that we may date the formation of the medical ſchool in Edinburgh, which has gradually ariſen to a degree of celebrity unequalled by any other in Europe.

From the above enumeration, it appears that the medical profeſſorſhips are ſeven in number. That of midwifery is not however on the ſame footing with the others, as the pro-

feſſor has no ſhare in the medical examinations, nor is it neceſſary for a ſtudent to attend this claſs before he is eligible to a medical degree.

The lectures commence in the latter end of October, with the exception of midwifery, of which there are three courſes in the year, viz. two in the winter and one in the ſummer, and laſt until the latter end of April or the beginning of May. The botanical lectures are only given in the ſummer ſeaſon, during the months of May, June, and July, at the Botanical Garden, a ſhort diſtance from Edinburgh. The preſent profeſſor of chemiſtry has for ſome time given a ſummer courſe of lectures which laſts three months.

The firſt few lectures in the ſeaſon are always occupied with the hiſtory of the ſcience, by way of introduction: and as the ſacraments of the church of Scotland, which occur twice a-year, give an interruption to them for a week in the beginning of November, the particular buſineſs of the courſe is not entered upon till about the 10th or 11th of that month. The lectures are an hour each in length, except the anatomical, which is an hour and a half at leaſt. They are given on every week-day except Saturday, and on that day ſome of the profeſſors have occaſion to lecture during a part of the ſeaſon, in order to get through the buſineſs of the courſe.

The following are the names of the preſent profeſſors, and the hours at which they lecture:

Dr. Monro Dr. Monro, jun.	anatomy - - - - - -	1 P. M.
Dr. Gregory - -	practice of medicine - - -	9 A. M.
Dr. Hope - -	chemiſtry - - - - -	10 A. M.
Dr. Duncan - -	theory or inſtitutes of med.	11 A. M.
Dr. Home Dr. Home, jun.	materia medica - - -	8 A. M.
Dr. Rutherford -	botany - - - - - - -	8 A. M.
Dr. Hamilton Dr. Hamilton, jun.	midwifery - in winter in ſummer	3 P. M. 10 A. M.

Any perſon who fees a claſs may attend the lectures; it is neceſſary, however, to be afterwards enrolled in the college books at the matriculation, to be able to procure any official document of academical education, and to have acceſs to the valuable collection of books of which the college library conſiſts. This noble library is enriched with a copy of every book which is entered at Stationers' Hall, and is aided by a ſmall ſum paid by each ſtudent at his matriculation. The books may be procured, to a limited number, by ſtudents, on their depoſiting the value with the librarian, who returns it on receiving the book.

The whole number of ſtudents at the univerſity is from 1000 to 1300, of whom between four and five hundred are medical. The profeſſor of anatomy has never fewer than three hundred attending him, and ſometimes many more. The other claſſes, particularly thoſe of the practice of medicine and chemiſtry, are alſo well attended.

To the profeſſor of anatomy belongs a very capital collection of preparations, which may be inſpected by the ſtudents in the lecture-room, or in ſome cloſets adjoining it, in the courſe of the ſeaſon. He is always able to provide a ſufficient number of ſubjects for public demonſtration, but there are no opportunities of private diſſection afforded in the college.

Students who attend the midwifery claſs have the advantage of practice at the lying-in hoſpital. Connected with the medical education of the college is the attendance at the royal infirmary, which is a building capable of containing above two hundred patients, and ſupported principally by voluntary contributions. The medical and ſurgical patients are kept in different wards, and from the medical are ſelected about fifteen males, and as many females, with the moſt intereſting complaints, who are put into ſeparate wards, denominated *clinical*, and are attended by a medical profeſſor of the college, of whom there are generally four who take the duty alternately. The profeſſional buſineſs of the infirmary is performed by two ordinary phyſicians, appointed for a permanence, with ſalaries; two ſurgeons*, a clinical phyſician, two phyſicians' clerks, a houſe ſurgeon, and two clinical phyſicians' clerks. The phyſicians' clerks and houſe ſurgeon are appointed by the managers, and reſide in the hoſpital; the clinical phyſicians' clerks are appointed by the clinical phyſician for the time of his attendance, and do not reſide. The patients are ſeen by the phyſician or ſurgeon having the care of them, every day, except Sunday, at twelve o'clock.

The manner in which the buſineſs of the hoſpital is conducted, reflects much credit on all concerned in it, and is extremely conducive to the improvement of the ſtudent. On the admiſſion of any patient, whether ſurgical or medical, the houſe ſurgeon or phyſicians' clerk, take down an accurate account of the ſymptoms, and hiſtory of the complaint, in a book for the purpoſe, in which are inſerted the daily progreſs and treatment, dictated by the attending ſurgeon or phyſician. Theſe books are, at certain times of the day, left in a particular room for the inſpection of the ſtudent; and as they are liable to the ſeverity of criticiſm, both as to ſtyle and accuracy, it is the intereſt of all parties that they ſhould be correct. The ſurgical caſes of the hoſpital form the baſis of a valuable courſe of lectures, given twice a-week during the winter months, by Mr. Ruſſell.

Patients admitted into the clinical wards are the peculiar objects of attention. An accurate hiſtory of their complaints is taken by one of the clerks on their admiſſion, and a very full report of the ſtate of the patient, with the progreſs and treatment of the diſeaſe, is every day dictated by the clinical phyſician, who alſo gives lectures on theſe caſes at the college every Tueſday and Friday, at five o'clock. There are two clinical phyſicians in winter and one in ſummer, each of them officiating in this ſituation three months.

The fee for the clinical, and each courſe of medical lectures at the college, is three guineas, with a ſmall ſum to the janitor and ſervants. Every part of the hoſpital, whether medical, ſurgical, or clinical, is open to the ſtudent for three guineas annually; and this fee, as well as that for the clinical lectures, is, we believe, leſſened after a certain attendance. The ſtudents are at liberty to viſit any part of the hoſpital, at any time of the day, to make their perſonal obſervations on the ſtate of the patients, and compare the reports dictated by the phyſicians or ſurgeons with the appearances of the diſeaſe.

Before any gentleman can be examined for a medical degree in Edinburgh, he muſt bring forward documents of hav-

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* The care of the ſurgical patients of the hoſpital formerly belonged to the whole college of ſurgeons, who took the duty by rotation, for two months at a time; the ſucceſſor acting as an aſſiſtant until it became his turn to officiate. Dr. Gregory, while preſident of the college of phyſicians of Edinburgh, publiſhed an addreſs to the managers on the ſubject of the ſurgical attendance of the infirmary, and ſucceeded ſo far as to induce them to make material alterations in it. There are now on the eſtabliſhment ſix hoſpital ſurgeons, who are appointed for a permanence, with ſix aſſiſtant ſurgeons under them. Two of theſe ſurgeons act for two years at a time, and divide the patients. There is alſo a certain number of dreſſers appointed by the ſurgeons.

ing ſtudied medicine three years, at that or ſome other univerſity. The teſtimonial of that part of his education which he received in Edinburgh, is given him from the records of the univerſity by the ſecretary. As it may be acceptable to ſome of our readers to be informed of the regulations with regard to medical degrees in Edinburgh, we ſhall preſent them with nearly a literal tranſlation of the ſtatutes on this ſubject, known by the name of *Statuta Solemnia*.

Statutes of the univerſity of Edinburgh on the ſubject of medical degrees; propoſed by the faculty of medicine, and enacted by the ſenate.

1. No one ſhall be admitted to the degree of doctor of medicine, except on the 24th of June and the 12th of September, or the days immediately ſubſequent.

2. No one ſhall be admitted into the number of candidates unleſs he ſhall have, for the ſpace of three years, ſtudied, in this or ſome other univerſity, medicine and the branches compriſed in it, to wit, *anatomy and ſurgery, chemiſtry, botany, materia medica, and pharmacy,* and the *theory and practice of medicine,* and unleſs he ſhall have attended the clinical lectures given by the profeſſors of medicine, on the caſes in the infirmary.

3. Three months at leaſt before the above-mentioned days, every one deſirous of the honours of medicine, muſt deliver a *medical inaugural diſſertation* to one of the medical profeſſors, who is to read it over, amend it if neceſſary, and annex to it, in writing, his *perlegi*, or certificate of having read it, with the day on which it was received.

4. On or before the 20th of April, or July, he muſt communicate his wiſh to the dean of the faculty of medicine*; and at the ſame time deliver to him his inaugural diſſertation (with the certificate of the profeſſor who has read it annexed), to be ſubjected to the opinion of the faculty of medicine, in order that they may, by this ſpecimen, as well as by a private examination, be acquainted with his progreſs in learning, particularly in the ſcience of medicine, before they admit him into the number of candidates.

5. On the 18th of May, or the 6th of Auguſt, the candidates ſhall be examined by the two medical profeſſors before the faculty of medicine, in the various branches of medical ſcience above enumerated.

6. Should the candidate be approved, an aphoriſm of Hippocrates ſhall be propoſed to him by one of the medical profeſſors, and a medical queſtion by another. The former, explained and illuſtrated by a commentary; the latter, with an anſwer ſupported by proper arguments, he ſhall deliver on the 28th of May, or the 16th of Auguſt, to the profeſſors who propoſed them; and he ſhall defend his commentary and anſwer on the 30th of May or the 18th of Auguſt, before the faculty of medicine.

7. Should the candidate be thus far approved, there ſhall be delivered to him by two profeſſors, two hiſtories of diſeaſes, with queſtions annexed, that he may illuſtrate and anſwer them in writing. The caſes thus illuſtrated, together with the anſwers, he ſhall deliver to the profeſſors propoſing them on the 12th of June or the 1ſt of September, and ſhall defend them before the faculty of medicine on the 15th of June or the 3d of September.

8. If the candidate be approved after the firſt trial on the 18th of May, or the 6th of Auguſt, he is at liberty to print his inaugural diſſertation, and muſt deliver ſix correct copies of it (wanting the page which expreſſes the title and the authority of the univerſity) to the dean of the faculty of medicine, on the 15th of June, or the 3d of September.

9. Should the candidate be a third time approved by the faculty of medicine, the dean of the faculty ſhall report to the ſenate every thing which has been done, and by their authority and approbation, he ſhall be ordered to publiſh and defend it, on the 24th of June or the 12th of September. He ſhall then, if agreeable to the ſenate, receive in the uſual way, the reward of his ſtudies and labour, the degree of doctor of medicine

10. The faculty of medicine ſhall always meet at the college on the above-mentioned days at nine o'clock in the morning.

11. All the aforeſaid examinations and exerciſes ſhall be in the Latin language.

No examinations can be conducted with more candour than thoſe in Edinburgh. Queſtions are never aſked with a view to puzzle or perplex, nor are any ever propoſed which a ſtudent ſhould not be able to anſwer. On the other hand, the examinations are not merely formal, as the profeſſors never heſitate in rejecting a man, whom they do not conceive properly qualified. The principal examination is that mentioned as a private one at No. 4 of the Statuta Solemnia; it is held at the houſe of one of the profeſſors, and is attended by the whole of the faculty of medicine as examinators. The gentleman at whoſe houſe the meeting is held, begins by an examination of the general functions of the body, and then ſelects a particular viſcus, of the ſtructure and uſes of which he requires an explanation. The others confine themſelves to practical and pathological queſtions on the diſeaſes of this organ, in which the prognoſis, diagnoſis, treatment, and nature of the remedies employed in the cure, come under review.

The other examinations are in the college hall. The degree is conferred by the principal, after an oath taken by each graduate to practiſe his profeſſion in a juſt and honourable way. The diplomas are ſigned by the principal and the whole of the members of the Senatus Academicus.

The gradation fees to the college amount to between thirteen and fourteen pounds, and are paid to the proper officer immediately after the examination at No. 5 of the ſtatutes.

A gentleman who has paſſed this examination may, if he pleaſe, defer taking his degree for ſome time, and reſume his exerciſes at the ſtage at which they were left off.

Having given this general account of the mode in which medical education is conducted in the college of Edinburgh, the ſame writer tranſmits the following ſupplementary obſervations on the ſubject. (Med. and Ph. Jour. No. 35.)

The opportunities afforded at this univerſity of proſecuting the ſtudy of medicine are not confined to the college. Private lectures are alſo given in anatomy, ſurgery, phyſiology, and chemiſtry, by men of merit and eminence, which are of conſiderable advantage to the ſtudent, particularly in the ſtudy of anatomy. This ſcience is the only one in which Edinburgh has not arrived at a conſiderable degree of eminence, and it is in a great meaſure owing to the difficulty there has been in procuring a ſufficient number of ſubjects for private diſſection. The exertions of the private teachers have, however, in ſome meaſure, done away this diſadvantage, and the more frequent opportunities of proſecuting practical anatomy which are now enjoyed, muſt neceſſarily be of material ſervice to the univerſity. Anatomy cannot be learnt from lectures alone, for however perſpicuous the demonſtrations may be which accompany them, the ideas which they produce muſt remain in ſome meaſure indiſtinct and imperfect without the aid of diſſection, and the more ſo when they are given to a very large number of ſtudents at one time, as is the caſe in Edinburgh.

* This is generally, if not always, the youngeſt profeſſor of that faculty.

It is of extreme importance in the ſtudy of any ſcience, that the firſt rudiments ſhould be correct and diſtinct. Imperfect ideas are eaſily acquired; but they greatly retard the after-progreſs, and are ſometimes never entirely removed. If there is, therefore, a deſideratum in the medical education of Edinburgh, it is, that more opportunities ſhould be afforded to the ſtudent of proſecuting the ſtudy of anatomy. There are certainly many obſtacles in the way of procuring ſubjects ſufficient to enable the greater number of medical ſtudents to cultivate practical anatomy, and it is not improbable that the popular prejudices againſt diſſection, and the more limited opportunities of obtaining bodies in Edinburgh than in London, will make it always inferior to the latter as an anatomical ſchool. The ſocieties which are inſtituted in Edinburgh for diſcuſſing medicine and medical philoſophy have a conſiderable tendency to encourage the deſirable habits of ſtudy and inveſtigation. It muſt be admitted, however, that they have their diſadvantages; for to young men, who have juſt aſſumed the right of thinking for themſelves, without having obtained that information which is neceſſary as the foundation of their opinions, they frequently hold out a dangerous and ſucceſsful allurement, which diverts them from the more ſubſtantial parts of their ſtudies, renders them diſputatious, and encourages habits of ſelf-complacency and conceit. It is, perhaps, a good deal owing to the effects of ſocieties in general, that the ſtudents of Edinburgh obtained the character from Dr. Franklin of being, with lawyers, particularly fond of diſpute. Upon the whole, however, it appears, that the more reſpectable of the medical ſocieties are conducive to profeſſional improvement, if they are only regarded as ſubſervient to the other parts of education, if they are not attended too early, and if the ſtudent does not, as is too frequently the caſe, take a part in the diſcuſſion beyond his information.

The *royal medical*, and the *royal phyſical*, are two principal ſocieties devoted to ſubjects connected with medicine. The former ſtands higheſt in point of general reſpectability and importance, and has, in the liſt of its members, many of the moſt diſtinguiſhed medical characters in Europe. It was here, as Dr. Gregory remarks in his lectures, that the Boerhaavian doctrines were firſt freely diſcuſſed, and ſuch objections urged againſt their ſolidity, as gradually led to their abandonment. The members aſſume the full right of freedom of diſcuſſion on any opinions, by whatever authorities they may be ſupported, and are extremely jealous of the ſmalleſt endeavour, on the part of the profeſſors, to control them. During the time that the celebrated doctrines of Brown firſt began to be canvaſſed, the warmth of debate was carried on ſo far, as to render it neceſſary to paſs a law (which ſtill exiſts) to enact, that any gentleman who ſhould challenge another, on account of any thing which might take place during debate, ſhould be expelled the ſociety.

The Royal Medical Society was inſtituted in the year 1737, and obtained a charter of corporation in 1778. It is governed by four preſidents, and by committees choſen annually from the members by ballot. The meetings are held once a-week, and laſt from 7 in the evening till 12. An eſſay on a medical caſe, and a diſſertation on ſome ſubject connected with medicine (which are written by the ordinary members in rotation, and are termed a ſet of papers), are diſcuſſed every evening, and not more than two ſets of thoſe papers are expected from any gentleman during the time of his being in the ſociety. They are circulated among the members before diſcuſſion, and are copied into proper books, which are open to their inſpection in the library. Fines are exacted for abſence either during the whole or part of the evening, and theſe are ſo conſiderable as to enforce a pretty punctual attendance. The admiſſion fee is five guineas; one guinea is paid in the beginning of the ſecond year of attendance, and half a guinea in the beginning of the third, after which no further ſum is required. A member, after having written two ſets of papers, and completed two ſeſſions in the ſociety, becomes extraordinary, and is then freed from fines or contributions.

This ſociety is poſſeſſed of a very valuable library and philoſophical apparatus, which are under excellent regulation. Periodical publications and new works lie a certain time upon the library table, for the uſe of the members, before they are put into the body of the library.

There are ſeveral circumſtances which have tended to eſtabliſh the reputation of Edinburgh, and to make it a very general reſort for medical ſtudents. Two or three of thoſe it may not be improper to mention.

The celebrity of its profeſſors, without doubt, brought it firſt into notice, and on this, its eſtimation in the eyes of Europe muſt ſtill depend. The eſtabliſhment of profeſſors in Edinburgh has a powerful tendency to preſerve that zeal and activity in the proſecution of the ſubjects which they teach, ſo neceſſary to the advancement of ſcience and the increaſe of perſonal reputation. The ſalaries are very ſmall, their emoluments muſt therefore principally depend upon the manner in which their lectures are attended, and this again on the eſtimation in which they are held. In Edinburgh, too, the practice of a phyſician is very much limited. Lecturing is not, therefore, as is often the caſe in London, employed as an introduction merely to public notice, but is regarded as a profeſſion to which a man feels it his intereſt to direct all his abilities and attention.

Without having the moſt diſtant intention of making any application on the ſubject, we may be allowed to obſerve, that a more reſpectable phalanx of medical men could ſcarcely be brought together, than filled the profeſſional chairs of this univerſity a few years ago. Any one converſant with its hiſtory, muſt know that we allude to the period at which Dr. Cullen, Dr. Black, Dr. Gregory, Dr. Hope, Dr. Monro, and Dr. Home, were all of them at one time engaged in teaching the different branches of medical ſcience. It is extremely difficult to point out that mode of electing profeſſors, which is moſt likely to enſure their being properly qualified for their office.

The members of a town-council do not appear to be the men beſt adapted for this purpoſe, and yet it is with them that the nomination reſts. Hitherto, there has been little ground of complaint; it may eaſily however be ſeen, that the utmoſt circumſpection is neceſſary to preſerve the reſpectability of the profeſſional chairs in the eyes of Europe and that the ſyſtem which has been adopted of late years, of appointing the ſon as the ſucceſſor or colleague of his father, if carried too far, will be highly injurious to the intereſts of the univerſity.

The habits of life, both of the ſtudents and the inhabitants in general of Edinburgh, are very favourable to the ſteady purſuit of ſcientific knowledge. The ſtudents are not men of fortune, who come to the univerſity for the purpoſe of *lounging away* two or three years for the ſake of form or faſhion, but are ſuch as depend for their ſucceſs on their perſeverance, aſſiduity, and attention in the purſuits to which they are devoted. Enquiry is encouraged by the profeſſors, excited by the eaſy intercourſe which takes place among the ſtudents, and readily gratified by the facility with which books can be procured, whether from the college-library or that of the royal medical ſociety. The deſire of diſtinction among themſelves, and the wiſh to come off with credit on an application for a degree, have alſo a very conſiderable and ſalutary influence upon the ſtudents.

The inhabitants of Edinburgh are, in general, diſtinguiſhed for information and propriety of behaviour, which may be attributed to a variety of cauſes. Learned and literary men, particularly thoſe connected with the college, are held in great eſtimation, and are received with cordiality into the higheſt circles. By far the moſt numerous claſs of the reſpectable inhabitants are in the profeſſions; and commerce, which ſometimes ſuddenly raiſes ignorant and ill-educated men to affluence, has ſcarcely any place in the Scottiſh capital. Theſe circumſtances cannot be without ſome effect upon the minds of young men who go thither for the purpoſe of improvement.

The lectures themſelves are more comprehenſive than thoſe which, as far as we know, are delivered in any other univerſity in Europe; and the infirmary, as mentioned in a former place, is under regulations, which render it productive of much advantage to the ſtudent.

The eſtimation in which Edinburgh is held as a ſchool of medicine, is ſufficiently marked by the general reſort of ſtudents to it from every part of Europe. Few medical men, who can boaſt of a regular courſe of ſtudy, have not enjoyed the advantages of this ſchool; and by much the greater number of the moſt reſpectable phyſicians of this iſland, have graduated in Edinburgh. It may hardly be thought neceſſary to make any obſervations on the reſpectability of Edinburgh degrees, after the detail which we have given, and the general eſtimation in which they are held with the public; we think it proper however to obſerve, that, to the diſgrace of an honourable profeſſion, and of an enlightened nation, which ought, on account of its uſefulneſs, to preſerve its reſpectability, the right of practiſing medicine is at this time to be purchaſed at a Scotch univerſity without ſtudy, attendance, or examination; ſimply by a certificate of fitneſs from two phyſicians, who, it is to be feared, too often ſign it from courteſy, without being adequately informed of the education or acquirements of the perſon whom they recommend. It ought therefore to be recollected by thoſe who, from this circumſtance, depreciate the value of Scotch degrees, that it is unfair and uncandid to claſs the univerſity of St. Andrew's with that of Edinburgh, where the *eligibility to examination for a degree* can only be obtained by three years' regular ſtudy, and where the examination itſelf is well adapted to diſcover how far the ſtudent has availed himſelf of the opportunities he has enjoyed.

It ſeems highly prepoſterous, that a qualification to practiſe a liberal profeſſion, like that of medicine, which has not only its general character for learning to ſupport, but which alſo requires no ſmall ſhare of ſtudy and application to become acquainted with its principles, ſhould be able to be purchaſed by any one who chooſes to be at the expence of it; for though it be admitted, that the certificate of qualification be in ſome meaſure a check upon the introduction of any improper perſons to the honours of medicine, yet is it to be imagined, that medical men cannot occaſionally be found, who will ſo far forget their own honour and the honour of their profeſſion, as to recommend men very ill adapted to ſupport its credit and reſpectability? In the profeſſions of law and divinity, it is required that a man ſhould ſpend a certain time in the ſtudy of his profeſſion before he is admitted to practiſe it; or, at leaſt, that he ſhould be of ſo long a ſtanding as to give him a full opportunity of having turned his attention to it; and even then a certificate of fitneſs is required previous to admiſſion. If ſuch be proper or neceſſary in the profeſſions which we have mentioned, is it not doubly ſo in that of medicine, where the health or the life of individuals depend upon the knowledge and judgment of one man, and where there is often no time for looking into ſources of information, or endeavouring to ſupply a deficient knowledge of the ſubject? The evil is ſerious; and it is the duty of every good man, who wiſhes well to the profeſſion of medicine and to the public, to do his endeavours to remedy it. For though ſome individual inſtances may occur, in which a man may be poſſeſſed of every qualification neceſſary for a phyſician, and would be much inconvenienced by not having a medical degree without the loſs of time incurred by an attendance at an univerſity for the purpoſe of obtaining it, yet the poſſibility of ſuch an occurrence ought not to prevent any meaſure of univerſal public and profeſſional advantage. It would not be thought ſufficient for a perſon in a ſubordinate part of the law, who had been all his life engaged in the practice of his profeſſion, to ſay, that he expected to be once admitted to the bar, becauſe he conceived himſelf qualified to practiſe as a counſel. He would be expected to purſue the ſame courſe, as if he had been juſt entering upon the ſtudy of the law, however inconvenient might be the delay. And it does not appear particularly unreaſonable, that when a profeſſion is either entered upon or changed, a ſacrifice of two or three years ſhould be made, in order to obtain a qualification to practiſe it, though it may occaſionally be attended with ſome perſonal inconvenience.

The Royal College of Phyſicians of London ſeem perfectly convinced of the propriety of requiring a certain academical attendance from every one, previous to examination for the liberty of practiſing in the metropolis; when they make it neceſſary for ſuch as preſent themſelves, to produce documents of having ſtudied two years at the ſame univerſity where they graduated. This by-law appears to be founded upon the moſt judicious principles, and does credit to the judgment of that learned body. The latter part of it is clearly with a view to prevent thoſe from applying for admiſſion as licentiates, who were rejected on their examination for a degree at the univerſity where they were educated, and afterwards procured one by purchaſe.

The Royal College of Phyſicians of Edinburgh have a defect in their charter, which prevents their being able to adopt the ſame ſalutary regulations with that of London, on the mode of admitting licentiates or fellows. By their charter it is enacted, that not only graduates of Edinburgh, but of any other Scotch univerſity, ſhall be admitted by right a licentiate of the college, without examination; and by the conſtitution of the college, a licentiate, after remaining twelve months in that probationary ſtate, is admitted a fellow as a matter of courſe.

That Edinburgh graduates ſhould be admitted without examination into the college of phyſicians, is not improper, becauſe the heads of this college are members of the faculty of medicine of the univerſity, and the perſons who on examination thought him duly qualified to practiſe medicine. But, that any perſon who has purchaſed a St. Andrew's degree, ſhould be able to claim the ſame privilege, completely does away any idea of honour from a connection with that body. The abſurdity of the clauſe above mentioned, more clearly appears from a caſe which is not only poſſible, but may at any time occur. A ſtudent may be thought unqualified for the honour of a degree in Edinburgh, and may be rejected. He may afterwards procure a degree from St. Andrew's, and inſiſt upon admiſſion into the college of phyſicians of Edinburgh, though he will be there aſſociated with the very men who thought him unworthy of a degree from the univerſity. Thus it appears, that the degree of doctor from the univerſity is more honourable than that of fellow of the royal college of phyſicians, a circumſtance far from being generally known, though it may be very fairly inferred from the reſpectable evidence of Dr. Gregory, who made the obſervation to which we alluded above, when actually preſident of the college.

On a compariſon of the advantages afforded by Edinburgh and the Engliſh univerſities, in the ſtudy of medicine, there can be no heſitation in preferring the former. As an argument in favour of Oxford and Cambridge, much ſtreſs has been laid upon the length of time which it is neceſſary to be connected with thoſe univerſities, before the degree of doctor can be obtained. But in this point of view, the balance muſt be on the ſide of Edinburgh, for a great part of the attendance at the Engliſh univerſities is merely nominal, half terms only being ſufficient before taking the degree of bachelor of medicine; and from that time until the period at which the degree of doctor is conferred, no attendance is neceſſary at all. Does the period of abſolute attendance, therefore, which is neceſſary previous to taking a doctor's degree, predominate in Edinburgh, or in the Engliſh univerſities? Much of the advantages derived from a place of education, neceſſarily depends upon the time and punctuality of attendance; and this applies more ſtrongly in medicine, than perhaps any other profeſſion. When we therefore conſider that the period of *actual attendance* in Edinburgh is equal to that which is requiſite at either of the Engliſh univerſities; and when we alſo recollect, that during the whole of that attendance, the time is occupied in the proper buſineſs of the profeſſion, little doubt can exiſt on the comparative merits of thoſe ſeminaries as ſchools of medicine. It is uſual, and indeed neceſſary, that gentlemen educated to phyſic at either of the Engliſh univerſities, ſhould proſecute the ſtudy of their profeſſion elſewhere; but is it not a circumſtance of a moſt ſingular nature, that the only advantage in medicine from thoſe illuſtrious ſeminaries, is the obtaining a degree? and that the previous acquirements which are neceſſary to qualify a man to practiſe with honour to himſelf, or advantage to the world, muſt be made in another place?

Eſtabliſhment for the poor.—There has been opened at Edinburgh, an houſe for the employment and relief of the poor. Notice had been publicly given that mendicity would no longer be permitted in that city; there being both employment and the means of ſubſiſtence in the houſe, for every beggar and deſtitute perſon who was diſpoſed to work. They were alſo informed that they would receive the full amount of their earnings, with ſuch additional gratuitous aſſiſtance, as might, in the whole, be equal to their decent maintenance.

From the 22d of January, 1801, to the 16th of March, ninety perſons of different ages were admitted into the houſe. The number has ſince been conſiderably increaſed. Of theſe, few, comparatively ſpeaking, were of the ordinary claſs of beggars: they, in general, fled upon the alarm; and retired to quieter ſituations, in London, and other municipalities, where ſimilar meaſures of prudential charity have not been adopted. Of thoſe diſtreſſed perſons who have been admitted into the houſe, almoſt all have been received on their own application; many of them widows advanced in life, whom the high price of proviſions, and the want of occupation, had compelled to diſpoſe of the greater part of their furniture and clothes, for immediate ſubſiſtence;—or young women, who, with characters apparently unimpeached, were expoſed to a courſe of pilfering and proſtitution.

It was fixed that they ſhould have *the whole produce of their earnings*; beſides this they receive *gratis*, a cheap dinner, and two pence a-day each in money. The pecuniary allowance has, for the preſent, been rendered expedient by the peculiar circumſtances of the times, the high price of food, and the ſtate of weakneſs and indigence to which the poor are reduced. The continuance of that part of the relief, it is to be hoped, will not be univerſally neceſſary.

Their earnings are ſmall:—but it is not a ſmall object to be obtained, that ſuch a claſs of perſons ſhould be virtuouſly and induſtriouſly employed; that they ſhould be *earning ſomething*, and acquiring the habit and ſkill to earn more. They expreſs very generally, and very ſtrongly, their gratitude for the advantages, which they derive from the charity; and look forward to its continuance with eager and ſolicitous expectation. Only two of them have merited ſerious reprehenſion; and they are now diſmiſſed the houſe, to the advantage and apparent ſatisfaction of the reſt.—Of the ninety perſons admitted, ſeventy-four have been employed in ſpinning flax,—three in ſpinning hemp,—and one in ſpinning wool: all of theſe have been furniſhed by the manufacturer with the raw materials, and are paid by him, according to the uſual rates, for the quantity they reſpectively ſpin.—Beſides theſe, ſix have been employed in making lace, three in knitting ſtockings, two in reeling yarn, and aſſiſting in the houſe, and one (a joiner with five children in great diſtreſs for want of work) in mending the ſpinning-wheels, and in making a variety of little articles for ſale.

To occupation, and the means of ſubſiſtence, the directors of this excellent charity have added medical advice and aid. Of this department, an eminent phyſician, Dr. William Farquharſon, has taken the direction; the inſtitution being put to no other expence, than that of the wholeſale price of the medicines which the poor may require.

The eſtabliſhment is ſupported by voluntary contributions, not only of money, but of clothing and ſpinning-wheels, ſupplied by public bodies at Edinburgh, as well as by individuals. In conſequence of a report made by the Rev. Dr. Baird (*principal of the univerſity* at Edinburgh, and a moſt active conductor of the charity) the ſociety lately eſtabliſhed at Edinburgh, "for encouraging the induſtry and increaſing the comforts of the poor," has taken this charity under its peculiar patronage and adminiſtration; and has added conſiderably to its funds.

EDNAM, a village near Kelſo, in Roxburghſhire, ſeated on the Tweed. It is the birth-place of the poet Thomſon.

EFFINGHAM, a village in Surrey, 12 miles N.E. of Guildford. It was once, according to tradition, a populous town, containing 16 churches. There are, certainly, proofs of its having been a much larger place; for wells and cavities like cellars, have been frequently found in the neighbouring fields and woods; and in the church are ſome ancient ſtalls and monuments.

EGG, a fertile little iſland, one of the Hebrides of Scotland, to the S. of Syke.

EGHAM, a village in Surrey, four miles N.N.W. of Chertſey. Here is a neat almſhouſe for ſix men and ſix women, with a ſchool for the education of 20 boys, founded by Mr. Henry Strode, in 1706; and another almſhouſe, for ſix men and ſix women, founded by Judge Denham, father of the poet of that name. Near this place is the celebrated Runnymead.

EGLINGEN, a town of Suabia, capital of a lordſhip of the ſame name, ſix miles N. of Dillengen.

EGLISAU, an ancient town of Switzerland, in the canton of Zurich, ſeated on the Rhine, 13 miles N. of Zurich. Long. 8. 30. E. Lat. 47. 33. N.

EGMONT BAY, a bay on the S.W. of the Iſland of St. John, in the gulf of St. Lawrence. Long. 64. 0. W. Lat. 46. 30. N.

EGMONT ISLAND, a low woody iſland in the South Pacific Ocean. Long. 138. 30. W. Lat. 19. 20. N.

EGREMONT, a town in Cumberland, with a market on Saturday. It is ſeated near the Iriſh Sea, on the river Eben, over which are two bridges; and on the peak of a hill is a caſtle. It ſent members to parliament in the reign of Ed-

ward I. and is 14 miles S.W. of Cockermouth, and 299 N.W. of London. Long. 3. 35. W. Lat. 54. 32. N.

EGYPTEN, a town of the duchy of Courland, 100 miles S.E. of Mittau. Long. 26. 40. E. Lat. 56. 2. N.

EHIGEN, the name of two ſmall towns of Suabia, the one near the Danube, and the other on the Neckar. They belong to the Houſe of Auſtria. The former is in long. 9. 45. E. lat. 48. 18. N. and the latter in long. 8. 45. E. lat. 48. 25. N.

EHRENBREITSTEIN, a very ancient fortreſs, in the electorate of Treves, on the E. bank of the Rhine, oppoſite Coblentz. It ſtands on the ſummit of a ſtupendous rock, not leſs than 800 feet above the level of the river, and is thought, when ſupported by a competent garriſon, to be impregnable. It has a communication with Coblentz by ſubterraneous paſſages cut out of the ſolid rock; and is plentifully ſupplied with water from a well 280 feet deep. In the centre of a large ſquare in this fortreſs, is placed a cannon, ſuppoſed to be the largeſt in Europe; it was caſt in 1528, weighs 300 quintals, and projects a ball of 180 pounds, upwards of 12 miles. The proſpect from this caſtle is majeſtic, extenſive, and variegated; and the ſtream at its foot is decorated with two ſmall iſlands, on each of which is a convent. In the vale of Ehrenbreitſtein is the old palace of the elector. The fortreſs ſurrendered to the French, after a long ſiege, and a blockade of above a year's continuance, in February 1799.

EHRENFELS, a fortreſs of Bavaria, in the duchy of Neuburg, which gives name to a lordſhip. It is 13 miles N.W. of Ratiſbon.

EJECTION, in Scots law, is the turning out the poſſeſſor of any heritable ſubject by force; and is either *legal* or *illegal*. Legal ejection is where a perſon having no title to poſſeſs, is turned out by the authority of law. Illegal ejection, is one perſon's violently turning another out of poſſeſſion without lawful authority.

EILENBURG, or EULENBURG, a town of Upper Saxony, 12 miles N.E. of Leipſic.

EIMBECK, a town of Germany, in the territory of Grubenhagen, 25 miles S. of Hildeſheim. Long. 10. 0. E. Lat. 51. 46. N.

EIMEO, one of the Society Iſles, in the S. Pacific Ocean, lying near Otaheite. The products of the two iſlands, and the manners of the people, are much the ſame. Eimeo has ſteep rugged hills, running in different directions, leaving large valleys, and gently riſing ground about their ſides. The hills, though rocky, are generally covered with trees almoſt to their tops.

EISLEBEN, a town of Upper Saxony, in the county of Mansfeld, famous as the birth-place of Luther. It is five miles E. of Mansfeld.

EISNACH, a town of Thuringia, capital of a diſtrict of the ſame name, with a celebrated college, 36 miles W. of Erfurt. Long. 10. 25. E. Lat. 50. 59. N

EITHAN, or YTHAN, a river in Aberdeenſhire, which croſſes that county in a S.E. direction, and falls into the Britiſh Ocean at Newburgh.

EKEREFORD, a town of Denmark, in the duchy of Sleſwick, ſeated on the Baltic, 12 miles S.E. of Sleſwick. Long. 10. 30. E. Lat. 54. 56. N.

ELBA, an iſland on the coaſt of Tuſcany, remarkable for mines of iron and loadſtone, and quarries of marble. It is ſubject to the Prince of Piombino, under the protection of the King of Naples, who is in poſſeſſion of Porto-Longone; and the Grand Duke of Tuſcany has Porto-Ferrajo.

ELBASSANO, a town of Turkey in Europe, in Albania, 45 miles S.E. of Durazzo. Long. 20. 9. E. Lat. 41. 34. N.

ELBOGEN, a town of Bohemia, capital of a circle of the ſame name, with a citadel, on the river Eger, 16 miles N E. of Egra. Long. 13. 0. E. Lat. 50. 16. N.

ELBURG, a town of the United Provinces, in Gueldерland, on the E. coaſt of the Zuider-Zee, 10 miles N.E. of Harderwick. Long. 5. 50. E. Lat. 52. 30. N.

ELCATIF, a ſea-port of Arabia Felix, on the W. coaſt of the gulf of Perſia, 300 miles S. of Buſſorah. Long. 53. 5. E. Lat. 26. 0. N.

ELCHE, a town of Spain, in Valencia, 20 miles S.W. of Alicant. Long. 0. 23. W. Lat. 38. 7. N.

ELECTRICITY, GALVANIC. See GALVANISM in this SUPPLEMENT.

ELECTRICAL DOUBLER, an ingenious and uſeful invention of Mr. Bennet, well known to electricians, and much improved by Mr. Cavallo. The original inſtrument would be freed from its principal imperfections, we apprehend, by interpoſing a plate of air between the three plates of the *doubler*. Thus, if we ſtick on one of the plates three very ſmall ſpherules, made from a capillary glaſs tube, or from a thread of ſealing-wax; the other plate, when laid on, will reſt merely on ſo many points; and there will be ſcarcely any friction capable of hindering the proceſs of the experiment. Mr. Nicholſon's contrivance for expediting the effect of the doubler is very ingenious.

ELECTROPHORUS, a machine, repreſented in Plate 26, the phenomena of which are ſomewhat ſingular. It conſiſts of two plates, A and B, uſually of a circular form; though they may be made ſquare, or of the figure of a parallellogram, with more eaſe, and with equal advantage. At firſt the under plate was of glaſs, covered over with ſealing-wax; but there is little occaſion for being particular either with regard to the ſubſtance of the lower plate, or the electric which is put upon it. A metallic plate, however, is perhaps preferable to a wooden one, though the latter will anſwer the purpoſe very well. This plate is to be covered with ſome electric ſubſtance. Pure ſulphur anſwers very near as well as the dearer electrics, ſealing-wax, gum-lac, &c.; but it hath this bad quality, that, by rubbing it, ſome exceeding ſubtle ſteams are produced, which infect the perſon's clothes, and even his whole body, with a very diſagreeable ſmell, and will change ſilver in his pocket to a blackiſh colour. The upper plate of the electrophorus is a braſs plate, or a board or piece of paſteboard covered with tinfoil or gilt paper, nearly of the ſame ſize with the electric plate, though it will not be the worſe that it is ſomewhat larger. It is furniſhed with a glaſs handle (I), which ought to be ſcrewed into the centre. The manner of uſing this machine is as follows.—Firſt, the plate B is excited by rubbing its coated ſide with a piece of new white flannel, or a piece of hare's ſkin. Even a common hard bruſh, having the hair a little greaſed, will excite ſulphur extremely well. When this plate is excited as much as poſſible, it is ſet upon the table with the electric ſide uppermoſt. Secondly, the metal plate is laid upon the excited electric, as repreſented in the figure. Thirdly, the metal plate is touched with the finger or any other conductor, which, on touching the plate, receives a ſpark from it. Laſtly, the metal plate A, being held by the extremity of its glaſs handle (I), is ſeparated from the electric plate; and, after it is elevated above that plate, it will be found ſtrongly electrified with an electricity contrary to that of the electric plate; in which caſe, it will give a very ſtrong ſpark to any conductor brought near it. By ſetting the metal upon the electric plate, touching it with the finger, and ſeparating it ſucceſſively, a great number of ſparks may be obtained apparently of the ſame ſtrength, and that without exciting again the electric plate. If theſe ſparks are repeatedly given to the knob of a coated phial, this will preſently become charged.

"As to the continuance of the virtue of this electric plate, (ſays Mr. Cavallo), when once excited, without repeating the excitation, I think there is not the leaſt foundation for believing it perpetual, as ſome gentlemen have ſuppoſed; it being nothing more than excited electric, it muſt gradually loſe its power by imparting continually ſome of its electricity to the air, or other ſubſtances contiguous to it. Indeed its electricity, although it could never be proved to be perpetual by experiments, laſts a very long time, it having been obſerved to be pretty ſtrong ſeveral days, and even weeks, after excitation. The great duration of the electricity of this plate, I think, depends upon two cauſes: firſt, becauſe it does not loſe any electricity by the operation of putting the metal plate upon it, &c. and, ſecondly, becauſe of its flat figure, which expoſes it to a leſs quantity of air, in compariſon with a ſtick of ſealing-wax, or the like, which, being cylindrical, expoſes its ſurface to a greater quantity of air, that is continually robbing the excited electrics of their virtue.

"The firſt experiments that I made, relative to this machine, were with a view to diſcover which ſubſtance would anſwer beſt for coating the glaſs plate, in order to produce the greateſt effect. I tried ſeveral ſubſtances either ſimple or mixed; and at laſt I obſerved, that the ſtrongeſt in power, as well as the eaſieſt, I could conſtruct, were thoſe made with the ſecond ſort of ſealing-wax, ſpread upon a thick plate of glaſs. A plate that I made after this manner, and no more than ſix inches in diameter, when once excited, could charge a coated phial ſeveral times ſucceſſively, ſo ſtrongly as to pierce a hole through a card with the diſcharge. Sometimes the metal plate, when ſeparated from it, was ſo ſtrongly electrified that it darted ſtrong flaſhes to the table upon which the electric plate was laid, and even into the air, beſides cauſing the ſenſation of the ſpider's web upon the face brought near it, like an electric ſtrongly excited. The power of ſome of my plates is ſo ſtrong, that ſometimes the electric plate adheres to the metal when this is lifted up, nor will they ſeparate even if the metal plate is touched with the finger or other conductor. It is remarkable, that ſometimes they will not act well at firſt, but they may be rendered very good by ſcraping with the edge of a knife the ſhining or gloſſy ſurface of the wax. This ſeems analogous to the well-known property of glaſs, which is, that new cylinders or globes, made for electrical purpoſes, are often very bad electrics at firſt; but that they improve by being worked, *i. e.* by having their ſurface a little worn. Paper alſo has this property.

"If, after having excited the ſealing-wax, I lay the plate with the wax upon the table, and the glaſs uppermoſt, *i. e.* contrary to the common method; then, on making the uſual experiment of putting the metal plate on it, and taking the ſpark, &c. I obſerve it to be attended with the contrary electricity: that is, if I lay the metal plate upon the electric one, and, while in that ſituation, touch it with an inſulated body, that body acquires the poſitive electricity; and the metallic, removed from the electric plate, appears to be negative; whereas it would become poſitive, if laid upon the excited wax. This experiment, I find, anſwers in the ſame manner if an electric plate is uſed which has the ſealing-wax coating on both ſides, or one which has no glaſs plate.

"If the braſs plate, after being ſeparated from, be preſented with the edge toward the wax, lightly touching it, and thus be drawn over its ſurface, I find that the electricity of the metal is abſorbed by the ſealing-wax, and thus the electric plate loſes part of its power; and if this operation is repeated five or ſix times, the electric plate loſes its power entirely, ſo that a new excitation is neceſſary in order to revive it.

"If, inſtead of laying the electric plate upon the table, it is placed upon an electric ſtand, ſo as to be accurately inſulated, then the metal plate ſet on it, acquires ſo little electricity, that it can only be diſcovered with an electrometer; which ſhews, that the electricity of this plate will not be conſpicuous on one ſide of it, if the oppoſite ſide is not at liberty either to part with, or acquire more of the electric fluid. In conſequence of this experiment, and in order to aſcertain how the oppoſite ſides of the electric plate would be affected in different circumſtances, I made the following experiments:

"Upon an electric ſtand E, I placed a circular tin-plate, nearly ſix inches in diameter, which by a ſlender wire H communicated with an electrometer of pith-balls G, which was alſo inſulated upon the electric ſtand F. I then placed the excited electric plate D of ſix inches and a quarter in diameter, upon the tin-plate, with the wax uppermoſt; and on removing my hand from it, the electrometer G, which communicated with the tin-plate, *i. e.* with the under ſide of the electric plate, immediately opened with negative electricity. If, by touching the electrometer, I took that electricity off, the electrometer did not afterwards diverge. But if now, or when the electrometer diverged, I preſented my hand open, or any other uninſulated conductor, at the diſtance of about one or two inches, over the electric plate, without touching it, then the pith-balls diverged; or, if they diverged before, came together, and immediately diverged again with poſitive electricity:—I removed the hand, and the balls came together;—approached the hand, and they diverged: and ſo on.

"If, while the pith-balls diverged with negative electricity, I laid the metal plate, holding it by the extremity K of its glaſs handle, upon the wax, the balls came, for a little time, towards one another, but ſoon opened again with the ſame, *i. e.* negative electricity.

"If, whilſt the metallic reſted upon the electric plate, I touched the former, the electrometer immediately diverged with poſitive electricity; which if, by touching the electrometer, I took off, the electrometer continued without divergence.—I touched the metal plate again, and the electrometer opened again; and ſo on for a conſiderable number of times, until the metal plate had acquired its full charge. On taking now the metal plate up, the electrometer G inſtantly diverged with ſtrong negative electricity.

"I repeated the above-deſcribed experiments, with this only difference in the diſpoſition of the apparatus, *i. e.* I laid the electric plate D with the excited ſealing-wax upon the circular tin-plate, and the glaſs uppermoſt; and the difference in their reſult was, that where the electricity had been poſitive in the former diſpoſition of the apparatus, it now became negative, and *vice verſa*; except that, when I firſt laid the electric plate upon the tin, the electrometer G diverged with negative electricity, as well in this as in the other diſpoſition of the apparatus. I repeated all the above experiments with an electric plate, which, beſides the ſealing-wax coating on one ſide, had a ſtrong coat of varniſh on the other ſide, and their reſult was ſimilar to that of thoſe made with the above-deſcribed plate."

This is Mr. Cavallo's account of the electrophorus; but there is one part of it in which he muſt certainly be miſtaken. He tells us, that "inſtead of laying the electric plate upon the table, it is ſet upon an electric ſtand, ſo as to be accurately inſulated, then the metal plate ſet on it acquires ſo little electricity, that it can only be diſcovered by an electrometer." In what manner this gentleman came to miſtake a plain fact ſo egregiouſly, is not eaſy to determine; but it is certain, that an electrophorus, inſtead of having its virtue impaired by being inſulated, has it greatly increaſed, at leaſt the ſphere of its activity is greatly enlarged. When lying on the table,

if the upper plate is put upon it without being touched with the finger, it will not ſhew much ſign of electricity. But as ſoon as it is put on the electric ſtand, both the upper and under ſide appear ſtrongly negative. A thread will be attracted at the diſtance of eight or ten inches. If both the upper and under ſide are touched at the ſame time, a ſtrong ſpark will be obtained from both, but always of the ſame kind of electricity, namely, the negative kind. If the upper plate is now lifted up, a ſtrong ſpark of poſitive electricity will be obtained from it; and on putting it down again, two ſparks of negative electricity will be produced.

The ſingularity of this experiment is, that it produces always double the quantity of negative electricity that it doth of the poſitive kind; which cannot be done by any other method yet known. Another very ſurpriſing circumſtance is, that when the electrophorus remains in its inſulated ſituation, you need not always touch the upper and under ſide of the plates at once, in order to procure poſitive electricity from the upper plate: it is ſufficient to touch both ſides only once. On lifting up the upper plate, a ſpark of poſitive electricity is obtained as already mentioned. On putting it down again, a ſpark of the negative kind is obtained from the upper plate, even though you do not touch the lower one. On lifting up the upper plate, a ſpark of poſitive electricity is obtained, but weaker than it would have been had both ſides been touched at once. Putting down the upper plate again without touching both, a ſtill weaker ſpark firſt of negative and then of poſitive electricity will be obtained from the upper one. Thus, the ſparks will go on continually diminiſhing, to the number perhaps of two or three hundred. But at laſt, when the electricity of the whole machine ſeems to be totally loſt, if both ſides are touched at once, it will inſtantly be reſtored to its full ſtrength, and the double ſpark of negative, with the ſingle one of poſitive electricity, will be obtained without intermiſſion as before.

To account for all theſe phenomena very particularly, is perhaps impoſſible, without a greater degree of knowledge concerning the internal fabric of bodies than we have acceſs to attain. In general, however, it is evident, that the phenomena of the electrophorus ariſe from the diſpoſition that the electric matter hath to keep up an equilibrium within itſelf throughout every part of the univerſe. In conſequence of this, no motion of the electric matter can be produced upon the one ſide of a body, but it muſt immediately be balanced by a correſponding one on the oppoſite ſide; and in proportion to the ſtrength of the one, ſo will the ſtrength of the other be. When the under plate of the electrophorus is excited, the negative electricity, or vibratory action of the electric matter towards the excited ſide, is produced; and the moment that ſuch an action is produced on one ſide, it is reſiſted by a ſimilar one on the oppoſite ſide, and thus the electrophorus becomes negatively electrified on both ſides. As long as the under part of the machine communicates with the earth, the vibratory motion is impeded by the progreſſive one towards the earth. This makes the reſiſtance on the under ſide leſs, and therefore the vibratory motion on the upper part extends but a ſmall way. When the plate is inſulated, the electric matter has not an opportunity of eſcaping to the earth as before, becauſe it is ſtrongly reſiſted by the air; a vibration therefore takes place on both ſides, and extends to a great diſtance from the plate. When the upper plate is ſet upon the electrophorus, the ſame kind of electricity, *viz.* the negative kind, is communicated to it. When both ſides are touched, with the finger, or with any other conducting ſubſtance, both electricities are ſuddenly taken off, becauſe the electric matter running along the conducting ſubſtance on both ſides, puts an end to the vibratory motion in the air, which conſtitutes the very eſſence of what we call *electricity*. There is now a quiet and equal balance of the electric matter on both ſides, and therefore no ſigns of electricity are ſhewn. But as ſoon as the upper plate is taken off, this balance is deſtroyed. The fluid in the metal plate had not been able to penetrate the electric ſubſtance in ſuch a manner as to put a ſtop to the vibrations of what was within it. As ſoon then as the plate is taken off, the electricity, or vibratory motion towards the electric, breaks out at that ſide. But this motion *inwards* to the electric, which conſtitutes negative electricity, neceſſarily becomes *outward* from the plate; and as no motion of the fluid can be produced on one ſide of a body, but what is immediately communicated to the other, the upper plate becomes electrified poſitively, and the under one negatively on both ſides.

ELEVATOR, a mechanical contrivance for raiſing any thing to an height from the ſurface of the earth.—The following deſcription of a machine called a *ſpeedy elevator*, invented by Dr. Collin, appears in the Tranſactions of the American Philoſophical Society, and the doctor was honoured with the Magellanian gold medal for this invention.

The main body of the baſe is a rectangular ſolid floor. (See F. W. Plate 27). To its corners are jointed four horizontal legs, of equal thickneſs with it, but half the length, having their nether ſides even with its bottom. When the machine is uſed, theſe are diſplayed ſo that their ends form a rectangle, the diagonals of which may be on thoſe of the main body, or vary from them in a poſition moſt promotive of ſtability.

The pillars A A ſtand vertical on the long diameter of the baſe, equally diſtant from its ends. Their feet enter into it, and are by ſtrong faſtenings incorporated with its body. Theſe pillars are pairs. Their form is a rectangular parallelopiped. Their inner ſides have grooves from top to bottom, which terminate by offsets in cylindric ſegments. Near the tops are central embrazures, whoſe ſides are fortified with iron plates that reach within the ſolid parts above and below. The pulleys are of metal, with ſteel axes and braſs naves for eaſy turning, and deep channels for ſecuring the cords.

The pillars are joined by three pairs of ribs. Theſe are rectangular; and wide, but comparatively thin; placed horizontally, between the tops and embrazures, about the middles, and near the feet. Their ends are cloſely fitted within the pillars, and well faſtened.

The piers B B are more ſlender than A A; with ſhorter heads; but the length of their bodies is equal to the whole of theſe. They have ſimilar grooves, embrazures, pulleys, and joining ribs. Their faces are parallel rectangles. The backs of their bodies have tongues along the middles that fit the grooves of A A. Theſe are vertical rectangular ridges, and parts of the very pieces, formed by cutting down both ſides to a proper level. Theſe lower ſurfaces, being even and ſmooth, will thus move cloſe along the correſponding plain parts of A A while the tongues glide in contact with the ſides of the grooves.

The cords *a a* are well paired in length and texture. They ply over the pulleys of A A in the ſaid hollows behind the grooves; having their ends fixed under the feet of B B, and on the boxes of the windlaſs. This is well ſecured in the baſe, cloſe to and right beneath the pillars.

The cords *b b* are faſtened by one end on the heads of A A. They paſs over the pulleys of B B, and reach as far below them as *a a* reach below the pulleys of A A, which is the diſtance of theſe pulleys from the baſe. Their other ends are tacked a little above the bottoms of the piers C C.

Theſe piers are with their apparatus framed like B B; have leſs bulk and ſhorter heads. Their pulleys clear the tops of B B when the machine is down.

The cords *c c* have the ſame length with *b b*, below the

pulleys of C C; plying over theſe; faſtened on the heads of B B, and ſomewhat above the bottom of the pier D.

This is a ſingle piece. It has two backs to fit the grooves of C C, formed like the backs of the other pieces.

A frame is accurately fixed and poiſed on the top of D. In this the load L is placed, ſo that its centre of gravity is exactly or very nearly over the centre of the frame.

When the power begins to wind the cords *a a*, theſe raiſe the piers B B. As they riſe, their pulleys recede from the tops of A A, and by ſtretching the cords *b b* lift the piers C C. Theſe recede at the ſame time from the tops of B B, and lift the pier D. Thus while B B are wound up from the baſe to the height of the pulleys of A A, D riſes treble that height; and, however great may be the number of moving pieces, it multiplies the celerity and acquired elevation of the uppermoſt by that of the firſt.

As the duration and celerity of all the movements is the ſame, the lengths of all the cords below the reſpective pulleys muſt be equal.

As the whole acquired elevation is by thoſe parts of the piers which are drawn out of their folds, theſe ought to have a very great proportion. Therefore B B reach the baſe when down; and the heads of A A are but long enough to keep them ſafe in their grooves, when drawn up. Again, as the ends of the cords *b b* will be above the baſe according to the length of the heads of A A, the heads of B B are ſhortened, and the bodies of C C are prolonged below thoſe ends, in order to ſave room, and yet afford theſe piers a ſecure depth in the grooves of B B, when drawn up. On the ſame principle the heads of C C are ſhortened, and a part of D left under the ends of *c c*. As theſe additions of ſaid pairs cannot increaſe the elevation, the cords ought to be fixed above them in order to ſhorten the bearings, and ſo far make the bodies firmer. In a longer ſeries of piers this ſhortening of the heads can only be continued to the limit of depth neceſſary to ſupport the ſtrains.

The pier D preſſes the cords *c c* by its own weight, and the load L. This preſſure cauſes an equal pulling and conſequential reſiſtance in the tops of the piers B B. The pulleys of the piers C C muſt bear this double preſſure $= 2\,L + 2\,D$. Theſe therefore preſs the cords *b b* with ſaid weight and their own $= 2\,L + 2\,D + C\,C$. This doubled $= 4\,L + 4\,D + 2\,C\,C$ is the preſſure on the pulleys of B B: but their heads are pulled up by $L + D$: the difference of theſe forces added to their own weight is the preſſure of theſe piers on the cords *a a*, $= 3\,L + 3\,D + 2\,CC + B\,B$. The power on the windlaſs muſt be equal to this.

In any ſeries the power muſt lift a weight equal to the firſt piers, double the ſecond, and ſo forth, till the laſt pier and its load multiplied by the number of moving pieces.

The pulleys, cords, and ribs, have ſome weight, and are to be counted as parts of their reſpective piers. A competent allowance is likewiſe required for the friction of the pulleys, which impedes the aſcent, though the deſcent is advantageouſly retarded by it.

The preſſure on the pulleys of the pillars A A is double the power. The ſtrain in their tops is half of the weight on the pulleys of B B. The difference of theſe forces, $= 4\,L + 4\,D + 3\,CC + 2\,BB$, added to their own weight, is the preſſure on the baſe,

The ſtrain in the tops of any piers in a ſeries is equal to what the power would be, if the pair next above was the laſt. The weight on the pulleys of the ſame pair is double the ſtrain in the tops of the pair next below. The ſtrain on their feet is equal to the ſtrain in the tops of the pier two ranks below.

It is very neceſſary to compute the ſtrains and preſſures in order to ſecure all the parts, and to ſave needleſs bulk, which would be a great diſadvantage in the piers by the additional expence of power. The preſſure of vertical pieces by their own weight muſt be counted, though not as equal to the ſame quantity of external burthen laid upon them: its operation is viſible in high maſſive beams, which bend without any load; but in ſhort though ſlender pieces it is not ſufficient to break the internal coheſion of the parts. The effect of external weight is according to its quantity, and to the height and ſlimneſs of the piers; but not in uniform proportions. Divers kinds of wood have alſo different degrees of weight, and of vertical firmneſs: ſome are both ſtiff and light to an admirable degree: piers made of theſe can under ſlender forms bear weights many times greater than their own. Theſe qualities are in their blended effects of different value in this machinery: the pillars are the moſt preſſed, but they cauſe no weight to the power, and therefore their bulk is the leſs detriment. B B being the heavieſt laden piers are the moſt ſolid, but they have only a ſimple moment: C C bearing leſs are lighter, but their moment is double: D has a treble moment, but the lighteſt burthen, and thus the leaſt weight of its own. Theſe continually growing increments of ſolidity are neceſſary conſequences of the conſtant double bearings; but ought to be ſmall in compariſon to the preſſures thus produced, which become very great, when the load to be lifted and the elevation are conſiderable. Lightneſs is then moſt beneficial in the upper ranks, and firmneſs in the lower, at *theſe muſt lift but thoſe be lifted* many times: accordingly different ſorts of wood may be choſen by their degrees of lightneſs and firmneſs; they being otherwiſe proper, eſpecially for cloſe and ſmooth folding.

On account of the grooves and tongues, the pieces cannot have thoſe regular forms that give the greateſt ſolidity; nor can the pulleys be placed exactly over the line of central ſtrength. In practice, theſe defects muſt not exceed neceſſary limits. Moreover, when the preſſures and ſtrains on the ſeveral parts of the pieces are eſtimated, hollows may be contrived in places that can bear it.—Theſe niceties cannot be marked in a model.

When the load, the elevation, and quality of the wood, are given; the lighteſt ſeries of piers is found by computing the reſults from different numbers. A greater number muſt effect a greater proportion of the whole elevation than a ſmaller, becauſe the pillars, by becoming ſhorter, contribute leſs; this addition is a new expence of power. The weight of the load is eſſential, as it muſt be multiplied by the whole number of piers; imparts the ſame moment to its own pier of competent bulk; and in conjunction with it thickens with continual increaſe all the others. On the other hand the firmneſs of piers increaſes greatly with the decreaſe of their height within certain limits. Some ſpecies of wood have alſo correſponding degrees of ſtrength. The co-operation of theſe advantages may therefore render a conſiderable number of ſhort piers light, and proportionally ſo in their reſpective multiple moments. The more numerous the piers are, the ſooner is the machine wound up, and let down, which is an advantage, ſo far as men can make greater exertions for a ſhort time.

The form of the windlaſs determines, in combination with the preceding, the ſpeed of operation, and the degree of power. It admits various modes: for example, one might be placed on either ſide of the pillars, with long handles on the winches; by which eight men can work together. This model is intended to ſhew conſiderable effects from an eaſy apparatus: accordingly two men lift another, and three tiers of piers: they are aided by a ſufficient projection of the winches beyond the ſemidiameter of the boxes: this has ſuch proportion to the height of the pulleys in the pillars, and the equal

length of the cords *a a* below them, that the whole winding is done by a few turns. The dimenſions of the piers are not ſpecified, as my experiments are not ſufficient; but I eſtimate them ſo, that the elevation is at leaſt fifty feet. The power increaſes, though the velocity decreaſes, by leſſening the width of the boxes; and this can be done while their length can ſo correſpond, that the rounds of the cords *a a* have ſufficient room, when the machine is wound up.

Oblique preſſures cannot ariſe from the principles of conſtruction; but happen from inevitable imperfection of materials and workmanſhip in a ſmall degree, which is not an object of exact calculation, but ſhould have full allowance for its effects on the machine. The obliquity will be the greater as the folding is ſhallow, and the fitting is looſe. The effect reſults jointly from the angle of declination, the length of the pier, and its moment of weight. The oblique bearings on the ends of the tongues, when the machine is wound up, will be dangerous, if theſe have not a competent ſolidity. All the piers with their moments of weight bear on the pillars; and the preſſure on their pulleys is the difference between double the power and the ſtrain of their heads, which balance is very great. This preſſure remains there when the machine is wound up, in every ſtage of the elevation, however great. The common centre of gravity of the pulleys thus preſſed, the pillars themſelves, and the baſe, is below the pulleys. Thus the machine has a great ſtability, and the baſe is accordingly not extenſive.

This machine combines theſe advantages: ready approach to heights otherwiſe not acceſſible without great trouble: ſpeedy aſcent and deſcent: convenient folding for keeping under cover, and for eaſy conveyance. It can be applied to ſeveral uſeful purpoſes:—Quick hoiſting and lowering of things on many occaſions; particularly ſaving of goods from upper ſtories in caſes of conflagration: high elevation and ſpeedy exchange of ſignals; theſe being light may be raiſed three hundred feet, and above interjacent hills: elevation of a perſon for taking views, and quick deſcent when required; as on reconnoitring an enemy within ſhot: a machine calculated for lifting him at leaſt one hundred feet by eight men can be light enough for carrying on a waggon by two horſes.

ELEUTHES, a kingdom of Tartary, lying to the N.W. of Chineſe Tartary. It was conquered, in 1759, by the Emperor of China. See KALMUCKS.

ELIAS, the prophet, memorable for having eſcaped the common cataſtrophe of mankind; being taken up alive into heaven, in a fiery chariot, about 895 B. C. See *the Bible*.

ELICHMAN (John), a native of Sileſia in the 17th century, who practiſed phyſic at Leyden, and was remarkable for underſtanding 16 languages. He ſupported an opinion, that the German and Perſian languages were derived from the ſame origin. His Latin tranſlation of the *Tablet of Cebes*, with the Arabic verſion and the Greek, was printed at Leyden in 1640, under the care of Salmaſius, who prefixed thereto a very ample preface.

ELISHA, the prophet, famous for the miracles he performed, died about 830 B. C. See *the Bible*.

ELIZABETH, queen of England, daughter of Henry VIII. and Anna Boleyn, was born at Greenwich, September 7th, 1533. According to the humour of the times, ſhe was early inſtructed in the learned languages, firſt by Grindal, who died when ſhe was about 17, and afterwards by the celebrated Roger Aſcham. She acquired likewiſe conſiderable knowledge of the Italian, Spaniſh, and French languages. Dr. Grindal was alſo her preceptor in divinity, which ſhe is ſaid to have ſtudied with uncommon application and induſtry. That Elizabeth became a proteſtant, and her ſiſter Mary a papiſt, was the effect of that cauſe which determines the religion of all mankind; namely, the opinion of thoſe by whom they were educated: and this difference of opinion in their tutors, is not at all ſurpriſing, when we recollect, that their father Harry was of both religions, or of neither.

But the ſtudies of our illuſtrious princeſs were not confined merely to languages and theology: ſhe was alſo inſtructed in the political hiſtory of the ancients; and was ſo well ſkilled in muſic, as to ſing and play "artfully and ſweetly."

After the ſhort reign of her brother Edward, our heroine being then about 20 years of age, her ſiſter *firebrand* acceding to the crown, Elizabeth experienced a conſiderable degree of perſecution, ſo as to be not a little apprehenſive of a violent death. She was accuſed of nobody knows what; impriſoned; and, we are told, inhumanly treated. At laſt, by the interceſſion of King Philip of Spain, ſhe was ſet at liberty; which ſhe continued to enjoy, till, on the death of her *pious* ſiſter, ſhe, on the 17th of November, 1558, aſcended the throne of England. Her political hiſtory, as a queen, is univerſally known and admired: but her attention to the government of her kingdom did not totally ſuſpend her purſuit of learning. Aſcham, in his *School-maſter*, tells us, that, about the year 1563, five years after her acceſſion, ſhe being then at Windſor, beſides her perfect readineſs in Latin, Italian, French, and Spaniſh, ſhe read more Greek in one day, than ſome prebendaries of that church did read Latin in a whole week (p. 21).—She employed Sir John Forteſcue to read to her, Thucydides, Xenophon, Polybius, Euripides, Æſchines, and Sophocles. (*Ballard*, p. 219.)—That the Latin language was familiar to her, is evident from her ſpeech to the univerſity of Oxford, when ſhe was near ſixty; alſo from her ſpirited anſwer to the Poliſh ambaſſador in the year 1598. And that ſhe was alſo ſkilled in the art of poetry appears, not only from the ſeveral ſcraps which have been preſerved, but likewiſe from the teſtimony of a cotemporary writer, Puttenham, in his *Art of Engl. Poetry* (a very ſcarce book). Theſe are his words:—"But, laſt in recital, and firſt in degree, is the queen, whoſe learned, delicate, noble muſe, eaſily ſurmounteth all the reſt, for ſenſe, ſwectneſs, or ſubtilty, be it in ode, elegy, epigram, or any other kind of poem," &c. In this author are to be found only a ſpecimen of 16 verſes of her Engliſh poetry. "But," ſays Mr. Walpole, "a greater inſtance of her genius, and that too in Latin, was her extempore reply to an inſolent prohibition delivered to her from Philip II. by his ambaſſador, in this tetraſtic:

Te veto ne pergas bello defendere Belgas:
Quæ Dracus eripuit, nunc reſtituantur oportet:
Quas pater evertit, jubeo te condere cellas:
Religio papæ fac reſtituatur ad unguem.

"She inſtantly anſwered him, with as much ſpirit as ſhe uſed to return his invaſions,

Ad Græcas, bone rex, fient mandata calendas."

Being earneſtly preſſed by a Romiſh prieſt, during his perſecution, to declare her opinion concerning the real preſence of Chriſt's body in the wafer, ſhe anſwered,

Chriſt was the word that ſpake it;
He took the bread, and brake it;
And what that word did make it,
That I believe, and take it.

Fuller's Holy State.

She gave the characters of four knights of Nottinghamſhire in the following diſtich:

Gervaſe the gentle, Stanhope the ſtout.
Markham the lion, and Sutton the lout.

Walp. Cat.

Coming into a grammar-ſchool, ſhe characteriſed three claſſic authors in this hexameter :

Perſius a crab-ſtaff; bawdy Martial; Ovid a fine wag;
Full. Worth. of Warw. 126.

Sir Walter Raleigh having wrote on a window,

Fain would I climb, yet fear I to fall;

She immediately wrote under it,

If thy heart fail thee, climb not at all.
Worth. of Devonſh. 261.

Doubtleſs, ſhe was a woman of ſingular capacity, and extraordinary acquirements; and, if we could forget the ſtory of the Scottiſh Mary, and of her favourite Eſſex, together with the burning a few Anabaptiſts, we might pronounce her the moſt illuſtrious of illuſtrious women. She died in her palace at Richmond, the 24th of March, 1602, aged 70, having reigned 44 years; and was interred in the chapel of Henry VII. in Weſtminſter Abbey. Her ſucceſſor James erected a magnificent monument to her memory.—She wrote, 1. *The mirrour, or glaſs of the ſinful ſoul.* This was tranſlated out of French verſe into Engliſh proſe, when ſhe was eleven years old. It was dedicated to Queen Catharine Parr. Probably it was never printed; but the dedication and preface are preſerved in the *Sylloge epiſtolarum*, in Hearne's edition of *Livii Foro Julienſis*, p. 161. 2. *Prayers and meditations*, &c. Dedicated to her father, dated at Hatfield, 1545. Manuſcript, in the royal library. 3. *A dialogue out of Xenophon, in Greek, between Hiero a king, yet ſome time a private perſon, and Simonides a poet, as touching the life of the prince and private man.* Firſt printed, from a manuſcript in her Majeſty's own handwriting, in the Gentleman's Magazine for 1743. 4. Two orations of Iſocrates, tranſlated into Latin. 5. Latin oration at Cambridge. Preſerved in the king's library: alſo in Hollinſhed's Chron. p. 1206; and in Fuller's Hiſt. of Cambr. p. 138. 6. Latin oration at Oxford. See Wood's Hiſt. and Antiq. of Oxf. lib. 1. p. 289. alſo in Dr. Jebb's Append. to his life of Mary queen of Scots. 7. A comment on Plato. 8. *Boethius de conſolatione philoſophiæ*, tranſlated into Engliſh anno 1593. 9. *Salluſt de bello Jugurthino*, tranſlated into Engliſh anno 1590. 10. A play of Euripides tranſlated into Latin, *Cat. of Royal Auth.* 11. A prayer for the uſe of her fleet in the great expedition in 1596. 12. Part of Horace's art of poetry, tranſlated into Engliſh, anno 1598. 13. *Plutarch de curioſitate*, tranſlated into Engliſh. 15. Letters on various occaſions to different perſons; ſeveral ſpeeches to her parliament; and a number of other pieces.

ELIZABETH PETROWNA (daughter of Peter the Great), empreſs of Ruſſia, diſtinguiſhed herſelf by her ſignal clemency. She made a vow, that no perſon ſhould be put to death in her reign, and ſhe ſtrictly obſerved it. The example was followed, and confirmed by law, under the late Sovereign of Ruſſia, Catharine II. Elizabeth died in 1762, in the 21ſt year of her reign and 52d of her age.

ELIZABETH'S ISLAND, an iſland on the coaſt of Maſſachuſet's Bay, having Cape Cod to the N. and the iſland of Nantucket to the E. The natives are chiefly employed in the fiſheries. Long. 69. 3. W. Lat. 42. 0. N.

ELIZABETH TOWN, one of the oldeſt towns of the ſtate of New Jerſey; purchaſed of the Indians in 1664, and ſettled ſoon after. It has a handſome preſbyterian church, an epiſcopal church, and an academy. It is 15 miles S.W. of New York.

ELKHOLM, a ſea-port of Sweden, in Blekingen, ſeated on the Baltic, 24 miles W. of Carleſcroon. Long. 14. 50. E. Lat. 56. 20. N.

ELLERENA, an epiſcopal town of Spain, in Eſtremadura, 54 miles N. of Seville. Long. 5. 20. W. Lat. 38. 26. N.

ELLESMERE, a town in Shropſhire, with a market on Tueſday. It is ſeated on a large mere, in a ſmall but fertile diſtrict of the ſame name, 16 miles N.N.W. of Shrewſbury, and 176 N.W. of London. Long. 2. 53. W. Lat. 53. 53. N.

ELLICHPOUR, a town of Hindooſtan, in Berar, capital of a Circar of the ſame name, ſubject to the nizam of the Deccan. It was formerly the capital of Berar, and is 144 miles N.E. of Aurungabad. Long. 78. 5. E. Lat. 21. 12. N.

ELLORE, the capital of one of the Northern Circars, in the peninſula of Hindooſtan, 32 miles N. of Maſulipatam. Long. 81. 15. E. Lat. 16. 43. N.

ELM (*Encycl.*). Cit. Boucher, in a memoir read before *la Société d'Emulation* at *Abbeville*, has given ſome obſervations on elm-trees. Theſe trees are frequently attacked by ulcers, from which, at length, a great number of them periſh. *Du Hamel* had already endeavoured to find out the cauſe of this diſeaſe, and aſcribed it to a plethora of the ſap, an opinion which Cit. Boucher has confirmed by numerous experiments. He propoſed at the ſame time a remedy, which he ſucceſsfully applied to it. He obſerved that the local ulcer never attacked the trees on their north ſide, but always on the ſouth ſide. It acts principally on trees planted in a boggy ſoil, and along the ſides of rivers. Its ſeat is generally not far from the ground. This ulcer, owing to a ſuperabundant ſap, differs from a ſimilar one, deſcribed in *Journal d'Hiſtoire Naturelle*, *No.* 5, 1789, as in this the liquor expoſed to the air, ſoon takes the conſiſtency of a gum, and has the flavour of ſugar. —The remedy conſiſts in boring every tree attacked by the diſeaſe, at the ulcer itſelf; and in applying a tube in the hole, occaſioned by the borer, penetrating about nine lines in depth. The ſound trees, which are alſo bored, afford no liquor, whereas thoſe that are ulcerated yield it in great abundance, increaſing particularly in fine weather, and when the wound is expoſed to the ſouth. Stormy weather and great winds ſtop the infuſion. In this manner, he remarks that the ulcers dry and heal in 48 hours. It is probable, that ſuch a terebration, tried on other vegetables, and particularly on fruit trees, will produce the ſame effects. Pliny, Columella, and Palladius, have already mentioned this expedient being employed by the ancients, which, however, has not been practiſed for many years. Cit. Boucher concludes by remarking, that this tree is a native of Europe, and has not been lately introduced into France, as is commonly ſuppoſed; but the writings of the ancients prove, that it exiſted there long ago.—The chemical analyſis which he made of the ſap, ſhewed that it contained a conſiderable quantity of acetite of potaſh, a little acetite of lime, a certain quantity of vegetable or muco-ſaccharine matter, and a conſiderable proportion of muriate of lime; ſlight traces of ſulphate and muriate of potaſh were likewiſe perceived.

ELMADIA, or MAHADIA, a town of the kingdom of Tunis, ſeated on the gulf of Capes. It is ſurrounded by the ſea, is well fortified, and has a good harbour. It was taken by Emperor Charles V. but retaken ſoon after. Long. 8. 47. W. Lat. 35. 4. N.

ELME, ST. a caſtle of the iſle of Malta, ſeated on a rock near the city of Waletta, at the mouth of a very fine harbour.

ELMO, FORT, ST. a fortreſs of France, in the department of the Eaſtern Pyrennées, ſeated on the river Tet, five miles N. of Colioure. It was taken by the Spaniards, in 1793, but retaken the next year.

ELPHIN, a town of Ireland in the county of Roſcommon, and the ſee of a biſhop, eight miles N. of Boyle, and 16 N. of Roſcommon.

ELRICH, a town of Upper Saxony, formerly the capital of the county of Klettenburg. Here are ſome conſiderable manufactures. It is 6 miles N.W. of Nordhauſen.

ELSFLETH, a town of Weſtphalia, ſeated at the conflux of the Hunte and Weſer, 17 miles N.E. of Oldenburg.

ELTEMAN, a town of Franconia in the biſhopric of Wurtzburg, on the river Maine. Long. 10. 52. E. Lat. 50. 8. N.

ELTENBERG, a lofty and extenſive mountain in the duchy of Cleves. On it is an ancient fortreſs. It ſtands at the extreme point of a promontory, ſix miles E. of Cleves; and is the termination of a large chain of hills that runs parallel to the E. ſhore of the Rhine, at the diſtance of ten miles from its borders.

ELTHAM, a town in Kent, with a market on Monday, eight miles S. of London. Here are the remains of a palace, in which Edward II. often reſided, and his ſon, John of Eltham, was born. Its ſtately hall, ſtill entire, is converted into a barn.

ELTZ, a town of Germany, in the biſhopric of Hildeſheim, ſeated on the Leina, ten miles S.W. of Hildeſheim. Long. 10. 5. E. Lat. 52. 5. N.

ELWANGEN, a town of Suabia, with a chapter, whoſe provoſt is a prince of the Empire, and lord of the town. It is ſeated on the Jaxt, 17 miles S.E. of Halle, and 25 S.W. of Anſpach. Long. 10. 28. E. Lat. 49. 2. N.

EMBALMING, (*Encycl.*). On the ſubject of embalming, the following directions are given in the EDINBURGH PRACTICE OF PHYSIC AND SURGERY, &c. lately publiſhed.

"After eviſceration, as has been directed in opening a dead body, and continuing the inciſion further upwards, even into the mouth, and, if poſſible, without cutting the ſkin of the neck, all the cavities are to be well cleanſed, and the humidity ſucked up with ſponges, then waſhed with *tinct. myrrhæ*, and filled with ſpices compounded of fragrant herbs, aromatic drugs, and gums reduced to powder not very fine, firſt reſtoring the heart to its former reſidence, after having opened its ventricles, cleanſed and waſhed them with the tincture, ſtuffed them with the ſpices, and ſewed them up; and then the cavities are to be ſtitched very cloſe with the glovers' or ſpiral future. Large and deep inciſions are alſo to be made in all the moſt fleſhy parts, cleaning and waſhing them with the tincture in the ſame manner, filling them with the antiſeptic ſpices, and ſtitching them up. Then the head, trunk, and limbs, are to be perfectly well covered with cerecloth; putting a piece under the chin, to be ſecured by ſewing on the top of the head, after having well adjuſted the cap of the ſkull, ſewed the ſcalp together, and cleaned the mouth, as has been directed for the other parts, and putting in ſome of the ſpices. The cerecloth is to be prepared, according to art, with a compoſition made of wax, roſin, ſtorax, and painters' drying oil. After the application of the cerecloth, with great care and exactneſs, cut into ſuitable pieces according to the reſpective parts, and cloſing them well every-where, the face being cloſe ſhaved, is to be covered with ſome of the above compoſition melted, and laid on with a bruſh of a proper degree of heat, and of a moderate thickneſs; which may have a faint fleſh-colour given it with vermilion; and when it is grown cold and ſtiff upon this part, it may be lightly covered with hard varniſh; or this varniſh, applied thick, may here ſerve the purpoſe alone. A cap is to be well adapted to the head, falling down upon the neck, and to be ſewed under the chin, making a few circular turns about the neck with a roller of a proper breadth. All the reſt of the corpſe is to be incloſed in a ſheet, to be artfully cut, and ſewed on very cloſe and ſmooth, with the fineſt tape, and the *flat ſeam* mentioned in the preceding chapter; over which an appropriate dreſs is to be put, as the relations or friends think fit to direct and appoint, and then laid into the coffin, which ſhould be in readineſs: but when it is ſome great perſonage, who is to lie in ſtate for public view before the funeral rites are ſolemnized, the dreſs muſt be appropriated to his dignity and character. The brain and other viſcera are to be put with ſome of the ſpices into a leaden box. Sometimes the heart, prepared as has been directed, to preſerve it from putrefaction, is depoſited in an urn by itſelf.

EMANATION, the act of flowing or proceeding from ſome ſource or origin; or the thing that proceeds from that action.

EMBANKMENT, a raiſed mound or body of earth, thrown up to preſerve land from inundation, and thus render it fit for agricultural purpoſes. This is a very important branch of rural economy, and has been much encouraged in this country.

The following account of an embankment againſt the ſea, by Mr. Anthony Tatlow, is taken from the communications to the Hon. Board of Agriculture.

"The embankment againſt the ſea," ſays Mr. Tatlow, "that I mentioned when laſt at the Muſeum, is upon the eſtate of the earl of Aſhburnham, at Pembrey, in the county of Carmarthen, whither his lordſhip ſent me upon his coal and other buſineſs, and with directions to ſee if I could deviſe any method of preventing the ſea from making further incroachment upon his property, which it had been doing for many years; and particularly in October 1795, had broke in and covered many hundred acres, damaged the houſes, buildings, ſtack-yards, and gardens; and it was the general opinion, that a regular embankment muſt be formed, which would coſt ſome thouſand pounds, he having ſeveral miles of coaſt. The view that I firſt took was upon a very windy day, and the ſhore an entire ſand, which extended at low water many miles. In riding along, I perceived that any piece of wood, or accidental impediment to the courſe of the ſand, raiſed a hill: it immediately occurred to me, that by making a hedge at the weak and low places, with wings to catch the ſand as the wind blew it in different directions, I ſhould obtain the deſired effect. I therefore directed ſtakes nine feet long to be cut, and driven one foot and a half into the ſand, at two feet and a half diſtance from each other; betwixt which I had furze interwove, ſo as to form a regular furze hedge ſeven feet and a half high. Of this, ſince laſt June, I have done eleven hundred and thirty-ſeven yards; and in October laſt when I was there, a great deal of the hedge was covered, and ſince that time I am informed by letter, that a great deal more of it is ſo; and that the neighbouring inhabitants draw great comfort to themſelves, from the ſecurity my furze embankment gives them, as its preſent appearance plainly evinces, that at a trifling expence I can ſecure Lord Aſhburnham's eſtate from being inundated; for, whenever the firſt hedge is not high enough to prevent the ſea overflowing, another may be built upon the ſand formed by that hedge, and ſo on in ſucceſſion, till it is perfectly ſafe."

EMBO, a village near Brora, on the E. coaſt of Sutherlandſhire. Here a perſon was burnt, in 1727, for the imaginary crime of witchcraft; the laſt inſtance of theſe fanatic executions in Scotland.

EMBOLY, a town of Macedonia, with a Greek archbiſhop's ſee. It is the ancient Amphipolis; and is ſometimes called Chriſtopolis. It is ſeated on the Stromona, 40 miles N.E. of Salonichi. Long. 23. 55. E. Lat. 40. 59. N.

EMBS, a river of Weſtphalia, which riſes in the county of Lippe, and falls, at Embden, into the Dollart, a bay of the German Ocean.

EMBS, or EMS, a town of Suabia, capital of a county of the ſame name. Near it are ſome baths impregnated with ſulphur. It is 10 miles S. of Bregentz.

EMERALD (*Encycl.*). Cit. Vauquelin has lately diſcovered *chrôme and a new earth in the emerald*, and aſſerts that he formerly found theſe ſubſtances in the beryl. He alſo ſtates the analyſis of the pulverulent chlorite, which contains 26 parts of ſilex, 18 $\frac{50}{100}$ of alumine, 8 of magneſia, 43 of oxyd of iron, 2 of muriate of ſoda, or potaſs, and 2 of water; a reſult which is different from all that have hitherto been given in the analyſis of chlorites. He attributes this difference, rather to the nature of this apparently mixed earth than to the inaccuracy of chemical operations.

EMESSA, a town of Syria, in the government of Damaſcus. There are ſtill noble ruins, that ſhew it was anciently a magnificent city.

EMPOLI, a town of Tuſcany, with a biſhop's ſee, ſeated on the Arno, 17 miles S.W. of Florence. Long. 11. 6. E. Lat. 43. 42. N.

ENCKHUYSEN, a ſea-port of N. Holland, on the Zuider-Zee. It was once a flouriſhing place; but its harbour being now obſtructed by ſand, it has loſt its former conſequence. It is 25 miles N.E. of Amſterdam. Long. 5. 4. E. Lat. 52. 45. N.

ENDEAVOUR, STRAIT, a ſtrait of the S. Pacific Ocean, which ſeparates New Guinea from New Holland. It received its name from Captain Cook, who explored it in 1770. Its length is 10 leagues, and its breadth about five, except at the N.E. entrance, where it is contracted to leſs than two miles, by the iſlands called Prince of Wales' Iſlands.

ENDINGEN, a town of Suabia, in Auſtrian Briſgaw, formerly free and imperial. It is ſeated near the Rhine, 10 miles below Briſach.

ENFIELD, a town in Middleſex, with a market on Saturday. It was once famous for an extenſive royal chace, diſforeſted in 1779. Here was a royal palace, whence Edward VI. went in proceſſion to the Tower, on his acceſſion to the throne. After the death of Queen Elizabeth, it was alienated from the crown; and only a ſmall part of it is left ſtanding, the whole of the front having been taken down, in 1792, and its ſite occupied by ſome houſes. It is 10 miles N. of London. Long. 0. 2. E. Lat 51. 41. N.

ENGADINA, a country of the Griſons, in the mountains of the Alps. It is divided into Upper and Lower, extending along the banks of the river Inn, from its ſource to the Tyroleſe. Upper Engadina is a beautiful valley; yet, on account of its elevation, produces nothing but rye and barley. The winter ſets in early, and ends late here, during which time ſledges are the common vehicles. Even in ſummer, the air is cold and piercing, and the corn occaſionally much damaged by the hoar froſt.

ENGELBERG, a valley of Switzerland, 10 miles long, entirely ſurrounded by very lofty and barren mountains, and bounded by the cantons of Bern, Uri, and Underwalden. It is ſubject to the abbot of a Benedictine monaſtery of the ſame name, who is under the protection of the cantons of Lucern, Uri, Schweitz, and Underwalden; but in ſpiritual concerns he ſubmits to the juriſdiction of the Biſhop of Conſtance. His revenues are very conſiderable, and ariſe principally from his commerce in cheeſes. The naturaliſt will find this a very intereſting country. Glaciers, of a very great extent, and extremely diverſified, are found on the ſides of very fertile mountains, and exhibit ſingular points of view. There is abundance of fine black marble, white veined; a vitriolic earth, ſlate impregnated with vitriol; ſmall cryſtals, called Swiſs diamonds; ſilver, and vitriol. The abbey is 12 miles S.W. of Altdorf. See TITLISBERG.

ENGERS, a town of Germany in the electorate of Treves, capital of a county of the ſame name. It is ſeated on the Rhine, 10 miles N. of Coblentz. Long. 7. 32. E. Lat. 50. 55. N.

ENGHEIN, a town of Auſtrian Haiſault, near which was fought the famous battle of Steenkirk. It is 15 miles S.W. of Bruſſels. Long. 4. 5. E Lat. 50. 42. N.

ENGIA, or ENGINA, an iſland of Turkey in Europe, in a gulf of the ſame name, between Livadia and the Morea. There is a town upon it of the ſame name, 22 miles S. of Athens. Long. 23. 59. E. Lat. 37. 45. N.

ENGROSSING, the writing a deed over fair, and in proper legible characters. Among lawyers it more particularly means the copying fair upon parchment, or ſtamped paper, any writing or legal inſtrument or conveyance. Engroſſing is the buſineſs of the law-ſtationer.

ENKIOPING, a town of Sweden, in Upland, on the N. ſide of Lake Maeler, 21 miles S.W. of Upſal.

ENNIS, a borough of Ireland, in the county of Clare. It is large and populous, and ſituate on the Fergus, which is navigable for large boats from the Shannon, and adds greatly to the trade of the town. It is 17 miles N.W. of Limerick. Long. 8. 54. W. Lat. 52. 49. N.

ENNISCORTHY, a borough of Ireland, in the county of Wexford, where is a manufacture of coarſe woollen cloth, and ſome conſiderable iron works. It is ſituate on the Slaney, cloſe under Vinegar-hill, where the Iriſh rebels were entirely defeated on June 21, 1798. It is 10 miles N. of Wexford, and 27 N.E. of Waterford.

ENO, or ENOS, a town of Romania, near the gulf of Eno, with a Greek archbiſhop's ſee, 125 miles W of Conſtantinople. Long. 26. 15. E. Lat. 40. 46. N.

ENOCH (the Prophecy of); an apocryphal book, of which there remains but a few fragments.

Enoch was certainly one of the moſt illuſtrious prophets of the firſt world, ſince Moſes ſays of him, that *he walked with God*. This prophet is famed in the church for two things: The firſt is, his being taken up into heaven, without ſeeing death (Heb. xi. 5.): the ſecond is, his prophecy; a paſſage of which St. Jude has cited in his epiſtle, ver. 14. The ancients greatly eſteemed the prophecy of Enoch. Tertullian, on the authority of this book, deduces the original of idolatry, aſtrology, and unlawful arts, from the revolted angels, who married with the daughters of men. And it is on the teſtimony of this book, that the fathers of the 2d and 3d centuries, as Irenæus, Cyprian, and Lactantius, received for true this fable of the marriage of the angels with the daughters of men. St. Auguſtin, who was leſs credulous, allows, indeed, that Enoch wrote ſomething divine, becauſe he is cited by St. Jude; but inſinuates, that the authority of this book is doubtful, and that it cannot be proved that it was really written by Enoch. Indeed, the account it gives of giants engendered by angels, and not by men, has manifeſtly the air of a fable; and the moſt judicious critics believe, it ought not to be aſcribed to Enoch.

ENSENE, a town of Egypt, on the E. ſide of the Nile, 120 miles S. of Cairo. Long. 30. 54. E. Lat. 28. 5. N.

ENSKIRKEN, a town of Germany, in the duchy of Juliers, 15 miles S.W. of Cologne. Long. 6. 19 E. Lat. 51. 0. N.

ENSTORF, a town of the upper palatinate of Bavaria, 22 miles N. of Ratiſbon.

ENT (Sir George), an eminent Engliſh phyſician, born at Sandwich in Kent in 1604. He was educated at Sidney College, Cambridge; and, afterwards travelling into foreign countries, received the degree of doctor of phyſic at Padua. After his return he obtained great practice, was made preſident of the College of Phyſicians in London, and at length received the honour of knighthood from King Charles II. He was extremely intimate with Doctor Harvey; whom he learnedly defended in a piece entitled, Apologia pro Circulatione Sanguinis, contra Æmilium Pariſanum, Animadverſiones in Malachiæ

Thruſtoni; and ſome obſervations in the Philoſophical Tranſactions. Glanville, ſpeaking of his Plus Ultra of the modern improvements in anatomy, numbers Sir George Ent, Doctor Gliſſon, and Doctor Wallis, with the moſt celebrated diſcoverers in that ſcience. The two former were among the firſt members of the Royal Society. Sir George Ent died in October 1689.

ENTRE-DOUERO-E-MINHO, a province of Portugal, 45 miles in length, and 35 in breadth. Braga is the capital.

ENTRY *of an Heir*, in Scots law, that form of law by which an heir veſts in himſelf a proper title to his predeceſſor's eſtate.

EPERIES, a town of Upper Hungary, capital of the county of Saros, remarkable for its mines of ſalt. It is ſeated on the Tatza, 20 miles N. of Caſſovia. Long. 21. 13. E. Lat. 49. 8. N.

EPERNAY, an ancient town of France, in the department of Marne. It was taken by Henry IV. in 1592, when Marſhal Biron was killed, while that monarch had his hand on his ſhoulder. The wines produced in its neighbourhood are very exquiſite. It is 17 miles N.W. of Chalons. Long. 4. 0. E. Lat. 49 5. N.

EPINAL, a town of France, in the department of the Voſges, and famous for its paper mills. It was taken by Marſhal Crequi, in 1670, when its fortifications were diſmantled. It is ſeated on the Moſelle, near the mountains of the Voſges, 35 miles S.E. of Nanci. Long. 6. 0. E. Lat. 48. 4. N.

EPIPHANIUS (St.), an ancient father of the church, born at Beſanducan, a village in Paleſtine, about the year 332. He founded a monaſtery near the place of his birth, and preſided over it. He was afterwards elected biſhop of Salamis; when he ſided with Paulinus againſt Meletius, and ordained in Paleſtine, Paulinian, the brother of St. Jerom; on which a conteſt aroſe between him and John biſhop of Jeruſalem. He afterwards called a council in the iſland of Cyprus, in which he procured a prohibition of the reading of Origen's writings; and made uſe of all his endeavours to prevail on Theophilus biſhop of Alexandria to engage St. Chryſoſtom to declare in favour of that decree: but not meeting with ſucceſs, he went himſelf to Conſtantinople, where he would not have any converſation with St. Chryſoſtom; and formed the deſign of entering the church of the apoſtles, to publiſh his condemnation of Origen: but being informed of the danger to which he would be expoſed, he reſolved to return to Cyprus; but died at ſea, in the year 403. His works were printed in Greek, at Baſil, 1544, in folio; and were afterwards tranſlated into Latin, in which language they have been often reprinted. Petavius reviſed and corrected the Greek text by two manuſcripts, and publiſhed it together with a new tranſlation at Paris in 1622. This edition was reprinted at Cologne in 1682.

EPIRUS *(Encycl.)*. This country, according to Joſephus, was firſt peopled by Donanim, the ſon of Javan and grandſon of Japhet. The people were very warlike: but they continued in their ſavage ſtate long after their neighbours were civilized; whence the Iſlanders uſed to threaten their offenders with tranſportation to Epirus. Their horſes were in great requeſt among the ancients, as well as the dogs produced in one of the diviſions called *Moloſſus*; and hence theſe dogs were called by the Romans *Moloſſi*.

The hiſtory of Epirus commences with the reign of Pyrrhus, the ſon of Achilles by Deidamia the daughter of Lycomedes king of Scyros. He is ſaid to have behaved with great bravery at the ſiege of Troy; but it would appear that he behaved with no leſs barbarity. After the city was taken, he is ſaid to have killed old King Priam with his own hand; to have thrown Aſtyanax the ſon of Hector and Andromache headlong from an high tower; and ſacrificed Polyxena the daughter of Priam on the tomb of her father. He carried Andromache with him into Epirus, where he ſettled by the advice of the famous ſoothſayer Helenus, one of Priam's ſons, who had ſerved during the Trojan war both under his father and himſelf. The only remarkable period of the hiſtory of Epirus is the reign of Pyrrhus II. who made war upon the Romans. He was invited into Italy by the Tarentines; and embarked about 280 B. C. After having eſcaped many dangers by ſea, he landed in that country, and with great difficulty gained a victory over the Romans; but he was afterwards utterly defeated by them, and obliged to return into his own country. To retrieve his honour, he then undertook an expedition againſt Macedon; where he overthrew Antigonus, and at laſt made himſelf maſter of the whole kingdom. He then formed a deſign of ſubduing all the other Grecian ſtates; but met with ſuch an obſtinate reſiſtance at Lacedæmon, that he was obliged to drop the enterprize; and was ſoon after killed at the ſiege of Argos, by a woman, who from the wall threw a tile upon his head. Deidamia, the grand-daughter of Pyrrhus, was the laſt that ſat on the throne of Epirus. She is ſaid to have been murdered after a ſhort reign; upon which the Epirots formed themſelves into a republic.

Under the new form of government Epirus never made any conſiderable figure, but ſeems rather to have been dependent on the kingdom of Macedon. The Romans having conquered Philip king of that country, reſtored the Epirots to their ancient liberty; but they, forgetful of this favour, ſoon after took up arms in favour of Perſeus. As a puniſhment for this ingratitude, the Romans gave orders to Paulus Emilius, after the reduction of Macedon, to plunder the cities of Epirus, and level them with the ground. This was punctually executed throughout the whole country on the ſame day, and at the ſame hour. The booty was ſold, and each foot-ſoldier had 200 denarii, that is, ſix pounds nine ſhillings and two pence, and each of the horſe the double of this ſum. An hundred and fifty thouſand men were made ſlaves, and ſold to the beſt bidder for the benefit of the republic. Nor did the vengeance of Rome ſtop here; all the cities of Epirus, to the number of 70, were diſmantled, and the chief men of the country carried to Rome, where they were tried, and moſt of them condemned to perpetual impriſonment. After this terrible blow, Epirus never recovered its ancient ſplendor. Upon the diſſolution of the Achæan league, it was made part of the province of Macedon; but when Macedon became a dioceſe, Epirus was made a province of itſelf, called the province of *Old Epirus*, to diſtinguiſh it from *New Epirus*, another province lying to the eaſt of it. On the diviſion of the empire, it fell to the emperors of the Eaſt, and continued under them till the taking of Conſtantinople by the Latins, when Michael Angelus, a prince nearly related to the Greek emperor, ſeized on Etolia and Epirus, of which he declared himſelf deſpote or prince; and was ſucceeded by his brother Theodorus, who took ſeveral towns from the Latins, and ſo far enlarged his dominions, that, diſdaining the title of *deſpote*, he aſſumed that of *emperor*, and was crowned by Demetrius archbiſhop of Bulgaria. Charles, the laſt prince of this family, dying without lawful iſſue, bequeathed Epirus and Acarnania to his natural ſons, who were driven out by Amurath the Second. Great part of Epirus was afterwards held by the noble family of the Caſtriots; who, though they were maſters of all Albania, yet ſtyled themſelves princes of Epirus. Upon the death of the famous George Caſtriot, ſurnamed *Scanderberg*, Epirus fell to the Venetians, who were ſoon diſpoſſeſſed of it by the Turks; in whoſe hands it ſtill continues, being now known by the name of *Albania*, which comprehends the Albania of the ancients, all Epirus, and that part of Dalmatia which is ſubject to the Turks.

EPISCOPIUS (Simon), one of the moſt learned men of the 17th century, and the chief ſupporter of the Arminian ſect, was born at Amſterdam in 1583. In 1612 he was choſen divinity profeſſor at Leyden, in the room of Gomarus, who reſigned; and the functions of his office, with his private ſtudies, were light burthens to him, compared with the difficulties he ſuſtained on account of the Arminian controverſy: which, though it began in the univerſities, ſoon flew to the pulpits, from whence it ſpread and inflamed the people. The ſtates of Holland having invited Epiſcopius to take his place at the ſynod of Dort, he went thither accompanied by ſome remonſtrant miniſters; but the ſynod would not allow them to ſit as judges, nor to appear in any other capacity than as perſons ſummoned before them: they ſubmitted, were depoſed from their functions, and baniſhed the territories of the commonwealth. Epiſcopius and his perſecuted brethren retired to Antwerp; but the times growing more favourable, he returned to Holland in 1626, and was made miniſter of the church of the Remonſtrants at Rotterdam: in 1634, he was choſen rector of the college founded by his ſect at Amſterdam, where he ſpent the remainder of his days. He died in 1643, of the ſame diſorder which had killed his wife before, a retention of urine; having loſt his ſight ſome weeks previous to his end. The learned have beſtowed great eulogiums on Epiſcopius; but he did not always write with that moderation which might have been wiſhed. His works make two volumes in folio, of which the ſecond conſiſts of poſthumous publications.

EPPING, a town in Eſſex, with a market on Friday. The butter made in this neighbourhood, and called Epping butter, is highly eſteemed in London. Epping is ſeated at the N. end of a foreſt of the ſame name, 17 miles N.N.E. of London. Long. 0. 9. E. Lat. 51. 46. N.

EPPING-FOREST, a fine foreſt in the S.W. of Eſſex, formerly a much more extenſive diſtrict, that contained a great part of the county. It then went by the name of the Foreſt of Eſſex; and afterwards, when its boundaries had been conſiderably contracted, it had the name of Waltham Foreſt, from its vicinity to Waltham Abbey.

EPPINGEN, a town in Germany, in the palatinate of the Rhine, with a caſtle, ſeated on the Elfats, 20 miles N.E. of Philipſburg. Long. 9. 0. E. Lat. 49. 24. N.

EPULONES, in Roman antiquity, miniſters who aſſiſted at the ſacrifices, and had the care of the ſacred banquet committed to them.

EPWORTH, a village of the Iſle of Axholm, in Lincolnſhire, nine miles N. of Gainſborough. It is the birth place of John Weſley, one of the founders of the ſect of the methodiſts.

ERBACH, a town of Franconia, capital of a county of the ſame name, 16 miles N.N.E. of Heidelberg, and 20 N.E. of Manheim.

ERIBOL, LOCH, an arm of the ſea, on the N. coaſt of Sutherlandſhire, capable of affording a ſafe retreat to the largeſt veſſels. It receives ſeveral ſtreams; particularly that which flows from a lake called Loch Hope.

ERICHT, LOCH, a lake in the diſtrict of Athol, Perthſhire. It extends ſeveral miles into Inverneſsſhire. Near this place wandered the fugitive Pretender, in 1746, lurking in caves, and among rocks. The waters of this lake deſcend into another, called Loch Rannoch.

ERISSO, a town of Macedonia, with a biſhop's ſee, at the bottom of the gulf of Monte Sancto.

ERITH, a village in Huntingdonſhire, on the Ouſe, five miles E.N.E. of St. Ives. Near this place is a piece of antiquity called Belfar's Hill, an artificial mount, generally ſuppoſed to be the place where the people took up arms againſt William the Norman, in 1066, after he defeated Harold at the battle of Haſtings.

ERIVAN, a city and the capital of Perſian Armenia, in a province of the ſame name, with an Armenian patriarch. It is defended by a fortreſs, in which is the governor's palace, and by a caſtle, on the river Zuengui, near a lake of its own name, which is very deep, and 60 miles in circumference. The Meidan is an open ſquare, 400 paces over, wherein are very fine trees. The baths and caravanſaries have their beauties, but the churches of the Chriſtians are ſmall, and half under ground. It is 105 miles N.W. of Aſtrabad. Long. 44. 10. E. Lat. 40. 20. N.

ERKELENS, a town of Weſtphalia, in the duchy of Juliers, with a caſtle, ſeated on the Roer, 10 miles N.W. of Juliers. Long. 6. 35. E. Lat. 51. 4. N.

ERLANG, a town of Franconia, in the marquiſate of Culembach, ſeated on the Regnitz, 12 miles N.W. of Nuremburg. Long. 11. 5. E. Lat. 49. 35. N.

ERMELAND, a country ſurrounded by Pruſſia, formerly ſubject only to the biſhop and chapter, and called the biſhopric of Ermeland, but now become a province of Pruſſia.

ERNEE, a town of France, in the department of Mayenne, ſituate on the Mayenne, 15 miles N.N.W. of Laval. Long. 0. 48. W. Lat. 48. 19. N.

ERPACH, a town of Franconia, capital of a county of the ſame name, with a caſtle, 30 miles S.E. of Francfort. Long. 9. 10. E. Lat. 40. 32. N.

ERQUIKO, a ſea-port of the Red Sea, on the coaſt of Abex, ſubject to Turkey. It is 320 miles S.W. of Mecca. Long. 39. 5. E. Lat. 17. 30. N.

ERROMANGO, one of the New Hebrides, in the South Pacific Ocean. Long. 169. 19. E. Lat. 18. 47. S.

ERZERUM, a city of Turkiſh Armenia, with Armenian and Greek epiſcopal ſees. It is ſituate between the two ſources of the Euphrates, in a beautiful plain, at the foot of a chain of mountains, fruitful in all ſorts of corn. It is ſurrounded by double walls, defended by ſquare towers. The Turks, who are all janiſſaries, are about 12,000 in number; but moſt of them are tradeſmen, and receive no pay. The Armenians have two churches, the Greeks but one: the latter are moſtly braziers, and live in the ſuburbs. A great trade is carried on here in furs, Perſian ſilks, cottons, calicoes, and drugs. This town is a thoroughfare, and a reſting-place for the caravans to the Eaſt Indies. It is 104 miles S. by E. of Trebiſond. Long. 40. 35. E. Lat. 39. 56. N.

ESCALONA, a town of Spain, in Old Caſtile, 14 miles N.N.E. of Sagovia.

ESCALONA, a town of Spain, in New Caſtile, ſurrounded with walls. It is ſituate on an eminence, in a fertile country, near the Albreche, 20 miles N.W. of Toledo, and 32 S.W. of Madrid.

ESCAPE, or FIRE-ESCAPE, a contrivance for removing perſons and their property ſafely from the upper windows of a houſe on fire. Several methods of doing this have been ſuggeſted by different perſons. The following deſcription of a machine for ſaving perſons from the upper ſtories of a houſe on fire, by Dr. Collin, appears in the Tranſactions of the American Philoſophical Society, who rewarded the inventor with their gold medal.

A B C C (Plate 27) is a trunk with a ſocket from top to bottom, and two pulleys *a*, *a*, in the ſides C, C. In this cylindrical ſhaft D E moves, ſupported on the pulleys by two ropes. Theſe are by one end tacked to the foot of the ſhaft, and by the other to the axes of the windlaſſes I, I, which ſtand below. The cranks, winding the ropes round the axes, lift the foot of the ſhaft to the pulleys, and by unwinding let it down to the bottom.

F E G is a lever, turning on its fulcrum, which is fixed on the top of the ſhaft, by the iron tire *d*. The long arm is preſſed by the frame at its end: the ſhort one is held in balance by the rope G H, which is faſtened on the baſe of the machine. As the lever deſcends with the ſhaft, the rope ſlackens on the ſhort arm; then the other, no longer balanced, deſcends round the fulcrum, and by this motion turns the ſhort one upwards tight againſt the rope. Their angular contrary movements continue thus, until the ſhaft reaches the bottom of the ſocket; and the baſket at the ſame time comes to the ground.

The baſe is a rectangular plank floor with a compact frame underneath. The trunk is fixed in it, by ſeveral braces *c*, and other uſual faſtenings, both above and below, ſtanding ſomewhat from the centre towards the rope G H, in order to counteract its raiſing that end.

The windlaſſes are firmly ſet in the floor, near the trunk, directly under the pulleys.

The wheels are low and ſtrong, placed near the corner of the baſe. They have locks, to be uſed when the machine is loading.

The baſket is breaſt-high, and wide enough for four perſons. The three iron rods keep it more ſteady than cords would; and their openings admit one perſon at a time. It hangs free from the end of the lever.

The principles of this conſtruction ariſe from the requiſite properties of this machine: it muſt be ſpeedily brought; readily fitted; practicable in confined places; want no ſupport from the wall; reach a conſiderable height, and alſo project over obſtacles on or above the ground; take down ſeveral perſons at once, and without any exertion of theirs. The two vertical pieces folded, with the lever oblique, can both be houſed and eaſily carried: when put in action, they expand gradually; and the lever is high when at full length. The baſe may be convenient, becauſe its own weight, with the trunk and the four men at the windlaſſes keep the centre of gravity pretty low; and all the preſſures bear perpendicular on the longer face. Beſides, people may ſit down on the ſides, or hold it by handſpikes, which may be kept on it, and when wanted, put into holes near the margins, ſo as to project outwards. A level poſition being very neceſſary, a plumb rule ſhould alſo be hung on the trunk.

The cylindrical form of the ſhaft and ſocket procures an eaſy gliding motion, that leſſens the occaſional ſideway bearings. It is alſo leſs alterable by wear, and change of weather; it makes the ſhaft more ſolid, and thus requires leſs bulk in both pieces. The two quarters of the trunk which are ſlit for a communication of the ropes with the ſhaft, will yet be ſtrong enough by the ſolid piers that bear the pulleys. The other two have ſufficient firmneſs againſt oblique preſſures, ariſing from the action of the machine, or from the caſual inclination of the baſe. The part from the brim to the pulleys inclusively is fortified by the iron-band B B, to ſecure the ſhaft when drawn up. The height of that piece, its own weight, the preſſure on its head, and the obliquity of the ſame at the time, together with probable external accidents, will determine the width; it need perhaps not exceed a fifth of the part below.

The trunk and ſhaft require ſtiff and hard materials. The lever being made of tough wood, may be further ſtrengthened by iron plates. The ſolidity and ſhape of the fulcrum and arms muſt be carefully proportioned to their reſpective weights.

The ſhaft, when down, reaches beyond the trunk ſo much as to clear the lever of the piers. This added to the diſtance of the brim from the pulleys, is the difference between the ſhaft and their height *a a*. The altitude *a* E is therefore *a a* doubled and that ſurplus. If the ſhaft bore a greater proportion in effecting this altitude, it muſt be longer; conſequently it would, when ſtanding, hold the arm further from the ground, and render that piece, with itſelf, leſs portable; and, when up, increaſe the weight on the fulcrum, and the preſſure againſt the ſocket.

The arm E F riſes from *a* E on an angle about fifty degrees with the horizon, thus making a good projection, and a conſiderable increaſe of altitude. Its proportion to the ſhaft and angle with it when down, are ſuch as to ſet the baſket on the ground.

Theſe angles, the ſhaft, and the ſpace *a a* (its elevation), accord in adjuſting the proportion of E G, and the poſition of the rope. When the lever deſcends, the arm E G opens and throws out the rope, keeping it ſtretched all the while. This makes it deſcribe a circular arch. The lever having come to a horizontal poſition, the arm by the continued rotation returns towards the line *a* E, and makes the rope retrace the arch until the ſhaft is down. If the reverſed angle of the arm is then equal to *a* E G, the rope comes to the point G, from whence it went, if leſs it goes beyond. In the firſt caſe E G is the ſide of a triangle which has *a a* for its baſe and two angles equal to *a* E G; in the ſecond it is leſs than this ſide. As the elevation of E F is not above 50, its complement *a* E G (40) is greater than the angle of E F with the ſhaft, which with that ſpan would hold the arm too high from the ground. It conſequently exceeds the reverſed angle, which (being oppoſite) is equal with this. Therefore the ſhort arm is leſs than the ſaid ſide, but the difference is not great.—The ſituation of the ſhaft being moſt critical in the higheſt elevation, the rope ſhould then allow the lever very moderate rotation, and thus leſſen the kicking of the weight againſt the fulcrum. Its poſition will therefore be nearly perpendicular, when the deſcent begins, that the arch, immediately falling, or riſing very little, may keep down the end of E G. This poſition requires a moderate elevation of E F; for if the angle D E G is too contracted, E G will project far beyond the foot of the rope, in and about its horizontal paſſage, and thus produce a detrimental obliquity. It alſo limits the fall of E F, by regulating the reverſed angle; for the nearer the point G returns to the ſhaft, the further it goes from the rope, and the more oblique is the outward draught.

The obliquity of draught admitted in this machine, appears eaſy on the model: trials may prove a greater elevation of the lever practicable. The proportion of the ſhort arm is ſufficient while the whole weight to be wound up does not exceed that of twelve perſons: for ſo much, at leaſt, four hands at the windlaſſes are competent. If the rope is drawn by hands, this arm muſt ſtill, for the ſake of convenient carriage, be much ſhorter than the other; and accidents of miſmanagement might happen, which the fixed rope prevents: it is prudent to adjuſt the machine with all the powers it can exerciſe; eſpecially as it muſt be uſed on the diſmal occaſion of nocturnal conflagrations.

In conſiderable towns the houſes differ ſo much in height, that machines of two ſizes are neceſſary. The larger ſhould be competent for the third or fourth ſtories in the higheſt buildings, according to their dimenſions, and the practicable ſize of the three pieces; and the ſmaller for thoſe in the loweſt. As both have ſeveral degrees of elevation, they will alſo ſuit inferior ſtories reſpectively, and thus take in all the different heights. The baſket muſt aſcend ſo near beneath the window, that the perſons may, without fear, get in, and deſcend ſo low that they may get out. For the laſt arm cannot be long enough, when great altitudes demand very high ſhafts; then a rope ladder may be fixed on the baſket, and let down when the machine ſtops, ten feet from the ground,

if neceſſary. As the dimenſions of the lever and ſhaft of large machines demand great ſolidity, their weight will bear a conſiderable proportion of the whole that is wound up. One or two perſons more in the baſket would proportionably leſs increaſe the whole. Their baſes will alſo be wide enough for two men at each of the four cranks. The ſmaller machines muſt ſupport the weight of four full-grown perſons, as the fire may prevent a ſecond going up. Their baſes are to be fitted for narrow alleys, and crowded places.

Much property might be ſaved from the fire by machines of a ſimilar conſtruction with this, having a capacious baſket, and capſtans inſtead of windlaſſes. The combination of perpendicular and lateral movements may alſo be applied to many other valuable purpoſes.

Perpendicular lines being dropped from the point G to the baſe, the ſquares of theſe, and the ſquares of the diſtances of their ends from the foot of the rope, are jointly equal to the ſquare of the rope. The ſquare of E G is likewiſe equal to thoſe of its ſines. When the ſhaft is drawn up, the perpendicular height of the rope differs from the joint heights of the ſhaft and pulleys by the coſine of D E G; and when the ſhaft is down, it is equal to the height of this piece, joined to the coſine of the reverſed angle. The ſines of theſe angles are equal to the diſtances between the ends of the ſaid perpendiculars and the centre of the trunk's bottom. Taking the value of the rope in the two caſes, gives this equation:

$a\,a^2 + 2$ ſhaft. $\times\, a\,a =$
$2\,a\,E \times$ cos. D E
$+\ 2\,f\,h \times$ eos. rev. ang.
$+\ 2\,a\,H \times$ Sin. D E G—Sin. rev. a. } E G.

This will guide the choice of angles, proportion of E G, and poſition of the rope.

ESCAPEMENT (*Encycl.*), a part of the machinery of a watch. See WATCH. The following deſcription of a new eſcapement for watches appears in the Tranſactions of the Society for the Encouragement of Arts, Manufactures, and Commerce; and thirty guineas were voted to Mr. De Laſons for this invention.

"Having conſidered the perfection of chronometers," ſays the author, "to conſiſt more in giving an equal impulſe to the balance than to any other general cauſe, I preſent to the ſociety the model of a new eſcapement, which has not only the property of correcting the errors of the main-ſpring, train of wheels, &c. and giving an equal power to the balance, but likewiſe the wheels are locked, without ſpring-work, perfectly ſafe from getting out of order, and are unlocked with leſs power than in any eſcapement I know, as the wheels do not bear againſt the locking with more than a tenth part of the whole preſſure from the main-ſpring; a circumſtance I believe to be perfectly new.

"Although the giving an equal impulſe to the balance has been already moſt ingeniouſly done by Mr. Mudge and Mr. Haley (from whoſe great merit I would not wiſh to detract), yet the extreme difficulty and expence attending the firſt, and the very compound locking of the ſecond, render them far from completing the deſired object.

"The perfections and advantages ariſing from my improvements on the remontoire detached eſcapement for chronometers, which gives a perfectly equal impulſe to the balance, and not only entirely removes whatever irregularities ariſe from the different ſtates of fluidity in the oil, from the train of wheels, or from the main-ſpring, but does it in a ſimpler way than any with which I am acquainted. I truſt it will not be thought improper in me to anſwer ſome objections made at the examinations before the committee, as I am fully perſuaded the more mathematically and critically the improvements are inveſtigated, the more perfect they will prove to be.

"It was firſt obſerved, that my method did not ſo completely detach the train of wheels from the balance as another eſcapement then referred to. I beg leave to remark, that the train of wheels in mine is prevented from preſſing againſt the locking, by the whole power of the remontoire-ſpring; ſo that the balance has only to remove the ſmall remaining preſſure, which does away that objection, and alſo that of the diſadvantage of detents, as this locking may be compared to a light balance turning on five pivots, without a pendulum-ſpring; and has not only the advantage of banking ſafe at two turns of the balance, and of being firmer, and leſs liable to be out of repair than any locking where ſpring-work is uſed, but likewiſe of unlocking with much leſs power.—It was then obſerved, it required more power to make it go than uſual. Permit me to ſay, it requires no more power than any other remontoire eſcapement, as the power is applied in the moſt mechanical manner poſſible.—And, laſtly, it was ſaid, that it ſet or required the balance to vibrate an unuſually large arch before the piece would go. This depends on the accuracy of the execution, the proportionate diameter and weight of the balance, the ſtrength of the remontoire-ſpring, and the length of the pallets. If theſe circumſtances are well attended to, it will ſet but little more than the moſt generally detached eſcapements."

In plate 26, A. ſhews the eſcape wheel.

B. the level pallet, on an arbor with fine pivots, having at the lower end

C. The remontoire or ſpiral ſpring fixed with a collar and ſtud, as pendulum-ſprings are.

D. The pallet of the verge, having a roller turning in ſmall pivots for the lever pallet to act againſt.

E. Pallets to diſcharge the locking, with a roller between, as in fig. 4.

F. The arm of the locking pallet continued at the other end to make it poiſe, having ſtuds and ſcrews to adjuſt and bank the quantity of motion.

a and *b*. The locking pallets, being portions of circles, faſtened on an arbor turning on fine pivots.

G. The triple fork, at the end of the arm of the locking pallets.

The centre of the lever-pallet in the draft, is in a right line between the centre of the ſcape-wheel and the centre of the verge, though in the model it is not: but may be made ſo or not, as beſt ſuits the ealliper, &c.

The ſcape-wheel A, with the tooth 1, is acting on the lever pallet B, and has wound up the ſpring C; the verge-pallet D (turning the way repreſented by the arrow) the moment it comes within the reach of the level pallet, the diſcharging pallet E, taking hold of one prong of the fork, removes the arm F, and relieves the tooth 3 from the convex part of the lock *a*. The wheel goes forward a little, juſt ſufficient to permit the lever-pallet to paſs, while the other end gives the impulſe to the balance: the tooth 4 of the wheel is then locked on the concave ſide of the lock *b*, and the lever-pallet is ſtopped againſt the tooth 5, as in fig. 3. So far the operation of giving the impulſe, in order again to wind the remontoire-ſpring (the other pallet at E, in the return, removing the arm F the contrary direction), relieves the tooth 3 from the lock *b*. The wheel again goes forward, almoſt the whole ſpace, from tooth to tooth, winds the ſpiral-ſpring again, and comes into the ſituation of fig. 1, and thus the whole performanee is completed. The end of the lower pallet B reſting on the point of the tooth 1, prevents the wheel exerting its full force on the lock *a*, as in fig. 1. The ſame effect is produced by the pallet laying on the tooth 5, by preventing the wheel from preſſing on *b*; and thus the locking beeomes the tighteſt poſſible. This eſcapement may be much ſimplified by putting a ſpring with a pallet made in it, as in fig. 5, inſtead of the lever-pal-

let, and ſpiral-ſpring. The operation will be in other reſpects exactly the ſame, avoiding the friction of the pivots of the lever-pallet. This method I prefer for a piece to be in a ſtate of reſt, as a clock; but the diſadvantage, from the weight of the ſpring in different poſitions, is obvious.

The locking may be on any two teeth of the wheel, as may be found moſt convenient.

ESCHELLES, a town of Savoy, on the frontiers of Dauphiny, 10 miles S.W. of Chamberry. Long. 5. 45. E. Lat. 45. 30. N.

ESCHWEGEN, a town of Germany, in the Landgrave of Heſſe-Caſſel, ſeated on the Werra, 22 miles S.E. of Heſſe-Caſſel. Long. 10. 6. E. Lat. 51. 9. N.

ESCHWEILER, a town of Weſtphalia, in the duchy of Juliers, ſix miles S. of Juliers.

ESENS, a town of Weſtphalia, in Eaſt Frieſland, on the German Ocean, 20 miles N. of Embden. Long. 7. 14. E. Lat. 53. 47. N.

ESFARAIN, a town of Perſia, in Koraſan, famous for the great number of writers it has produced. It is 90 miles E. of Aſtrabad. Long. 41. 23. E. Lat. 36. 48. N.

ESGUEYRA, or ESGUERIA, a town of Portugal, in Beira, eight miles S. of Aveiro.

ESHER, a village in Surrey, on the river Mole, five miles S.W. of Kingſton. It is diſtinguiſhed by a noble Gothic manſion, the two towers of which are as they were originally built by Cardinal Wolſey.

ESKDALE, the moſt eaſterly diviſion of Dumfrieſſhire, ſo named from the river Eſk, which flows through it, in a courſe of 20 miles, to the town of Langholm.

ESKISHEHR, a town of Natolia, on the river Sakaria, 116 miles S.E. of Conſtantinople. Long. 30. 58. E. Lat. 39. 48. N.

ESLINGEN, a large Imperial city of Suabia, in the duchy of Wirtemburg. Here are ſeveral convents, but the inhabitants are chiefly Proteſtants. It is ſeated on the Neckar, eight miles S.E. of Stutgard. Long. 9. 20. E. Lat. 48. 47. N.

ESOPUS, a town of the ſtate of New York, on a river of the ſame name, 76 miles N. of New York.

ESPALION, a town of France, in the department of Aveiron, 14 miles N.N.E. of Rhodez. Long. 2. 40. E. Lat. 44. 32. N.

ESPERIE, a town of Hungary, near which are ſome famous ſalt mines. It is 22 miles N. of Caſchaw. Long. 21. 38. E. Lat. 49. 5. N.

ESPERNON, a town of France in the department of Eure and Loire, ſeated on the Gueſle, 12 miles N.E. of Chartres. Long. 1. 44. E. Lat. 48. 36. N.

ESPIERS, a town of Auſtrian Flanders, where a river of the ſame name falls into the Schelt, eight miles N. of Tournay. Long. 3. 25. E. Lat. 50. 53. N.

ESPOSENDA, a ſea-port of Portugal, in Entre-Duero-e-Minho, at the mouth of the Cavado, 22 miles N. of Oporto. Long. 8. 21. W. Lat. 41. 32. E.

ESSECK, a trading town of Sclavonia, with a ſtrong caſtle. It has a bridge over the marſhes, 8865 geometrical paces in length and 15 in breadth, with towers at a quarter of a mile diſtant from each other, and handſomely railed on each ſide. It is a difficult paſs, and there have been ſeveral battles fought here between the Turks and Germans. There are trees in all the ſtreets of the town, which was taken from the Turks in 1687, ſince which time it has continued in the hands of the houſe of Auſtria. It is ſeated on the river Drave, 80 miles W. by N. of Belgrade, and 175 S. by E. of Vienna. Long. 19. 58. E. Lat. 45. 40. N.

ESSEN, a town of Weſtphalia in the duchy of Cleves, formerly Imperial, but now ſubject to the abbeſs of Eſſen. It is eight miles E. of Duiſburg. Long. 7. 4. E. Lat. 51. 22. N.

ESTAPO, a ſtrong town of New Spain, ſeated at the mouth of the river Tlaluc, 230 miles S.W. of Mexico. Long. 103. 5. W. Lat. 17. 30. N.

ESTAVAYER, a town and bailiwic of Swiſſerland, in the canton of Friburg, on the borders of the lake of Neuchatel, with a fine caſtle. In the 15th century it belonged to the duke of Savoy, who, taking part againſt the Swiſs, they beſieged and ſacked the town in 1473. It is 13 miles W. of Friburg. Long. 6. 56. E. Lat. 46. 55. N.

ESTE, a town of Italy, in the Paduan, 15 miles S.W. of Padua. Long. 12. 44. E. Lat. 45. 55. N.

ESTELLA, an epiſcopal town of Spain, in Navarre, capital of the territory of the ſame name; ſeated on the Ega, 15 miles W. of Pampeluna. Long. 2. 0. W. Lat. 42. 40. N.

ESTEPA, a town of Spain, in Andaluſia, with an ancient caſtle, on a mountain, 62 miles N. by W. of Malaga. Long. 4. 19. W. Lat. 37. 16. N.

ESTEPONA, a town of Spain, in Granada, near the coaſt, 20 miles W.S.W. of Marbella.

ESTHWAITE-WATER, a lake in Lancaſhire, between Hawkſhead and Windermere Water. It is two miles and a half long, and half a mile broad, interſected by a peninſula from each ſide, jutting far into the lake. On the banks are villages and ſcattered houſes, pleaſantly ſituated under woods, and hanging grounds, clothed with verdure; all heightened by the deep ſhade of the woods, and the ſtrong back-ground of rocky mountains. At the head of a gentle ſlope, a handſome modern houſe, called Belmont, commands a delightful view of the lake and its environs. The fiſh are pike, perch, eel, and trout; but no char is found in this lake, though it is connected with Windermere-water.

ESTREMOS, a town of Portugal, in Alentejo, divided into the upper town and the lower. The upper is commanded by a citadel, on the top of a hill, ſtrongly fortified, and ſurrounded by a large ditch. The houſes are white, and the principal are adorned with fine marble pillars: there is alſo a tower of marble, finely poliſhed. The lower town is the neweſt, and has a large ſquare, in the middle of which is a baſin. An earthen-ware is made here, greatly eſteemed for its beauty and fine ſmell. The Portugueſe gained a complete victory over Don John of Auſtria near this place, 1763. It is ſeated on the river Terra, which falls into the Tajo, 15 miles W. of Badajoz, and 75 E. of Liſbon. Long. 7. 16. W. Lat. 38. 44. N.

ESWECEN, a town of Germany, in the landgrave of Heſſe Caſſel, 25 miles S.E. of Caſſel. Long. 10. 9. E. Lat. 51. 11. N.

ETAIN, a town of France, in the department of Meuſe, 15 miles N.E. of Verdun. Long. 5 35. E. Lat. 49 15. N.

ETAMPES, a town of France, in the department of Seine and Oiſe, ſeated on the river Olet or Etampes, which abounds with craw-fiſh. It is 15 miles E. of Chartres. Long. 2. 10. E. Lat. 48. 30. N.

ETAPLES, a ſea-port of France, in the department of the Straits of Calais, ſituate near the mouth of the Canche, 13 miles S. of Boulogne. Long. 1. 56. E. Lat. 50. 46. N.

ETAYA, a town of Hindooſtan Proper, in the province of Agra, ſituate on a high bank of the Jumna. Many parts of the bank are 60 feet high, the ſides of which conſiſt of what in India is called concha, which is orginally ſand; but the conſtant action of the ſun, in the dry ſeaſon, forms it almoſt into a vitrification. On the top, near the river, are the remains of a fort. The town is large, but very wretched, having but two tolerable houſes. It is 62 miles S.E. of Agra. Long. 79. 25. E. Lat. 26. 43. N.

ETHIOPIA, a name by which a vaſt region of Africa has been diſtinguiſhed by ſome geographers, who have divided it into Upper and Lower Ethiopia. The firſt includes Abyſſinia and Nubia; the ſecond all the countries of the equinoctial line; as far as Lower Guinea, Monomugi, Monomotapa, &c.

ETIENNE (St.), a city of France, in the department of Rhone and Loire, remarkable for its manufactures in iron and ſteel, for the tempering of which the water of the brook Furens, on which it is ſeated, is extremely good. Beſide the manufacture of arms, hardware, and cutlery (the moſt conſiderable in France), the weaving of ribands forms a conſiderable article of its commerce. Coal is found in its neighbourhood, and alſo a ſoft ſtone fit for grind-ſtones. Its merchandiſe is conveyed to Paris, Nantes, and Dunkirk, by the Loire, which begins to be navigable for ſmall barges at St. Lambero. St. Etienne is 22 miles S.E. of Fuers, and 260 S. by E. of Paris. Long. 4. 30. E. Lat. 45. 22. N.

ETLINGEN, an ancient town of Suabia, in the margravate of Baden-Dourlach, ſeated at the confluence of the Wirim and Entz, three miles S. of Dourlach. Long. 9. 30. E. Lat. 48. 59. N.

ETOLIA (*Encycl.*). The Etolians were a reſtleſs and turbulent people; ſeldom at peace among themſelves, and ever at war with their neighbours; utter ſtrangers to all ſenſe of friendſhip, or principles of honour; ready to betray their friends upon the leaſt proſpect of reaping any advantage from their treachery: in ſhort, they were looked upon by the other ſtates of Greece no otherwiſe than as outlaws and public robbers. On the other hand, they were bold and enterpriſing in war; inured to labour and hardſhips; undaunted in the greateſt dangers; jealous defenders of their liberties, for which they were on all occaſions willing to venture their lives, and ſacrifice all that was moſt dear to them. They diſtinguiſhed themſelves above all the other nations of Greece, in oppoſing the ambitious deſigns of the Macedonian princes; who, after having reduced moſt of the other ſtates, were forced to grant them a peace upon very honourable terms. The conſtitution of the Etolian republic was copied from that of the Achæans, and with a view to form, as it were, a counter alliance; for the Etolians bore an irreconcileable hatred to the Achæans, and had conceived no ſmall jealouſy at the growing power of that ſtate. The Cleomenic war, and that of the allies, called the *ſocial war*, were kindled by the Etolians in the heart of Peloponneſus, with no other view but to humble their antagoniſts the Achæans. In the latter, they held out, with the aſſiſtance only of the Eleans and Lacedæmonians, for the ſpace of three years, againſt the united forces of Achaia and Macedon; but were obliged at laſt to purchaſe a peace, by yielding up to Philip all Acarnania. As they parted with this province much againſt their will, they watched all opportunities of wreſting it again out of the Macedonian's hands; for which reaſon they entered into an alliance with Rome againſt him, and proved of great ſervice to the Romans in their war with him: but growing inſolent upon account of their ſervices, they made war upon the Romans themſelves. By that warlike nation they were overcome, and granted a peace on the following ſevere terms: 1. The majeſty of the Roman people ſhall be revered in all Etolia. 2. Etolia ſhall not ſuffer the armies of ſuch as are at war with Rome to paſs through her territories, and the enemies of Rome ſhall be likewiſe the enemies of Etolia. 3. She ſhall, in the ſpace of 100 days, put into the hands of the magiſtrates of Corcyra all the priſoners and deſerters ſhe has, whether of the Romans or their allies, except ſuch as have been taken twice, or during her alliance with Rome. 4. The Etolians ſhall pay down in ready money, to the Roman general in Etolia, 200 Euboic talents, of the ſame value as the Athenian talents, and engage to pay 50 talents more within the ſix years following. 5. They ſhall put into the hands of the conſul 40 ſuch hoſtages as he ſhall chooſe; none of whom ſhall be under 12, or above 40, years of age: the pretor, the general of the horſe, and ſuch as have been already hoſtages at Rome, are excepted out of this number. 6. Etolia ſhall renounce all pretenſions to the cities and territories which the Romans have conquered, though thoſe cities and territories had formerly belonged to the Etolians. 7. The city of Oenis, and its diſtrict, ſhall be ſubject to the Acarnanians.

After the conqueſt of Macedon by Paulus Æmilius, they were reduced to a much worſe condition; for not only thoſe among them, who had openly declared for Perſeus, but ſuch as were only ſuſpected to have favoured him in their hearts, were ſent to Rome, in order to clear themſelves before the ſenate. There they were detained, and never afterwards ſuffered to return to their native country. Five hundred and fifty of the chief men of the nation were barbarouſly aſſaſſinated by the partiſans of Rome, for no other crime but that of being ſuſpected to wiſh well to Perſeus. The Etolians appeared before Paulus Æmilius in mourning habits, and made loud complaints of ſuch inhuman treatment; but could obtain no redreſs: nay, ten commiſſioners, who had been ſent by the ſenate to ſettle the affairs of Greece, enacted a decree, declaring, that thoſe who were killed had ſuffered juſtly, ſince it appeared to them that they had favoured the Macedonian party. From this time thoſe only were raiſed to the chief honours and employments in the Etolian republic, who were known to prefer the intereſt of Rome to that of their country; and as theſe alone were countenanced at Rome, all the magiſtrates of Etolia were the creatures and mere tools of the Roman ſenate. In this ſtate of ſervile ſubjection they continued till the deſtruction of Corinth, and the diſſolution of the Achæan league; when Etolia, with the other free ſtates of Greece, was reduced to a Roman province, commonly called the *province of Achaia*. Nevertheleſs, each ſtate and city was governed by its own laws, under the ſuperintendency of the pretor, whom Rome ſent annually into Achaia. The whole nation paid a certain tribute, and the rich were forbidden to poſſeſs lands any-where but in their own country.

In this ſtate, with little alteration, Etolia continued under the emperors, till the reign of Conſtantine the Great, who, in his new partition of the provinces of the empire, divided the weſtern parts of Greece from the reſt, calling them *New Epirus*, and ſubjecting the whole country to the *præfectus prætorii* for Illyricum. Under the ſucceſſors of Conſtantine, Greece was parcelled out into ſeveral principalities, eſpecially after the taking of Conſtantinople by the weſtern princes. At that time, Theodorus Angelus, a noble Grecian, of the imperial family, ſeized on Etolia and Epirus. The former he left to Michael his ſon; who maintained it againſt Michael Palæologus, the firſt emperor of the Greeks, after the expulſion of the Latins. Charles, the laſt prince of this family, dying in 1430, without lawful iſſue, bequeathed Etolia to his brother's ſon, named alſo Charles; and Acarnania to his natural ſons, Memmon, Turnus, and Hercules. But, great diſputes ariſing about this diviſion, Amurath II after the reduction of Theſſalonica, laid hold of ſo favourable an opportunity, and drove them all out in 1432. The Mahometans were afterwards diſpoſſeſſed of this country by the famous prince of Epirus, George Caſtriot, commonly called *Scanderbeg*; who, with a ſmall army, oppoſed the whole power of the Ottoman empire, and defeated thoſe barbarians in 22 pitched battles. This hero, at his death, left great part of Etolia to the Venetians; but they not being able to make head againſt ſuch a mighty power, the whole country was

ſoon reduced by Mohammed II. whoſe ſucceſſors hold it to this day.

ETTENHEIM, a town of Germany, in the biſhopric of Straſburg, 15 miles N. of Friburg, and 19 S.S.E. of Straſburg. Long. 7. 26. E. Lat. 48. 25. N.

ETTLINGEN, or ETTINGEN, a town of Suabia, on the Albe, ſix miles S.S.W. of Dourlach.. Long. 9. 26. E. Lat. 48. 58. N.

ETTRICK, a river in Selkirkſhire, which riſes from the mountainous region in the S.W and having formed a junction with the Yarrow, their united ſtreams meet the Tweed, where that river enters Roxburgſhire. From the woods, formerly on the banks of this river, the county obtained the name of Ettrick Foreſt. Ettrick Banks are the ſubject of a paſtoral Scotch ditty.

EU, a ſea-port of France, in the department of Lower Seine, with a ſtrong caſtle, and a handſome ſquare. The principal trade is in ſerges and lace. It is ſeated in a valley, on the river Brele, 15 miles N.E. of Dieppe. Long. 1. 30. E. Lat. 50. 3. N.

EVAPORATION *(Encycl.)*. In addition to what has been ſaid on this ſubject, we purpoſe to give the experiments on evaporation made by Dr. Wiſtar, an account of which appears in the Tranſactions of the American Philoſophical Society.

" In an eſſay publiſhed in the laſt volume of the Tranſactions of the Society," ſays the doctor, " I deſcribed a ſpecies of evaporation which was excited by ſuſpending ice, at the melting point, in air reduced to the temperature of 0 of Fahrenheit's ſcale; and conſidered as the effect of a general law of nature, in conſequence of which an inelaſtic vapour (which commonly is viſible) ariſes from water, and from wet ſubſtances, whenever they are warmer than the atmoſphere which ſurrounds them.

" From facts ſtated in the ſame paper it was inferred, that this inelaſtic vapour does not depend upon any poſitive quantity or degree of ſenſible heat in the evaporating body, but upon a relative degree, exceeding that of the atmoſphere to which it is expoſed; and that it is produced by the paſſage of heat from the moiſt body into the contiguous air.—If this theory be true, it follows that a ſlow diſtillation may be performed, with the common apparatus, by applying cold to the receiver or refrigeratory, without increaſing the heat of the retort or ſubſtance to be diſtilled, as there will be a continual paſſage of heat from the body to be evaporated or diſtilled, into the air of the receiver.

" Although, for the reaſons there given, I had no doubt of the truth of the doctrine advanced in my former paper, I was deſirous of ſubmitting it to the teſt of this experiment, becauſe it has been ſuggeſted that the vapour which appeared to ariſe from ice might have riſen from the mixture of different proportions of air of different temperatures: whereas by diſtilling or evaporating in a luted retort and receiver, there can be no mixture of warm and cold air; and by uſing a ſubſtance which is not contained in the atmoſphere, we ſhall avoid all ſuſpicion that the vapour which ariſes from it may have originated from the air in the veſſels.

" With theſe views I poured an ounce and half of vitriolic æther into a retort, and luted it to a receiver with a long neck, which was placed in a mixture of ſalt and ſnow, while the retort was ſurrounded by air of the temperature of 50° of Fahrenheit. The frigorific mixture, from the impurity of the ſalt, was ſeldom below 10°, ſo that the difference between the æther in the retort and the air in the receiver did not exceed 40°.

" When the apparatus had been thirty hours in this ſituation the frigorific mixture was removed, and one-third of the æther was found diſtilled into the receiver.

" I believe no cauſe can be aſſigned for this diſtillation but the paſſage of heat through the æther into the cold air of the receiver; and to be certain that the application of cold to the receiver *really produced it*, I prepared a ſimilar diſtilling apparatus, in the ſame manner preciſely, and placed the retort in contact with that of the other apparatus, while the receiver, inſtead of being chilled by the cold mixture, ſtood in air of the ſame temperature with the retorts, *viz.* 5° ; but no diſtillation took place during thirty hours.

" To vary the experiment, I placed ſome camphor in another apparatus prepared as above, and fixed the receiver in the frigorific mixture, while the retort ſtood in air of the temperature of 50°; at the expiration of thirty hours ſome of the camphor was found ſublimed, and the ſublimate had thoſe arboreſcent appearances which uſually attend it when produced by heat."

EVAUX, a town of France, in the department of Creuſe, 20 miles from Mount Laçon. Long. 2. 35. E. Lat. 46. 12. N.

EUDIOMETER (*Encycl.*). When it was diſcovered that common atmoſpherical air contained about 21 parts of vital air, or oxygen, and 79 of azote, or nitrogen, in 100 by meaſure; it was haſtily concluded by phyſiologiſts, that we had acquired a power of aſcertaining the comparative ſalubrity of atmoſpherical air, during different winds, and in different places. For it was believed that the ſalubrity was proportional to the quantity of oxygen, and that this quantity admitted of conſiderable variation in different ſituations. It was however ſoon found, by the experiments of Dr. Prieſtley and Mr. Cavendiſh, and ſince confirmed by many others, that the air of open ſeas, or the tops of high mountains, does not differ conſiderably, in the proportion of thoſe conſtituents, from that of the ſtreets of London. But when we ſay the ſtreets of London, we do not mean to include the rooms, theatres, exhibitions, &c. where either reſpiration or combuſtion, or both, are going on. This ſource of contaminated air is, however, by no means confined to the metropolis; for wherever well-jointed ſaſhes, double doors, double windows, or any other means of excluding freſh ſupplies of air from inhabited rooms, are employed, there a deterioration of it muſt take place. The means of analyzing and correcting the water we uſe, are generally known; but the beſt means of aſcertaining the proportion of oxygen contained in the air we breathe, is known only to a few chemiſts. We ſhall, therefore, preſent our readers with Mr. Davy's new Eudiometer, an account of which appears in the Journals of the Royal Inſtitution:

" The dependence (he ſays) of the health and exiſtence of animals upon a peculiar ſtate of the atmoſphere, and the relations of this ſtate to proceſſes connected with the moſt eſſential wants of life, have given intereſt and importance to enquiries concerning the compoſition and properties of atmoſpheric air.

" This elaſtic fluid has been long known to conſiſt chiefly of oxygen and nitrogen, mingled together, or in a ſtate of looſe combination, and holding in ſolution water.

" A variety of proceſſes have been inſtituted, with the view of determining the relative proportion of the two gaſes, but moſt of them have involved ſources of inaccuracy; and lately all, except two (the ſlow combuſtion of phoſphorus, and the action of liquid ſulphurets), have been generally abandoned.

" Both phoſphorus and ſolution of ſulphuret of potaſh abſorb the whole of the oxygen of atmoſpheric air at common temperatures, and they do not materially alter the volume, or the properties of the reſidual nitrogen; but their operation is extremely ſlow; and in many caſes it is difficult to aſcertain the period at which the experiment is completed.

" I have lately employed as an eudiometrical ſubſtance the ſolution of green muriat, or ſulphat, of iron, impregnated with nitrous gas; and I have found that it is in ſome reſpects ſuperior to many of the bodies heretofore uſed, as it rapidly condenſes oxygen without acting upon nitrogen, and requires for its application only a very ſimple and a very portable apparatus.

" This fluid is made by tranſmitting nitrous gas through green muriat, or ſulphat, of iron, diſſolved to ſaturation in water. As the gas is abſorbed, the ſolution becomes of a deep olive brown, and when the impregnation is completed it appears opaque and almoſt black. The proceſs is apparently owing to a ſimple elective attraction; in no caſe is the gas decompoſed; and under the exhauſted receiver it aſſumes its elaſtic form, leaving the fluid with which it was combined unaltered in its properties.

" The inſtruments neceſſary for aſcertaining the compoſition of the atmoſphere, by means of impregnated ſolutions, conſiſt ſimply of a ſmall graduated tube, having its capacity divided into one hundred parts, and greateſt at the open end; and of a veſſel for containing the fluid.

" The tube, after being filled with the air to be examined, is introduced into the ſolution; and, that the action may be more rapid, gently moved from a perpendicular towards a horizontal poſition. Under theſe circumſtances the air is rapidly diminiſhed; and, in conſequence of the dark colour of the fluid, it is eaſy to diſcover the quantity of abſorption. In a few minutes the experiment is completed, and the whole of the oxygen condenſed by the nitrous gas in the ſolution in the form of nitrous acid.

" In all eudiometrical proceſſes with impregnated ſolutions, the period at which the diminution is at a ſtand muſt be accurately obſerved; for, ſhortly after this period, the volume of the reſidual gas begins to be a little increaſed, and, after ſome hours, it will often fill a ſpace greater by ſeveral of the hundred parts on the ſcale of the tube, than that which it occupied at the maximum of abſorption.

" This circumſtance depends upon the ſlow decompoſition of the nitrous acid (formed during the experiment), by the green oxide of iron, and the conſequent production of a ſmall quantity of aëriform fluid (chiefly nitrous gas) *; which, having no affinity for the red muriate, or ſulphate, of iron produced, is gradually evolved, and mingled with the reſidual nitrogen,

" The impregnated ſolution with green muriate is more rapid in its operation than the ſolution with green ſulphate. In caſes when theſe ſalts cannot be contained in a ſtate of abſolute purity, the common or mixed ſulphate of iron may be employed. One cubic inch of moderately ſtrong impregnated ſolution is capable of abſorbing five or ſix cubic inches of oxygen, in common proceſſes: but the ſame quantity muſt never be employed for more than one experiment.

" A number of comparative experiments, made on the conſtitution of the atmoſphere at the Hotwells, Briſtol, in July, Auguſt, and September, 1800, with phoſphorus, ſulphurets of alkalies, and impregnated ſolution, demonſtrated the accuracy of the proceſſes in which the laſt ſubſtance was properly employed. The diminutions given by the ſulphurets were indeed always greater by a minute quantity than thoſe produced by phoſphorus and impregnated ſolutions: but the reaſon of this will be obvious to thoſe who have ſtudied the ſubject of Eudiometry. In no inſtance was it found that 100 parts in a volume of air contained more than 21 of oxygen: *and the variations connected with different winds, and different ſtates of temperature, moiſture, &c. were too ſmall, and too often related to accidental circumſtances, to be accurately noticed.*

In analyſing the atmoſphere in different places, by means of impregnated ſolutions, I have never been able to aſcertain any notable difference in the proportions of its conſtituent parts. Air, collected on the ſea at the mouth of the Severn, on October the 3d, 1800, which muſt have paſſed over much of the Atlantic, as the wind was blowing ſtrong from the weſt, was found to contain 21 per cent of oxygen in volume; and this was nearly the proportion in air ſent from the coaſt of Guinea to Dr. Beddoes, by two ſurgeons of Liverpool.

" If we compare theſe reſults with the reſults gained more than twenty years ago by Mr. Cavendiſh, from experiments on the compoſition of atmoſpherical air, made at London and Kenſington; conſidering, at the ſame time, the reſearches of Berthollet in Egypt, and at Paris, and thoſe of Marti in Spain; we ſhall find ſtrong reaſons for concluding, that the atmoſphere, in all places expoſed to the influence of the winds, contains very nearly the ſame proportions of oxygen and nitrogen: a circumſtance of great importance; for, by teaching us that the different degrees of ſalubrity of air do not depend upon differences in the quantities of its principal conſtituent parts, it ought to induce us to inſtitute reſearches concerning the different ſubſtances capable of being diſſolved or ſuſpended in air, which are noxious to the human conſtitution; particularly as an accurate knowledge of their nature and properties would probably enables us, in a great meaſure, to guard againſt, or deſtroy, their baneful effects.

" The moſt obvious impregnation of the atmoſphere is that with diſtilled water; and many people have taken up an opinion, that, independent of *miaſmata*, the only noxious qualities of the atmoſphere depend on its moiſture, or the quantity of water diffuſed through it, when the thermometer is near 32°, or, as they expreſs it, " when cold and moiſture are combined; but we ſhall endeavour to ſhew, on ſome future occaſion, that this opinion is not well founded."

Cit. Berthollet has made ſeveral obſervations relating to Eudiometry, in a memoir preſented to the National Inſtitute of France. The celebrated Mr. Humboldt having examined and compared the different ſubſtances employed for knowing the quantity of oxygen contained in a given quantity of atmoſpherical air, gave the preference to the nitrous gas, which has been propoſed by Fontana, as abſorbing the oxygen better than other ſubſtances employed for the ſame purpoſe. It contains, however, ſometimes a greater or leſs quantity of azote, which renders its effect not ſo ſure; a circumſtance which may be remedied, after the repeated experiments of Mr. Humboldt, by waſhing the gas intended for uſe with a ſolu-

* The decompoſition of nitrous acid, by ſolutions containing oxide of iron, at its minimum of oxidation, is a very complex proceſs. The green oxide, during its converſion into red oxide, not only decompoſes the acid, but likewiſe acts upon the water of the ſolution; and ammoniac is ſometimes formed, and ſmall portions of nitrous oxide and nitrogen evolved with the nitrous gas.

tion of ſulphat of iron, which abſorbs all the nitrous gas, but not the azote that is mixed with it. It is this action of the ſulphat of iron that Cit. Berthollet has examined; and he has found, that in this caſe, the nitrous gas is not only abſorbed, but decompoſed, and by being deprived of a part of its azote, it is changed into nitrous acid. He thinks, on the whole, that the nitrous gas may differ in the proportions of its two principles, the oxygen and the azote, but that it never contains the azote in ſimple mixture.

The following experiments with the Eudiometer, made at Martinique, by Dr. Davidſon, were communicated to Dr. Mitchell, in a letter dated Fort Royal, April 7th, 1798.

"There is," ſays he, "a large proportion of oxygen, contained in the atmoſpheric air within the tropics. With equal meaſures of nitrous air, obtained from braſs wire and atmoſpheric air, there was an abſorption of 67.100; but with two meaſures of atmoſpheric air, there was ſomewhat leſs, from 52.100, to 58.100, that is to ſay, from three meaſures, or three hundred parts, there were left two and 42,100, to 48.100. I have alſo tried a mixture of ſulphur and iron-filings, in a cylindrical glaſs tube, and found above four-tenths of the air diminiſhed. As thoſe experiments were made in the preſence of a number of medical gentlemen, who have certified the fact, as they have obſerved it themſelves, I can therefore with confidence ſpeak to the reſult of our experiments.

"We ſhall now be more eaſily able to account for the ſpeedy ruſting of metals, without having recourſe to the action of ſuppoſed muriatic ſoda diſſolved in the air. The rancidity of oils, and the ſpeedy fermentation of vinous liquors, may, perhaps, be alſo owing to the greater heat of the climate; but metals would be leſs apt to contract ruſt from the greater heat, if the air contained only the proportion of oxygen, which it contains in Europe. Conſumptions here are alſo more quickly fatal than they are in Europe. On ſome of the Weſt-India iſlands, ſuch as Barbadoes and Antigua, where leſs rain falls, and where the heat of the air is kept at a ſteady temperature by their ſmallneſs, and the trade-winds blowing over the whole iſland, without being diverted by high or woody land, conſumptions are not leſs fatal than in the larger and moiſter iſlands. This is a fact, of which all writers upon diſeaſes of the Weſt Indies take notice; and which we would principally endeavour to account for, from the air being more highly charged with oxygen, than it is in Europe. If people labouring under pulmonary conſumption, are ſometimes benefited by ſea voyages within the tropics, we are to look for the temporary relief afforded, in the ſea-ſickneſs; the irritable ſtate of the ſtomach, by ſympathy preventing the lungs acting in decompounding and abſorbing oxygen; and in the determination to the ſurface carrying off the redundancy by the ſkin. Their coſtive habit, whilſt at ſea, proves that there is more than uſual determination to the ſurface—hence relief to the lungs."

Certificates of theſe facts are ſubjoined, with the ſignatures of Dr. Chiſholme, and other reſpectable perſons.

Among the articles contained in the extracts lately publiſhed from the Memoirs of the School of Medicine at Paris, we find an ingenious eſſay by Citizen Jurine, with obſervations by Citizen Seguin, on the following important queſtion:

"What advantages can medicine derive from the modern diſcoveries in the art of aſcertaining the purity of the air, by the different eudiometers?

Citizen Jurine's memoir, which gained the prize in 1787, is divided into four parts: 1. The firſt relates to the modification of atmoſpherical air by reſpiration. 2. The ſecond treats of the air which is exhaled by the ſkin, and of the nature of ambient air in different diſeaſes. 3. The third explains the difference of atmoſpherical air, the air of hoſpitals and ſick rooms. We ſhall examine each of theſe ſections of Cit. Jurine's works ſucceſſively, taking notice at the ſame time of the principal obſervations made by Seguin.

In the firſt place, Jurine remarks on the opinions, the views, and the ſeveral diſcoveries of Prieſtley, the Abbe Fontana, Scheele, Bergmann, and Morozzo, and the ſolid and luminous theory of Lavoiſer and La Place. He next explains the extent and capacity of the lungs, after Hales and Jurine. Afterwards he analyzes the air exſpired in different circumſtances of life and health. The means of analyzation were lime water, nitrous gas, and the flame of a wax candle.

Experiments were in the firſt place made to aſcertain the difference relative to age, ſex, the ſtate of faſting, and the effect of digeſtion. The air produced by the moſt complete exſpiration was then divided into four parts, and ſucceſſively ſubmitted to a comparative analyſis. The other experiments were intended to aſcertain the changes produced in the air exſpired in fever, the laſt ſtage of conſumption, blood-letting, reſpiration in pure oxygen, or in air rendered leſs reſpirable from previous reſpiration. Citizen Halle having already publiſhed a part of the reſults of theſe experiments, under the article *Air* in the *Dictionnaire de Médec, de l'Encycl. Meth.* it is unneceſſary to repeat them. To this firſt part of Citizen Jurine's memoir, Citizen Segun directs his principal objections, which directly attack the accuracy of the eudiometers, the lime water, and nitrous gas, employed.

In the ſecond part, Citizen Jurin explains ſeveral experiments made upon himſelf, the reſults of which were, that he diſengaged a certain quantity of carbonic gas by the ſkin. Citizen Seguin thinks, on the contrary, that the carbonic gas does not iſſue through the ſkin, but is only that formed by the act of reſpiration, which, deſcending by its ſpecific weight, in the bath where the Geneveſe phyſiologiſt made his experiments, had diſplaced the atmoſpheric air from the veſſels he employed.

Citizen Hallé has again offered the principal facts deduced from the experiments contained in the third part. The objection of Citizen Seguin againſt their reſult in general, that there is uniformly produced a kind of *mephites* in the inteſtinal canal, is, that, on the contrary, the predominance of azote in the large inteſtines, according to the experiments of Jurine, ought not to be attributed to the atmoſpheric air contained in the ſtomach and inteſtines loſing a portion of oxygen, and the azotic gas becoming by that means more abundant.

The fourth part of this work exhibits a ſhort view of the improvements medicine has received from pneumatic chemiſtry, which, in the report, is brought down to the preſent period.

The memoir of M. Gattoni, like the preceding, is intended to give a ſolution of the phyſiological problem propoſed by the Medical Society, and contains the particulars of a variety of reſearches and experiments. The author, after relating the hiſtory of the nitro-aërial eudiometer, and ſhewing the incorrectneſs of that inſtrument, and its general inſufficiency to aſcertain the change of the air by the different kinds of miaſmata, adopts the eudiometer of Volta, which he deſcribes. The experiments made with this latter inſtrument, like thoſe made with all the others, have only elucidated the different proportions of azote, oxygen, and carbonic acid gas variouſly modified, by different airs, or by the ſtate of the patient on whom the experiments were tried, or by the different cauſes of diſeaſe.

EVE, the mother of all mankind; who, being deluded by the ſerpent, occaſioned the fall, and all its diſmal conſequences. See ADAM.

EVERDING, a town of Upper Auſtria, ſeated on the

Danube, 12 miles W. of Lintz. Long. 13. 46. E. Lat. 48. 19. N.

EVERFIELD, a town of Weſtphalia in the duchy of Berg, ſeated near the Wipper, 18 miles E. of Duſſeldorf.

EVERSHOT, a town in Dorſetſhire, with a market on Friday, 12 miles N.W. of Dorcheſter, and 129 W. by S. of London. Long. 2. 55. W. Lat. 50. 52. N.

EUGUBIO, an epiſcopal town of Italy, in the duchy of Urbino, 35 miles S. of Urbino, and 87 N. of Rome. Long. 13. 37. E. Lat. 43. 18. N.

EVIAN, a town of Savoy, in Chablais, reſorted to in the ſummer for its mineral waters. It is ſeated on the S. ſide of the lake of Geneva, 22 miles N.E. of Geneva. Long. 6. 50. E. Lat. 46. 21. N.

EUMENES, the moſt worthy of Alexander's ſucceſſors and generals; was baſely delivered up by his own troops to his rival Antigonus, and by him put to death, 315 B. C.

EUMENES II. king of Pergamus, a valiant general, patron of learning, and founder of the famous library at Pergamos, on the model of that at Alexandria. He died 159 B. C. after a reign of 39 years.

EVOLI, an ancient town of Naples, in Principato Citeriore, 12 miles E. of Salerno. Long. 15. 16. E. Lat. 40. 46. N.

EVORA, a fortified city of Portugal, capital of Alentejo, with an archbiſhop's ſee, and a univerſity. Some remains of the ancient Roman wall are viſible, and the famous aqueduct built by Sertorius ſtill conveys a noble ſtream of water to the city. Evora is ſeated in a country which, though a little unequal, is very pleaſant, ſurrounded on all ſides by mountains, and planted with large trees of divers ſorts. It is 65 miles E. by S. of Liſbon. Long. 7. 30. W. Lat. 38. 28. N.

EVORAMONTE, a town of Portugal in Alentejo, ſituate on a rock, eight miles S.W. of Eſtremos, and 15 N.E. of Evora.

EUPATORGIA, a town of Ruſſia, in the government of Taurida, on the Black Sea, 68 miles S.W. of Precop. Long. 33. 14. E. Lat. 45. 40. N.

EUPHEMIA, a ſea-port of Naples in Calabria Ulteriore, ſeated on a bay, 50 miles N.E. of Reggio. Long. 16. 32. E. Lat. 38. 44. N.

EURVILLE, a town of France, in the department of Upper Marne, five miles S.E. of Dizier.

EUTAM, a ſmall iſland of the Weſt-Indies, near the E. coaſt of Porto Rico. Long. 64. 41. W. Lat. 18 18. N.

EUTIM, a town of Holſtein, with a caſtle, where the biſhop of Lubec reſides. It is ſeven miles N. of Lubec.

EWELL, a town in Surrey, with a market on Thurſday, ſeated on a rivulet which empties itſelf into the Thames, at Kingſton. It is 10 miles N.N.E. of Darking, and 13 S.S.E. of London. Long. 0. 15. W. Lat. 51. 26. N.

EXCHANGE, BILLS OF *(Encycl.)*. On promiſſory notes, drafts, or orders, by 31 Geo. III. c. 25; 37 Geo. III. c. 90; and 41 Geo. III. c. 10. the following duties are payable, viz.

On bills and notes payable on demand.] For every piece of vellum, parchment, or paper, upon which any bill of exchange, draft, or order for the payment of money on demand, ſhall be written, &c. where the ſum amounts to 40s. and does not exceed 5l. 5s. by 31 Geo. 3, c. 25, three-pence; 37 Geo. 3, one penny; 41 Geo. 3, c. 10, two-pence.—Total 6d.

Above 5l. 5s. and not exceeding 30l. by 31 Geo. 3, c. 25, ſix-pence; 37 Geo. 3, c. 90, two-pence; 41 Geo. 3, c. 10, four-pence.—Total 1s.

Above 30l. and not exceeding 50l. by 31 Geo. 3, c. 25, nine-pence; 37 Geo. 3. c. 90, three-pence; 41 Geo. 3, c. 10, ſix-pence.—Total 1s. 6d.

Above 50l. and not exceeding 100l. by 31 Geo. 3, c. 25, one ſhilling; 37 Geo. 3, c. 90, four-pence; 41 Geo. 3, c. 10, eight-pence.—Total 2s.

Above 100l. and not exceeding 200l. by 31 Geo. 3, c. 25, one ſhilling and ſix-pence; 37 Geo. 3, c. 90, ſix-pence; 41 Geo. 3, c. 10, one ſhilling.—Total 3s.

For every promiſſory, or other note, for payment of money to the bearer on demand, which may be re-iſſuable, after payment, at the place where the ſame was firſt iſſued, where the ſum amounts to 40s. and does not exceed 5l. 5s. by 31 Geo. 3, c. 25, three-pence; 37 Geo. 3, c. 90, one penny; 41 Geo. 3, c. 10, two-pence.—Total 6d.

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When theſe promiſſory notes ſhall be paid by the perſon by whom the ſame ſhall have been made or ſigned, and firſt iſſued, and at the place where the ſame were firſt iſſued, the perſon ſo paying the ſame, notwithſtanding ſuch payment may at any time afterwards, and ſo often as there ſhall be occaſion after every ſuch payment thereof, but not otherwiſe, again iſſue and negotiate ſuch notes; and every ſuch note is declared to be after payment, but not otherwiſe, iſſuable and negotiable. But if ſuch notes ſhall be paid by any other than the perſon making or ſigning the ſame, or at any place other than the place of iſſuing, ſuch note ſhall be conſtrued to be vacated and ſatisfied, and ſhall be no longer negotiable but cancelled; and if any perſon ſhall again iſſue any ſuch note after payment by any perſon other than the perſon making the ſame, or at any place other than the place of iſſuing, or if any perſon named in ſuch note for payment thereof, ſhall after payment neglect or refuſe to cancel the ſame, ſuch perſon ſhall forfeit 20l. And if ſuch note ſhall not be cancelled, then, and as often as it ſhall be again iſſued, there ſhall be due, anſwered, and paid the like duty as was firſt charged on ſuch note, to be payable by and charged on the perſon who ſhall again iſſue and negotiate ſuch note, ſ. 7.

For any promiſſory or other note, payable to the bearer on demand, which may be re-iſſued, after payment at the ſame, or any other place than where firſt iſſued, where the ſum ſhall amount to 40s. and not exceed 5l. 5s. by 31 Geo. 3, c. 25, ſix-pence; 37 Geo. 3, c. 90, two-pence; 41 Geo. 3, c. 10, four-pence.—Total 1s.

Above 5l. 5s. and not exceeding 30l. by 31 Geo. 3, c. 25, one ſhilling; 37 Geo. 3, c. 90, four-pence; 41 Geo 3, c. 10, eight-pence.—Total 2s.

[It is declared that theſe notes may, as often as occaſion ſhall require, be again iſſued by the perſon making the ſame, notwithſtanding ſuch notes have been paid by the perſon making the ſame, or any other perſon in purſuance of any appointment for the payment thereof.]

Bills and notes payable after date.] For every bill of exchange, draft, or order, payable otherwiſe than on demand, or any promiſſory or other note payable otherwiſe than to the bearer on demand, where the ſum ſhall amount to 40s. and not exceed 30l. by 31 Geo. 3, c. 25, ſix-pence; 37 Geo. 3, c. 90, two-pence; 41 Geo. 3, c. 10, four-pence.—Total 1s.

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one ſhilling; 37 Geo. 3, c. 90, four-pence; 41 Geo. 3, c. 10, eight pence.—Total 2s.

Above 100l. and not exceeding 200l. by 31 Geo. 3, c. 25, one ſhilling and ſix-pence; 37 Geo. 3, c. 90, ſix-pence; 41 Geo. 3, c. 10, one ſhilling.—Total 3s.

Bills and notes exceeding 200l. *value.*] And for every bill of exchange, promiſſory, or other note, draft, or order, payable on demand or otherwiſe, where the ſum ſhall exceed 200l. there ſhall be charged by 31 Geo. 3, c. 25, two ſhillings; 37 Geo. 3, c. 90, eight-pence; 41 Geo. 3, c. 10, one ſhilling and four-pence—Total 4s.

Which duties ſhall be paid by the perſon making or ſigning ſuch bills, &c.

Foreign bills of exchange.] Drawn in ſets, according to the cuſtom of merchants, where the ſum ſhall not exceed 100l. ſhall be charged by 31 Geo. 3, c. 25, ſix-pence; by 37 Geo. 3, c. 90, three-pence; 41 Geo. 3, c. 10, four-pence—Total 1s. 1d. ——Exceeding 100l. and not 200l. 31 Geo. 3, c. 25, nine-pence; 37 Geo. 3, c. 90, three-pence; 41 Geo. 3, c. 10, ſix-pence.—Total 1s. 6d.——And exceeding 200l. by 31 Geo. 3, c. 25, one ſhilling; 37 Geo. 3, c. 90, four-pence; 41 Geo. 3, c. 10, eight-pence.—Total 2s.——And every bill of each ſet ſo drawn is ſaid to be chargeable with the duty.

N. B. The time limited in the act 41 Geo. 3, for the commencement of the new duties, is from and after April 5, 1801.

The exemptions from the foregoing duties, are theſe:

1. Drafts or orders, payable to bearer on demand, bearing date on or before the day on which the ſame ſhall be iſſued, and at the place from which the ſame ſhall be drawn and iſſued, and drawn upon any banker, or perſon acting as a banker and reſiding and tranſacting buſineſs as a banker, within ten miles of the place where ſuch draft or order ſhall be actually drawn and iſſued.

2. All notes and bills whatever iſſued by the bank of England, upon condition of their paying into the exchequer the annual ſum of 12,000l. half yearly, on Oct. 10 and April 5.

New regulations in 31 Geo. 3. c. 25.

If any bill, &c. ſhall be written on paper not ſtamped, or ſtamped with a ſtamp of lower value than directed; then there ſhall be due and paid the full duty hereby chargeable; which ſhall be payable by and charged upon all perſons who ſhall draw or make, and utter and negotiate ſuch bill, &c. ſ. 6. And all perſons who ſhall write or ſign, or cauſe to be written or ſigned, or who ſhall accept or pay, or cauſe to be accepted or paid, any bill, &c. without being firſt ſtamped with a proper ſtamp, or upon which there ſhall not be ſome ſtamp reſembling the ſame, ſhall forfeit 20l. ſ. 10.

Every promiſſory or other note, payable to the bearer on demand, which ſhall be iſſued after payment under this act, ſhall notwithſtanding be payable to the perſon holding the ſame; and ſuch perſon may maintain an action thereupon. ſ. 9.

The 19th ſection declares, that no bill, &c. ſhall be available in law or equity, unleſs ſtamped with the lawful ſtamp; and that it ſhall not be lawful for the commiſſioners to ſtamp any paper, &c. after any bill, &c. ſhall be written thereon, under any pretence whatever.

But it ſhall be lawful for any perſon who ſhall be the holder of any bill, note, draft, or order, made after July 20, 1797, which ſhall be ſtamped with a ſtamp of a different denomination than required, if the ſame ſhall be of equal or ſuperior value to the ſtamp required, to produce the ſame within the times herein-after mentioned, to the head office or ſuch officer as the commiſſioners ſhall appoint; and the commiſſioners may direct the proper officer, upon payment of the duty, and ſuch penalty as is after mentioned, over and above the duty, to ſtamp ſuch bill, note, draft, or order, with the proper ſtamp, and to give a receipt for the duty and penalty, ſo paid, on the back of ſuch bill, note, draft, or order.

If any ſuch bill, note, draft, or order, ſhall be produced before the ſame ſhall be payable, the ſame ſhall be ſtamped on payment of the ſaid duty, and the penalty of 40s.; but if the ſame ſhall be payable before the production thereof to the commiſſioners, then the ſame ſhall not be ſtamped, unleſs on payment of the duty and 10l. for the penalty.

The method of recovering the penalties is the ſame as under the receipt tax—which ſee under the head RECEIPTS in this SUPPLEMENT.

Note alſo, that by 41 Geo. 3, c. 10, no note re-iſſuable on March 24, 1801, ſhall be ſo after June 5, 1801, until properly ſtamped with the new duty.

EXCOECARIA (*Encycl.*). Of the Excoecaria Agallocha, Profeſſor Wildenow, of Berlin, has given the following account in a late publication.

The agallochum, which is known by the name of aloe-wood, or the aromatic aloe, is one of the moſt valuable ſpices imported from the Eaſt, and has been in high eſtimation, even in the earlieſt ages. According to the different ſpecies of the plant, it is called *lignum aloes, agallochi veri, aquilæ*, and *calambac*, all of which differ remarkably in their ſenſible properties. It is, however, very difficult to aſcertain the botanical character of theſe various ſpecies.

The aromatic wood of aloe is properly a reſin, which has pervaded the pores of the tree. The genuine ſort of this reſinous wood is as precious as gold, and is uſed only by the great and affluent in the Eaſt Indies, China, and Japan, as an agreeable perfume, with which they fumigate houſes: hence it is but rarely imported into Europe. It is black, and variegated with grey veins, ſwims on water, and if ſtrongly rubbed on glaſs, leaves behind reſinous particles, which neither water, ſaliva, expreſſed oils, nor an alkaline lye, but ſpirit of wine only will diſſolve and remove. Its odour is very grateful.

This ſubſtance has, in former times, been much uſed as a medicine, not only in biliary complaints, diſeaſes of the liver and ſtomach, and dyſentery, but likewiſe as a remedy for the maw-worm; but at preſent it is entirely neglected—a revolution to which ſeveral of the ancient remedies have been ſubject, and which is likely to take place with many of the modern.

Father DE LOUREIRO aſſures us, that he diſcovered, in the province of Cochin-China, the tree which affords the true aloe. This aromatic wood is found in reſinous maſſes, only in old, half-decayed, hollow trees. According to this writer, the tree belongs, in the ſyſtem of LINNÆUS, to the firſt diviſion of the tenth claſs, the Decandria Monogynia: he called it *Aloexylum Agallochum.* It grows on the higheſt mountains of Cochin-China, on the banks of the river Lav, which flows through the whole of that province. Loureiro had no opportunity of ſeeing the bloſſoms on the tree; he could only once obtain them dried, and tranſmitted by a friend, ſo that the parts of fructification were much bruiſed and lacerated on a long journey, and he could with difficulty give the following deſcription:—

ALOEXYLUM AGALLOCHUM. Differ. ſpec. Aloe. *foliis* lanceolatis, alternis: *pedunculis* polyfloris, terminalibus.

Hab. *Arbor* magna: *trunco* et *ramis* erectis, altiſſimis: *cortice* cannabino, fuſco, glabro, nec craſſo.

Folia lanceolata, octo polyces longa, integerrima, plana, glabra, ſubcoriacea, alterna, petiolata. *Flos* terminalis, pedunculis polyfloris.

Uſus. Ligni hujus ſuffimenta inter omnia maximè æſtimantur apud nationes Orientales. Ex arboris cortice fit vulgaris charta, in quâ Conchin-chinenſes ſcribunt, ſicut in Japonia fit ex cortice Mori.

Virtus medica. Excitans, corroborans, cephalica, cardiaca.

Suffitus valet contra vertiginem et paralyſim. Pulvis cohibet vomitum et fluxus ventris, præcipuè Lientricos, quod non propriè aſtringendo, ſed corroborando agit.

This tree is not of a poiſonous nature, and yields no milky ſap when perforated. With reſpect to the *genuine* wood of aloe, Loureiro maintains that the various ſpecies differ remarkably, both in colour and flavour. By ſome botaniſts, this aromatic wood has been confounded with the *Lignum Aquilæ*, which is likewiſe eſteemed for its agreeable odour, and like the Agallochum verum, Calambac, and Garo de Malacca, affords different ſpecies of perfume. KAEMPFER and LAMARCK have given a particular deſcription of the genuine aromatic aloe. CAVANILLES, an eminent botanical writer, calls the plant that produces this valuable drug Aquilaria ovata.

In Plate 26 we have given a repreſentation of this plant: *a* is a branch of the natural ſize, with the catkins juſt opened: *b* a catkin in full bloſſom.

EXCULPATION LETTERS OF, in Scots law, a writ or ſummons iſſued by authority of the court of juſticiary, at the inſtance of a pannel, for citing witneſſes to prove his defences, or his objections to any of the jury or witneſſes cited againſt him.

EXECUTOR, in Scots law, ſignifies either the perſon entitled to ſucceed to the moveable eſtate of one deceaſed, or who by law or ſpecial appointment is entruſted with the adminiſtration of it.

EXECUTRY, in Scots law, is the moveable eſtate falling to the executor. Under executry, or moveables, is comprehended every thing that moves itſelf, or can be moved; ſuch as corn, cattle, furniture, ready money, &c.

EXERCITOR, in Scots law, he who employs a ſhip in trade, whether he be owner, or only freights her from the owner.

EXETER, a town of N. Carolina, on the N.E. branch of Cape Fear River, 30 miles N. of Wilmington.

EXETER, a town of New Hampſhire, on Exeter River, with a good harbour, 15 miles S.W. of Portſmouth.

EXIDEUIL, a town of France, in the department of Dordogne, 20 miles N.E. of Perigueux, and 32 S. of Limoges. Long. 0. 54. E. Lat. 45. 24. N.

EXILLES, a ſtrong fort of France, in the department of the Upper Alps. It was taken by the Duke of Savoy in 1708, but reſtored by the treaty of Utrecht. It is an important paſſage, ſix miles W. of Suza, and 40 N.E. of Embrun.

EXMOOR, a foreſt in Somerſetſhire, in the N.W. corner of that county, extending thence into Devonſhire.

EXMOUTH, a village in Devonſhire, on the E. ſide of the bay which forms the mouth of the river Ex, 10 miles S. by E. of Exeter. It is much frequented for the benefit of ſea-bathing.

EXPANSION (*Encycl.*). The following paper on the expanſion of wood by heat, by Dr. Rittenhouſe, appears in the Tranſactions of the American Philoſophical Society.

"In the preſent ſtate of experimental philoſophy," ſays the doctor, "it is well known that bodies in general enlarge their dimenſions, or expand, on being heated, and contract in cooling. From ſome experiments heretofore made, wood has been thought to make an exception to the general rule, and this opinion has ſo prevailed that many curious perſons have applied wooden pendulum rods to their time-pieces, to prevent the variation in their rate of going, ariſing from the expanſion and contracting of a metal rod. From my own obſervations, however, as well as thoſe of ſome of my friends, the wooden pendulum rod does not appear to anſwer the expectations formed on it. I had in my poſſeſſion for ſeveral years an excellent time-piece, made for this ſociety by an ingenious workman and worthy member of the ſociety. The reſult of my conſtant attention to this clock was, that though its regular variations with heat and cold were probably much leſs than thoſe of metal pendulums, it nevertheleſs went always faſter in winter than in ſummer, and was liable to very ſudden and conſiderable variations; ariſing, no doubt, from the combined effects of heat and cold, moiſture and dryneſs. This determined me to make ſome careful experiments with a pyrometer capable of receiving a piece of wood of the length of a ſecond pendulum. Several years ago, I made ſome experiments of this kind, perfectly correſponding with thoſe I have lately made, and which I now communicate to the ſociety.

"I took a ſtraight-grained piece of white hiccory, green, for I could not procure any ſeaſoned, its length 39 inches, and about $\frac{1}{8}$ of an inch ſquare. This I placed in my pyrometer, and kept it fully extended by a weight faſtened to a ſtring, going over a pulley. To the pyrometer I applied the tube and glaſſes of a good compounded microſcope, and a micrometer, the value of the ſmaller diviſions whereof I found to be nearly .00053 parts of an inch, each.

"The rod of wood being placed in the pyrometer, I poured ſand all around it, heated to about 250 of Fahrenheit, which degree of heat I found the wood would bear without ſcorching. On pouring in the hot ſand, the rod expanded very much, but ſoon began to contract, even before the ſand was ſenſibly cooled, which I ſuppoſe aroſe from the hot ſand extracting the moiſture of the wood. It continued to contract as the whole grew cool, ſo that when the rod had acquired its firſt temperature it was near 30 of the above diviſions ſhorter than at firſt. I repeated the operation a ſecond and third time, and had then reaſon to conclude that the wood was nearly as dry as it would become by lying long in a dry air. I now let it cool to the temperature of the atmoſphere, which was 75° and heating the ſand to 200 only, I poured it around the rod. In a few minutes it expanded 16 diviſions. In half an hour the ſand had cooled to 125, and the rod had contracted 11 diviſions. In an hour more the ſand was 80, and the rod ſhortened full 4 diviſions more, being nearly equal to its length when the ſand was firſt applied. On the whole I conclude that very dry wood expands with heat pretty regularly, though certainly in a much leſs degree than any of the metals or even glaſs.

"The rod above mentioned having been kept in a dry place for twelve months, I again tried it with the pyrometer, having fixed near one end of it a ſmall graduated ſcale of ivory, 360 diviſions whereof were equal to one inch. This ſcale was viewed with the microſcope, furniſhed with a croſs hair, and I thought this method preferable to the ſcrew micrometer uſed before.

"The rod was placed in the pyrometer when the temperature of the air was about 60°. On pouring ſand around it, heated a little higher than boiling water perhaps, it immediately expanded $\frac{1}{2}$ a diviſion, but in leſs than a minute it began to contract, and continued to do ſo for an hour, when I drew off the ſand. It was now full 10 diviſions ſhorter than at firſt, ſo that it had imbibed a great deal of moiſture from the air, which it again parted with to the heated ſand. Three hours afterwards, when the rod was cool, I again poured the ſand on it, heated as before. It now continued to expand for about three minutes, when its length was increaſed $3\frac{1}{4}$ diviſions, it then began to contract, and became full 3 diviſions ſhorter than when the ſand was poured on it. I cauſed the ſand to run off once more, and let the rod cool. Then heating the ſand 250° by a thermometer, I poured it on the rod, and in a few minutes it expanded $3\frac{3}{4}$ diviſions, it then began to contract ſlowly, and in 15 minutes it became $\frac{2}{3}$ of a diviſion ſhorter than at firſt. On the whole, I conclude that the expanſion of wood, in its length, will be irregular, correſponding partly to the warmth, and partly to the moiſture of the atmoſphere."

EYE, a river, which rifes in the N. W. part of Berwickfhire, and falls into the Britifh Ocean, at Eyemouth.

EYESDALE, a fmall ifland on the coaft of Argyleſhire, to the S. E. of Mull. It is noted for its ſlate quarries.

EYMOUTIERS, a town of France, in the department of Upper Vienne, containing about 2000 inhabitants, with a conſiderable trade in ſkins, leather, and rags. It is ſeated on the Vienne, 20 miles N. of Limoges. Long. 1. 10. E. Lat. 46. 10. N.

Eymoutiers, a town of France, in the department of Dordogne, 15 miles S. of Perigueux.

EYNDHOVEN, a town of Dutch Brabant, in the diſtrict of Bois-le-Duc, at the confluence of the Eynds and Dommel, 13 miles S. E. of Bois-le-Duc. Long. 5. 26. E. Lat. 51. 31. N.

F.

F A C

FAABORG, a ſea-port of Denmark, on the ſouth coaſt of the iſland of Funen, 17 miles S. of Odenſee. Long. 10. 16. E. Lat. 55. 12. N.

FABRIANO, a town of Italy, in the marquiſate of Ancona, famous for its excellent paper. It is 25 miles N. E. of Foligni. Long. 12. 32. E. Lat. 43. 10. N.

FACE-ACH, a name popularly given to any ſlight rheumatic affection of the face. The term, however, more properly belongs to a moſt formidable chronic diſorder of that part, which, not being underſtood by phyſicians, has hitherto gone by the quaint and untechnical appellation of Dolor Faciei.

This dreadful diſeaſe, which is commonly ſtyled the *Dolor Faciei* of Fothergill *, on account of its being ſuppoſed to have been firſt mentioned by that practitioner, was before known, in the year 1756, to Mr. Andre, ſurgeon at Paris, who accurately deſcribed it under the name of *tic*, and explained it with ſeveral obſervations. Mr. Siebold, however, traced the hiſtory of this diſorder further back, finding that, in 1724, it had been treated by John Hartmann Degener, practitioner at Nimmegen, whoſe excellent obſervation and deſcription of that affection is communicated in the firſt volume of *Acta Naturæ Curioſor. (de dolore quodam perrara acerboque maxillæ ſiniſtræ partes occupante et per paroxyſmos recurrente,* p. 347). This practitioner even ſuppoſes, that Lawrence Bauſch, phyſician at Schweinfurth in Franconia, preſident and founder of the Societas Naturæ Curioſorum, died of this diſorder in the year 1665, according to the annals of that ſociety. The patient felt for four years a very excruciating pain in the right maxilla, ſometimes growing leſs, and then ceaſing; but, at laſt, it increaſed to ſuch a degree, that he became unable to ſpeak or to ſwallow, and, notwithſtanding all poſſible remedies, died emaciated, and with a palſy on the left ſide. There exiſted alſo, Obſervations on this diſeaſe by Dr. Daniel Ludwig, in the year 1673.—Miſc. Nat. Cur. Dec. I. Ann. III. Obſerv. 252, de dolore ſuperciliari acerbiſſimo.

The Dolor Faciei may be called analogically (otalgy, odontalgy, &c.) *proſopalgy*, as it undoubtedly belongs to the topical pains without fever; and this name ſeems, beſides, to be congruous with reſpect to the ſeat as well as to the origin and kind of pain. The ſeat of the diſeaſe has been thought to originate in the teeth, but even drawing of them proved to be of no effect. It is obſerved by Dr. Fothergill, that the diſeaſe generally appears about the fortieth or fiftieth year of age, a period in which people are not much ſubject to tooth-ach; and though ſeveral patients ſuffered tooth-ach at the ſame time, yet others were quite exempt. The *antrum Highmorianum* is equally aſſigned as the ſeat of the diſeaſe, but without any probability, as it ſeems impoſſible a pain ſo ſevere, and laſting for ſo long a time, ſhould take place there, without producing ſome change, inflammation, and ſuppuration, which never was the caſe in all the inſtances of that painful affection, according to what we find recorded in the annals of medicine: teeth were drawn out, and an opening made into the *antrum*, without ever perceiving any matter to iſſue thence. The pain generally extends itſelf to the jaws, a circumſtance which is to be aſcribed to the diſtribution of nerves. The diſeaſe, luckily, occurs ſo ſeldom, that even phyſicians of the moſt extenſive practice never had an opportunity of obſerving it: we find it, however, mentioned by practitioners of all nations, except the Italians. Dr. Fothergill met with ſixteen inſtances of it; Dr. Thilenius, a German phyſician, ſaw it but twice during a moſt extenſive practice of twenty years; Dr. Aepli, a Swiſs phyſician, only once in twenty-ſeven years. The following exhibits the literature of different nations on the above diſeaſe.

Fothergill obſerved, that this diſorder moſtly attacks women; but Degener and others ſaw it in men. Mr. Siebold met with three inſtances in the female ſex, and one in a man; it ſeems, however, to occur more frequently in women than in men, and the proportion is about five to four. It is remarkable, that the ſubjects of the diſeaſe in England were moſtly women, in the proportion of 1 to 14; and in Germany moſtly men, in the proportion of 21 to 13. On reviewing the caſes mentioned by different authors, we obſerve that they were for the moſt part confined to the period of age between the thirtieth and eightieth year; and inſtances of the diſorder being met with at an earlier period of life have but rarely occurred. The German tranſlator of Dr. Fothergill's works relates a caſe of a young lady, nineteen years of age; and alſo Dr. Leidenfroſt a ſimilar inſtance (*Diſſert. ſupra citat.*). Dr. Rahn, Prof. Weidmann of Mentz, and Prof. Siebold of Wurzbourg, are the only perſons who have obſerved this diſorder in pregnant women. The patient of Prof. Weidmann was attacked by the pain a month before her delivery: evacuants were fruitleſsly employed; but ſhe was cured by opium and bark. Dr. Seibold's caſe is very remarkable, on account of the pain ceaſing entirely during pregnancy, a circumſtance that ſeems to prove the great power which the body enjoys in this ſtate, of reſiſting ſeveral diſeaſes, a remark already made by Hippocrates (*de internis affectionibus*, cap. 53, ed. chart. t. viii.

* Dolcris Faciei, morbi rarioris atque atrocis obſervationibus illuſtrati, adumbratio Diatribe I. qua exercitationes clinicas in noſocomio juliæo habendas indicit G. Ch. Siebold, Dr. Med. Prof. Wirceburgi, 1795, pp. 22, in 4to.—Diatribe II. qua pro capeſſendo in illuſtri inclyta et ornatiſſima facultate medica loco et dignitate ad orationem die xxix Jul. 1797, publice celebrandam invitat. pp. 23, in 4to. Tranſlated in the Med. and Phyſ. Journ. No. XXX.

p. 677), who tells us that a dolor ischiadicus disappeared during the period of pregnancy, which, however, recurred twenty days after the delivery. Dr. Sauter saw this painful affection disappear during a putrid fever, and Dr. Selle in an intermittent fever; in both which cases it returned after the fevers were cured. It seems not improbable, but that this disorder may be endemical, and even epidemical; at least the disease has not been more frequently observed than at Clausthal, the capital of the Hercynian mountains; and in the mountainous country of Salzbourg, it is not at all rare. Mr. Andre remarks, that in a very short time he met with eight or ten cases of this disorder, whereas he had not a single one afterwards during a period of twenty-seven years.

This affection seems not to be peculiar to a particular temper and habit of body, but attacks people of very different constitutions suddenly and unexpectedly: its duration is extremely long, as it may last for many years without doing any evident harm to the whole constitution, or without terminating fatally in an immediate manner. A woman suffered this painful affection from her nineteenth year to her eightieth, and got rid of it but shortly before she died. In other cases, however, the disorder emaciates and destroys the body, particularly for want of rest: the diseased side of the face is frequently disfigured, and persons subject to this affection receive, as it were, a double profile, of which Prof. Baldinger relates a curious instance in his Medical Journal, volume ii. No. 7.

Although many symptoms of this disorder are of the spasmodic kind, yet we have more reason to think it to belong to the class of convulsive disorders, and it is therefore erroneously called *trismus dolorificus*, after Sauvages and Pugol, because the vehement contortions do not occur in every patient, and may, moreover, be rather considered as *conamina naturæ medicatricis*, and efforts by which the patients endeavour to relieve themselves from pain, for which purpose they likewise rub the part with much vehemence. A difficulty of speech and of swallowing are observed in some cases, probably from the distortions of the muscular fibres that are subservient to this purpose. A considerable salivation came on in another instance, where the patient became almost hectic; but Mr. Siebold attended a patient whose salival excretion was entirely suppressed; another subject of that disorder had a very much swollen *glandula Warthoni*, from which a fœtid and purulent matter issued. The eyes remain sometimes dry, and it is not always that the pain forces out tears; sometimes they become red and humid. In some patients a redness and heat of the affected part precedes the paroxysm of pain, of which phenomenon a curious instance is related by Dr. Rahn, where the heat was so intense that it could be felt at some distance. Other symptoms frequently to be remarked in patients of this kind are, an intumescence of the belly, a torpor of the intestinal canal, and an obstinate costiveness, which are probably owing to a spasm of the *nervus sympatheticus magnus*, that is intimately connected by anastomosis with the fifth pair; an opinion which agrees also somewhat with analogy, as we do not rarely observe, that if the cheeks, or the cheek-bones, are any way affected, the liver is also diseased: those symptoms ought, therefore, to be rather considered as merely secondary, and arising *per consensum*, than as the causa primaria of the disease. It has been observed in one case by Dr. Lentin, that when the belly began to swell, the pain soon after disappeared; and in another case it was greatly diminished by it, which symptom seems to prove that the morbid matter is deposited on the intestines: it deserves, however, to be ascertained by further observations. It is remarkable, that in a case of Dr. Siebold, the patient had a particular relish for sweet things, which that gentleman is inclined to ascribe to a depravation of taste, occasioned by the affection of the neighbouring nerves, or to an obstruction of the liver, in which this symptom sometimes occurs. The pulse was often full, slow, and soft, during the paroxysm, and at other times it decreased ten beats at every return of the pain.

The seat of the pain has been observed,

1. *In some single part of the face*, viz. at the inner *canthus* of the eye, Fothergill; in the *orbita, the same*; at the *supercilia* of the right eye, Pugol; in the jaw-bone, Fothergill; in the joint of the jaws, Selle, Pugol; in the *maxilla inferior*, at the passage of the *nervus inframaxillaris*, Lentin; in the *ossa temporum*, Fothergill; in the *nervus infraorbitalis*, Albinus and Van Wy; in the *ala nasi*, Vogler, Thouret, at the margin of the tongue, Lentin.

2. *In one half of the face*, Fothergill.

3. *In both cheeks*, Pugol.

4. *In both sides of the maxilla inferior, at the exit of the nerve.*

5. *In the whole head and face*, Lentin.

6. *In one foot*, Lentin. (See Med. and Phys. Journal, vol. iii. 575.)

The head and face are particularly exposed to this painful affection, on account of the quantity of nervous fibres that every-where spread over the surface of the head. The pain essentially differs from any other that occurs in the various parts of the human body, though it may, in some measure, be compared with the *dolor ischiadicus* of Cotunni. Dr. Lentin derives its origin from the *medulla oblongata*; and Prof. Siebold likewise thinks it may originate in a part remote from the affected place, in the *ganglion Gasseri*; others have derived it from the bones; but we still want anatomical observations for ascertaining the proper source of the pain.

Remote causes.] The *causæ prædisponentes* of the disorder appear to be, 1. Violent blows and contusions of the above parts, Andre. 2. Cicatrices, Lentin. 3. Preceding toothach. 4. Too great tenderness of the skin; but the disorder occurred in persons whose skin was by no means to be called tender or soft. 5. Congestions towards the head.

Internal causes.] 1. Cancerous acrimony. Dr. Fothergill first proposed this opinion, whence it has been called by some authors, the *cancerous rheumatism*. The cancerous nature of the disease seems to be confirmed by the following arguments: 1. There is no other cause to be discovered, but that it is owing to a cancerous poison. 2. It most frequently occurs in women, who are particularly disposed to cancers. It generally appeared at the period of the ceasing menstruation, or when they were past the time of menstruation, where a particular tendency to cancer takes place. 4. The kind is exceeding similar to that occasioned by a cancer. 5. Both disorders have much analogy in their preceding symptoms. 6. Four women suffering this affection, had the *scirrhus mammarum* previously. 7. The effect of hemlock in this disease, which is likewise much praised in cancers.

Adverse arguments.] 1. The disease is not at all uncommon in men, where cancerous acrimony could not be traced, as well as in many women. 2. Menstruation did not always cease in some patients, but they became even pregnant during the disease. 3. The cancerous poison easily attacks glandular parts, but we seldom find them altered, indurated, or painful in the neighbourhood of the pain. 4. There is no instance of the Dolor Faciei having terminated in a cancer of the lips or of the cheek. If it did, however, arise from a cancerous acrimony, it should be more frequently observed in men than women, because the *cancer labiorum* is oftener observed in the male sex. 5. The parts disposed to cancer have been frequently irritated by the persons who had the Dolor Faciei, without ever producing such an affection. 6. It is

not probable that the cancerous acrimony ſhould remain ſo long at a place ſo ſenſible, without manifeſting itſelf in a general way.

Theſe arguments are indeed of ſome weight, to make us believe that a cancerous poiſon is by no means the only cauſe of that affection, nay, that it is not even to be conſidered as a chief cauſe of it.

Arthritic matter. Almoſt all the authors who have treated on this ſubject, agree in aſſigning this as the proximate cauſe of that diſorder, but particularly Dr. Leidenfroſt. Dr. Degener is likewiſe of this opinion, having obſerved at the affected place a tumor ſimilar to that in the joints of gouty people. Dr. Seibold ſaw, in a patient ſuffering the moſt violent pains at the *ſupercilia*, a node perfectly like that of arthritic limbs; and Dr. Ludwig fairly tells us, that the patients ſuffering this diſorder became gouty ſoon after. The diſeaſe ſeems to have an arthritic origin in the caſes related by Dr. Boehmer and Lavagan, who found the pain diſappear when the uſual arthritic paroxyſms returned.

3. *Exanthematous acrimony.* Exanthemata have been obſerved in this diſeaſe, either in the face itſelf or in ſome other part of the body. Mr. Andre obſerved miliary eruptions in the face, upon the diſappearance of which the pain began to ceaſe; but when they broke out again, the pain recurred with the former violence. Bonnard and Legavan relate inſtances of herpetic eruptions on the arm having preceded the diſorder; and the German tranſlator of Dr. Fothergill's works ſaw it appear after a retrograde itch: the pain diſcontinued when the itch broke out again, but as ſoon as it was removed by proper remedies, the pain immediately returned; and the diſeaſe laſted in this way from the nineteenth year of age to the twenty-ſeventh.

4. *Scrophulous acrimony.* Menouret and Selle (loc. cit.) aſſign this as a cauſe of the diſeaſe in two inſtances.

5. *Cartarrhous acrimony.* Vogler and Pujol, loc. cit.

6. *Rheumatic matter.* It is not improbable that this is a moſt frequent cauſe of that painful affection, which we find likewiſe confirmed by the authority of experience and obſervation.

7. *Venereal poiſon.* M. Seibold is not inclined to admit this as a cauſe of the above diſeaſe, becauſe the venereal pain is always ſeverer in the night than in the day, without intermiſſions, and ſeems to be more ſeated in the bones than in the muſcular and nervous parts. We have, beſides, no obſervation of the venereal poiſon being aſſigned as the cauſe of that pain, if we except Mr. Watſon. (*Journal de Médecine*, 1793, month of March.) It has been, however, obſerved, that the diſeaſe was ſucceſsfully treated with mercurials; but this can by no means ſerve as an argument for the venereal nature of the diſorder.

8. *Preceding ſerous profluvia ſuppreſſed.* Dr. Lentin relates a caſe in which a purulent ſalivation preceded the pain, by the appearance of which, the paroxyſm of the pain became leſs vehement and ſhorter: in another caſe the pain ſucceeded a running of the ears: and Dr. Thilenius ſaw a patient who had a kind of gonorrhœa previous to the pain, which began to run again as ſoon as the pain had ceaſed.

Van Swieten (*Commentar. in Aphoriſm. Boerhaav.* §. 757) and Davidſon (*loc. citat.*) have obſerved a pain in the face, ſimilar to an ague, which, however, eſſentially differs, according to Dr. Fothergill, from the diſorder we are ſpeaking of. The patient of Van Swieten had a very ſevere hemicrania, laſting every day for eight hours, which, after this time, abated by degrees. At the firſt attack the pain appeared in the place where the branch of the fifth pair iſſues from the foramen ſupraorbitale: in another caſe a topical febrile pulſe was remarked at the affected place: the diſeaſe was cured by the bark. The typic character of this pain, and the termination of its paroxyſm, with a ſtrong perſpiration, ſufficiently diſtinguiſh it from the true Dolor Faciei.

Four caſes of this inexplicable malady are related in vol. ii. of the Edinburgh Practice of Phyſic, Surgery, and Midwifery.

FAHLUN, a town of Sweden, capital of Dalecarlia, ſituate in the midſt of rocks and hills, between the lakes of Run and Warpen. It contains two churches, and (including the miners) 7000 inhabitants. The copper-mine, which gives exiſtence and celebrity to the town, is on its eaſt ſide. It is 30 miles N.W. of Hedemora. Long. 16. 42. E. Lat. 60. 34. N.

FAIRFIELD, a town of Connecticut, ſeated near the ſea, 100 miles S.W. of Boſton. Long. 73. 30. W. Lat. 41. 12. N.

FAIR ISLE, an iſland of the Northern Ocean, between Shetland and Orkney, from both which its high towering rocks are viſible. On the E. ſide the Duke of Medina Sidonia, admiral of the Spaniſh armada, was wrecked in 1588.

FAISANS, an iſland in the river Bidaſſoa, which ſeparates France from Spain. It is alſo called the Iſland of Conference, becauſe Lewis XIV. and Philip IV. here ſwore to obſerve the peace of the Pyrenées, in 1660, after 24 conferences between their miniſters. Here alſo the hoſtages of France and Spain are received and delivered, it being conſidered as a neutral place. It is ſituate between Andaye and Fontarabia. Long. 1. 46. W. Lat. 43. 20. N.

FAKENHAM, a town in Norfolk, with a market on Thurſday; ſituate on a hill, 20 miles N.W. of Norwich, and 110 N.N.E. of London. Long. 0. 58. E. Lat. 52. 53. N.

FALAISE, a town of France, in the department of Calvados, with a caſtle, and one of the fineſt towers in France. It is remarkable for being the birth-place of William the Conqueror. It has a good trade in ſerges, linen, and lace; and its fair, which begins on Auguſt 16, is the moſt famous in France, next to that of Beaucaire. It is ſeated on the river Anté, 20 miles S.E. of Caen, and 115 W. of Paris. Long. 0. 2. W. Lat. 48. 53. N.

FALKENAU, a town of Bohemia, which has manufactures of alum, ſulphur, and vitriol; ſeated on the Eger, 12 miles N. of Egra, and 66 W. of Prague. Long. 12. 38. E. Lat. 50. 21. N.

FALKENBERG, a ſea-port of Sweden, on the Baltic, 17 miles N.W. of Helmſtadt. Long. 12. 50. E. Lat. 56. 52 N.

FALKENBURG, a ſtrong town of Germany, in the new marche of Brandenburg, ſeated on the Traje, 60 miles E. of Stetin. Long. 15. 58. E. Lat. 53. 35. N.

FALKINGHAM, a town in Lincolnſhire, with a market on Thurſday, 18 miles W. by S. of Boſton, and 104 N. of London. Long. 0. 20. W. Lat. 52. 48. N.

FALMOUTH, a town of Virginia, on the river Rappahannoc. Long. 77. 32. W. Lat. 38. 21. N.

FALMOUTH, a ſea-port in the ſtate of Maſſachuſets, 50 miles S.S.E. of Boſton. Long. 70. 32. W. Lat. 41. 31. N.

FALMOUTH, a town of the Iſland of Jamaica, on the N. coaſt. Long. 77. 33. W. Lat. 18. 31. N.

FALSTER, a little iſland of Denmark, near the entrance of the Baltic, between the iſlands of Zealand, Laland, and Mona. Nikoping is the capital.

FALSTERBO, a ſea-port of Sweden, in Schonen, chiefly known for a lighthouſe and its herring fiſhery, 22 miles S.S.W. of Lund. Long. 12. 48. E. Lat. 55. 22. N.

FAMAGUSTA, a town in the iſland of Cyprus, with a Greek biſhop's ſee, and a harbour, defended by two forts. It was taken by the Turks, in 1570, after a ſiege of ſix months, when they flayed the Venetian governor alive, and murdered the inhabitants, though they ſurrendered on honourable terms.

It is 62 miles N. of Nicoſia. Long. 35. 55. E. Lat. 35. 10. N.

FAMARS, a town of France, in the department of the North, near which the French were defeated by the allies, April 23, 1793. It is three miles S. of Valenciennes.

FAMINE, Port, a fortreſs, on the N.E. coaſt of the ſtraits of Magellan. Here a Spaniſh garriſon periſhed for want; ſince which it has been neglected. Long. 70. 20. W. Lat. 55. 44. S.

FANANO, a town of Italy, in the Modeneſe, 25 miles S. of Modena. Long. 11. 18. E. Lat. 44. 10. N.

FANJEAUX, a town of France, in the department of Aude, 14 miles W. of Carcaſſone. Long. 1. 57. E. Lat. 43. 11. N.

FANO, a town of Italy, in the duchy of Urbino, with a biſhop's ſee. Here are an ancient triumphal arch, handſome churches, and fine palaces: It is ſeated on the gulf of Venice, eight miles S.E. of Peſaro. Long. 13. 5. E. Lat. 43. 46. N.

FANTIN, a kingdom on the Gold Coaſt of Guinea, where the Engliſh and Dutch have forts. Its palm-wine is much better and ſtronger than that in other parts of the coaſt. The principal village has the ſame name.

FAREHAM, a town in Hampſhire, with a market on Wedneſday, 12 miles E. of Southampton, and 74 W. by S. of London. Long. 1. 6. W. Lat. 50. 53. N.

FAREWELL, Cape, a promontory of the iſland of New Zealand. Long. 172. 41. E. Lat. 40. 37. S.

FARGEAU, St. an ancient town of France, in the department of Yonne, with a caſtle, 10 miles S.E. of Briare, and 82. S. of Paris. Long. 3. 8. E. Lat. 47. 40. N.

FARIM, a country of Africa, to the S. of the river Gambia. It has a town of the ſame name. Long. 13. 50. W. Lat. 14. 10. N.

FARM (*Encycl.*). At the concluſion of that article we pointed out as an inſtance of what an *ornamental farm* ſhould be, that belonging to Mrs. Southcote, near Weybridge in Surrey, called Woburn Farm. It may not be amiſs to deſcribe this place, which contains 150 acres. Of theſe near 35 are adorned to the higheſt degree; of the reſt, about two-thirds are in paſture, and the remainder is in tillage. The decorations are, however, communicated to every part: for they are diſpoſed along the ſides of a walk, which, with its appendages, forms a broad belt round the grazing-grounds; and is continued, though on a more contracted ſcale, through the arable. This walk is properly garden; all within it is farm; the whole lies on two ſides of a hill, and on a flat at the foot of it: the flat is divided into corn-fields; the paſtures occupy the hill; they are ſurrounded by the walk, and croſſed by a communication carried along the brow, which is alſo richly dreſſed, and which divides them into two lawns, each completely encompaſſed with garden.

Theſe are in themſelves delightful; the ground in both lies beautifully; they are diverſified with clumps and ſingle trees; and the buildings in the walk ſeem to belong to them. On the top of the hill is a large octagon ſtructure; and, not far from it, the ruin of a chapel. To one of the lawns the ruin appears, on the brow of a gentle aſcent, backed and grouped with wood; from the other is ſeen the octagon, upon the edge of a ſteep fall, and by the ſide of a pretty grove, which hangs down the declivity. This lawn is further embelliſhed by a neat Gothic building; the former by the houſe, and the lodge at the entrance; and in both, other objects of leſs conſequence, little ſeats, alcoves, and bridges, continually occur.

The buildings are not, however, the only ornaments of the walk; it is ſhut out from the country, for a conſiderable length of the way, by a thick and lofty hedge-row, which is enriched with woodbine, jeſſamine, and every odoriferous plant whoſe tendrils will entwine with the thicket. A path, generally of ſand or gravel, is conducted in a waving line, ſometimes cloſe under the hedge, ſometimes at a little diſtance from it; and the turf on either hand is diverſified with little groupes of ſhrubs, of firs, or the ſmalleſt trees, and often with beds of flowers: theſe are rather too profuſely ſtrewed, and hurt the eye by their littleneſſes; but then they repleniſh the air with their perfumes, and every gale is full of fragrancy. In ſome parts, however, the decoration is more chaſte; and the walk is carried between larger clumps of evergreens, thickets of deciduous ſhrubs, or ſtill more conſiderably open plantations. In one place it is entirely ſimple, without any appendages, any gravel, or any ſunk fence to ſeparate it from the lawn; and is diſtinguiſhed only by the richneſs of its verdure, and the nicety of its preſervation. In the arable part it is alſo of green ſward, following the direction of the hedges about the ſeveral incloſures: theſe hedges are ſometimes thickened with flowering ſhrubs; and in every corner or vacant ſpace, is a roſary, a cloſe or an open clump, or a bed of flowers: but if the parterre has been rifled for the embelliſhment of the fields, the country has on the other hand been ſearched for plants new in a garden; and the ſhrubs and the flowers which uſed to be deemed peculiar to the one, have been liberally transferred to the other; while their number ſeems multiplied by their arrangement in ſo many and ſuch different diſpoſitions. A more moderate uſe of them would, however, have been better; and the variety more pleaſing, had it been leſs licentious.

But the exceſs is only in the borders of the walk; the ſcenes through which it leads are truly elegant, every-where rich, and always agreeable. A peculiar cheerfulneſs overſpreads both the lawns, ariſing from the number and the ſplendor of the objects with which they abound, the lightneſs of the buildings, the inequalities of the ground, and the varieties of the plantations. The clumps and the groves, though ſeparately ſmall, are often maſſed by the perſpective, and gathered into conſiderable groupes, which are beautiful in their forms, their tints, and their poſitions. The brow of the hill commands two lovely proſpects: the one gay and extenſive, over a fertile plain, watered by the Thames, and broken by St. Anne's Hill and Windſor Caſtle; a large mead, of the moſt luxuriant verdure, lies juſt below the eye, ſpreading to the banks of the river; and beyond it the country is full of farms, villas, and villages, and every mark of opulence and cultivation. The other view is more wooded: the ſteeple of a church, or the turrets of a ſeat, ſometimes riſe above the trees; and the bold arch of Walton Bridge is there a conſpicuous object, equally ſingular and noble. The incloſures on the flat are more retired and quiet; each is confined within itſelf; and all together they form an agreeable contraſt to the open expoſure above them.

With the beauties which enliven a garden are every-where intermixed many properties of a farm: both the lawns are paſtured; and the lowings of the herds, the bleating of the ſheep, and the tinklings of the bell-wether, reſound through all the plantations: even the clucking of poultry is not omitted; for a menagerie of a very ſimple deſign is placed near the Gothic building: a ſmall ſerpentine river is provided for the water-fowl; while the others ſtray among the flowering ſhrubs on the banks, or ſtraggle about the neighbouring lawn: and the corn-fields are the ſubjects of every rural employment, which arable land from ſeed-time to harveſt can furniſh. But though ſo many of the circumſtances occur, the ſimplicity of a farm is wanting; that idea is loſt in ſuch a profuſion of ornament; a ruſticity of character cannot be preſerved amidſt all the elegant decorations which may be laviſhed on a garden.

Experimental Farm, a new eſtabliſhment propoſed by Sir John Sinclair, bart. on a very extenſive plan, for the purpoſe of improving agriculture by proper experiments.

This new inſtitution is to be called "THE PLOUGH, or JOINT STOCK FARMING SOCIETY, for the Purpoſe of aſcertaining the Principles of Agricultural Improvement." There is every reaſon to hope that this project will meet the moſt ample ſucceſs; for, independently of the advantage which the public may expect to derive from the employment of a large capital in experimental farms, conducted and ſuperviſed by the moſt eminent and enlightened agriculturiſts, thoſe who ſhall be induced to ſubſcribe to the plan have a fair and reaſonable proſpect of ſeeing themſelves not only reimburſed their original depoſit, but of being rewarded by a handſome accumulation. Among the moſt diſtinguiſhed promoters of the plan are, the Dukes of Argyle, Bedford, and Somerſet; the Earls of Egremont and Wemyſs; Lords Macdonald and Rancliffe; the Biſhop of Llandaff, the Lord Mayor of London, Sir John Call, Sir James Colquhoun, Sir James Norcliff Innes, Sir John Macpherſon, and Sir Charles Middleton; and ſeveral gentlemen of large property and great knowledge.

The outlines of this plan, which, by the permiſſion of Sir John Sinclair, were preſented to the public in the Britiſh Magazine, are as follow:

I. *The propoſed capital.*

1,600 ſhares at 50l. each - - - £. 80,000.

It is alſo intended to admit half ſhares at 25l. each; but the perſons holding them, though they will have a right to partake in the pecuniary advantages of the inſtitution, will not be entitled to vote in the choice of directors. The number of ſhares which each perſon may hold not to be reſtricted. The directors to be annually choſen in London, and to meet there. The books of the ſociety to be always open to the inſpection of ſubſcribers.

II. *Propoſed Expenditure.*

1. To eſtabliſhing eight experimental, arable, and grazing farms, in the neighbourhood of London, and in different parts of the kingdom, at 4,000l. each	£. 32,000
2. To ditto two upland farms, for improving mountain ſheep, at 1,500l. each - - - -	3,000
3. To purchaſing 5,000 acres, incloſing and planting them, with larch, fir, and other trees, and other expences attending the ſame - - - - -	35,000
4. To a contingent fund, for incidental and unforeſeen expences - - - - - - -	10,000
	£. 80,000

III. *Ultimate Return.*

1. Sale of ſtock, crop, and implements, on the experimental farms, at the concluſion of 21 or 30 years, or any other period fixed by the ſociety * -	£. 35,000
2. Value of 5,000 acres of land, the buildings erected thereon, and of 1,250,000 larches, fir, and other trees, at the concluſion of 30 years - -	218,000
3. Principal of a contingent fund, on the ſuppoſition that the intereſt will defray all expences of management, &c. - - - - - - -	10,000
Total - - -	£ 263,000

Which is above thrice the original capital. In addition to the ultimate return, the ſubſcribers will, in the interim, enjoy the following advantages, namely:

1. An account of the proceedings of the ſociety annually tranſmitted to them:

2. The privilege of viſiting the experimental farms, either in their own neighbourhood, or wherever eſtabliſhed by the ſociety:

3. The right of nominating perſons to be inſtructed at the different agricultural academies propoſed to be erected at each experimental farm: and,

4. A diviſion of the annual profit that may ariſe from the experimental farms.

It is alſo intended to keep up ſuch a connection with the Board of Agriculture, and the various ſocieties formed for agricultural purpoſes in the kingdom, as cannot fail to be attended with the moſt important advantages, both to the ſociety itſelf, and to the farming intereſt in general.

Conditions of the Subſcription.

1. No ſubſcriber ſhall be compellable to pay his ſubſcription, or ſhall incur any expence whatever, unleſs the purpoſes of the inſtitution are actually carried into effect:

2. The capital of 80,000l. ſhall not be increaſed, without the conſent of a majority of ſubſcribers:

3. The ſociety ſhall be eſtabliſhed by charter, or by act of parliament, or by deed enrolled, ſo as to prevent the poſſibility of any demand beyond the ſum ſubſcribed:

4. The ſhares ſhall be transferable from the time the ſociety is eſtabliſhed, and the ſums ſubſcribed payable by inſtalments, to be determined on at a general ſpecial meeting of the ſubſcribers, and iſſued ſolely under the authority of directors or truſtees, appointed by the ſociety for that ſpecial purpoſe.

In recommendation of his propoſal, the worthy baronet has deſcanted with great force and ingenuity on the advantages of experimental farms. He eſtabliſhes as a principle, that the art of agriculture can never be brought to any high degree of perfection, unleſs by experiments, accurately tried, and perſevered in for ſome time. In ſupport of this opinion, he refers to the writings of Arthur Young, Marſhall, and Dr. Francis Home. From the increaſing population of London, and of other large towns in the kingdom, Sir John obſerves, it is impoſſible they can be ſupplied with proviſions at a reaſonable rate, unleſs agriculture is brought to a high degree of perfection. At preſent the nation depends on foreign induſtry and cultivation for a part of its ſubſiſtence, and we are periodically viſited with a ſcarcity of food, which increaſes the expence of living to every family in the kingdom, and loads the rich with heavy additional burthens to maintain the poor, and to preſerve them from the miſeries of famine. A ſmall portion of that ſum, the exaction of which thus becomes ſo frequently neceſſary, were it properly applied to the improvement of agriculture, would ſoon enable this country to feed itſelf, and, indeed, would put it in the power of the farmer to ſupply the public with proviſions at a reaſonable rate. Hence it is evident, that every man who pays 15d. inſtead of 9d. for a loaf of bread, or 10s. in the pound inſtead of 2s. for poor-rates, ought to conſider himſelf eſſentially intereſted in promoting agricultural improvements, and ought, for his own intereſt, to ſupport any meaſure calculated for that purpoſe, as far as his circumſtances will permit.

There is ſcarcely any part of the kingdom where greater quantities of waſte and unproductive land are to be found than in the neighbourhood of London, or ground, in many inſtances, more capable of improvement. It is to be hoped that the general bill of incloſure will ſoon paſs, in conſequence of which thoſe waſtes will be divided. But that will be of little avail, unleſs the means of improving them are aſcertained. When Enfield Chaſe was divided, many perſons, from ignorance, ſuffered conſiderable loſſes in attempting to improve

* The experimental farms might be given up at the end of 21 years, and that part of the property divided. The plantations, probably, had better be retained for nine or ten years longer.

portions of the waſte; whereas had the principles of improvement been accurately aſcertained by means of experimental farms, the purchaſers would have improved the land greatly to their own, and to the public benefit.

Sir John further recommends his plan by ſtating the numerous advantages, in point of knowledge and rational recreation, which will reſult from it to men of buſineſs who have acquired fortunes by the purſuit of their profeſſions in cities, and to thoſe who make temporary excurſions into the country, but return diſguſted for want of ſome intereſting avocation or laudable purſuit.

In explanation of the manner in which the plan is to be carried into execution, it is ſaid, that although a capital of 80,000l. would be neceſſary, yet from 10,000l. to 20,000l. will be ſufficient to give it a fair beginning, either with an experimental farm, or an extenſive plantation, or with both, in the neighbourhood of the metropolis. With ſuch a ſum the project will proceed; for however deſirable it might be to carry a great ſcheme into execution, becauſe it commands the attention of thoſe who take a ſhare in the management of it, yet the important object is, to lay a ſolid foundation, which may, according to circumſtances, be afterwards extended. And it is ſuggeſted, that when once a capital is embarked, and a farm eſtabliſhed ſufficient to ſecure ſhare-holders from eventual loſs, there is abundant room to hope, that the example of the metropolis will be followed, and a correſpondence eſtabliſhed in all parts of the kingdom.

With the honeſt zeal reſulting from conviction, Sir John proceeds to remove the preſumeable objections to his plan: firſt, *that no experimental farm is neceſſary*. In anſwer to this he obſerves, that the value of new inventions cannot be correctly eſtimated without ſuch eſtabliſhments, nor will it be poſſible to aſcertain what practices ought to be avoided, and what ought to be purſued. The former is as important to be known as the latter, yet ſeldom communicated to the public, becauſe the farmer is, in general, aſhamed of acknowledging his want of ſucceſs; and, indeed, where his experiments anſwer, they are frequently concealed, leſt others ſhould avail themſelves of ſuch diſcoveries. The object of an experimental farm, however, is to aſcertain facts, and to publiſh them; and as much credit would be acquired by an intelligent and public-ſpirited ſociety for their exertions in detecting errors, as in proving facts likely to be uſeful.

Second, *that there are many experimental farms now carried on by individuals, which will anſwer the ſame purpoſe*. Theſe are more properly to be accounted *pattern farms*, for the advantage of their own immediate neighbourhood, than experimental ones, in the ſtrict ſenſe of that word. In order to render indeed experimental farms generally uſeful, the farms muſt be open to the inſpection of the public; the account of each experiment muſt be regularly publiſhed, and every experiment, likely to affect the cultivation of any part of the kingdom, tried with the utmoſt preciſion. It cannot be expected that perſons whoſe attention is neceſſarily directed to other objects can renounce every other purſuit, and devote themſelves excluſively to the conducting of experiments; whereas, when an experimental farm is once eſtabliſhed, it will ſoon be proved by the evidence of facts, 1ſt, What is the beſt mode of rendering arable land productive, and the proper rotation of crops in all ſoils and ſituations. 2d, What is the beſt ſyſtem for the management of graſs lands. 3d, What are the moſt uſeful implements of huſbandry. 4th, What are the moſt profitable breeds of animals, and the beſt and cheapeſt modes of rearing, feeding, and fattening them. 5th, What is the beſt plan for rendering waſte or barren land productive. Theſe are points of infinite conſequence, which never have yet, and indeed never can be aſcertained, unleſs by means of farms appropriated for that ſpecial purpoſe: it will require, it is true, the unceaſing attention of an intelligent manager; and the experiments, in order to be relied on, muſt be made with almoſt mathematical accuracy and ſtrictneſs. The expence alſo muſt be conſiderable; but the ultimate advantage to the public muſt be ſo great, as amply to compenſate for any trouble, or coſt, which may attend the execution *.

Third, *that it would be difficult to find managers*. This objection, not referring ſo much to the principle of the undertaking, as to a contingent fact, conſtituting a difficulty, is anſwered by the perſonal aſſertion of Sir John, that he knows ſome who would carry on the undertaking with zeal and energy, and take ſhares as a ſecurity for their good behaviour, and a pledge of their being intereſted in its ſucceſs. After deſcanting on the benefits which will accrue, both to the public and the manager, and which will operate as a ſtimulus on his activity and integrity, while every poſſibility of fraud is cautiouſly precluded, the following remark is made:—In regard to the particular plan of experiments to be purſued, the following meaſures may be adopted: as ſoon as a farm is taken, an accurate plan of it ſhould be obtained, diſtinguiſhing the different ſoils, and every other circumſtance connected with it. Every aſſiſtance will then be procured from the beſt practical farmers in the kingdom, to draw up a regular courſe of experiments, and a rotation of crops beſt calculated for the different fields; and ſuch a plan muſt be rigidly adhered to by the manager, unleſs the committee of management give directions to the contrary. Thus the manager will only be accountable for the ſtrict execution of the orders he receives; and as thoſe orders will be given in conſequence of the moſt mature conſideration, hence the whole ſyſtem, it is to be hoped, will be carried on with the utmoſt regularity and correctneſs: then would there not be a ſingle principle in agriculture that might not be thus aſcertained in the ſpace of a few years; and farmers, in future, would have an invariable ſtandard to go by, which they might rely on with certainty.

The fourth and laſt objection to which an anſwer is given is, that the profits of the propoſed plantation are over-rated. To obviate this ſuppoſition, Sir John Sinclair ſtates the great probability that, in thirty years, the value of timber will be greatly inhanced; but, taking it at its preſent value, there is every reaſon to conſider it greatly under-rated. In proof of this he cites the valuation of the foreſt of Culroſs, near Edinburgh, which conſiſts of Scotch firs forty-three years old, and is valued at 93l. 15s. an acre. Now as larch at thirty years old is as valuable as fir at forty-five, there is every reaſon to expect that the 5000 acres propoſed to be planted will be worth at leaſt 90l. an acre, and conſequently, inſtead of 218,000l. the ſum firſt ſtated, will produce 450,000l.

This is the ſubſtance of a moſt benevolent, patriotic, and practicable plan, in which individuals, without forgetting for

* For inſtance, if the queſtion is, What is the beſt breed of cattle? Their food muſt be accurately weighed, and a regular account preſerved of the whole quantity they eat during the whole courſe of the experiment. If the queſtion is to aſcertain, Whether large or ſmall animals pay beſt for the food they eat; the experiment muſt be begun from their birth, and continued till they are ſlaughtered. In ſhort, almoſt every experiment of great conſequence requires a degree of attention and perſeverance, and a duration, in point of time, which can only be expected from a public inſtitution devoted excluſively to that purpoſe.

a moment the dictates of prudence, may render a moſt important ſervice to their country, and become patrons of an inſtitution which future ages ſhall revere as the ſource of innumerable and inexhauſtible bleſſings.

We have copied from Sir John's publication the annexed engravings (Pl. 28.), which repreſent the diſtribution of an experimental farm of 400 acres, and a circular cottage, which is recommended as being peculiarly warm and convenient, and, if built of good materials, capable of laſting for ages, with hardly any repair. An additional recommendation of ſuch a building is its cheapneſs, as it will not, in the northern parts of Scotland, coſt more than 30l.

FARNABIE (Thomas), ſon of a carpenter at London, born in 1575, ſtaid a ſhort while at Oxford; where being enticed to abandon his religion, he went to Spain, and was there educated in a college belonging to the Jeſuits. Being weary of their ſevere diſcipline, he went with Sir John Hawkins and Sir Francis Drake in their laſt voyage in 1595. He was afterwards a ſoldier in the Low-countries; but being reduced to great want, returned to England, where wandering about for ſome time under the name of *Thomas Bainrafe*, the anagram of his name, he ſettled at Mattock in Somerſetſhire, and taught a grammar-ſchool with good reputation. He removed to London, and opened a ſchool with large accommodations for young gentlemen. While he taught this ſchool he was made maſter of arts at Cambridge, and incorporated into the univerſity of Oxford. Thence he removed, in 1636, to Seven-oaks in Kent; and taught the ſons of ſeveral noblemen and gentlemen, who boarded with him, with great ſucceſs, and grew rich. His works gained him reputation. Upon the breaking out of the civil commotions in 1641, he was caſt into priſon. It was debated in the houſe of commons, whether he ſhould be ſent to America; but this motion being rejected, he was removed to Ely-houſe in Holborn, and there he died in 1647. Mr. Farnabie was a very eminent grammarian; and many writers have ſpoken with great approbation of his labours. M. Bayle in particular ſays, "His notes upon moſt of the ancient Latin poets have been of very great uſe to young beginners; being ſhort, learned, and deſigned chiefly to clear up the text."

FARO, an iſland of Sweden, near the iſland of Gothland, about 30 miles in circumference, populous and fertile. The principal town has the ſame name, and is ſituate on the S.E. coaſt. Long. 19. 7. E. Lat. 57. 50. N.

Faro, a ſea-port of Portugal, in Algarva, on the gulf of Cadiz, with a biſhop's ſee. It has ſome trade in almonds, figs, oranges, and wine, and is 20 miles S.W. of Tavira. Long. 7. 48. W. Lat. 36. 54. N.

Faro, Farro, or Feroe Islands, a cluſter of ſmall iſlands in the Northern Ocean, between 5 and 8° W. long. and 61 and 63° N. lat. They are ſubject to Denmark. Seventeen are habitable, each of which is a lofty mountain, divided from the others by deep and rapid currents. Some of them are deeply indented with ſecure harbours, all of them ſteep, and moſt of them faced with tremendous precipices. The ſurface conſiſts of a ſhallow ſoil of remarkable fertility; producing plenty of barley, and fine graſs for ſheep. No trees above the ſize of a juniper, or ſtunted willow, will grow here; nor are any quadrupeds to be ſeen except ſheep, and rats and mice, originally eſcaped from ſhips. Vaſt quantities of ſea-fowls frequent the rocks, and the taking of them furniſhes a perilous employment for the inhabitants. The exports are ſalted mutton, tallow, gooſe-quills, feathers, eider-down, knit woollen waiſtcoats, caps and ſtockings. To the S. of theſe iſlands is a conſiderable whirpool. See Bird-*Catching*.

Faro or Messina, the ſtrait between Italy and Sicily, remarkable for having the tide ebb and flow every ſix hours, with great rapidity, though it is but ſeven miles over. It is ſo named, from the faro, or lighthouſe, on Cape Faro, and its vicinity to Meſſina.

FARRIERY (*Encycl.*). This once vulgar art has deſervedly been reſcued from the hands of ignorance by the labours of the Veterinary College, and its ingenious profeſſor Mr. Coleman. (See College, *Supp.*) The improved ſtate of Veterinary literature is alſo a ſubject of high congratulation to the country; who are now poſſeſſed of valuable works on the ſubject from the pens of the late and preſent profeſſors of the college; and from Meſſrs. White, Riding, John Lawrence, Richard Lawrence, and Boardman; to the latter of whom the public is indebted for a Veterinary Dictionary, which comprehends all that is known on the ſubject of the diſeaſes of horſes and cattle, illuſtrated with excellent engravings of the anatomy of the horſe, &c. See Frog in this Supplement.

FARRINGDON, a town in Berks, with a market on Tueſday, ſeated on an eminence, near the Thames, 18 miles W. of Oxford, and 50 W. by N. of London. Long. 1. 27. W. Lat. 51. 44. N.

FARSISTAN, a province of Perſia, bounded on the E. by Kerman, on the N. by Irac-Agemi, on the W. by Kuſiſtan, and on the S. by the gulf of Perſia. It is very fertile, and famous for its excellent wines, called the Wines of Schiras, the capital of this province. Here are the ruins of Perſepolis, perhaps the moſt magnificent in the world.

FARTACK, a town of Arabia Felix, at the foot of a cape of the ſame name. Long. 51. 25. E. Lat. 15. 55. N.

FAT (*Encycl.*). A patent has been granted to Mr. Wilſon Fitzgerald, of the Inner Temple, for a mode of producing fat or tallow. The proceſs conſiſts in pouring upon animal fleſh, of any kind, a ſufficient quantity of ſtrong nitrous acid, which decompoſes the fleſh, and produces the tallow. Or, inſtead of the nitrous acid, a compoſition may be employed, conſiſting of two thirds ſulphuric acid, and one third nitrous—or of two thirds nitrous, and one third muriatic or oxymuriatic acid. Or, inſtead of theſe, a compound may be uſed, conſiſting of lime, ſulphate of pot-aſh, alum, and pyrites.

FATTIPOUR, a town of Hindooſtan Proper, in the province of Agra, where the emperors of Hindooſtan, when in the zenith of their power, had a palace. It is 25 miles W. of Agra. Long. 77. 43. E. Lat. 27. 22. N.

FAVIGNANA, a ſmall iſland, 15 miles in compaſs, on the W. ſide of Sicily, with a fort. Long. 12. 25. E. Lat. 38. 16. N.

FAYAL, one of the Azores, or Weſtern Iſlands, which ſuffered greatly by an earthquake, in 1764. Its capital is Villa do Horta.

FAYENCE, a town of France in the department of Var, celebrated for its manufacture of earthen ware. It ſtands near the river Biaſon, 10 miles W. of Graſſe. Long. 6. 44. E. Lat. 43. 38. N.

FAYETTE, a county of Kentucky, bounded on the N. by the Ohio, on the E. by Bourbon county, and on the S.W. by the river Kentucky. Lexington is the capital.

Fayette, a county of Pennſylvania, 37 miles long, and 33 broad. In 1790, it contained 13,325 inhabitants. Union is the capital.

FAYETTEVILLE, a town of N. Carolina, on the N.W. branch of Cape Fear River, 90 miles N.W. of Wilmington, to which that river is navigable for boats.

FAYOUM, a town of Egypt, capital of a province of the ſame name, 49 miles S.S.W. of Cairo. Long. 30. 39. E. Lat. 29. 27. N.

FE, SANTA, a rich and regularly built city, the capital of New Mexico, and the ſee of a biſhop. It is ſituate near the ſource of the Rio del Norte. Long. 108. 48. W. Lat. 36. 50. N.

Fe, Santa, a town of Paraguay, ſituate at the confluence of the Salade with the Plata, 450 miles S.W. of Aſſumption. Long. 60. 40. W. Lat. 30. 45. S.

FEAR, Cape, a cape of N. Carolina, remarkable for a dangerous ſhoal, called, from its form, the Frying-pan. This ſhoal lies at the entrance of Cape Fear River, which is formed by two branches, called the N.W. and N.E. branches. Theſe unite above Wilmington, and fall into the Atlantic, below Brunſwick. Long. 77. 45. W. Lat. 33. 40. N.

FECAMP, an ancient ſea-port of France, in the department of Lower Seine. It had lately a Benedictine abbey, remarkable for its opulence and great privileges. The church is one of the largeſt in France. Fecamp is 24 miles N.E. of Havre-de-Grace. Long. 0. 23. E. Lat. 49. 37. N.

FELDKIRCHE, a trading town of Germany, capital of a county of the ſame name, in Tirol. It is ſeated on the river Ill, near its entrance into the Rhine, 15 miles E. of Appenzel. Long. 9. 49. E. Lat. 47. 10. N.

FELICUDA, one of the Lipari Iſlands, in the Mediterranean, 28 miles W. of Lipari. The inhabitants preſerve rain-water in ciſterns, there being no ſpring in the iſland.

FELIX, St. an iſland in the S. Pacific Ocean, N.N.W. of Juan Fernandes. Long 86°. W. Lat. 26°. S.

FELLETIN, a town of France, in the department of Creuſe, noted for its manufacture of tapeſtry. It is 20 miles S.S.W. of Evaux, and 21 S.S.E. of Gueret. Long. 2. 6. W. Lat. 45. 53. N.

FELLEN, a town in the Ruſſian government of Riga, ſeated on a river of the ſame name, 62 miles S.E. of Revel. Long. 24. 5. E. Lat. 58. 22. N.

FELSBERG, a town of Germany, in the principality of Heſſe Caſſel, with an ancient caſtle on a rock, 12 miles S. of Caſſel.

FELTRI, an epiſcopal town of Italy, in the Treviſano, capital of a diſtrict of the ſame name. It is ſeated on the Aſona, 40 miles N. of Padua. Long. 11. 55. E. Lat. 46. 3. N.

FELTRIA (anc. geog.), a town on the borders of Rhætia towards Italy. Now *Feltri*, in the territory of Venice, on the Piava. Long. 12. 16. E. Lat. 46°. N.

FEMEREN, a fertile iſland of Denmark, in the Baltic, three miles from the coaſt of Holſtein.

FENESTRELLE, a town and fort of Piedmont, in the valley of the Vaudois. It was taken by the Duke of Savoy, from the French, in 1708, and ceded to him by the treaty of Utrecht. It is 18 miles W. of Turin. Long. 7. 21. E. Lat. 45. 10. N.

FERABAD, a town of Perſia, capital of the province of Mazanderan, ſeated among the mountains which bound the Caſpian Sea to the S. and 12 miles from it. Shah-Abbas often ſpent his winters here. It is 130 miles W. of Aſtrabad. Long. 53. 21. E. Lat. 37. 14. N.

Ferabad, a town of Perſia, two miles from Iſpahan, and extending almoſt three miles along the banks of the Zenderoad. It was built by Shah-Abbas, who brought the Armenians here from the preceding town, after they had revolted from the Turks.

FERCULA, or Forcula, a town of Biledulgerid, and the principal place of a diſtrict. It is 50 miles W. of Sugulmeſſa. Long. 4. 30. W. Lat. 31. 40. N.

FERDINAND V. king of Spain, called *the Catholic*, which title was continued to his ſucceſſors. He married Iſabella of Caſtile, by which that kingdom was united to the Spaniſh crown. This illuſtrious couple laid the foundation of the future glory and power of Spain. The conqueſt of Grenada, and the diſcoveries of Chriſtopher Columbus, make this reign a celebrated æra in the hiſtory of Spain. He died in 1516, aged 63.

FERE, a town of France, in the department of Aiſne, famous for its powder-mill, and ſchool of artillery. Near this town is the caſtle of St. Gobin, famous for its manufacture of fine plate-glaſs. Fere is ſeated at the confluence of the Sere and Oiſe, 20 miles N. of Soiſſons, and 75 N.E. of Paris. Long. 3. 25. E. Lat. 49. 29. N.

FERENTINO, or Fiorento, an epiſcopal town of Italy, in Campagna di Roma, ſeated on a mountain, 44 miles S.E. of Rome. Long. 13. 27. E. Lat. 41. 46. N.

FERENTINUM (anc. geog.), a town of the Hernici in Latium, which the Romans, after ſubduing that nation, allowed to be governed by its own laws. Now *Ferentino*, an epiſcopal city in the Campania of Rome. Long. 14. 5. E. Lat. 41. 45. N.

FERENTUM, or Forentum (anc. geog.), a town of Apulia in Italy. Now *Forenza*, in the Baſilicata of Naples.

FERMO, an ancient town of Italy in the marquiſate of Ancona, with an archbiſhop's ſee. It is ſeated near the gulf of Venice, 17 miles S.E. of Macerata. Long. 13. 50. E. Lat. 43. 7. N.

FERNANDO NORONHA, an iſland near the coaſt of Braſil, ſubject to the Portugueſe. Long. 32. 33. W. Lat. 3. 56. S.

Fernando Po, an iſland of Africa, 25 miles W. of the coaſt of Benin. It is 30 miles long, and 20 broad. Long. 3. 3. E. Lat. 3. 6. N.

FERNELIUS (John), phyſician to Henry II. king of France, was born in Picardy, in the latter end of the 15th or the beginning of the 16th century. Being ſent to Paris to ſtudy rhetoric and philoſophy, he applied himſelf in a moſt intenſe manner. All other pleaſure was inſipid to him. He cared neither for play nor for walking, nor for entertainments, nor even for converſation. He read Cicero, Plato, and Ariſtotle. The reading of Cicero procured him this advantage, that the lectures he read on philoſophical ſubjects were as eloquent, as thoſe of the other maſters were barbarous at that time. He alſo applied himſelf very earneſtly to the mathematics.

This continual ſtudy drew upon him a long fit of ſickneſs, which obliged him to leave Paris. On his recovery, he returned thither with a deſign to ſtudy phyſic; but before he applied himſelf entirely to it, he taught philoſophy in the college of St. Barbara. After this he ſpent four years in the ſtudy of phyſic; and, taking a doctor's degree, confined himſelf to his cloſet, in order to read the beſt authors, and to improve himſelf in the mathematics; that is, as far as the buſineſs of his profeſſion would ſuffer him. Never was a man more diligent than Fernel. He uſed to riſe at four o'clock in the morning, and ſtudied till it was time either to read lectures or to viſit patients. He then examined the urine that was brought him; for this was the method of thoſe times, with regard to the poor people, who did not ſend for the phyſician. Coming home to dine, he ſhut himſelf up among his books, till they called him down to table. Riſing from table, he returned to his ſtudy, which he did not leave without neceſſary occaſions. Coming home at night, he did juſt as at noon: he ſtaid among his books, till they called him to ſupper; returned to them the moment he had ſupped; and did not leave them till eleven o'clock, when he went to bed.

In the courſe of theſe ſtudies, he contrived mathematical inſtruments, and was at great charges in making them. But his wife murmuring at the expence, he diſmiſſed his inſtrument-makers, and applied himſelf in good earneſt to practiſe phyſic. But as viſiting patients did not employ his whole time, he read public lectures upon Hippocrates and Galen. This ſoon gained him a great reputation through France and in foreign countries. His buſineſs increaſing, he left off read-

ing lectures; but as nothing could make him ceaſe to ſtudy in private, he ſpent all the hours he could ſpare in compoſing a work of phyſic, *Phyſiologia*, which was ſoon after publiſhed. He was prevailed with to read lectures upon this new work, which he did for three years: and undertaking another work, which he publiſhed, *De venæſectione*, he laid himſelf under a neceſſity of reading lectures ſome years longer, in order to explain this new book to pupils.

While he was thus employed, he was ſent for to court, in order to try whether he could cure a lady, whoſe recovery was deſpaired of. He was ſo happy as to cure her; which was the firſt cauſe of that eſteem which Henry II. who was then but dauphin, and was in love with that lady, conceived for him. This prince offered him, even then, the place of firſt phyſician to him; but Fernel, who infinitely preferred his ſtudies to the hurry of a court, would not accept the employment. When Henry came to the throne, he renewed his intreaties: but Fernel repreſented, that the honour which was offered to him was due, for ſeveral reaſons, and as an hereditary right, to the late king's phyſician; and that, as for himſelf, he wanted ſome time to make experiments concerning ſeveral diſcoveries he had made relating to phyſic. The king admitted this: but as ſoon as Francis I.'s phyſician died, Fernel was obliged to go and fill his place at Henry II.'s court. And here juſt the contrary to what he dreaded came to paſs: for he enjoyed more reſt and more leiſure at court, than he had done at Paris; and he might have conſidered the court as an agreeable retirement, had it not been for the journeys which the new civil war obliged the king to take. He died in 1558, leaving behind him a great many works, beſides what have been mentioned; as, *De abditis rerum cauſis*, ſeven books of Pathology, a book on remedies, &c. They have been printed ſeveral times; with his life prefixed, written by William Plantius his diſciple.

FEROE ISLANDS. See FARO.

FERRENDINA, a town of Naples, in Baſilicata, near the river Baſianto, 25 miles S.W. of Matera. Long. 16. 34. E. Lat. 40. 40. N.

FERTE-ALAIS, a town of France, in the department of Seine and Oiſe, 18 miles S. of Paris. Long. 2. 27. E. Lat. 48. 30. N.

FERTE-BERNARD, a town of France, in the department of Sarte, ſeated on the Huiſne, 20 miles N.E. of Mans. Long. 0 39. E. Lat. 48 8. N.

FESTENBERG, a town of Sileſia, in the principality of Oels, 14 miles N.W. of Wartenburg.

FETHARD, a borough of Ireland, in the county of Tipperary, eight miles S.E. of Caſhel, and 86 S.S.W. of Dublin.

FETHARD, a town of Ireland, in the county of Wexford, on the coaſt, 81 miles S. of Dublin. Long. 7. 3. W. Lat. 52. 10. N.

FEVER (*Encycl.*). It is well known not only to medical men but to others who have experienced the direful effects of contagious fevers, that in ſmall, cloſe, and dirty rooms they infect a very great proportion of mankind; not leſs than 26 out of 27, or a ſtill higher proportion. In a large airy, clean apartment, however, even putrid fevers are ſeldom or never infectious. When this poiſonous vapour is much diluted with freſh air, it is not noxious.—From a large collection, and an attentive conſideration, of facts relative to this diſtemper, have been formed the following rules, which cannot be too generally known.

1. As ſafety from dangers entirely depends on cleanlineſs and freſh air, the room door of a patient ill of an infectious fever, eſpecially in the habitations of the poor, ſhould never be ſhut; a window in it, during the day, ought to be frequently opened. Such regulations would be highly uſeful, both to the patient and nurſes; but are particularly important previous to the arrival of any viſitor.

2. The bed-curtains ſhould never be cloſe drawn round the patient; but only on the ſide next the light, ſo as to ſhade the face.

3. Dirty clothes, utenſils, &c. ſhould be frequently changed, immediately immerſed in cold water, and waſhed clean when taken out of it.

4. All diſcharges from the patient ſhould be inſtantly removed. The floor near the patient's bed ſhould be rubbed clean every day with a wet mop, or cloth.

5. The air in a ſick-room has, at the ſame time, a more infectious quality in ſome parts of it than in others. Viſitors and attendants ſhould avoid the current of the patient's breath, —the air which aſcends from his body, eſpecially if the bed-curtains be cloſed,—and the vapour ariſing from all evacuations. When medical or other duties require a viſitor to be placed in theſe ſituations of danger, infection may be frequently prevented by a temporary ſuſpenſion of reſpiration.

6. Viſitors ſhould not go into an infectious chamber with an empty ſtomach; and in doubtful circumſtances, on coming out, they ſhould blow from the noſe, and ſpit from the mouth, any infectious poiſon, which may have been drawn in by the breath, and may adhere to thoſe paſſages.

The Society for bettering the Condition of the Poor have publiſhed the preceding rules, which were extracted from a manuſcript of Dr. Haygarth's, with his permiſſion. They are intended to enable medical and clerical viſitors of the ſick to perform their important duties with ſafety to themſelves, and are printed upon a ſeparate ſheet, by the Society, with a view to their being diſtributed, ſo that a printed copy may be put up in every houſe where there is an infectious fever.

Houſes of recovery for the reception of poor perſons affected with typhus fever were firſt opened in Mancheſter; and the example has lately been followed in London and many other places. See HOUSE OF RECOVERY, in this Supplement.

FEURS, an ancient town of France, in the department of Rhone and Loire, ſeated on the Loire, 23 miles S.W. of Lyons.

FEZ, a kingdom of Barbary, 125 miles in length and breadth; bounded on the W. by the Atlantic Ocean, on the N. by the Mediterranean Sea, on the E. by Algiers, and on the S. by Morocco and Tafilet. The air is temperate and wholeſome, and the country full of mountains, particularly to the W. and S. where Mount Atlas lies; but it is populous and fertile, producing citrons, lemons, oranges, dates, almonds, olives, figs, raiſins, ſugar, honey, flax, cotton, pitch, and corn in abundance. The inhabitants breed camels, beeves, ſheep, and the fineſt horſes in Barbary.

FIANO, a town of Italy, in the patrimony of St. Peter, ſeated on the Tiber, 15 miles N. of Rome.

FIANONA, a town of Venetian Iſtria, ſeated on the gulf of Carnero, 17 miles N. of Pola.

FICHERULOLO, a fortified town of Italy, in the Ferrareſe, ſeated on the Po, 12 miles W. of Ferrara. Long. 11, 31. E. Lat. 45. 6. N.

FICHTELBERG, a mountain in Bohemia, which extends from near Bareuth to Eger, about 16 miles. It is one of the higheſt mountains in Germany.

FICTION (*Encycl.*). An ingenious writer in the Britiſh Magazine for 1800 makes the following curious remarks on the ſources of poetic and romantic fiction.

"I accord," ſays he, "with Mr. Franklin's obſervation, that the tale of Camarupa and Camatata bears internal evidence of an Indian origin, yet two or three paſſages would induce one to ſuppoſe that it is not of very great antiquity, or rather, that it has received ſome alteration from its Perſian tranſlator. The race of men with leathern feet, the perſecu-

tors of Camarupa and others, Mr. Franklin ſays, are even now ſuppoſed to inhabit the northern parts of Indoſtan: nor am I diſpoſed to queſtion their exiſtence. The ſtory in which they appear (p. 74) is evidently founded upon, or borrowed from, that in the Arabian Nights, where, like Camarupa, Sindbad with a ſtone daſhes out the brains of his unmerciful rider, 'the old man of the ſea.' The OURAN-OUTANGS, as Mr. Hole conjectures in his Remarks on the Arabian Nights, are undoubtedly the ſpecies alluded to; their feeding on fruit only in either tale is a ſtriking characteriſtic. The αγριοι ανθρωποι (or γοριλλαι) in Hanno's remarkable voyage, words of the ſame import as *ouran-outang*, *homines ſylveſtres*, are evidently of the ſame ſpecies. Our early voyagers to the ſame coaſt which Hanno viſited, called this animal *pongo*, or the *giant-ape*; and it was ſometimes literally repreſented as of gigantic ſtature. Purchas, in his Pilgrimes, mentions his having been informed that their 'height was like a man's, but their bigneſſe twice as great.' We have ſeen in ſome old romance, but forget where, the PONGO introduced as a ſavage giant, overthrowing the ranks of battle with his knotty club. The account given of it by Battell, who viſited the coaſt of Africa in 1603, is curious and juſt, though ſomewhat exaggerated. (See Purchas' *Pilgrimes*, vol. ii. 982.) They are deſcribed in Hanno's voyage as covered with hair, flying to precipices, and defending themſelves with ſtones. A circumſtance recorded of their leſſer brethren, by Strabo (Geog. xv. p. 710, Paris ed.) And which is noticed likewiſe in Churchill's Voyages (vol. iii. 143).

"Sir John Mandeville's 'ſkynned folk with roughe heir as a roughe beſt, ſaf only the face and the pawme of the hond,' which he meets with in one of the iſles of Ynde, are of the ſame family. And thoſe with ſhort dog-tails, mentioned by Marco Paulo as inhabiting a diſtrict called *Lambri*, belong to the ſame race. Inveniuntur etiam in hoc regno qui caudas habent ut canes, longitudinis unius, palmi, et hi in civitatibus non habitant, ſed in montibus. (L. iii. c. 18.) By Lambri, Sumatra is probably intended, often called Java Minor by early European travellers. *Lambri* is one of its Indian appellations, and Mandeville ſeems to allude to it by the name of *Lamaray*. His account indeed often wonderfully coincides with that of the Venetian traveller, and perhaps he borrowed from him. However that may be, this *paſtoral race*, which very wiſely ſhunned 'towering cities and the buſy hum of men,' were, we may ſafely conclude, the anceſtors of the *orang cooboo* and *orang googoo* mentioned by Mr. Marſden as inhabiting the interior parts of Sumatra. The natives of the iſland, he tells us, ſuppoſe the latter to be endued with the gift of ſpeech. After having allowed them to belong to the human ſpecies, 'their having a language peculiar to themſelves (I think theſe are Mr. Marſden's words) appears a natural conſequence.' Whoever wiſhes to ſee their claims to humanity ſtated and enforced, is referred to their learned advocate, Lord Kaims' Origin of Languages, vol. i. b. 2.

"Camarupa's aërial excurſion to the mountain of *Caf* (Caucaſus), and the incidents there, reſemble the marvellous narrative of Aboulfouaris: and ſo do Mitra Chandra's adventures among the Genii, 'who delight in blood.' A country inhabited by women, called *Tirea Rai*, occurs likewiſe in the Perſian tales; and it is obſervable, that Marco Paulo teſtifies to the exiſtence of two iſlands in the Indian ocean, one inhabited by men, the other by *women only** (l. iii. c. 37). Again, the enormous whale in Camarupa is not unlike that in Sindbad; and the daughter of the Fairy Queen, who, in 'taking her accuſtomed tour through the air to view the different parts of the earth,' beholds the prince whilſt aſleep, and is ſtruck with admiration at his beauty (p. 61), extremely reſembles a ſiſter fairy, who makes her aërial tour at the opening of Camaralzaman's ſtory in the Arabian Nights. In either tale, a child is granted to the ardent deſires of the royal parent, through the interceſſion and prayers of religious perſons. This circumſtance is to be found in more than one ſtory of the latter collection; and I believe in various oriental tales. But does it not rather militate againſt the predeſtinarian ſyſtem, ſo univerſally adopted in the Eaſt? For had not thoſe religious perſons been *prevailed upon* to offer up their prayers in behalf of their then childleſs ſovereigns, we are to conclude that no child in future would have been born to them: therefore they counteracted deſtiny! Probably, however, a genuine predeſtinarian will hold in contempt ſuch ſceptical objections, and inſiſt that the monarch's requeſts, the derviſe's interceſſions, and birth of the children, were links of the ſame chain, all equally pre-ordained, and reſulting from inevitable neceſſity.

"The mode by which Camaralzaman and the Princeſs Badoura become mutually enamoured of each other, has not only a counterpart in the Indian tale, but alſo in the OBERON of Wieland. The interview in the Arabian Nights, by means of which the hero and heroine contract a mutual affection, is indeed real, but that of Camarupa and Camalata, and that of Sir Huon and Rezia, is viſionary. (See OBERON, cant. iii. ſt. 6. cant. iv. ſt. 49.) In each inſtance, however, it is effected by ſupernatural means: *fairies* intervene, and the reſult is the ſame. Whether this incident in Wieland is taken from the old romance of Sir-Huon of Bourdeaux, we know not, but think it highly probable. From Spenſer's mentioning the night and fairy in conjunction, we may reaſonably infer, that they are introduced together in that or ſome other ancient tale of chivalry. *Guyon*, he tells us,

> —Knight-hood took of good Sir Huon's hand,
> When with King Oberon he came to fairy land.
> B. II. c. 1. ſt. 6.

"The ſtory of January and May is narrated by Wieland in the 6th canto, in exactly the ſame manner as by Chaucer and Pope; yet we cannot help ſuſpecting that it is to be found likewiſe in the old romance, and from thence copied by Chaucer. The idea is ſtrengthened by the following note of Mr. Stevens, towards the concluſion of The Midſummer Night's Dream: 'I have been informed that the originals of Shakſpeare's OBERON and TITANIA are to be *fought* (we truſt he means *found*) in the ancient French romance of *Huon de Bourdeaux*.'

"Pluto and Proſerpine are in Chaucer 'the king and quene of faerie:' and the former, like Oberon in Wieland (canto vi. ſt. 87), appears well acquainted with the Bible, and quotes Solomon's ſarcaſtic obſervations on the fair ſex in a ſimilar manner. (See Tyrwhit's ed. of Chaucer, vol. ii. l. 10163.) Proſerpine (not yet converted from paganiſm it may be preſumed) 'ſweres by her modre Ceres' ſoul,' and egregiouſly abuſes the ſapient king as a 'lechour and an idolaſtre;' and declares, that

> She ſete nat of all the vilunie
> That he of women wrote, a *boterflie!*

"But let us return from the ſtrange mixture of abſurdity, keen wit, and ſtrong ſenſe, which ſo frequently chequers the pages of our primitive bard. If the preceding conjecture be right, that we are to look for the origin of Chaucer's January and May, of his Pluto and Proſerpine, of Shakſpeare's Oberon and Titania, in the old French romance of Sir Huon of Bourdeaux, a pertinent quotation from it would be extremely grate-

* See alſo the Two Mahomedans' Account of India in the 9th Century, publiſhed by Renaudot, p. 1.

ful, not only to your correſpondent Caſſius, but to many an antiquary who does not look with contempt on romantic lore. In that caſe, however, though I apprehend the French legend is ſuppoſed to have been written in the 13th or 14th century, I ſhould not readily allow *that* part of the ſtory to be of European manufactory. It may, as Mr. Hole in his Remarks on the Arabian Nights ſuppoſes of ſome ſimilar eccentric fictions, have been imported by our adventurous cruſaders; or, perhaps at a much earlier era, may have been introduced by ſome colony from the eaſtern world into European diſtricts. Sir William Jones ſays, 'I confidently affirm, that the *Goths* and *Hindus* had originally the ſame language, gave the ſame appellations to the ſtars and planets, adored the ſame falſe deities, performed the ſame bloody ſacrifices, and profeſſed the ſame notions of rewards and puniſhments after death.' Aſ. Diſſ. vol. iii. 15. Among the Gothic nations, long before the commencement of the croiſades, beings of a ſimilar nature to fairies in our popular mythology had an exiſtence. In the northern Sagas they are ſtyled *duergar*, or *dwarfs*, and perform actions ſurpaſſing human nature. They were, probably, of eaſtern origin, and brought to England by our Saxon anceſtors.

"Mr. Hole obſerves, that Chaucer's January and May (and he might have added the ninth novel in Boccaccio's ſeventh Decameron) is to be traced in the tales of Inatulla; and he is ſuppoſed to have *derived it from the Bramins*. The *tales* to which he refers were merely paraphraſed by Dow; but ſince that time have been tranſlated by Mr. Scott, and entitled the Bahar-Danuſh of Einaiut-Oollah (Inatulla). In them, however, the ſimilitude will be found equally obvious, if you conſult leſſon 4. vol. ii. p. 64: and in the ſubſequent leſſon another tale occurs concerning the ſuppoſed miraculous reſtoration of a noſe, reſembling an incident in Maſſenger's Guardian, and traced by Mr. Hole to the *Hectopades*, ſtyled by Sir William Jones 'the moſt beautiful if not moſt *ancient* collection of apologues in the world.'

"That Sir Huon of Bourdeaux and other ancient legendary tales were commonly derived, through ſome medium or other, from an Aſiatic, perhaps an Indian, origin, I have little doubt. The primary notice of Oberon in our language (and ſeemingly from Sir Huon of Bourdeaux) we find in Spenſer: and among the firſt who mention Titania as copartner in his royalty, is Shakeſpeare in the Midſummer Night's Dream. He inveſts Mab, however, with regal honours in his Romeo and Juliet; and Mab in Drayton's Nymphidia, a performance which exhibits much ſprightly humour and original fancy (and in other poems of that age), ſhares imperial dignity with Oberon. Where we are to look for their firſt introduction into ideal exiſtence, or the derivation of either name, is, I believe, not eaſily to be aſcertained. The exiſtence, however, of a fairy queen in the days of Elizabeth was the popular creed, and had continued ſo probably from an age long preceding that of Chaucer; who, in order to ridicule ſuch idle fancies, repreſents Sir Thopas as fully determined that

'An elf queen ſhould his Lemman be.'

"And we find that not only Prince Arthur in Spenſer's beautiful legend, but the aſpiring Abel Drugger in Jonſon's Alchemiſt, had ſome pretenſions to her majeſty.

"It is rather ſtrange, however, that during this period the elf queen ſhould not have acquired a decided appellation. Oberon, after Spenſer's time, poſſeſſed, we apprehend, his regal prerogative without a competitor. But Richard Johnſon, the contemporary of Shakſpeare, and Drayton in his Honourable Hiſtory of the Seven Champions of Chriſtendom, diveſts Titania of her ſovereignty, converts the Fancy's midwife into a fairy midwife (a circumſtance however not diſſonant to ancient ſuperſtition), whom he denominates Proſerpine, and reinſtates in her ſhadowy domains.

"Though the exiſtence of ſuch imaginary beings, as the elfine queen and her tiny ſubjects,

'Theſe antique fables and thoſe fairy toys,'

no longer obtains credence among the leaſt enlightened minds, yet the extenſive influence of that idea in former ages affords a ſubject not unintereſting to ſpeculative minds, who wiſh to inveſtigate the progreſs of traditionary fiction and human credulity. Johnſon evidently compiled from old metrical romances; and the paſſage to which we allude in reſpect to Proſerpine is, her attendance on Sabra in the hour of her delivery; which remarkably coincides with the *accouchement* of Rezia in Oberon, where Titania is preſent on the ſame occaſion. We can with as little reaſon ſuppoſe that Wieland ever conſulted the *Seven Champions of Chriſtendom*, as that Johnſon in a decided compilation, invented one of the moſt ſingular incidents recorded in it. The correſponding paſſage is managed with much delicacy by Wieland in his Oberon, and we are convinced our readers would not be diſpleaſed at our making ſome extracts from it, did not the peculiarity of the circumſtance warrant the tranſcription. We ſhould be pleaſed indeed to ſee another *Epic Romance*, of a ſimilar complexion and ſuperior order, undertaken by its tranſlator. The eccentric ſpirit of the *Orlando Furioſo*, its wild tranſitions from humour to ſublimity, and their not unfrequent mixture in the ſame paſſage, would, we truſt, receive ample juſtice from the lively pen of Mr. Sotheby. Huggin's faithful but tame tranſlation, would prove of ſervice to any one not familiar with the Italian langüage. According to Cervantes' happy image, it exhibits indeed the wrong ſide of the tapeſtry, but not a thread is miſplaced or loſt. To proceed to the compariſon, we were going to ſay contraſt, but notwithſtanding the wildneſs of Johnſon's tale, and bombaſt of his language, ſome rude graces, a luxuriance and vigour of fancy, gratify the imagination at the expence of judgment.—'St. George and Sabra are repreſented as wandering in a mighty wilderneſs, overgrown with lofty pines and cedar-trees, and many huge and mighty oaks, the ſpreading branches whereof ſeemed to withhold the light of heaven from their untrodden paſſages, and tops, for exceeding height, to reach into the element. The inhabitants were ſylvans, ſatyrs, fairies, and other wood nymphs, which by day ſported up and down the foreſt, and by night tended the pleaſure of Proſerpine, the fairy queen. The muſic of ſilver-ſounding birds ſo cheerfully reſounded through the woods, and the whiſtling wind made ſuch melody amongſt the leaves of trees, that it raviſhed their ſenſes like harmony of angels, and made them think they had entered the ſhades of gladſome Elyſium: one while they wondered at the beauty of the woods, which nature adorned with a ſummer's livery; another while at the green and fragrant graſs drawn out in round circles by fairys' dances.' Here, 'till thrice three times the ſilver moon had renewed her borrowed light,' wandered the diſconſolate Sabra and afflicted champion. 'Before the painful hour of her delivery approached, he had provided her a bower of vine branches, which he erected between two pleaſant hills: where, inſtead of a princely cabinet, behung with arras and rich tapeſtry, ſhe was conſtrained to ſuffice herſelf with a ſimple lodging covered with roſes and other fragrant flowers. Her bed was made of green moſs and thiſtle-down, beſet curiouſly round about with olive branches and the ſprigs of an orange-tree, which made it ſeem more beautiful than Flora's pavilion or Diana's manſion.' Sabra, however delighted ſhe might be with the elegant bower conſtructed by the knight, requeſts his abſence; for the time approached when, as no other *accouchcuſe* was to be expected, ſhe imagined that ſome

friendly fairy might witneſs her diſtreſs, and lend her aſſiſtance. According to her wiſh, Proſerpine attends *in propria perſonâ*, and three lovely boys are introduced into the world: but let Sabra tell her own ſtory: 'The winds carried my groans to every corner of this wilderneſs, whereby both trees and herbs aſſiſted my complaints; beaſts, birds, and feathered fowls, ſeemed to pity my moans: but in the midſt of my torments, when my ſoul was ready to forſake this worldly habitation, there appeared to me a queen crowned with a golden diadem, in ſtate and geſture like imperious Juno, and in beauty to divine Diana: her garments for bravery ſeemed to ſtain the rainbow in her brighteſt hue, and for diverſity of colours, to ſurpaſs the flowers in the fields: on her attended many beautiful nymphs, ſome clad in garments in colour like the cryſtal ocean, ſome in attire as gallant as the pleaſant roſe, and ſome more glorious than the azured firmament. Her wiſdom might compare with Apollo's, her judgment with Pallas', and her ſkill with Lucina's.'—In ſhort, at the appearance of the benevolent elfine queen and her beautiful attendants, the pains of Sabra vaniſh, her children are born, and the fairy viſion diſappears. (See the firſt Part, l. 14.)

"Though the imagery and claſſical references in Johnſon ſeem to ſhew that he copied them from ſome poetical compoſition; yet the latter could ſcarcely occur in a *very old* metrical romance. Perhaps he introduced them to ſhew his own claſſical learning, a faſhionable accompliſhment in his age.—Be that as it may, the following imagery in Wieland, who, we believe, never refers to the Roman poets, reſembles the firſt quotation, though we do not venture to aſſert that it proceeds from a common origin.

No more the foreſt bows before the blaſt,
A naked wreck—but where the pillars ſtand
Of arch'd embow'ring roofs that ſhade the land,
Where nature's temple towers ſublime in air,
The pomp of foliage thickens full and fair,
And cluſtering leaves on leaves religious gloom expand.
The earth is deck'd anew with flow'ry bloom,
Fair budding ſmile the garden, grove, and plain,
Charm'd echo thrills the birds' melodious ſtrain,
And rocks are wreath'd with plants that breathe perfume.
From bubbling rills the purling currents ſtray
Down the green moſs, and wind their ſilver way:
And through the night, from time to time renew'd,
The lonely bird amid the thick'ning wood
Trills to the ſilent moon her melancholy lay.

Canto viii. ſt. 50. 51.

"However accidental the preceding reſemblance might be, we can ſcarcely entertain a doubt but that the ſubſequent paſſages in Wieland were derived from the ſame ſource as thoſe in Johnſon. The figures belong to the ſame piece of tapeſtry, but thoſe of the German poet are unqueſtionably on the right ſide. Sir Huon and Rezia (or Amanda) are wrecked on a lonely iſland inhabited only by an aged hermit. After ſome time ſhe finds herſelf in the ſame ſituation as Sabra, and experiences the ſame diſtreſs.

The hour was come: oppreſs'd with ſilent woe,
Amanda, lingering, near the cottage ſtrays
'Mid fragrant ſhrubs that ſhade her ſecret ways,
Where op'ning flowers around profuſely blow,
And breathe freſh incenſe on the gale of morn.
Down a ſmall path ſhe wanders on forlorn;
Then ſtops before a grot, where ivy weaves
The rich luxuriance of her cluſt'ring leaves,
While day's reſplendent beams their gloſſy tint adorn.

Canto viii. ſt. 68.

"This grotto, like the wilderneſs in *The Seven Champions*, is a favourite haunt of the Fairy Queen, till now impervious to mankind; but Amanda

——— with gentle hand
Removes the ivy web, and enters in alone.

At once, a ſecret ſhudder gently ſteals
Along her frame, upon a yielding ſeat
She ſinks, where moſs and blooming roſes meet.
Now only feels, through bone and marrow feels,
Thrill upon thrill ſwift-pierting anguiſh dart—
'Tis paſt—ſweet languor ſteals upon the ſmart.
It ſeems that o'er her eyes pale moon-beams glide,
Gradual in deep and deeper ſhadow dy'd,
Till, ſoftly huſh'd to ſleep, oblivion ſtills her heart.
And from within her a confuſion gleams
Of lovely ſhapes; ſome o'er her ſweep, ſome roll'd,
Each in the other floating, fold on fold;
Mixture of wond'rous mood!—And now it ſeems
Before her knees three lovely angels ſtand:
Clear to her gaze their myſtic rites expand:
And lo! a woman veil'd in roſeate ray,
Holds to her lips, as dies her breath away,
A wreath of roſes freſh that bud beneath her hand.
For the laſt time her higher-beating heart
Thrills with a ſhort and ſoftly-ſilenc'd pain.
The forms are fled away—ſhe ſwoons again:
And now, without remembrance of a ſmart,
Wakes to ſoft notes, and ſeems afar to hear
Their low-lull'd echoes dying from the ear.
The ſiſter forms are vaniſh'd from her view;
Alone before her, robed in roſeate hue,
The gracious *elfine queen* ſoft-ſmiling deigns appear.
Within her arms repos'd a new-born child:
She gives it to Amanda—then, as blown
At diſtance, in a * *wink* away is flown;
Sweet odours breathe where late the fairy ſmil'd—
The dreamer opes her diſenchanted eyes.

Canto viii. ſt. 61.

"It is ſufficient, without proceeding further, to have pointed out the moſt ſtriking inſtance in which authors of ſo heterogeneous a nature, at leaſt in reſpect to talents, as Johnſon and Wieland, coincide. The reader, whoſe curioſity may lead him to compare the opening of the 14th chapter of the *Seven Champions*, with the latter part of the eighth canto in Oberon, will find ſome other reſemblances, though of a leſs obvious nature.

"Poetical alchemy converts the baſeſt ore into the richeſt metal; and had the fantaſtic creed of their ſuperſtitious anceſtors been unknown to Shakſpeare and Milton, we ſhould have loſt many of their moſt pleaſing images. To diſcover the original mine, as in the caſe of Dubartas and Milton, which led us into this ſubject, gratifies our curioſity: and even to trace literary petty larceny in writers of an inferior claſs is not deſtitute of amuſement. The few inſtances we have adduced,

* This word is often introduced and not happily. Almanzor *winks* his ſlaves to approach, and Almanſaris *winks* Sir Huon away, &c. &c.

and innumerable ones might be given, are perhaps ſufficient to ſhew, that thoſe of the Eaſt were as little ſcrupulous in availing themſelves of their predeceſſors' labours as our own countrymen.—'The Loves of Camarupa and Camalata,' though we ſuſpect ſome paſſages interpolated by the Perſian tranſlator, is in all probability the foundation of the fictions we have already noticed in the Arabian Nights and Perſian Tales. The rude and inartificial manner in which it is conſtructed, induces us to ſuppoſe it no modern fabrication.

"Thoſe incidents alſo in Oberon, which coincide with Chaucer's January and May, ſeem to have come originally from the banks of the Ganges: and Einaiut Oollah is much rather to be ſuſpected of having borrowed from his countrymen than from the old bards of Europe.—We forgot to mention that Sir Huon, like Mitra Chandra, is ſuſpected of being purſued by divine vengeance, and thrown overboard to appeaſe the fury of the tempeſt. His undertaking, however, to deprive Haroun Alraſhid, the hero of the Arabian Nights, of his ſilver beard and four grinders, is moſt decidedly an accidental fiction; invented, we may conceive, by a fanciful crazy minſtrel, or merry *Jongleur*, to divert ſome *Mahound-hating* chieftain and his martial followers when the croiſade mania infected Europe.——But we are loſing ourſelves in the labyrinth of conjecture, without any friendly clue, any worm-eaten publication, or black-letter manuſcript, to guide and direct us. We here think it adviſable, therefore, to relinquiſh the ſubject".

FIELD-GARDENING, a kind of *gardening-huſbandry*; the advantages of which are ſet forth in the following extract of a letter from Sir Henry Navaſour, bart. to Lord Carrington This communication publiſhed by the Board of Agriculture as an appendix to Sir John Sinclair's Obſervations, ſtrongly confirms the practicability of a cottager being enabled to keep a cow by the produce of arable land only. (See COTTAGER, *Supp.*)

"The advantages that appeared to me (ſays Sir Henry), in cultivating land in the *Flemiſh* manner, or what is now called, about Fulham and that neighbourhood, the *field gardening* huſbandry, are conſiderable. I have for ſome years encouraged my cottagers in Yorkſhire in this mode of managing their ſmall garths or gardens, which are in general from one to three acres; and I have now an opportunity of ſtating the huſbandry of a poor induſtrious cottager's garth. As the man can neither read nor write, theſe particulars have been tranſmitted to me from his own mouth; and, as I ſaw his land almoſt every day during the laſt harveſt, I can vouch that this account is not far from the truth.

Produce.	Value.	A. R. P.
240 Buſhels of potatoes -	£. 24 0 0	0 2 0
60 Ditto of carrots - -	6 0 0	0 1 0
5 Quarters of oats, at 44*s.* per quarter - - -	11 0 0	0 3 20
4 Loads of clover, part in hay, part cut green - -	12 0 0	1 0 10
Turnips - - -	1 0 0	0 0 20
In garden-ſtuff for the family, viz. beans, peas, cabbages, leeks, &c. - - -	0 0 0	0 0 30
	£. 54 0 0*	3 0 0

Deduct rent - £. 9 0 0 including the houſe.
Seeds, &c. - 3 0 0
Value of labour 10 10 0

Produce before ſtated.

£. 23 2 0 £. 54 0 0
23 2 0

Profit £. 30 18 0 if ſold at market, excluſive of butter.

"His ſtock was two cows and two pigs: one of his cows had a ſummer's gait for twenty weeks with his landlord. The land was partly ploughed and partly dug with the ſpade, cultivated (the ploughing excepted) by the man, his wife, and a girl about twelve years of age, in their *ſpare* hours from their daily *hired* work, ſeldom a whole day off, except in harveſt; made the rent in butter, beſides a little uſed in the family. The man relates that he thinks he clears, one year with another, from the three acres, about £. 30. The daily wages his family earns, about keep them. It is very evident that this man clears from his three acres more than a farmer can poſſibly lay by from more than eighty acres of land in the common huſbandry of the country, paying for horſes, ſervants, &c.; and it muſt be obvious to every one how great the advantages muſt be to ſociety by cultivating land in this manner It would have taken more than half the quantity of his three acres in paſture for one cow at graſs during half the year; whereas (excepting the ſummer's gait for one of his cows, as mentioned before) his ſtock of two cows and two pigs is kept and carried on the whole year. The family lives well, and a handſome ſum has been yearly ſaved to place out two ſons, and ſupply them with clothes, waſhing, &c."

FIELEWIER, an iſland near the W. coaſt of Norway, 22 miles long and four broad, with a town of the ſame name, 48 miles W.N.W. of Drontheim. Long. 10. 40. E. Lat. 63. 44. N.

FIERANZUOLO, a town of Italy, in the Parmeſan, 10 miles S.E. of Placentia. Long. 9. 44 E. Lat. 44. 59. N.

FIEZOLI, an ancient town of Italy, in the Florentino, with a biſhop's ſee, five miles N. E. of Florence. Long. 11. 11. E. Lat. 43. 49. N.

FIGARI, a ſea-port of Corſica, at the mouth of the river of the ſame name, 22 miles W.N.W. of Bonifacio.

FIGARUOLO, an iſland near the coaſt of Venetian Iſtria, in the gulf of Venice. Long. 13. 47. E. Lat. 45. 18. N.

FIGEAC, a town of France, in the department of Lot. It had recently a rich Benedictine abbey, founded in 755, and ſecularized in 1556. It is ſeated on the Sellé, 22 miles E. of Cahors, and 270 S. of Paris. Long. 1. 58. E. Lat. 44. 32. N.

FIGHIG, a town of Barbary, in Biledulgerid. The inhabitants carry on a great trade with the merchants of Morocco and Fez, and with the Negroes. It is 240 miles E.S.E. of Mequinez. Long. 1. 5. W. Lat. 32. 20. N.

FIGUEIRO-DOS-VINHOS, a town of Portugal, in Eſtremadura, famous for excellent wine. It is ſeated among mountains, near the river Zizere, 22 miles N. of Tomar. Long 7. 45. W. Lat 39. 49 N.

FIGUERAS, otherwiſe called ST. FERNANDO DE-FIGUERAS, a ſtrong and important fortreſs of Spain, in Catalonia, 10 miles N.W. of Roſes. It ſurrendered to the French in

* Theſe ſums are conformable to the prices of this year, 1801, but it is evident that in other ſeaſons they muſt in general be lower.

1794, without firing a ſhot. Long. 2. 46. E. Lat. 42. 18. N.

FILLECK, a town of Hungary, in the county of Novigrad, ſeated on the Ipol, 20 miles from Agria. Long. 19. 8. E. Lat. 48. 24. N.

FILTRATION, a method of clarifying turbid liquors by mechanical ſtraining. The term is generally applied to the paſſing of ſuch liquors through filtering paper, flannel, &c. by which the fæculent matter they contain is left behind. It is one of the modes of CLARIFICATION or DEFECATION. See the latter article in this Supplement.

Among the various contrivances, few appear to poſſeſs the advantage of ſimplicity, combined with that of affording an ample ſupply of a fluid ſo eſſentially neceſſary to the preſervation of health, as pure water.—A patent has lately been granted to Mr. JAMES PEACOCK, of Finſbury-ſquare, for a filtering machine, which is ſtated to be ſuperior to any hitherto invented. It completely accompliſhes the purpoſe of filtration, by cauſing the turbid fluid to aſcend through a medium of fine gravel, of progreſſive degrees of fineneſs, by which means the fouleſt water or other fluid becomes perfectly freed from all (mixed) impurities, without any noxious mineral quality, which pumice or other common filtering ſtones are ſuſpected to communicate. Should, from continual uſe, its operation become in any degree impeded, it may be completely cleanſed with the greateſt facility in the ſhort ſpace of one minute; an advantage poſſeſſed by none of the common machines that operate by *deſcent*. Beſide theſe uſeful properties, Mr. PEACOCK's filtering machine does not occupy more room than a large drip-ſtone with its apparatus, and yields a conſtant and pure ſtream of more than 300 gallons in 24 hours.—A ſpecimen of this machine is depoſited for inſpection at Guildhall, London.

The editor of the Domeſtic Encyclopedia, recommends a very ſimple and effectual apparatus, by which the pureſt water may be eaſily procured. This contrivance is calculated on the plan of the celebrated filtering machine erected at Paris, in the vicinity of the *Samaritaine*, and by means of which the foul water of the river Seine is ſo completely purified, as to be diveſted of its laxative properties. Beſides, this machinery, if conſtructed on a large ſcale, is well adapted to ſupply the largeſt breweries, or dyeing works, with any quantity of *pure* water at a trifling expence, and is attended with very little additional trouble.

When we reflect on the method which Nature purſues in the filtration of water, we find that ſuch waters as deſcend from hills, though paſſing through ſand and rocks, are ſeldom perfectly pure; but that thoſe are the moſt limpid, which, by aſcending, ooze out near the foot of a mountain. The cauſe of this difference appears to be owing to the circumſtance, that if the water only *deſcends* through ſand, the fineſt and moſt weighty foreign particles gradually penetrate through the ſandy ſtrata; on the contrary, when it is forced to *riſe* through ſand, all ſuch ponderous ingredients ſettle at the bottom; becauſe, from their greater ſpecific gravity, they cannot aſcend to the top. The lighter particles of fluids, conſequently, in both caſes remain in the upper ſtrata of the earth or ſand.

From theſe conſiderations, Profeſſor *Parrot*, jun. of Paris, was induced to give his filtering machine the form repreſented in pl. 29. fig. 1.

The principal part of the machinery conſiſts of a ſquare veſſel, bent in the form of an inverted ſyphon. The curve may be circular, elliptic, or in any other direction. This veſſel is filled with fine, pure ſand, till nearly the height of the dotted line *x*, *y*, which denotes the aſcent of the water to D, whence it flows into the receiver. The part marked A, B, ſhould always project above this line, according to the ſize of the filtering machine. To A, B, there is attached a woollen bag, which is open at the top, and the lower part of which touches the ſand. It ſerves the purpoſe of collecting the coarſeſt impurities, and thus preſerves the ſand for a longer time from becoming foul. The bag, therefore, may occaſionally be removed, and rinſed in clean water.—It is evident, that the water flows at A, through the bag into the filtre, and riſes at the place marked D, which is conſiderably lower than the former. It affords a very agreeable ſight to obſerve the moſt limpid fluid penetrating the uppermoſt ſtratum of ſand, perfectly ſimilar to that oozing from the pureſt natural ſpring.

Prof. *Parrot* remarks, that he procured a filtering machine made of block-tin, for aſcertaining, by experiments, the purity and quality of water that may thus be obtained in a given time. It conſiſted of the following dimenſions: the ſmall diameter B, E, was eight Paris inches; the large of the whole machine, eleven inches; conſequently the thickneſs of the veſſel A, B, was one inch and a half;—the breadth of it, two inches and ſeven-eighths. The perpendicular height of the lower ſide, from C, its baſis, to the rim D, whence the water iſſues, was four inches and one-twelfth; the oppoſite height of the mouth A, B, eight inches and three-fourths; and the height of the ſand on the ſide marked D, was three inches and one-ſixth.

Although, in experiments of this nature, much depends on the relative ſize and purity of the ſand, which neceſſarily afford different reſults, yet Prof. *Parrot* has, after repeated trials, deduced the following concluſions, which appear to be well founded.

1. That the difference of the *niveau*, or water-level, has an eſſential influence on the quantity of the purified water thus obtained; 2. That a prolongation of the ſtratum of ſand does not conſiderably diminiſh the product of the filtre, but remarkably contributes to the purity of the fluid. 3. That if the water be forced to paſs through the ſand with increaſed velocity, it will be leſs pure than by allowing it a proper time for its paſſage; and, 4. That a machine of the dimenſions above deſcribed, will furniſh about three quarts of water in an hour, or eighteen gallons in twenty-four hours. This quantity, however, being too large in proportion to the ſize of the machine, it is adviſable, either to leſſen the difference of the water-fall; or, which is ſtill better, to prolong the ſtratum of ſand, in order to reduce the filtration of the water to half the quantity above ſtated, and to obtain it in greater purity. Thus, a filtering apparatus eighteen inches long from A to D, two inches thick, and four broad, would afford every hour ſix pints of very pure water. If, therefore, ſo ſmall a machine, containing a very moderate ſtratum of ſand, and requiring only a difference of two or three inches in the height of the water, furniſhes a clear and pure fluid, it follows that an apparatus on a larger ſcale, provided with a bed of ſand from five to ſix feet long, and admitting of a difference from twelve to eighteen inches in the fall of the water, might be uſefully employed in public wells, hydraulic machines, and even in camps, for the ſupply of an army.

In the conſtruction of large filtering machines, Prof. *Parrot* juſtly obſerves, that they ſhould not be extended in the direction A, C, D, to a greater length than is abſolutely neceſſary; as, in this caſe, they will not require any conſiderable difference in the fall and riſe of the water: on the other hand, their breadth and thickneſs may be accordingly increaſed.—Thus, the diameter of ſuch a machine would ſtill more reſemble that of a ſyphon, as is repreſented in the plate, at fig. 2.

This form might alſo be adopted for ſmaller machines,

eſpecially ſuch as are deſigned for *travellers*, two of whom might be amply provided with pure water, and in a very ſhort time, by a veſſel of the following dimenſions: from P, to Q, eight inches long; from P, to R, twelve inches high; and the whole four inches in breadth.

If the form laſt delineated be employed on an extenſive ſcale, there ſhould be a trap-door in the lowermoſt part marked R, ſo conſtructed that it may fit exactly, and admit no paſſage to the water: this aperture would ſerve only for the removal of the ſand, when it is rendered foul by long uſe. In the ſmaller machines, intended for travelling, ſuch a door is unneceſſary, as they may be eaſily emptied of their contents through either of the orifices P, or Q. Inſtead of this addition to the latter, the upper room (which in the firſt of the figures is circumſcribed with the letters B, F, E) might ſerve as a reſervoir of pure water, that could either be decanted, or drawn off by means of a cock applied to the centre of the machine, marked F. We think, however, this latter arrangement, which is propoſed by M. Parrot, in many reſpects objectionable, and therefore adviſe the reader to make uſe of the more ſimplified conſtruction. Hence we ſhall only add, that every filtering machine ought to be provided with a cloth cover, to prevent the duſt from riſing with the water, without impeding its filtration.

It is needleſs to expatiate on the great advantages of filtering machines in the different proceſſes of dyeing, baking, brewing, diſtilling, and all the domeſtic arts. As no particle of real nutriment can be aſſimilated to the human fluids, without being previouſly macerated and reduced by *water* (whether this fluid be introduced into the ſtomach, in the form of beer, wine, ſpirits, tea, &c.), it will be eaſily underſtood that *impure* water cannot fail to produce, however ſlowly, many dangerous, and often incurable, diſeaſes—the ſource of which is ſeldom ſuſpected.

FINALE, a town of Italy, on the coaſt of Genoa, with a ſtrong citadel, two forts, and a caſtle. It was ſold to the Genoeſe, by the emperor Charles VI. in 1713; and is 30 miles S.W. of Genoa. Long. 8. 0. E. Lat. 44. 14. N.

FINALE, a town of Italy, in the Modeneſe. It has been often taken and retaken; and is ſeated on an iſland formed by the river Panaro, 22 miles N.E. of Modena. Long. 11. 25. E. Lat. 44. 46. N.

FINCASTLE, the chief town of Botetourt County, in Virginia, 36 miles E. of Lexington.

FINDHORN, a fiſhing-town in Murrayſhire, at the mouth of a bay of the ſame name, with a tolerable harbour, 17 miles W. by N. of Elgin. Long 3. 40. W. Lat. 57. 45. N.

FINDHORN, a river of Scotland, which riſes in Inverneſsſhire, and croſſing Nairneſhire and the N.W. corner of Murrayſhire, forms a bay, to which it gives name, and which opens into the frith of Murray, at the town of Findhorn.

FINMARK, a part of Daniſh Lapland, in the government of Wardhuys.

FIONDA, an ancient town of Natolia, on the gulf of Satalia, with a biſhop's ſee, 25 miles S.W. of Satalia. Long. 31. 57. E. Lat. 36. 45. N.

FIORENZO, ST. a ſea-port of Corſica, on a gulf of the ſame name, ſeven miles W. of Baſtia. It was taken by the Engliſh and Corſicans, from the French, in 1794. Long. 9. 20. E. Lat. 42. 35. N.

FIRE. See COMBUSTION.

FIRE-ESCAPE; a contrivance for the purpoſe of reſcuing perſons in imminent danger from fire. See ESCAPE in this Supplement.

In the Annual Regiſter for 1775, an account is given of a machine for ſaving perſons and effects from the flames. It conſiſts, 1. Of a pole of fir, which may be of any convenient length, being about five inches in diameter at the bottom, and at the top or ſmalleſt end, about three inches. At the diſtance of three feet from the top, is a mortice through the pole, to which a pulley is fixed, that is nearly of the ſame diameter as that part of the pole. A rope about three-fourths of an inch in diameter, and twice the length of the pole, at one end of which is a ſpring-hook, to paſs through the handle of the baſket, when uſed; it is put through the mortice over the pulley, and drawn tight on each ſide, nearly to the bottom of the pole, where it is ſecured till wanted. 3. A baſket, which ought to be of ſtrong wicker-work, three and a half feet long, two and a half feet wide, rounded off at the corners; and four feet deep, rounding every way at the bottom. To the top of the baſket is fixed a ſtrong iron curve, or handle, with an eye or ring in the middle: a ſmall cord about the length of the pole, is likewiſe faſtened to one ſide of the baſket, near the top.—Theſe being the principal parts, there are alſo ſeveral ſtraps, &c. for ſecuring the poles from ſliding; of which the reader will find a minute account in the volume before quoted. This contrivance can be raiſed, and two or more perſons may be taken out of the upper windows of a houſe, and let down ſafely in the ſtreet, within the ſpace of thirty-five ſeconds, or little more than half a minute.

FIRE-ENGINE (*Encycl.*). Under the articles FIRE and HYDROSTATICS, various uſeful inventions are deſcribed for the purpoſe of extinguiſhing accidental conflagrations. In the year 1785, the ſilver medal and twenty guineas were conferred by the Society for the Encouragement of Arts, &c. on Mr. Furſt, as a reward for his contrivance to increaſe the effect of engines in extinguiſhing fires; of which the following is a ſhort deſcription: From a platform riſes an upright pole or maſt, of ſuch height as may be judged neceſſary; a gaft ſlides upon it in an aſcending direction, and along both is conveyed the leather hoſe from the engine. The branch, or noſe-pipe of the engine projects at the extremity of the gaft; towards which an iron frame is fixed, whence two chains are ſuſpended: and from theſe hang ropes, which ſerve to give an horizontal direction to the branch; while other ropes that run through proper pulleys, and are thus conveyed down the maſt, ſerve likewiſe to communicate a vertical motion to it. By theſe means, the branch or noſe-pipe of the engine is conducted into the window of any room where the fire more immediately rages; and the effect of the water diſcharged is applied in the moſt efficacious manner to the extinguiſhing of the flames.

A patent was granted in January 1790, to Mr. Joſeph Bramah, of Piccadilly, and to Mr. Thomas Dickenſon, of Bedworth Cloſe, in the county of Warwick, for a new improved engine on a rotative principle. The merits of this machine depend on its having two wheels or cylinders of braſs, or any other metal; one of which is of a greater, and the other of a ſmaller diameter, in any proportion required; both are nearly of equal length, but may be increaſed or decreaſed, according to the purpoſe to which the machine is applied. As ſoon as the larger wheel is fixed, the ſmaller one is placed within it, and is faſtened on an axis, ſo as to turn in a rotative direction round its centre; the ſmaller wheel being thus ſtationed, may be occaſionally fixed, and the larger one moved in the ſame direction round the ſmaller one: the former of theſe, however, is preferable in all caſes. At each end of the larger wheel there is a *ſtanch*, to which are ſcrewed two plates, or caps incloſing its ends, and into which the extremities of the ſmaller wheel are inſerted, ſo as to render the junction *watertight*: through theſe caps paſſes the axis of the inner cylinder, in order to communicate motion from without.—Or the inner wheel may be applied ſo as to give motion, by its external end or ends, to any other engine or machine connected with it.—

Theſe are the component parts of Meſſrs. Bramah's and Dickenſon's patent engines; for a more particular account of which, we refer the reader to the 2d vol. of the Repertory of Arts and Manufactures, where he will find a minute account of the machinery, and the effects it is calculated to produce.

A patent was likewiſe granted in December 1792, to Mr. Charles Simpkin, of Oxford-ſtreet, engine maker; for his improvements in all kinds of machines for extinguiſhing fire.—This invention conſiſts in exploding or removing the valves both from that part of the cylinder where the vacuum is made by the piſton or fly, and from beneath the air-veſſel; and in making uſe of valves, by the application of certain filtering chambers, with partitions or diviſions, to preſerve the effect of the valves, during the uſe of any improper fluid. Theſe filtering chambers are to be placed between the drawing valves, and the ſtrainer in common uſe, on the ſuction-pipe. The partitions in the chambers may be of fine wire-work, or of any other ſubſtitute, that will act as a firſt and ſecond filtration in the chamber.

The deſign of this invention is, to render the valves more free of acceſs, and to prevent the neceſſity of opening any other parts of the engine, except the chambers containing the valves; by which means the effect of the machine is increaſed, and conſequently the fire may be more eaſily extinguiſhed.

To theſe different contrivances we ſhall add the American fire-engine, of which we have given an accurate engraving. It was invented by Mr. Benjamin Dearborn, who communicated to the American Academy of Arts and Sciences, from whoſe Memoirs for 1794 we extract the following particulars:

Fig. 1. Plate 30, A B, and C D, are the edges of two planks, confined together by four bolts.—*a b*, and *c d*, are two cylindrical barrels, in each of which a piſton, with a valve, is faſtened to the ſpear *e*, and is moved up and down alternately by the motion of the arms E E. Beneath each barrel a hole is made through the plank A B, which is covered with a valve. The arms E E, are ſuſpended on the common centre *f*: there are alſo arms parallel to theſe on the oppoſite ſide: *g g* are the ends of handles which are faſtened acroſs the ends of the arms. At *h*, a bolt goes acroſs, from arm to arm, to which the piece *i*, *k*, is affixed, and on which it plays; the lower end of this piece is faſtened to the top of the ſpear *e*.—G, *l*, *f*, is a ſtandard for the purpoſe of ſupporting the arms, to which there is a correſpondent one on the oppoſite ſide; both are notched into the edges of the planks, where they are ſecured by a bolt, which paſſes through them at *l*, and has a nut or fore-lock on the oppoſite ſide. H I, H I, are ſquare braces, anſwering the purpoſe of ducts, through which the water aſcends from the barrels, paſſing through the plank at *m*.—K L, K L, are irons in the form of a ſtaple, in order to confine the braces: the lower ends of theſe irons meet, and are ſecured by a bolt, paſſing through them, and M N, *n o*, which is a piece that goes up through a mortice in the centre of the planks. This piece is ſquare from the lower end, till it reaches the top of the braces; whence they become cylindrical to the top, the upper end being perforated ſufficiently low down, in order to communicate with the braces. O, P, is an iron ring, that ſurrounds the tube, and has two ſhanks which aſcend through the head, which ſcrews on the top at *p*, *q*:—*r*, *s*, is a ferule nailed round the tube.

Fig. 2. is the ſame engine; the arms and ſtandards being taken off, in order to delineate more clearly the mode of ſecuring the braces; an object which is completely effected by a wedge driven into the mortice *a*: beneath the upper plank *b*, is a hole for admitting a paſſage to the bolt, which ſecures the ſtandards. In this figure, a ſide view of the head is given, with the pipe in a perpendicular direction.

The machine is confined within a box, ſet on wheels, as in the common fire-engines. The whole is made of wood, excepting the ſpears of the pumps, and a few bolts, &c. The advantages of this machine are, that it can be made in any place where common pumps are manufactured; the interior work will not exceed *one-fourth* of the price of thoſe which are conſtructed on the uſual plan; and that they are incomparably more eaſy to work than the common ones; circumſtances which ſtrongly recommend the American fire-engine to the attention of the public.

On the breaking out of a fire, all conſtables are enjoined, by ſeveral acts of parliament, to repair to the place; to uſe every exertion for extinguiſhing the flames; and to cauſe people to work, &c.—By the 10 Ann, c. 14, no action ſhall be commenced againſt any perſon in whoſe houſe or chamber a fire ſhall break out accidentally: but, if ſuch fire happen through the negligence of any ſervant, the latter incurs a penalty of 100l. to be diſtributed among the ſufferers; and, in default of payment, he is to be impriſoned for 18 months, during which time he is to be kept to hard labour.

FIRMIN (Thomas), an eminent citizen of London, born in 1632, who diſtinguiſhed himſelf by his public benefactions and extenſive charities, as alſo by ſome opinions contrary to the received doctrine of the Trinity. The plague in 1665, the great conflagration in 1666, with the arrival of the French Proteſtants in 1680 and 1681, all furniſhed him with great opportunities of exerting his benevolent diſpoſition. He died in 1697; and was buried in the cloiſters of Chriſt's hoſpital, where his virtues are recorded in a monumental inſcription.

FISH (*Encycl.*). For a patent method of curing fiſh, ſee the article CURING in this Supplement.

FISH RIVER, GREAT, a conſiderable river of Africa, which riſes in the unknown interior regions, divides Caffraria from the country of the Hottentots, and falls into the Indian Ocean, in lat. 30. 30. S. The deepeſt parts of this river are inhabited by the Hippopotamus, and the adjacent woods by elephants, rhinoceroſes, and buffaloes.

FISHER-ROW, a town near Edinburgh, on the W. ſide of the mouth of the Eſk, which contains many handſome houſes, and has ſome excellent villas in its vicinity.

FISHKILL, a town of the ſtate of New York, 66 miles N. of New York. Long. 73. 48. W. Lat. 41. 31. N.

FISSATO, a ſea-port of Barbary, in the province of Tripoli, 90 miles N.W. of Tripoli. Long. 12. 10. E. Lat. 33. 50. N.

FISTELLA, a fortified town of Morocco. The inhabitants carry on a great trade in fine garments. It is 125 miles N.E. of Morocco. Long. 5. 25. W. Lat. 32. 27. N.

FIVE CHURCHES, an epiſcopal town of Hungary, 85 miles S. of Buda. Long. 18. 13. E. Lat. 46. 5. N.

FIUME, or ST. VEIT, a ſea-port of Auſtrian Iſtria, with a caſtle. It is very populous; noted for wine, good figs, and other fruits; and the cathedral is worth obſervation. The harbour is formed by the river Finmara, which enters the bay of Carnero, in the gulf of Venice. It is 37 miles E. of Capo d'Iſtria. Long. 14. 46. E. Lat. 45. 40. N.

FIXLMILLNER (Placidus), a celebrated German aſtronomer, was born on the 28th of May, 1721, at Achleiten, a village in hither Auſtria, not far from Kremſmunſter. He received the rudiments of his education in the convent of Kremſmunſter, which was indebted to his uncle the abbot, Alexander Fixlmillner, for an excellent ſchool and an obſervatory. Placidus conceived an early attachment to the mathematics, and took ſo much pleaſure in delineating mathematical figures, that his mother, out of deriſion, called him the almanack-maker. After ſome ſtay at the above ſeminary, he removed to Salzburg, where he completed his courſe of philoſophy, and obtained in that faculty the degree of doctor. His taſte for the mathematics, however,

became ſtill ſtronger. His father having aſked him one day, what preſent he ſhould give him, he requeſted Wolf's Epitome of the Mathematics; which he ſtudied with the greateſt pleaſure and ſatisfaction, during ſuch hours as he could ſpare from his other avocations: but, having deſtined himſelf for the convent, he was admitted a noviciate at Kremſmunſter, in 1737, and next year he publicly took the vows before his uncle, the abbot Alexander.

After a ſtay of two years in the convent, his *oheim* ſent him again to Salzburg to complete his ſtudies in juriſprudence and theology; but, at the ſame time, he applied with great aſſiduity to the mathematics, languages, hiſtory, and antiquities. He learned alſo to play on the harpſichord and organ; and made ſo much progreſs in muſic, that he compoſed ſeveral pieces both in the ſacred and theatrical ſtyle. He diſputed in ſome theological theſes, obtained the degree of doctor in theology; and in 1745 returned to his convent, where he was conſecrated to the prieſthood.

About this time the *Ritterſchule* having been eſtabliſhed at Kremſmunſter, Placidus was appointed profeſſor of canon law; a department in which he had acquired great reputation at the univerſity. This office he held for forty years, and reſigned it only a ſhort time before his death. Almoſt about the ſame period he was appointed dean of the higher ſchool, and ſoon after principal regent over the young nobility; which places he retained alſo till his death. He poſſeſſed great knowledge of the canon laws, and on that account was often employed in proceſſes and other affairs relating to the convent: he was likewiſe inſcribed *Notarius apoſtolicus in curia Romana.*

In the year 1760 he publiſhed a theological work, under the title of *Reipublicæ Sacræ Origines Divinæ*; but he acquired far more celebrity by his aſtronomical labours, both as an obſerver and a writer. The abbot Alexander Fixlmillner, a great friend of the ſciences, and particularly of the mathematics, having reſolved, in the year 1747, to form an eſtabliſhment in his convent for promoting the latter, firſt ſet apart a ſpacious apartment for the purpoſe of containing mathematical and philoſophical inſtruments. This paved the way for ſomething further; and he determined, for the improvement of his conventuals in aſtronomy, to erect an obſervatory. Among thoſe convents which for a long time have devoted their leiſure and riches to the advancement of ſcience and the good of mankind, none has diſtinguiſhed itſelf more than that of Kremſmunſter. This very old abbey is not the ſeat of infidelity and indolence, but a patron of the nobleſt branches of ſcience. The obſervatory, founded in 1748, was completed in 1758, and the ſuperintendence of it was intruſted to Eugenius Dobler, a brother of the order.

Alexander's ſucceſſor, the abbot Bertohld Vogel, who long reſided at Salzburg, as profeſſor of canon law and rector of the univerſity, being well acquainted with Fixlmillner's great knowledge, particularly in the mathematics, appointed him, in 1762, to be aſtronomer at Kremſmunſter, with leave to retain his office as profeſſor of canon law. He now applied with great zeal to render himſelf more fit for his new occupation, as he had not yet attended much to practical aſtronomy, and was even but little acquainted with thoſe books from which he could obtain information on the ſubject. His great attachment, however, to this ſcience, fine genius, and a deſire of being uſeful to the inſtitution in which he reſided, and to the world, made him overcome every difficulty. The firſt book that fell into his hands was Lalande's *Expoſition du Calcul Aſtronomique*, with which alone, without any oral inſtruction, he began to ſtudy and to make obſervations. This work, together with Vlacq's logarithmetic tables, were for a long time his only ſources and guides, till he at length obtained Lalande's large work on aſtronomy. Fortunately, a carpenter, named John Illinger, born in a village belonging to the abbey, though he could neither read nor write, was able, under the direction of Fixlmillner, to conſtruct for him very neat mural quadrants, zenith ſectors, tranſit inſtruments, and pendulum clocks. Other inſtruments were made for him by Brander of Augſburgh, and he procured achromatic teleſcopes from Dollond; ſo that by his activity the obſervatory at Kremſmunſter ſoon became one of the moſt celebrated, and beſt ſupplied with apparatuſes, in Germany. His principal aſſiſtants were Theod. Derfflinger, who afterwards became his ſucceſſor, and Father B. Waller.

Fixlmillner now acquired a conſiderable rank among aſtronomical writers. In 1765 he publiſhed his *Meridianus Speculæ Aſtron. Cremifanenſis*, in which he eſtabliſhed the firſt elements of his obſervatory, and determined its longitude and latitude. In 1776 he publiſhed his ſecond aſtronomical work, called *Decennium Aſtronomicum*, which contained the obſervations made by him at Kremſmunſter from 1765 to 1775, and which is replete with important and uſeful information. His third work, on which he was employed towards the cloſe of his life, and which was printed after his death, appeared in 1791. It contains a valuable collection of obſervations made between the years 1776 and 1791, together with a great many calculations and treatiſes, which ſtill add to his celebrity in this department. Beſides theſe, many important articles written by him are to be found in the *Journal des Savans*; Bernoulli's Epiſtolary Correſpondence; the French *Ephemerides des Move*; the Aſtronomical Almanac of Berlin; the Aſtronomical Ephemerides of Vienna; and the Memoirs of the Royal Academy of Sciences at Paris.

The important ſervice rendered to the ſcience of aſtronomy by Fixlmillner is well known to all aſtronomers. The great number of his obſervations of Mercury, at a time when they were rare, and difficult to be made, enabled Lalande to complete his accurate tables of that planet, for which the French aſtronomer publicly returned him thanks. Fixlmillner was one of the firſt aſtronomers who obſerved the orbit of the newly-diſcovered planet Uranus. He was alſo the firſt who ſupported Bode's conjecture, that the ſtar 34 in the Bull, obſerved by Flamſtead in the year 1690, and which afterwards diſappeared, was the new planet. Fixlmillner was a man of ſo great application and activity, that he not only made obſervations, but calculated them all himſelf, and deduced from them the neceſſary reſults. All his obſervations, of whatever kind, he calculated on the ſpot; and to avoid errors he always calculated them a ſecond time. To uncommon induſtry he united great penetration and deep reflection, as is proved by the great many excellent remarks and diſcoveries to be found in his works. It muſt here be added, that this able aſtronomer lived in a remote part of the country, at a diſtance from all literary helps, and from others who purſued the ſame ſtudies; that is to ſay, from all thoſe things which could animate his zeal; and yet he continued, till the laſt day of his life, a ſingular inſtance of perſeverance and attachment to his favourite ſtudy. But few men were ſo little ſubject to the imperious power of the paſſions. Simple in his manners, he poſſeſſed great equanimity and firmneſs, like the immutable laws of nature which he ſtudied. His wide-extended celebrity did not render him proud: whatever was written or ſaid in his praiſe, he endeavoured rather to conceal than to publiſh. His cloſe application at length impaired his health, and brought on obſtinate obſtructions, which ended in a diarrhœa. He died on the 27th of Auguſt, 1791, in the 71ſt year of his age, the 53d of his reſidence in the convent, and the 46th after his entering into the prieſthood.

FLADSTRAND, a ſea-port of Denmark, in N. Jutland,

with a harbour defended by three forts. It is 30 miles N.N.E. of Alburg. Long. 10. 19. E. Lat. 57. 33. N.

FLADUNGEN, a town of Franconia, 40 miles N. of Wurtzburg, and 44 N.W. of Bamberg. Long. 9. 57. E. Lat. 50. 22. N.

FLAG (*Encycl.*). The happy event of the union of Great Britain and Ireland has neceſſarily occaſioned an alteration in the national flag. See the repreſentation of the preſent FLAG in plate 30. In it are combined the ſaltiers of St. Andrew and St. Patrick, ſurmounted by the Croſs of St. George. For the armorial enſigns diſplayed in the Royal Standard, ſee UNION in this Supplement.

FLATTERY, CAPE, on the W. coaſt of N. America, diſcovered by Captain Cook in 1778; and ſo named becauſe he was diſappointed at not finding a harbour. Long. 124. 57. W. Lat. 48. 25. N.

FLAVIGINI, a town of France, in the department of Côte d'Or, with a late celebrated Benedictine abbey. It is ſeated on a mountain, 12 miles E. of Semur, and 140 E. of Paris. Long. 4. 37. E. Lat. 47. 26. N.

FLECHE, a town of France, in the department of Sarte. Here is the nobleſt college in France, built in 1603, by Henry IV.; and in the chapel are depoſited his heart and that of his queen in gold boxes. It is ſeated on the river Loire, 22 miles N. of Angers. Long. 0. 3. W. Lat. 47. 39. N.

FLEECY-HOSIERY, a very uſeful kind of manufacture, in which fine fleeces of wool are interwoven into a cotton piece of the common ſtocking texture. The following is the ſpecification of the Patent granted to Mr. Holland, of Broad-ſtreet, Bloomſbury, in the county of Middleſex, for a method of making ſtockings, ſocks, waiſtcoats, and other clothing, for perſons afflicted with complaints requiring warmth, and for common uſe in cold climates, and for making falſe or downy calves in ſtockings. It is dated September 22, 1788.

He deſcribes the nature of his invention in theſe words: "Having in the common ſtocking-frame, twiſted ſilk, cotton yarn, flaxen or hempen thread, worſted or woollen yarn, or any ſuch-like twiſted or ſpun materials, begin the work in the common manner of manufacturing hoſiery, and having worked one or more courſe or courſes in the common way, begin to add a coating, thus: draw the frame over the arch, and then hang wool or Jerſey, raw or unſpun, upon the beards of the needles, and ſlide the ſame off their beards upon their ſtems, till it comes exactly under the nibs of the ſinkers; then ſink the jacks and ſinkers, and bring forward the frame, till the wool or Jerſey is drawn under the beards of the needles, and, having done this, draw the frame over the arch, and place a thread of ſpun materials upon the needles (under the nibs of the ſinkers), and proceed in finiſhing the courſe in the uſual way of manufacturing hoſiery with ſpun materials. Any thing manufactured in this way has, on the one ſide, the appearance of common hoſiery, and on the other ſide the appearance of raw wool. The raw or unſpun materials may be worked in with every courſe, or with every ſecond, third, or other courſe or courſes, in quantity proportioned to the warmth and thickneſs required. The above-mentioned raw or unſpun materials may be fixed alſo thus: having drawn the frame over the arch, hang them upon the beards of the needles, ſlide them off the beards upon their ſtems, and without ſinking the jacks and ſinkers, draw the frame off the arch, and bring the raw or unſpun materials forward under the beards of the needles; then draw the frame over the arch, and proceed in finiſhing the courſe, as before directed. The ſaid raw or unſpun materials may be fixed likewiſe thus: hang them upon the beards of the needles, without having the frame over the arch, and ſlide them off their beards upon their ſtems; then bring forward the frame till the raw or unſpun materials are drawn under the beards of the needles, and, having done this, draw the frame over the arch, and proceed in finiſhing the courſe as before directed. Hoſiery may be coated by any of theſe methods, not only with wool and Jerſey, but alſo with ſilk, cotton, flax, hemp, hair, or other things of the like nature, raw or unſpun, but the method firſt deſcribed fixes them moſt firmly. The common ſtocking-frame is mentioned above, but any other frame, upon a ſimilar principle, may anſwer the purpoſe. The method of making the falſe or downy calves in ſtockings, is by working raw or unſpun wool, or Jerſey, or any other raw or unſpun materials, into the calves of ſtockings, in the different methods before deſcribed, and to any required form or thickneſs." The latter uſe to which this invention is applied, we may be allowed to ſay, is ſomewhat ludicrous.

FLEET, a river in Kircudbrightſhire, which winds through a beautiful valley, and enters Wigton Bay, at Gatehouſe. On the W. ſide of the river are the veſtiges of a camp, a druidical circle, and a vitrified fort.

FLENDSBURG, a town of Denmark, capital of Sleſwick, with a ſtrong citadel. It has a harbour in the Baltic Sea, and is a place of conſiderable commerce, 15 miles N.W. of Sleſwick. Long. 9. 47. E. Lat. 54. 50. N.

FLEURANCE, a town of France, in the department of Gers, 13 miles N. of Auch. Long. 0. 36. E. Lat. 43. 51. N.

FLEURUS, a village of the Netherlands, in the province of Namur, remarkable for a victory gained by the French, over the allies, in 1690; and here, in June 1794, the Auſtrians were defeated in a general attack of the French poſts. It is ſix miles N.E. of Charleroy.

FLEURY, a town of France, in the department of Saone and Loire, 30 miles N. of Chalons. Long. 4. 50. E. Lat. 47. 13. N.

FLEXIBLE STONES. In the Philoſophical Magazine we find a communication from Profeſſor M. A. Pictet, of Geneva, on Flexible Stones, addreſſed to the editor, Mr. Tulloch. Alluding to another writer's deſcription of the *elaſtic quartz*, or *flexible ſand-ſtone*, from Brazil, he wonders that the author did not mention a ſimilar phænomenon which has been obſerved in another ſtony ſubſtance, commonly as inflexible as any ſiliceous aggregate, but thoroughly different in point of chemical compoſition—"I mean" ſays he, "the table of *elaſtic marble*, which is ſhewn at Rome as a great curioſity. A friend of mine, M. Fleuriau de Bellevue, from La Rochelle, who had ſeen it, gueſſed at the cauſe of its flexibility, and went ſo far as to render, by a particular proceſs, any given ſpecimen of Carrara marble as evidently flexible as the table in queſtion. He purſued at Geneva the ſeries of experiments which led him to that diſcovery, and read to our Society of Phyſics and Natural Hiſtory an account of the whole, which has been ſince publiſhed in La Metherie's *Journal de Phyſique*. The following are the leading facts:

"That ſpecies of marble conſiſts, as you well know, in a confuſed aggregation of ſmall irregular cryſtals interwoven in all poſſible directions, and adhering to one another by a certain degree of coheſive force. He thought that if he could, by any proceſs, deſtroy that adherence, without altering much the ſolidity of the cryſtals themſelves, he might thus obtain a looſe, but entire, ſtony aggregate, which would become flexible on account of the relative mobility of the integrant cryſtals, but keep its ſolidity and preſerve its form in conſequence of their being deeply implicated and interwoven among themſelves.

"According to that theory, he undertook a ſeries of experiments by expoſing ſlips of marble to the action of fire in ſand-baths of regularly graduated and well aſcertained temperatures: he thus found a point where the adheſion of the cryſtals was looſened, without any material alteration in their hard-

neſs. He gave to his friends ſome ſpecimens of Carrara marble thus rendered flexible. I have one of them in my poſſeſſion here in London, which may be ſeen by any perſon who ſhould yet entertain any doubts as to the poſſibility of the fact.

"Now, a volcanic fire may have acted on a large maſs of marble nearly as my friend's furnace has done on his ſmall ſpecimens; and this explanation of the natural phænomenon I conſider as being as near to truth as moſt of our conjectures on ſimilar ſubjects can be."

FLIE, or VLIELAND, an iſland on the coaſt of Holland, at the middle of the entrance of the Zuyder-Zee.

FLIX, a town of Spain, in Catalonia, ſtrong both by art and nature. It is built on a peninſula, in the river Ebro, where it makes an elbow, which ſerves the town inſtead of a ditch, and may be conducted quite round it. The ſide where the river does not paſs, is covered by mountains, and defended by a caſtle on an eminence; and near it is a waterfall. It is 20 miles S. of Lerida. Long. 0. 26. E. Lat. 41. 15. N.

FLOATING BATHS. As the erection of public baths has, from the remoteſt ages, been conſidered an object worthy of national attention, and private ſolicitude, we have ſelected the following article from the Domeſtic Encyclopedia: The floating baths at Hamburgh are an eſtabliſhment which owes its origin to the enlightened members of the "Society for the encouragement of Arts and Uſeful Trades," founded in that city, in the year 1765. Theſe baths were projected by Dr. Moldenhawer, phyſician at Hamburgh, and erected by public ſubſcription, on a ſmall lake of freſh water, called the *Alſter*. M. Arens, an eminent architect of the ſame city, delineated the plan of the building, which, we are informed, is an improvement on ſimilar baths eſtabliſhed in the principal towns of the French republic.

Although we have not had an opportunity of comparing the *internal* conſtruction of the Hamburgh baths, with thoſe floating on the river Thames, near Weſtminſter-bridge, yet we have reaſon to believe that they are eſſentially different from any other exiſting in this country. Induced by this conſideration, and convinced of the intrinſic advantages which the former poſſeſs, independent of their beautiful external appearance, we have cauſed accurate repreſentations to be given in Plate 29, of which the following is an explanation:

Fig. 1, *A, The elevation of the longitudinal front of the Floating Bath*, with its ornamental entrance; of the ſurrounding gallery, and the tents expanded over the bathing machines, and covered with ſail-cloth, which had been four times varniſhed. The wooden roof is alſo covered with ſtrong ſail-cloth, which had been repeatedly coated with tar. The whole veſſel is 80 feet in length, and 40 in breadth.

B, Elevation of the tranſverſe ſide of the Floating Bath, with its glaſs doors and windows, through the former of which the corridor, and through the latter the cabins on each ſide receive their light.

C, Section of the Building: namely, *a, b*, of the *Bathing Machines*, and *c, c*, of the chambers for undreſſing and dreſſing. On each longitudinal ſide of the veſſel, there are (as appears on inſpecting Plate 29) ſix of theſe *chambers*, which may be eaſily opened from within; and on each tranſverſe ſide are two *lateral cabins*, partly furniſhed, and partly deſigned for ſtore-rooms, to hold various implements.

The corridor, extending from one ſide-door to the other, within the centre of the building (ſee fig. 2, *B, f*), is ſeven feet and a half wide; and on each ſide are the bathing machines and chambers.

Theſe *chambers* for undreſſing and dreſſing, which are provided with ſky-lights, and marked *c*, are ſeven feet and a half in length, and four feet wide. They are anti-chambers to the bathing machines *a, b*, and each of the former contains the moſt neceſſary articles of furniture, ſuch as a table, chair, looking-glaſs, cork-couch (for ſupporting the feet till they are dried, after coming from the bath), pegs for ſuſpending clothes, a boot-jack, &c.

The bathing machines *a, b*, below the ſurface of the water, conſiſt of four ſides, made of laths two inches thick, through which it flows, and they are provided with a ſolid wooden floor, ſecured by iron ſtaples. Theſe machines are ſix feet broad and ſeven long, ſo that the whole body may move in them without conſtraint.

Their conſtruction renders them moveable, ſo that they may be raiſed or lowered at pleaſure and with little trouble, as appears from the machine *b*; while the impurities ſettled at the bottom may be eaſily removed. At the ſide of the ſteps (ſee fig. 2, *h*), which extend to the bottom of the bathing machine, the latter is provided with a balluſter (fig. 2, *i*), adjacent to which is placed a table and chair. The bathing machines are adapted to different depths of water, ſo that every individual may regulate them at $2\frac{1}{2}$, 3, $3\frac{1}{2}$, or 4 feet in depth, and theſe proportions are marked within the chamber. Above each machine are ſuſpended two ſtrings, one of which is connected with a bell fixed in the corridor, for calling the waiter: by means of the other, the bathing perſon may exclude the current of air circulating between the bottom of the floating veſſel and the ſurface of the water, as there is a wooden board which ſlides down for that purpoſe.

Fig. 2, *A*, Repreſents the conſtruction of the floating veſſel, which ſerves for the foundation of the building. It conſiſts of ſtrong double fir-beams, connected with each other by iron bolts and ſtaples.

B, Repreſents the *ground-plan* of one half of the floating veſſel; *a*, the entrance; *b*, a room on the oppoſite ſide for the waiter, who is appointed to receive and deliver the admiſſion tickets, &c.; *c*, the lateral cabins; *d*, the undreſſing chambers; *e*, the bathing machines; *f*, the corridor; *g*, the ſurrounding gallery; *h*, the ſtaircaſes leading into the water; *i*, the balluſters at the bathing machines: all theſe parts have already been deſcribed.

In his *View of the Ruſſian Empire*, the Rev. W. TOOKE, who reſided many years in that country, ſays, "It is not to be doubted that the Ruſſians owe their longevity, their robuſt ſtate of health, their little diſpoſition to certain mortal diſeaſes, and their happy and cheerful temper, moſtly to theſe baths; though climate, aliment, and habits of living, likewiſe contribute their ſhare.—The great Lord-chancellor Bacon, and other ſagacious obſervers of nature and of mankind, have lamented, and certainly not without cauſe, that this bathing has fallen into diſuſe among the modern nations of Europe, and juſtly wiſh the practice back again in all our towns and villages. In fact, when we conſider that the old phyſicians ſo early introduced into their practice this remedy of Nature's own invention, and employed it with ſuch great ſucceſs; when we recollect that Rome, for five hundred years together, had no phyſicians, but only baths, and that to this day a multitude of nations cure almoſt all their maladies merely by baths; we cannot avoid regarding the diſmiſſion of them as the epocha of a grand revolution which has been wrought in the phyſical ſtate of the human race, in our quarter of the world.

"The natural perſpiration, the moſt important of all excretions, muſt naturally go on better in a body conſtantly kept ſoft by bathing. A great number of impurities which privily lay in us, the train to tedious and dangerous diſtempers, are timely removed, ere they poiſon the blood and the juices.—All exanthematic diſeaſes are abated by bathing, conſequently

then the ſmall-pox; and if this dreadful diſorder be actually leſs fatal in Ruſſia than in other countries, this phenomenon need not be attributed to any other cauſe than the vapour-baths."

FLODDON, a village in Northumberland, five miles N. of Wooler. Near this place a bloody battle was fought between the Engliſh and Scots in 1513, in which James IV of Scotland was killed, with the principal of his nobility, and 10,000 men.

FLORAC, a town of France, in the department of Lozere, 13 miles S. of Mende, and 23 N.W. of Alais. Long. 3. 30. E. Lat. 44. 18. N.

FLORENT (St.), a town of France, in the department of Maine and Loire, with a late rich Benedictine abbey; ſeated on the Loire, 20 miles W.S.W. of Angers. Long. 0. 56. W. Lat. 47. 24. N.

FLORENTIN (St.), a town of France, in the department of Yonne, at the confluence of the Armance and Armançon, 15 miles N.E. of Auxerre, and 80 S.E. of Paris. Long. 3. 55. E. Lat. 48. 1. N.

FLORENTINO, one of the three provinces of Tuſcany; bounded on the W. by the republic of Lucca and the Modeneſe, on the N. by the Apennines, on the E. by the duchy of Urbino, and on the S. by the Sienneſe. It is well watered, and very fertile. Florence is the capital.

FLORES, a fertile iſland, one of the Azores, ſo called from the abundance of flowers found upon it. Long. 31. 0. W. Lat. 39 34. N.

FLOTZ, a town of Upper Saxony, in the principality of Anhalt Zerbſt, ſix miles N.W. of Zerbſt.

Flotz, a town of Walachia, ſeated on the Geniſſa, near its influx into the Danube.

FLOUR (St.), an epiſcopal town of France, in the department of Cantal. Good knives are made here, and its fairs are famous for the ſales of mules and rye. It is ſeated on a mountain, 45 miles S. of Clermont and 250 of Paris. Long. 3. 11. E. Lat. 45. 2. N.

Flour (*Encycl.*). In 1795, when the extreme dearneſs of bread made all perſons anxiouſly attend to every circumſtance which contributed to enhance its price, a *Friendly Society* at Rothley, in Leiceſterſhire, determined to employ 50*l.* of their capital in purchaſing corn, and to diſpoſe of the flour obtained from it at a low price. Their chief object was to ſupply the members of the ſociety with flour at prime coſt. They purpoſed alſo to ſell it to their neighbours at a price, which, though conſiderably lower than that at which the article was retailed by the neighbouring millers and huckſters, might give them legal intereſt for their 50*l.* and indemnify them for contingent expences and loſſes. In a ſhort time, however, this diſtinction between members and other perſons was thought invidious; and flour was ſold by the ſtone to all who applied, on ſuch terms as would barely reimburſe the price of the corn and the expences, and afford intereſt for the 50l.

It was their reſolution to ſell for ready money only; and they fixed on a part of every Monday, when two of their members were to attend at their club-room, and ſupply ſuch purchaſers as ſhould apply there. They bought a quantity of corn with the aſſiſtance of a reſpectable farmer; and found that they could ſell the flour for at leaſt ſixpence a ſtone (of 14lb.) leſs than was charged for flour, apparently of the ſame quality, by the neighbouring dealers. The ſaving to the purchaſers was about 20*l.* per cent. Flour continued to be ſold to the amount of 10*l.* or 12*l.* every week, until after ſome months had elapſed, when the millers lowered the prices, and the ſales decreaſed. From that time to the preſent, from 4*l.* to 7*l.* has been the amount of the weekly ſum received at the ſales.

When the plan of the ſociety was firſt ſet on foot, they ſold much more barley flour than wheat flour; but, as corn became cheaper, the poor returned by degrees to the uſe of wheat, to which moſt of them had been accuſtomed; and now the quantity of wheat flour diſpoſed of is three-fourths or four-fifths of the whole quantity ſold. The wheat is ground into a ſort of flour called "thirds," without any of the finer part of the flour being taken from it; and thus all the nutritious qualities of the grain are preſerved. The bread made of this flour is very wholeſome and palatable, and not ſo brown as that which is frequently eaten in farmers' houſes. There is a very ready ſale for the bran, which, in order to make the flour of the requiſite quality, is ſeparated at the mill from the groſs produce of the wheat. The miller is not paid for grinding by an allowance of toll, but in money; which is found to be by far the moſt eligible method of ſatisfying his demands. For ſome time flour has been ſold on two days of the week, for the better accommodation of the poor.

The foregoing plan has effectually anſwered the purpoſe of keeping the price of flour as low as that of corn would admit; and, in ſome degree, of improving the quality of the flour ſold in the neighbourhood, by affording the poor a certainty of buying it, in its pureſt ſtate, of the friendly ſociety.

Every thing that contributes to ſupply the poor with genuine flour, at a fair price, is of very great importance; otherwiſe the greater part of the poor will be compelled to apply to the mealman, the huckſter, or the baker, for the chief article of their food; and, in general, to pay from 15*l.* to 25*l.* per cent., probably upon an average 20*l.* per cent. more than the original coſt of the flour. The mode adopted at Rothley, is ſuch as would be imitable in almoſt every part of the kingdom; and it has the merit of putting into the hands of the ſuffering individuals, their own remedy againſt the monopoly of the millers.—It is to be obſerved, that the power of purchaſing corn is by no means ſo clear and deciſive a benefit to the poor, as that of purchaſing flour at prime coſt.

The benefit of the plan adopted at Rothley is ſo evident, the mode of proceſs ſo ſimple, and the amount of expence ſo eaſily aſcertained, that arguments in its favour are unneceſſary. It may however be of uſe to ſuggeſt ſome cautions, grounded on circumſtances which have happened at Rothley, as to the mode of executing ſuch a plan.—1ſt. It is material that the price ſhould be ſuch as will allow at leaſt in ſome degree for the riſk of the ſpeculation. An unexpected loſs has happened at Rothley by a ſudden fall in the price of wheat, and by the deſtruction of ſome corn in a windmill.—2dly. The ſociety ſhould be prepared for the effects of a competition, on the part of the neighbouring millers. A reduction in their price of flour, bringing it nearly if not quite to a level with the price of the ſociety, will aſſuredly take place. This, though in fact one of the very beneficial conſequences of ſuch a meaſure, will leſſen the cuſtom of the ſociety for a time, while it affords incontrovertible evidence of the utility of the plan, and of the ſervice which it has done the neighbourhood.—3dly. The accounts, in this and in all other matters of buying and ſelling, ſhould be very correctly kept. If this is not done, every ſuch undertaking will in the end be a loſing trade.—4thly. It is eſſential, that the reſolution of ſelling for ready money only, ſhould be punctiliouſly adhered to: otherwiſe the ſociety will hold out a moſt pernicious temptation to the poor to run in debt, and will involve itſelf in the riſk of being induced to give them ſtill more credit, in order to obtain payment of their exiſting debts. Beſides, where a ſociety is numerous, and conſiſts of manufacturers, artizans, and day-labourers, there is no poſſibility of aſcertaining the line to be

adhered to, when the rule has been once broken. Each individual will vote that his neighbour ſhould have the ſame, or a greater indulgence than the perſon who preceded him. Thus all the diſtinctions, uſually made by private ſhopkeepers in giving credit, will be diſregarded, and ruin muſt enſue. In caſes of private trade, credit is given for the purpoſe of obtaining cuſtom: but when public benefit is the ſole object of a ſociety, they may diſregard the little arts of the ſhopkeeper; and proceed inflexibly upon that plan, which is moſt beneficial to the individual, and to the public.

Similar modes of procuring a regular ſupply of flour, at a moderate price, have been adopted at Quorndon, Sileby, Mountforrell, and ſome other places in Leiceſterſhire; recommended by the ſame benefits, as thoſe attending the execution of the plan at Rothley.

An account of a mode adopted in the pariſh of Hadham, in the county of Hertford, for ſupplying the poor with flour of the beſt quality, and at a reaſonable rate, is given by the Rev. Dr. Hamilton, in the Reports of the Society for bettering the Condition of the Poor.

"During the whole of the autumn of 1797," ſays Dr. Hamilton, "complaints were made, throughout the pariſh and neighbourhood of Hadham, of the great difference in the proportional price of wheat at the markets, and of flour as ſold at the mill, or in the ſhops. I was very ſenſible of the grounds for diſcontent, both in the ſellers of wheat, and the purchaſers of flour; and, as a remedy for the grievance, I determined to procure, from time to time, a ſufficient quantity of good wheat from the market (having prevailed on a very reſpectable miller in the neighbourhood, to undertake to grind for me as much as I ſhould require), by which means I might be able to ſupply the poor of the whole pariſh with good flour, and at a reaſonable price. This has been done for theſe laſt three months, and is ſtill in practice, giving very great ſatisfaction to the poor, who are the purchaſers.—My firſt purchaſe was as follows:

	£.	s.	d.
110 buſhels of wheat - - -	30	4	0
Grinding, dreſſing, and bringing home -	1	12	3
Total	31	16	3

PRODUCE.

340 pecks and 3 lb. of flour, at 1s. 9d. per peck	30	2	5
18 ſtrikes of pollard, at 1s. 6d. per ſtrike -	1	7	0
2 quarters and 4 buſhels of bran, at 8s. per quarter	1	0	0
	32	9	5
Prime coſt	31	16	3
Profit	0	13	2

"This accommodation to the poor has been effected without any expence, except the advance of 40l. and with very little trouble. At the pariſh work-houſe there is a large vacant room, where the ſacks of flour are depoſited, as they come from the mill; and, twice in the week, a ſervant attends two hours, with the maſter of the work-houſe, in the flour chamber; and the poor are, with great convenience, thus ſerved with the beſt wheat flour, and with full meaſure."

Dr. Hamilton's agent ſold, during the fortnight, about 40 ſacks, at 1s. a buſhel under the ſhop price; the ſaving upon which, to the poor who are purchaſers, amounts to 5l. per week: he is not at preſent able to tell exactly what the profit or loſs is; but he believes it is not much either way. Wheat too has been riſing almoſt every week for ſome time; and probably he muſt raiſe his price one penny in the peck. His calculation, as to the load of wheat which he has juſt bought, is as follows:

	£.	s.	d.
Price of the load - - -	12	0	0
Grinding, ditto - - -	0	8	0
Carriage from the mill - -	0	3	9
	12	11	9

PRODUCE.

124 pecks of flour, at 1s. 10d. -	11	7	4
8 ſtrikes of pollard, at 1s. 6d. -	0	12	0
1 quarter of bran, at 8s. - -	0	8	0
	12	7	4
Loſs -	0	4	5
	12	11	9

OBSERVATIONS.

By theſe means the poor are enabled to purchaſe their flour, with a ſaving of at leaſt 4d. in every peck, excluſive of the benefit of having it of the beſt ſort, and full meaſure*; which, at 5l. per week (the gain on twenty ſacks), amounts to 260l. per ann.; being two-thirds of the whole poor's-rate of the pariſh of Hadham. This plan gives ſuch general ſatisfaction, that it will probably be ſoon adopted in the adjoining pariſhes; the poor of which have been, in ſome inſtances, ſupplied from the ſtock. It is alſo beneficial to the other claſſes of life, as well as to the poor: the miller, upon this flour being ſold, at firſt reduced his price from 8s. 8d. to 8s. 4d.; and he has not raiſed it for the laſt two months, though the price of wheat conſiderably advanced during that period.

Every thing that can be done, to enable the poor to procure the neceſſaries of life, at a moderate rate, of full meaſure, and of good quality, is of the utmoſt importance. It has been the misfortune of this country, that, in every article of food, the profits of the ſpeculator interfere between the growth and the conſumption; and, in ſome inſtances, increaſe the price to nearly double. If the farmer would ſupply his labourer with flour, potatoes, bacon, and cheeſe, † at prime coſt, he would enable him to maintain his family much better, and at leſs ex-

* It is ſaid in confirmation of Dr. Hamilton's obſervation, that in the ſouth diviſion of Eaſington ward, in the county of Durham, on a ſtrict inſpection of weights and ſcales by order of the magiſtrates, the deficiency diſcovered in the ſmaller ſhops was ſuch (as appears by the ſtatement of the chief conſtable who made the examination) as had occaſioned a loſs to the poor of that diſtrict, though ſmall and by no means populous, amounting to not leſs than 500l. a-year.

† It would be a very deſirable thing that the poor ſhould be able to ſupply themſelves with beer of their own brewing, without being obliged always to recur to the alehouſe. We are aware of the diſadvantage in brewing ſmall quantities; but that might be compenſated for by great advantages, and by the ſuperior flavour of beer *brewed and drank at home*.—The following receipt is according to the proportions uſed in the Houſe of Induſtry, at Shrewſbury. Take half a buſhel of malt, and four pounds of treacle, and three quarters of a pound of hops; this will make twenty-five gallons of beer; the coſt of which (ſuppoſing the

pence, and thereby prevent the increaſe of the poor's-rate: he would attach him to his ſervice, and put an end to the old complaint of the "*rambling and unſettled diſpoſition of the poor*:" he would alſo keep down the price of labour; which is neceſſarily increaſed on account of the diſadvantageous ſituation in which the labourer is placed as to the purchaſe of every neceſſary of life. In ſhort, the farmer would do his labourer much good, and himſelf more.

FLOWERS (*Encycl.*). Though no parts of plants are more generally known than their flowers, yet the definitions given by different authors of this word are very various, and neceſſary to be explained in order to the underſtanding of their works. Jungius defines it to be the moſt tender part of a plant, remarkable for its colour or form, or for both, and cohering with the fruit. But this author himſelf acknowledges his definition to be too limited, as there are ſeveral plants whoſe flowers are produced remote from their fruit. Mr. Ray ſays, the flowers cohere for the moſt part with the rudiments of the fruit: which is likewiſe a phraſeology too inaccurate to be admitted in definitions. Tournefort defines the flower to be a part of a plant very often remarkable for its peculiar colours, for the moſt part adhering to the young fruit, to which it ſeems to afford the firſt nouriſhment, in order to explicate its moſt tender parts: but this is ſtill a more indeterminate definition than the former. Pontedera defines a flower to be a part of a plant, unlike the reſt in form and nature. If the flower has a tube, it adheres to, or is fixed very near, the embryo, to the uſe of which it is ſubſervient; but if the flower has no tube, then its baſe does not adhere to the embryo. This definition is ſcarce intelligible, except to expert botaniſts. Juſſieu defines a flower to be compoſed of chives and a piſtillum, and to be of uſe in the generation of the plant: but this definition is too imperfect, as there are many plants in which the piſtillum is found at a great diſtance from the chives, many flowers which have no piſtillum, and many which have no chives. Vaillant has been happier in his definition. He ſays, that flowers are the organs which conſtitute the ſexes of plants, which are ſometimes found naked, and without any covering; and that the petals which moſt of them have are no way eſſential to their uſe, but ſerve, and are intended, merely as covers for them: but yet, as theſe coats or coverings are the moſt conſpicuous and moſt beautiful parts of the flowers, theſe are to be called *flowers*, be they of whatever form or ſtructure or colour; and whether they contain the organs of both ſexes in each individual, or only of one, or even but of ſome part of one, provided they are not of the ſame figure and colour with the leaves of the plant. The ſhorteſt and moſt expreſs definition, however, ſeems to be that of Martin; which is, that flowers are the organs of generation of both ſexes, adhering to a common placenta, together with their common covering; or of either ſex ſeparately, with its proper coverings if it have any.

The parts of flowers have been already deſcribed under BOTANY, p. 33, yet we apprehend the following general remarks made by eminent botaniſts, on *growth*, *enlargement*, *colours*, and *duplication of flowers*, particularly thoſe of Dr. Darwin, will be very acceptable.

I. It is an eſtabliſhed fact, that flowers as well as fruits grow larger in the ſhade, and ripen and decay ſooneſt when expoſed to the ſun. Hence, likewiſe, the foliage or buds of plants requires more moiſture for its vigorous growth than their flowers, or organs of fructification. Further, obſerves Dr. DARWIN, the frequent rains of our climate, are apt not only to waſh off the farina from the burſting anthers, and thus to prevent the impregnation of the piſtil, but alſo to delay the ripening of the fruit or ſeeds, from the want of a due evaporation of their perſpirable matter, as well as from the deficiency of ſolar light in the cloudy ſeaſons. In another place of his admirable *Phytologia*, this philoſopher remarks that, as a ſuperfluous ſupply of water is more friendly to the growth of leaf-buds, than to the generation of flower-buds, the production of ſeeds may be forwarded by ſupplying their roots with leſs water than uſual. But when the bloſſoms appear, an addition of water promotes their growth, by affording nouriſhment, which ſhould again be leſſened, when the fruit has acquired its full ſize, both to promote its maturity and improve its flavour; as the ſaccharine matter and eſſential oil will thus be in a leſs diluted ſtate.—Although the fruit may become ſweeter and larger, when the green as well as the floral leaves continue on the tree, yet the corols, with the ſtamens, ſtigmas, and nectaries (the ſucceeding fruit not conſidered), ſuffer, in the opinion of Dr. DARWIN, no injury when both kinds of leaves are removed, as by the depredations of inſects. Nay, ſome floriſts aſſert, that the flowers thus become ſtronger, producing no bulbs, as is the caſe with tulips and hyacinths.

2. The variegated *colours* of the petals of flowers are ſo beautiful, and afford ſuch delight to the eye of the contemplative naturaliſt, as to deſerve ſome inveſtigation. It is probable that *varieties* in the colours of ſingle flowers raiſed from ſeeds, may be generally obtained by ſowing thoſe which already poſſeſs different ſhades, contiguous to others of the ſame ſpecies; or, by bending the flowers of one colour, and ſhaking the anther-duſt over thoſe of another. Thus Dr. DARWIN ſuppoſes the beds of the corn blue-bottle, *centaurea cyanus*, acquire thoſe beautiful ſhades of blue, purple, and white. As ſome animals change their natural colours, when tranſplanted in different ſituations of ſoil, a ſimilar effect may be produced by ſowing flowers in factitious compoſts, which conſiderably differ from each other with reſpect to vegetable nutriment, and perhaps alſo in their colour. Experiments on this ſubject, as well as on the variegation of the leaves of ſhrubs and trees, are however wanting to confirm this conjecture; though the latter probably originates from ſoil or ſituation, and may be communicated by ingrafting.—The origin of *new* colours in flowers, and of variegated foliage, is imagined to ariſe from the want of nouriſhment of the ſoil on which they grow, compared to that aſſigned to them by Nature; or from a defect of moiſture and of heat; a ſuppoſition countenanced by the dwarfiſh ſize of ſuch plants, in general, and eſpecially by the reduced ſtature of tulips, when their petals acquire various colours.

The immediate cauſe of the various colours preſented by ſome flowers, ſuch as poppies, has not hitherto been diſtinctly aſcertained; but Dr. DARWIN conjectures that, as they are not variable by the obliquity with which they are ſeen, like thoſe of mother-pearl, card-fiſh, &c. they do not depend on the thinneſs of their pellicle, and may, therefore, ariſe from the greater facility which ſome parts of vegetables, more than others, poſſeſs in parting with their *oxygen* (which ſee) when expoſed to the ſun's light; for all flowers are more or leſs blanched before they firſt open.

3. The origin of *double flowers* is believed to reſult from the luxuriant growth of the plant, in conſequence of exceſſive nou-

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value of the grains to be only equal to the expence of fuel) would be 2d. a gallon, where the materials were purchaſed to the beſt advantage; and, when bought at the retail ſhop, about 3d. The receipt was tried and found to anſwer; the beer being very good. It was fit for uſe in a fortnight; but it is not calculated for keeping, particularly in warm weather.

riſhment, moiſture, and warmth: they ariſe from the increaſe of ſome parts of the flower, and the conſequent excluſion of others. As they produce a greater blaze of colour in a ſmall ſpace, and continue in bloom for ſome weeks longer than ſingle flowers, the method of producing them from ſeeds is a matter of importance. Botaniſts very properly term ſuch multiplied flowers *vegetable monſters*, becauſe they poſſeſs no ſtamens or piſtils, and therefore can produce no ſeeds.—Nevertheleſs, they are frequently raiſed immediately from ſeeds; becauſe flowers cultivated with more manure, moiſture, and warmth than is congenial to them, not only grow larger and more vigorouſly, but likewiſe ſhew a tendency to become double, by having one or two ſupernumerary piſtils in each flower, ſuch as the ſtock July flower, cheiranthus, and anemone. It is ſtill more remarkable, that this duplicature is communicated to thoſe individual bloſſoms: hence floriſts tie a thread round ſuch flowers, to mark them, and to collect their ſeeds ſeparately, from which double or full flowers are ſaid to be uniformly produced, if they be cultivated with additional manure, moiſture, and warmth, as has been already obſerved.—There ſubſiſts a curious analogy, concludes Dr. DARWIN, between theſe vegetable monſters and thoſe of the animal world; for a duplicature of limbs frequently attends the latter, as chickens and turkeys with four legs and four wings, and calves with two heads. In mules, alſo, the moſt important organs become deficient, ſo that they cannot propagate their ſpecies; exactly analogous to theſe full flowers which, from the ſame cauſe, produce no ſeed. With reſpect to botanic ſyſtems, it may be obſerved from theſe vegetables of exuberant growth, that the ſtamens and piſtils are leſs liable to change than the corols and nectaries; conſequently, that they are more proper parts for arranging plants into claſſes; and that on this idea LINNÆUS conſtructed his unrivalled ſyſtem. Laſtly, the calyx, or perianth, being ſeldom found in a double or multiplied ſtate, is the next part of a flower that is liable to the leaſt changes; and may, therefore, on accurate inſpection, ſerve to detect the genera of double flowers.

FOCHABERS, a town in Banffſhire, ſeated in a plain, near the river Spey. Here is Gordon caſtle, the princely manſion of the Duke of Gordon; and in the town, many girls are employed in ſpinning, and the manufacture of ſewing thread, under the patronage of the ducheſs. It is 48 miles N.W. of Aberdeen.

FO-CHAN, a village of China, in the province of Quang-tong. It is called a village, becauſe it has no walls nor a preſiding governor, although it has a great trade, and contains more houſes and inhabitants than Canton. It is reckoned to be nine miles in circumference, and to contain 1,000,000 inhabitants. It is 12 miles from Canton.

FOCHIA NOVA, a ſea-port of Natolia, with a good harbour, and a caſtle. The Venetians beat the Turkiſh fleet, near this place, in 1650. It is ſeated on the gulf of Sanderley, at the mouth of the Hermus, 28 miles N.W. of Smyrna. Long. 26. 39. E. Lat. 38. 44. N.

FODWAR, a town of Hungary, ſeated on the Danube, oppoſite Colocza Long. 19. 16. E. Lat. 46. 39. N.

FOGARAS, a town and caſtle of Tranſylvania, on the river Alauta, 30 miles N.E. of Hermanſtadt. Long. 25. 25. E. Lat. 46. 30. N.

FOGGIA, a town of Naples in Capitanata, ſeated near the Cerbero, 20 miles S.W. of Manfredonia.

FOGLIA, a river of Italy, which riſes on the confines of Tuſcany, croſſes the duchy of Urbino, and falls into the gulf of Venice, and Peſaro.

FOGLISSO, a town of Piedmont, five miles N.W. of Chivas, and 13 W. of Creſcentino.

FOHR, or FORA, an iſland of Denmark, about 12 miles in circumference, near the coaſt of Sleſwick. Long. 5. 31. E. Lat. 54. 44. N.

FOIA, an ancient town of Natolia, on the gulf of Smyrna, with a good harbour and a ſtrong caſtle, 30 miles N. of Smyrna.

FOIX, a town of France, in the department of Arriege. Here is a manufacture of coarſe woollen cloths, and ſome copper-mills, which metal is a conſiderable object of commerce. It is ſeated on the Arriege, at the foot of the Pyrennées, eight miles S. of Paniers. Long. 1. 32. E. Lat. 43. 0. N.

FOLIGNI, an epiſcopal and trading town of Italy, in the duchy of Umbria; remarkable for its ſweetmeats, paper-mills, ſilk manufactures, and fairs. It is ſeated on the declivity of a mountain, near a fertile plain, 69 miles N. of Rome. Long. 12. 24. E. Lat. 42. 48. N.

FONDI, an epiſcopal town of Naples, in Terra di Lavoro, ſeated on a fertile plain, but in a bad air, near a lake of its own name, 42 miles N.W. of Capua, and 50 S.E. of Rome. Long. 13. 24. E. Lat. 41. 22. N.

FONG-TSIANG-FOU, a city of China, in the province of Chen-ſi. Its diſtrict contains eight cities of the ſecond and third claſs. It is 495 miles S.W. of Pekin.

FONS, a town of France, in the department of Lot, five miles N.W. of Figeac. Long. 1. 55. E. Lat. 44. 37. N.

FONTAINE L'EVEQUE, a town of France, in the department of the North, near the river Sambre, three miles W. of Charleroy. Long. 4. 18. E. Lat. 50. 23. N.

FONTANETTO, a town of Piedmont, ſeven miles E. of Creſcentino.

FONTELLO, a town of Portugal, in Beira, ſix miles N.E. of Lamego. Long. 7 27. W. Lat. 51. 36. N.

FONTENAI-LE-COMTE, a town of France, in the department of Vendee. It has a woollen manufacture, and its fair is famous for cattle, particularly for mules, on which laſt account it is reſorted to by the Spaniards. It is ſeated on the Vendee, near the bay of Biſcay, 25 miles N.E. of Rochelle. Long. 0. 55. W. Lat. 46. 30. N.

FONTEVRAULT, a town of France, in the department of Maine and Loire. Here was a famous abbey, founded by Robert d'Arbriſſel, in 1100. It was the chief of a religious order, which, by a ſingular whim of the founder, conſiſted of both ſexes, and the general of which was a woman. Queen Bertrade, ſo famous in hiſtory, was among the firſt nuns that entered this abbey. It is nine miles S.E. of Saumur, and 160 S.W. of Paris. Long. 0. 0. Lat. 47. 9. N.

FONTICULUS, or FONTANELLA, in ſurgery, an iſſue, ſeton, or ſmall ulcer, made in various parts of the body, in order to cauſe a diſcharge.

FORCALQUIER, an ancient town of France, in the department of the Lower Alps, ſeated on a hill, by the river Laye, 20 miles N.E. of Aix. Long. 5. 48. E. Lat. 43. 58. N.

FORCHEIM, a ſtrong town of Franconia, in the biſhopric of Bamberg, with a fine arſenal. It ſurrendered to the French in 1796, but the Auſtrians compelled them to abandon it ſoon afterward. It is ſeated at the confluence of the Wiſent and Rednitz, 16 miles S.S.E. of Bamberg. Long. 11. 2. E. Lat. 49. 44. N.

FORCING (*Encycl.*). The following deſcription of newly-invented moveable forcing-frames for plants, &c. by Bénard, a member of the Agricultural Society of Seine and Oiſe, was read at a public ſitting of that Society.

"It is uncertain," ſays the author, "whether the ancients were acquainted with any artificial means of accelerating vegetation; countries inhabited by the Greeks and Romans not compelling them to ſeek the aſſiſtance of art to ſupply any deficiency in the liberality of nature.

"With regard to our own anceſtors, it appears that the objects of induſtry being then equally rude with the hands em-

ployed in its labours, and governed by many ridiculous practices converted by ſuperſtition into irrefragable laws, agriculture was wholly deſtitute of that eſtimation which is ſo requiſite to animate every ſpecies of human induſtry.

" On this ſubject mention has been made of the kitchen-gardens eſtabliſhed by order of Francis I. at Anet, near the foreſt of Yvri, under the inſpection of a ſkilful gardener named Martin; but it appears that it was for Henry IV. at St. Germain-en-Laye, that arcades open to the ſouth were firſt erected for accelerating the growth of peas.

" La Quintinie, who formed the ſuperb kitchen-garden at Verſailles, ſcarcely made any further advances; it is well known that fruits and flowers were at that time brought by poſt from Provence to Lewis XIV. for the gratification of his court.

" Fagon, at the Jardin-des-plantes, at Paris, cauſed ſome glazed ſaſhes to be conſtructed for foreign plants, which, for want of ſufficient light, could not flouriſh in the green-houſes built for orange-trees, ſuch as the ſuperb *orangerie* at Verſailles. To thoſe ſaſhes were added ſtoves and furnaces. But theſe methods were ſcarcely applied to forcing fruit till the reign of Louis XV.

" We are aſſured that an Engliſhman named Gordon was the firſt who made experiments of this kind, in conſequence of obſerving that a vine-branch, which accidentally entered between two ſaſhes of a window, put out leaves long before the reſt of the ſtem, and that the forced grapes it produced ripened better.

" Hence aroſe all the hot-houſe ſaſhes, the frame-lights, head-glaſſes, or covers, formed of ſmall panes of glaſs, joined together in leaden frames, and thoſe formed of large plate-glaſs. At length Richard Senior built, both for himſelf at St. Germain, and afterwards for the king at Trianon, hot-houſes, in which were ſeen, for the firſt time in France, peaches, cherries, plums, ſtrawberries, apricots, and vines, bearing fruit in the depth of winter, and lilacs, roſes, honeyſuckles, ſeringas, hyacinths, narciſſuſes, and other flowers, in full bloom.

" In the *Ecole du Potager*, written by *Combles*, about 1750, are the details relative to the management of the glaſs covers and ſaſhes; but a great improvement ſtill remained, which has been accompliſhed in the invention of the forcing-frames *(Pavillons de primeurs)*, to which M. Bénard has been led by various and ſucceſſive attempts now ſubmitted by him to the public. As it has fallen to our lot to give an account of theſe attempts and of the management of them, we ought in the firſt place to ſtate the dimenſions of the frame-lights compoſed of only two parts.

" The lower part, *a* (ſee Plate 30, figs. 1, 2, 3), is formed by the union of two ſquare ſaſhes, the lower about 13 decimetres (4 feet French; ſee MEASURE, *Supp*), the upper only 9.

" The latter is raiſed above the former about 5 decimetres (13 inches French), and the two are joined by ſmall iron rods fit for the reception of the panes of glaſs.

" The upper part *b*, conſiſts of a wooden ſaſh, bearing alſo four iron rods at the corners, and four in the middle, joined together at a ſingle point *c*, where a heavy ring is affixed; the inclination of this upper part being leſs rapid, as in the broken roofs *(toits broiſés)* of the common green-houſes: it is only 3 decimetres by 8 for the half breadth.

" During the time when the vegetation, having grown up, requires more height in the building, a height of wood may be placed between the two portions ſo as to raiſe the upper part one decimetre, at leaſt; another placed below would raiſe the whole, when needful, more than two.

" From this arrangement of the glaſs ariſes a maſs of light extremely valuable to vegetation. The proximity of the glaſs is another advantage, which is the more important, as it is well known that plants kept under glaſs become *étiolé*, that is, grow weak by lengthening themſelves to exceſs in order to reach and touch the glaſs, near which the influence of the ſun is always greateſt. And, laſtly, the inclination of the glaſs, and its being placed in three different planes, increaſes more and more the effect of the ſolar heat.

" Shutters applied in ſucceſſion, whether toward the north or toward the ſun, protect the plants from the cold, or ſhield them from an exceſs of heat, and may be uſed throughout the whole during the winter nights.

" Thus, with mere glazed frame-lights, a great number of young and delicate plants may be reared, eſpecially the fineſt melons and cantaloups; or more common productions may be accelerated, as ſtrawberries, French-beans, and the early cabbages, as well as a variety of flowers: or ſmaller erections may be made for theſe various uſes: but the extent of the ground thus preſerved from the chilling moiſture of cold rains is an advantage not to be neglected or forgotten; and frame-lights, of 13 decimetres ſquare, being eaſily removed by one man, or cultivated to the midſt of them, that ſize appears moſt convenient.

" All this, however, conſtitutes but half the merit of theſe hot-houſes. It is evident they may be placed over a hot-bed, accompanied with chafing-diſhes, and their ſhutters covered and ſurrounded with horſe-dung when needful; though, as is well known the heat of that ſubſtance, which is often difficult to be obtained, is ſtill more difficult to be kept up.

" The heat of furnaces is liable to the ſame objections, on account of their extent, even in the ſmalleſt hot-houſes. Another defect in theſe buildings is the diſtance of the plants from the glaſs. A third ariſes from the great maſs of air heated to a loſs; not to mention the no leſs important maſs of the materials, naturally cold in themſelves, of which the walls are built. Laſtly, their being ſtationary is one of the greateſt obſtacles to their being employed in horticulture. They are an expence only to be incurred by land-owners, and by land-owners who live in affluence, or by an extremely ſmall number of gardeners, induſtrious enough to derive from their hot-houſes a quantity of fruit, which, if it does not enrich, indemnifies them at leaſt for the expences attending this method, which has hitherto been the only one known.

" All theſe inconveniences ſeem to be avoided by the frame-lights, to which M. Bénard has adapted an apparatus for procuring heat from a kind of fuel equally convenient and œconomical, namely, two ſmall furnaces, in one of which, *h*, is placed a ſtrong earthen pan filled with the dregs of oil, or two, in caſe of extreme need; a ſecond furnace, *g*, above, with another pan placed there at the time when the fire is lighted; an iron-pipe, *f*, placed at the bottom of the frame, to warm the wood and earth by means of the ſmoke paſſing through it; the circulation of which ſmoke is furthered by the ſecond furnace, where the end of the pipe paſſing through it receives a local heat, which rarefies the air throughout the whole pipe; a wooden box, *j*, to incloſe theſe parts, which are conſtructed of thin materials; an iron pipe, *i*, terminating, if needful, in a T, to carry off the ſmoke when it has become uſeleſs. This is the whole apparatus, and about a kilogram of oil *per* night, value 12 and 15 cents the whole expence. 5 or 600 francs at moſt laid out in conſtructing two of theſe forcing-frames with fire-apparatus, and four without, which are neceſſary for placing more at large the plants reared in the former, ought, according to M. Bénard's eſtimate, whoſe experience on this ſubject renders his opinion deciſive, to produce as much effect as a hot-houſe that has coſt 3 or 4000 francs, and which would require a conſumption of ſeveral fathoms of wood.

" The œconomical gardener alſo finds an advantage in having it in his power to keep the parts not actually in uſe

under cover, by which they laſt longer, and their expence is conſequently diminiſhed.

" Laſtly, by ſubſtituting a number of theſe forcing-frames for one hot-houſe, an advantage which muſt be conſidered as almoſt invaluable is obtained; that of varying the temperature, and accommodating it to the different plants they contain, as well as to their various periods of vegetation "

FORDINGBRIDGE, a town in Hampſhire, with a market on Saturday; ſeated on the Avon, 20 miles W.S W. of Winchester, and 87 W. by S. of London. Long 1. 49. W. Lat. 50. 56. N.

FOREZ, a late province of France, bounded on the W. by Auvergne, on the S. by Velay, and the Vivarais, on the E. by the Lyonnois, and on the N. by Burgundy and the Bourbonnois. It is watered by the Loire, and ſeveral other ſtreams, and has ſeveral mines of coal and iron. It now forms, with the Lyonnois, the department of Rhone and Loire.

FORFICULA (*Encycl.*). In that article, we omitted to refer the reader to (Plate 25, in vol. III.). To what has there been ſaid we wiſh again to enter our proteſt againſt the truly *vulgar* opinion that this harmleſs inſect (the *Earwig*) has the leaſt diſpoſition to enter the human ear *by choice*. Nothing, in fact, is ſo repugnant to its habits as moiſture, and particularly of that clammy kind which the ear ſupplies, and which muſt be a great impediment to the freedom of its motions. In the firſt ſummer of the militia encampments in the former war with France, a whole regiment were aſſigned ſome ground on the downs near Winchester, which literally *ſwarmed* with theſe inſects. During the whole ſeaſon not a ſingle inſtance occurred of an earwig's taking up its abode in the human ear. One ſoldier only, out of nine hundred, met with the *accident* of an earwig's *falling* into his ear from the *top* of the tent in which he lay aſleep; but even this occaſioned him no great inconvenience; the inſect was at once killed by pouring a little oil into the ear, and extracted by ſyringing with warm water.

FORGES, a town of France, in the department of Lower Seine remarkable for its mineral waters. It is 60 miles N.W. of Paris. Long 0. 40. E Lat 49. 38. N.

FORNELLO, a town of Naples, in the Moliſe, 17 miles W. of Moliſe.

FORNOVO, a town of Italy in the duchy of Parma; near which, in 1495, Charles VIII. of France obtained a victory over the princes of Italy. It is eight miles W S.W. of Parma.

FORTAL CE, in Scots law, ſignified anciently a ſmall place of ſtrength, originally built for the defence of the country; and which on that account was formerly reckoned *inter regalia*, and did not go along with the lands upon which it was ſituated without a ſpecial grant from the crown Now, fortalices are carried by a general grant of the lands; and the word is become ſynonimous with manor-place, meſſuage, &c.

FORTEVENTURA, one of the Canary Iſlands, 65 miles in length, and of a very irregular breadth, conſiſting of two peninſulas, joined by an iſthmus 12 miles in breadth It produces plenty of wheat, barley, beeves, and goats. Long. 14. 26. W. Lat. 28. 4. N.

FORTROSE, a borough in Roſsſhire, ſituate on the Frith of Murray, nearly oppoſite Fort George, and nine miles W. of Inverneſs.

FOSSANO, a ſtrong town of Piedmont, with a biſhop's ſee, ſituated on the Sture, 10 miles N.E. of Coni, and 27 S.E. of Pignerol. Long. 7. 56. E. Lat. 44. 45. N.

FOSSE, a town of Weſtphalia, in the biſhopric of Liege, ſituate between the Sambre and Meuſe, ſeven miles W. of Namur. Long. 4. 40. E. Lat. 50. 26. N.

FOSSIL ALKALI (*Encycl.*). The nature and chemical properties of this ſubſtance have been fully ſet forth; but it may not be improper to deſcribe ſome of the means by which it may be ſeparated from ſea-ſalt, of which it is the baſis.

In Auguſt, 1781, a patent was granted to Mr. ALEX. FORDYCE, for his new proceſſes, by which the alkali contained in ſea-ſalt, rock-ſalt, ſalt-ſprings, ſalt-cake, Glauber's ſalt, and vitriolated tartar, may be ſeparated from the marine or vitriolic acids.— He firſt converts ſalt-water, &c. into Glauber's ſalt, by the application of vitriolic acid, or of any ſubſtance containing the latter. This ſalt is then to be mixed with a double quantity of lime, chalk, or any other calcareous earth, or iron, or with any ſubſtance containing that metal. The whole is to be placed together in a vault, or other reſervoir, ſecured from the rain till it is completely decompoſed, when the alkali is to be extracted by diſſolving it in water and evaporating it to dryneſs. Or, the patentee employs 60lbs. of Glauber's ſalt, or vitriolated tartar; 10lbs. of charcoal, or any other ſubſtance capable of bearing heat, and containing the inflammable principle; and 10lbs. of iron: theſe ingredients are pounded together, and thrown into forty gallons of water; where they are ſuffered to digeſt for twenty-four hours. The clear ſolution is then to be ſeparated; and, by evaporating, filtering, and cryſtallizing, it is rendered fit for uſe.

Another patent was granted in March 1789, to Mr. ANTHONY BOURBOULON DE BONEUIL, of Liverpool, for his invention of an apparatus on a new conſtruction, and certain new proceſſes for the making of foſſil alkali, which is ſaid to be equal to that extracted from the beſt barilla. As, however, this ſpecification is ſo complex, that it could not be underſtood without the aid of an engraving; and, as the patent is not expired, we refer the reader to the 4th volume of the *Repertory of Arts and Manufactures.*

The laſt proceſs which merits our attention, is that of the Earl of DUNDONALD, for obtaining mineral, or foſſil, and vegetable alkali, from neutral ſalts compoſed of thoſe alkalies and an acid; or from the ſolutions of thoſe ſalts, whence ſeveral articles are diſengaged or formed, that may be collected and applied to various uſeful purpoſes. For theſe different inventions, his lordſhip obtained a patent in 1795* 1. The moſt important of the new proceſſes, is that of making Glauber's ſalt, or ſulphat of ſoda, which is one of thoſe neutral ſalts, conſiſting of an alkali and an acid, from which an alkaline ſalt is to be procured Thus, ſeveral other articles, ſuch as ſpirit of ſalt, ſal ammoniac, and an iron earth mixed with clay, as a pigment, are formed, or diſengaged, and may be collected: 2. Glauber's ſalt is decompoſed, forming mineral alkali, or *ſoda*, either in a mild or cauſtic ſtate: 3. Vitriolated tartar is prepared by decompoſing the muriat of pot-aſh; and 4. This preparation is converted into either a vegetable alkaline hepar, or mild or cauſtic vegetable alkali. The ſalts and other ſubſtances reſulting from theſe chemical operations, may be applied to various purpoſes, particularly for decompoſing ſoda from Glauber's ſalt.

As the principal article for which Lord DUNDONALD has eſtabliſhed manufactories, appears to be the SODA now generally ſold in the ſhops, we ſhall, in the alphabetical ſeries in this Supplement, deſcribe its manifold uſes, and content ourſelves at preſent with giving a ſummary of the inventions claimed by the noble patentee: namely, that ſea-ſalt is decom-

* We have authority to ſay, that ſome part of Lord Dundonald's claim has no juſt foundation, the diſcovery of the manufacture of *Glauber's ſalt* from the *refuſe of the alum works* having been many years ago made, and extenſively practiſed by Mr. Houlſton, an ingenious medical practitioner and chemiſt, now living in Liverpool.

poſed by alum, by vitriol of iron, and Epſom-ſalt, with the aid of heat, when a due proportion of clay, or a clayey iron earth, is mixed with the ſalts ſubmitted to the operation;—that ſea-ſalt is alſo decompoſed by Epſom-ſalt with the aid of heat, and without the intervention of clay;—laſtly, that it may likewiſe be reduced by ſulphat of lime, or gypſum, with the aid of heat, when a due proportion of clay, containing much iron, is mixed with the ſea-ſalt and gypſum.

Fossil-coal *(Encycl.)*. In December 1792, a patent was granted to Mr. John Barber, of Attleborough, Warwickſhire, for a method of ſmelting and purifying foſſil-coal, iron-ſtone, iron-ore, &c. by ſteam, air, and fire, and for impregnating the ſame with inflammable air, by which he produces a tough metal.

The patentee directs any portion of iron-ſtone, or ore, together with a quantity of foſſil-coal, to be put into a furnace, into which fire is to be admitted, and ſteam conveyed from a boiler, by means of pipes, through an aperture made in the hearth. Theſe pipes are not to project into the furnace, but only to extend ſo far as to permit the ſteam to convey along with it a quantity of atmoſpheric air; and thus a calx ſufficiently pure will be produced. The proceſs of purification may be facilitated, by placing a veſſel of water at the bottom of the furnace, or building, for the reception of the hot calx while it falls, or is diſengaged. And if ſometimes a proper proportion of ſal-ammoniac, or other menſtruum, be thrown in among the coals, &c. while purifying, that operation will be, in a conſiderable degree, facilitated.

When the calces are thus prepared, a portion of them, and alſo a portion of foſſil-coal, or purifying coals, are to be put into a ſmelting furnace, beneath which a fire is to be kindled. Apertures are alſo to be made for the introduction of inflammable air, from one or more retorts, by means of pipes, either ſingly or conjointly with *air-bluſt*. Lime-ſtone, charcoal, and other ſubſtances abounding with inflammable air, may be added in due proportions, and will have an effect ſimilar to that produced by the inflammable air alone, for which it may be occaſionally ſubſtituted. The patentee obſerves, that the proportionate quantities of the various materials employed, can only be aſcertained by experience; and the reſult of this proceſs will be the production of a tough metal, capable of being applied to ſeveral uſeful purpoſes.

Fossil-wood *(Encycl.)*. At one of their meetings, Citizen Villars announced to the National Inſtitute the diſcovery of foſſil woods buried on the ſummits of the higheſt mountains of the Alps, almoſt 2500 feet above the higheſt of the neareſt foreſts now in exiſtence. He has noticed larch, birch, alder, and aſpen, the trunks of which, as well as the roots, are in a ſtate of perfect preſervation. From this appearance, Villars concludes, they muſt have vegetated in the very ſpot where he found them, but is at a loſs to conceive how the cold could become ſo violent as to render it impoſſible for the ſame trees to live except at a great diſtance. He attempts to account for it by the melting away of the tops of the mountains, the attenuation of their chalk by rain, and the imprudent deſtruction of their foreſts by the hand of man. Poiret mentioned that he had found ſhells of freſh-water fiſh buried under beds of turf, over which again were other beds, containing ſea-ſhells. It ſhould thus appear, that the earth which exhibits theſe appearances had been firſt watered by ſtreams, then inundated by the ſea, and now was placed in the centre of a continent. Beauvois produced from North America proofs no leſs aſtoniſhing of changes in the ſtate of the earth, in which at different epochs had been found remains of monſtrous quadrupeds, at this day unknown; and he produced ſpecimens of ſkeletons which had been dug up, differing from thoſe obſerved at preceding times. Every day, every climate furniſhes documents of the revolutions which our globe has undergone, and which are indelibly impreſſed on its ſurface, and in its entrails. Thus does man, unable to develope the myſteries of his own exiſtence, attempt to explore the arcana of the created globe, which ſeem to deride the efforts of knowledge, and mock the exertions of ſcience! philoſophy furniſhes no means for penetrating into the cauſes of thoſe events which are buried from the ſearch in an inſcrutable antiquity.

FOSSOMBRONE, a town of Italy, in the duchy of Urbino, with a biſhop's ſee; ſeated near the river Metro, 16 miles S.W. of Peſaro, and 12 S.E. of Urbino. Long. 12. 48. E. Lat. 43. 40. N.

FOUE, an ancient town of Lower Egypt, ſeated on the Nile, 25 miles S. of Roſetto, and 40. E. of Alexandria. Long. 31. 15. E. Lat. 31. 12. N.

FOUGERES, a town of France, in the department of Maine and Loire, with an ancient caſtle. It is ſeated on the Coeſnom, 25 miles N.E. of Rennes, and 150 W. of Paris. Long. 1. 13. W. Lat. 48. 22. N.

FOULI, or Pholey, a country of Africa, ſituate on the ſides of the river Senegal, and extending about 500 miles from E. to W: the boundaries from N. to S. are unknown. It is populous and fertile. The inhabitants are, in general, of a tawny complexion, though many of them are entirely black. They lead a wandering life, and roam about the country with large droves of cows, ſheep, goats, and horſes. The king of this country is called the Siratick; and though he ſeldom appears with the badges of majeſty, he has great authority, and is as much reſpected as any one on the coaſt Though none but princes of the blood can be called to the throne, yet the crown deſcends not from father to ſon, but from brother to brother, or nephew to nephew. The people of Fouli are greatly praiſed by travellers for their hoſpitality: nor is their humanity, in other reſpects, leſs commendable; for, if one of their countrymen have the misfortune to fall into ſlavery, the reſt join ſtock to redeem him. Elephants are ſo numerous in this country, that they are frequently ſeen in droves of 200 together. The natives are very dexterous at hunting them, and other wild beaſts; as elephants' teeth and the ſkins of lions, leopards, and tigers, are their principal articles of trade; and their fleſh they dry for uſe and winter-ſtore.

FOULNESS, an iſland ſeparated by a narrow channel from the S.E. part of the county of Eſſex, ſix miles E. of Rochford.

FOULSHAM, a town in Norfolk, with a market on Tueſday, 16 miles N.W. of Norwich, and 111 N.E. of London. Long. 1. 7. E. Lat. 52. 51. N.

FOURNEAUX Island, a ſmall iſland in the S. Pacific Ocean. Long. 143. 2. W. Lat. 17. 11. S.

FOXFORD, a town of Ireland, in the county of Mayo, ſituate on the river May, eight miles N. of Caſtlebar.

FOX-GLOVE. See Digitalis in this Supplement, where an account is given of its medical properties.

FOYLE, Lough, a lake or bay of Ireland, in Londonderry. It is of an oval form, 14 miles long and eight broad, and communicates with the ocean by a ſhort and narrow ſtrait.

FOZ, a town of Portugal, in Alentejo, ſituate at the conflux of the Zaras and Tagus, 24 miles N.E. of Liſbon. Long. 8. 56. W. Lat. 38. 58. N.

Foz, a town of France, in the department of Var, four miles N.E. of Barjols.

FRAGNINO, a town of Naples, in Principato Ulteriore, eight miles N. of Benevento.

FRAGOAS, a town of Portugal, in Eſtremadura, ſeven miles N.W. of Santoren.

FRAMPTON, a town in Dorſetſhire, with a market on Thurſday, ſeated on the Frome, 12 miles N.W. of Weymouth, and 126. W. by S. of London. Long. 2. 50. W. Lat. 50. 45. N.

FRANCE (*Encycl.*). The following account of the Calendar of the French Republic, ſince the abolition of Royalty, we extract from the Britiſh Magazine.

The republican æra began,

Year	1	-	-	-	22	September	1792
——	2	-	-	-	22	——	1793
——	3	-	-	-	22	——	1794
——	4	-	-	-	23	——	1795
——	5	-	-	-	22	——	1796
——	6	-	-	-	22	——	1797
——	7	-	-	-	22	——	1798
——	8	-	-	-	23	——	1799
——	9	-	-	-	23	——	1800
——	10	-	-	-	23	——	1801

Each year conſiſts of 12 months.

1	Vendemiaire, year 8, was	-	-	23	September.
1	Brumaire,	-	-	-	-	23 October.
1	Frimaire,	-	-	-	-	22 November.
1	Nivoſe,	-	-	-	-	22 December.
1	Pluvioſe,	-	-	-	-	21 January.
1	Ventoſe,	-	-	-	-	20 February.
1	Germinal will be	-	-	-	22 March.
1	Floreal,	-	-	-	-	21 April.
1	Prairial,	-	-	-	-	21 May.
1	Meſſidor,	-	-	-	-	20 June.
1	Thermidor,	-	-	-	-	20 July.
1	Fructidor,	-	-	-	-	19 Auguſt.
5	Complementary days, 18	-	-	22	September.

Each month has 3 decades of 10 days.

1. Primedi.	6. Sextidi.
2. Duodi.	7. Septidi.
3. Tridi.	8. Octidi.
4. Quartidi.	9. Nonidi.
5. Quintidi	10. Decadi.

Once in four years there are ſix inſtead of five complementary days. Theſe days are named like the five or ſix firſt of the decade.

The republican year begins at the midnight preceding the autumnal equinox. Alm. nat. an. 9. The metre has been ultimately determined to be equal to 3 feet, 11.296 lines French, the gramme to be 18.827 grains, Journ. de Phyſique, an. 7. Prair. et Fruct. The metre is the ten millionth part of the diſtance from the pole to the equator: the gramme the weight of a cubic centimetre of water. The toiſe was 76.734 inches Engliſh, and 576 French grains were equal to 472.5 Engliſh. Phil. Tranſ. v. 58, p. 326, and v. 42, p. 187.

FRANCHEMONT, a town of Germany, in the biſhopric of Liege, 12 miles S.E. of Liege.

FRANCIS *of Aſſiſi* (St.), founder of the Franciſcan friars, was born at Aſſiſi in Italy in 1181. One of the moſt extraordinary things told of St. Francis of Aſſiſi is, that Jeſus Chriſt imprinted on him the marks of his five wounds; and there is a feſtival in memory of thoſe holy prints, and an office for it. His preaching to the fiſhes to make them Chriſtians, and his converſion of millions of them, is famous; as is his mercy to worms and lice. The order he founded, and which bears his name, was approved by Innocent III. in 1215, and confirmed by Honorius III. in 1223. It has ſince branched into ſeveral others, as Minims, Ricolets, Capuchins, &c. called in Roman Catholic countries, *Fratres Minores.*

FRANCOIS, CAPE, a town in the N. part of the iſland of St. Domingo. It ſuffered much by dreadful commotions that enſued after the French revolution. Long. 72. 18. W. Lat. 19. 46. N.

FRANEKER, or FRANKER, a town of the United Provinces, in Frieſland, with a caſtle and univerſity. The public buildings and palaces are magnificent It is ſeven miles W. of Lewarden Long. 5. 33. E. Lat 53. 11. N.

FRANKENAU, a town of Germany, in the principality of Heſſe, 24 miles S.W. of Caſſel.

FRANKENBERG, a town of Upper Saxony, ſeven miles N.N.E. of Chemnitz, and nine W. of Freyberg.

FRANKENHAUSEN, a town of Upper Saxony, with ſome extenſive ſalt-works. It is ſituate on a branch of the Wipper, 26 miles N. of Erfurt. Long. 11. 5. E. Lat. 50. 42. N.

FRANKENSTEIN, a town of Sileſia, on the Bautze, 12 miles S.S.W. of Glatz.

FRANKENSTEIN, a town of Sileſia, on the Bautze, 12 miles S.S.W. of Glatz.

FRANKLAND'S ISLANDS, a cluſter of iſlands in the South Pacific Ocean, on the N.E. coaſt of New Holland. Long. 146. 0. E. Lat. 17. 19. S.

FRANKLIN, a county of Pennſylvania, 30 miles long and 24 broad. In 1790, it contained 15,655 inhabitants. Chamberſberg is the capital.

FRANQUEMONT, a town of Switzerland, in the biſhopric of Baſle, often beſieged and taken in the Swiſs wars. It is ſeated on the Doubs, 16 miles N. of Neuchatel, and 23 W. of Soleure.

FRAUENFELD, a town of Switzerland, capital of the Thurgau. It is ſeated on an eminence, and is the place where, ſince 1712, the deputies of the Swiſs cantons hold their general diet. Long. 8. 56. W. Lat. 51. 48. N.

FREDENBERG, a town of Weſtphalia, 50 miles W. of Caſſel. Long. 8. 16. E. Lat. 51. 10. N.

FREDERICSHAM, a town of Ruſſia, in Carelia. It is neatly built, the ſtreets going off like radii from a centre; and is ſeated near the gulf of Finland, 68 miles W.S.W. of Wiburgh.

FREDERICSTOWN, a flouriſhing town of the United States, in Maryland, ſeated on the Potomac, 60 miles W. by N. of Annapolis. Long. 77. 30. W. Lat. 39. 20. N.

FREE-CHURCH, a name given to certain places of Proteſtant worſhip, eſtabliſhed of late years with a view to encourage among the poor a regular obſervation of the ſabbath. In London and Bath theſe eſtabliſhments have been found to anſwer an excellent purpoſe. The following extract from an account of the free-church at Bath, by Mr. Bernard, appears in the Reports of the Society for bettering the condition of the poor, &c.

The free-church, in the pariſh of Walcot, at Bath, was opened in November, 1798, for the general and indiſcriminate accommodation of the poor. The idea was originally ſuggeſted by the Rev. Mr. Daubeny, in a ſermon delivered at St. Margaret's chapel, at Bath, in April 1792; and afterwards, with the concurrence and approbation of the Rev. Mr. Sibley, the rector of the pariſh, publiſhed with an addreſs to the inhabitants.

In this diſcourſe, Mr. Daubeny, after enlarging upon the great characteriſtic of the Chriſtian religion, that, "*The poor have the goſpel preached to them,*" and upon the expected benefits of the Sunday ſchools then eſtabliſhed at Bath, proceeded to aſk "where are the children of that place when diſcharged from the Sunday ſchools, at a time of life the moſt dangerous—where are they to gain that inſtruction, which is calculated to bring to perfection the education which they

have received? If, in conformity to the ideas with which they have been brought up, they come to places of worſhip belonging to the eſtabliſhment, they find, alas! the doors, for the moſt part, ſhut againſt them."—He then goes on to obſerve, that this is, in ſome degree, to exclude them from the eſtabliſhed church, inſtead of inviting them, and providing places of worſhip for them; without which (he adds) "we cannot be ſurpriſed that they ſhould no longer continue members of a church which, in a manner, *excommunicates* them. In which caſe their infidelity, and conſequent immorality, will not ſo much lay at their own doors, as at the doors of thoſe who ought, in charity, to have taken their caſe into conſideration, and to have provided means for their inſtruction."

This diſcourſe had its due effect on the audience, and ſeveral hundred pounds were immediately ſubſcribed among them, before they quitted the church. With the example of ſome principal ſubſcribers, both among the clergy and laity, the ſubſcriptions, in a ſhort time, amounted to £.2700. Any objections which might have occurred to doubting minds, were obviated by the publication of the plan; which was, that though the church was to be free from all parochial duty and control, yet it was to be conſecrated by the biſhop of the dioceſe, and the officiating miniſters licenſed by the biſhop, in confirmation of their appointment by the rector of the pariſh: that the whole area of the building ſhould be appropriated to the free accommodation of the common people; and the ſeats in the galleries ſhould be let out to tradeſmen, and perſons in a ſuperior rank of life, at ſuch prices as might furniſh a ſum ſufficient for the ſervice and repairs: that there ſhould be a full ſervice both morning and afternoon every Sunday, and a ſacrament once a month; and laſtly, that the building itſelf ſhould be veſted in truſtees, with powers and proviſions adequate to the purpoſe of ſecuring it to the public for ever, in conformity to the deſign with which it was originally conſtructed.

The conductors of this exemplary undertaking having purchaſed for £.300. a leaſehold piece of ground, in an airy ſituation, in the centre of the pariſh, as a ſite for the new church, Lord Rivers, in whom the fee-ſimple of the ground was veſted, made them a handſome offer of his remaining intereſt in it; ſo that it was made *free ground* in perpetuity. This offer having been carried into effect, a plain but handſome gothic edifice was then erected; Mr. Daubeny taking upon himſelf the riſk of any expence beyond the amount of the ſubſcriptions. It is calculated to accommodate 1000 perſons in the area, which is the free part of the church; and between three and four hundred perſons in the galleries, the produce of which is appropriated to defray the annual outgoings. The church was conſecrated on the 7th of November, and opened for divine ſervice on Sunday, November 18, 1798. The coſt of the church rather exceeded £.3,500.; not including thoſe ornamental articles, which have been contributed as the donations of ſeveral perſons, in addition to their original ſubſcriptions; and an organ, which has been deemed neceſſary to lead ſo large a congregation to join in the ſinging part of the ſervice, and to operate as ſome additional inducement to their attendance.

Mr. Bernard attended the evening ſervice there, on the 24th March, 1799. The gallery, indeed, was not above half filled, the ſeats being reſerved for the renters of them; but the area below contained above a thouſand perſons, decently and cleanly dreſſed, and receiving the benefit of divine worſhip, with a degree of propriety and attention, that made the ſervice extremely awful and impreſſive. It was a ſight that muſt have given the greateſt ſatisfaction to every zealous Chriſtian, who had an opportunity of participating in this act of devotion; whilſt the gratitude that is expreſſed by the lower orders of people for the accommodation ſo liberally provided for them, and the eagerneſs with which they attend the ſervice of the church, furniſh the moſt favourable omens of the good effects that may be derived from an eſtabliſhment of this truly pious and charitable nature. The propriety and expediency of the proviſion made, in this inſtance, for the religious duties and inſtruction of the poor at Bath, are ſo obvious and unqueſtionable, that it is difficult to ſtate any reaſons in their favour, which will not have already occurred to the reader's mind, on the peruſal of the preceding account. It is very apparent that the free church at Bath muſt greatly contribute, in that place, to the improvement of moral and religious habits among the lower claſſes of ſociety, to the prevalence of the eſtabliſhed church, and to the permanence and ſtability of internal peace and civil order. It muſt be equally apparent to every one, who has turned his attention to the ſituation of the poor in London, and to their means and opportunities of exerciſing their religious duties, that ſeveral ſuch chapels, as the free church at Bath, are now wanted in our metropolis; and that, without ſuch chapels, the poor, though living in a Chriſtian country, do not poſſeſs the common benefits of that religion, which its divine Author addreſſed principally to them. If even with thoſe who have had the bleſſing of a religious education, and have had the books of revelation opened and explained to them,—if even in their inſtance "religion, the rewards of which are diſtant, and which is animated only by faith and hope, will glide by degrees out of the mind, unleſs it be invigorated and re-impreſſed by external ordinances, by ſtated calls to worſhip, and by the ſalutary influence of example," what muſt we expect of the ignorant and uneducated? of thoſe who are preſſed down by neceſſity, and have no ſupport derived from the truths of revelation, or from the principles of morality?

It is mere mockery to give the name of *accommodation*, to the ſpace that is left for the poor, in the aiſles of our churches, in London and Weſtminſter. They are neither adapted to the performance of the duties of religious worſhip, nor would they contain a *fiftieth* part of thoſe, *who ought to be accommodated there.* While the rich are conveniently ſeated for their money, the poor ſhould not be neglected. They ſhould, as far as kindneſs and attention will go, *be compelled to come in.* They ſhould have the advantage of their reſidence in a Chriſtian and Proteſtant country; and inducement ſhould be held out to them, ſuch at leaſt as decent and comfortable ſeats would afford, to attend regularly at the eſtabliſhed church, and to unite with the reſt of their fellow-ſubjects, in the conſtant obſervance of the ſabbath, and in religious worſhip.

In the following year, namely, on Sunday, the 25th of May, 1800, a free chapel was opened in Weſt-ſtreet, near the Seven Dials, in London, for the benefit of the poor. Thoſe who have witneſſed the pathos and energy with which the truly pious and learned Dr. Porteous, biſhop of London, delivers and enforces the divine truths and ordinances of the goſpel, may conceive how powerful and impreſſive his diſcourſe muſt have been, on this occaſion; addreſſed as it was to the feelings and underſtandings of his audience, and received by them with ſilent and unfeigned ſatisfaction.

The neceſſary arrangements were immediately made for the care of the chapel; which was placed under the direction of the biſhop of the dioceſe, the rector of the pariſh, and eight of the principal ſubſcribers. The duty has been ſince regularly attended, and the pſalms and hymns printed, and placed for the poor in their pews; and there has been gradually forming a pious and decent, though not, as yet, a numerous congregation.

It had been conceived that it would be better, and more conducive to the permanency of the inſtitution, that the poor ſhould *gradually* find their way into the chapel; rather than by any ſpecial means to preſs their premature attendance. No hope was entertained that their habits would be ſuddenly and entirely changed; and that thoſe who from infancy had paſſed the Lord's day in ſloth and brutal indulgence, ſhould be *at once* amended; and be prepared regularly to attend with cleanlineſs and decency, in a place of divine worſhip. A complete and permanent reform was not to be immediately expected; and a temporary conformity, a mere yielding for the time to preſſing inſtances, compelling them to come in, did not promiſe any ſtable improvement.

An organ has been lately provided for the chapel, and an organiſt engaged; and a reſpectable clergyman officiates as the miniſter of the chapel. Whoever takes a view of the parochial diſtricts, at the weſtern end of London, will find that, in the four pariſhes of Marylebone, St. James's, St. Giles's, and St. George's, Hanover-ſquare, with a population of ſome hundred thouſand inhabitants, there are only *four churches* for the reception of thoſe who are deſirous of attending divine worſhip, according to the rites of the church of England.

Three of theſe are of a moderate ſize; but the other, that of Marylebone *, only fit for the chapel of ſome petty, inſulated hamlet. In theſe four pariſhes, the *utmoſt* exertions of the parochial clergy, combined with the greateſt talents, muſt be utterly inadequate to the religious duties of their reſpective diſtricts †. Beſides which, in theſe, and in almoſt every other church in the metropolis, the pews are let; and the only places left for thoſe pariſhioners who wiſh to continue members of the eſtabliſhed church, and yet cannot afford to pay a very heavy rent for their ſeats, is the *ſtanding room* in the aiſles, and ſometimes an occaſional neglected bench; an accommodation, improper, indecent, and unfit for the ſacred and ſolemn ſervice then attended; and ſuch as, even if decent in itſelf, would not be adequate to the admiſſion of *one-hundredth part of thoſe who ought to have ſeats in their own pariſh church*.

It is of very little or no conſequence, that, in theſe four pariſhes, there are many private chapels. Thoſe chapels are let at *rack-rent*, to ſome ſpeculating undertaker: the pews, and every part of them, being laid out and diſpoſed (as other private property generally is) *ſo as to produce the greateſt poſſible income with the leaſt outgoings*; and the free admiſſion of the poor being directly oppoſite to the principle on which they are built and opened, and perfectly incompatible with the *great object*, of making a very large revenue, by the admiſſion of very genteel company.

The conſequence of this is, that many of the better and more ſerious of the labouring poor are driven and compelled to take refuge in the different places of worſhip, which the more accommodating ſpirit of other Chriſtian ſects provides for their religious duties. But this is not all: the greater number of theſe neglected Chriſtians *preſerve their orthodoxy, by never attending any church at all*; and, in a country, juſtly boaſting of the purity of its religious doctrines,—extremely fortunate in the poſſeſſion of a pious and learned clergy,—and conſecrating very ample funds to the ſupport of a moſt reſpectable church eſtabliſhment,—two thirds of the lower order of people in the metropolis, live as utterly ignorant of the doctrines and duties of Chriſtianity, and are as errant and unconverted pagans, as if they had exiſted in the wildeſt part of Africa.

To thoſe who view, with a fixed and attentive eye, the awful ſeries of events which is now defolating, and we may hope at the ſame time reforming, the Chriſtian world, much important obſervation will occur on the preſent ſubject. It is written in the recent Hiſtory of Europe, it is inſcribed in the ſummary of the ten preceding years, that there is no protection againſt the calamities which are now laying waſte our quarter of the globe, except that purity of faith and integrity of life which are to be derived from the vivifying influence of religion; extending, like the ſolar ray, *to every claſs* of our fellow ſubjects, and operating in the moral amendment of the great maſs of the people.

It has been the object of ſome individuals, and certainly a very deſirable object, that Sunday ſhould be obſerved among us with more decency and devotion than are at preſent apparent in the metropolis: and it has been frequently obſerved, that, in the gradual progreſs from petty offences to thoſe atrocious crimes which ſtrike at the very root of ſociety, the habitual neglect of the ſabbath, and of its ſacred ordinances, is always a prominent and peculiar feature. It is by the gradual effects of that neglect, that the reverence of the Divine Being, implanted as it is in our frame, and nouriſhed and confirmed by every object of creation, is at length eradicated from the human breaſt; and the hardened ſinner is ultimately left a prey to his own evil and corrupt imaginations.

But, ſurely, it muſt appear to be an obvious truth, that, if we would promote the religious obſervance of the Lord's day among the poor, we muſt not merely ſet them the example, but muſt ourſelves make the proviſion for their religious duties. Without this, there is no uſe in the increaſe of vain ſtatutes, which can never be executed to any good purpoſe; ſtatutes, which can, in no event, produce more than the *ſemblance* and *ſhadow* of religion in the country. It may, however, be confidently aſſerted, that with the benefit of ſuch a proviſion, effectually and properly made, and eventually accepted and enjoyed, we ſhould have little or no call for any new law or ordinance on the ſubject; but we ſhould find, among the great maſs of the people, the ſame attention to the religious duties of the Lord's day, as is now ſhewn by the individuals of thoſe Chriſtian ſects among us, who make a decent and proper proviſion for the religious duties of their neceſſitous brethren.

The periodical return of the ſeventh day, for the inſtruction of the minds of the poor in divine knowledge, and for the reſt and relaxation of their bodies from the cares and labours of life, is, in the Chriſtian world, a moſt important advantage; whether we regard the ſituation of the labouring claſs in this fleeting period of exiſtence, or whether we turn our views to the awful and intereſting concerns of futurity. But it is vain to expect, that the poor ſhould regard that day

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* The population of Marylebone is now returned, and the ſize of that pariſh church may eaſily be known. It will therefore not be difficult to aſcertain whether the population of that pariſh requires 150 ſuch pariſh-churches as its preſent; or whether 120 ſuch churches would be ſufficient for the inhabitants.—June 27, 1801.

† Thoſe who attend the poor of the metropolis in their own habitations, have frequent and painful occaſion to lament their want of that inſtruction and conſolation in their dying moments, which Chriſtian charity would deſire them to receive. In other ſects, and in country pariſhes, where all the members of a congregation are perſonally known to the miniſters, theſe duties may be completely fulfilled; but in the populous and extended pariſhes of the metropolis, no zeal, however indefatigable, can enable the preſent number of clergymen to do *all* that *ought* to be done.—June 30, 1801.

as any thing but a privileged time for idleneſs and intemperance, exempt from the call to toil and labour, unleſs we ſupply them with other occupation, and furniſh their minds with that religious inſtruction *, and with thoſe precepts and motives, which may have an operative effect upon their lives and conduct: and, when ſo long and ſo general a neglect has taken place, it is vain and idle to expect that, without much time, much attention, and much anxiety on our part, the poor ſhould immediately and ſpontaneouſly flow into the chapels that may be opened for them. The evil (it muſt be allowed) is too deep, and the habit too inveterate, to admit any expectation of that kind. But the benefit of *ſuch a reform, in London*, is ſo great, and ſo important in its conſequences; it is ſo eſſential to the political exiſtence of this country, and to the ſecurity and happineſs of its inhabitants; that I know no object, the advantages of which I can name in preference to, or even in competition with it.

With theſe ſentiments, and with this conviction on his mind, Mr. Bernard ſubmits to thoſe, from whom only ſuch a meaſure can properly originate, the expediency of providing ſome remedy for this national evil.

His propoſal is, that a ſociety be formed *for promoting the foundation and eſtabliſhment of free chapels for the poor, and the increaſe and improvement of their religious habits, within the realm of England*:—that every ſubſcriber of fifty guineas in one ſum, or of five guineas a-year, ſhall be a governor of the ſociety; and that in caſe of a donation of 100 guineas or more, the donor ſhall, for every 50 guineas beyond what would conſtitute his own ſubſcription, have the power of naming one life governor: the ſpecific appropriation of the funds being for the eſtabliſhment and ſupport of free chapels for the poor, in the metropolis, and in any of the populous towns of England; ſubject, as all other chapels and churches of the eſtabliſhed church muſt be, to epiſcopal control and government.

Whenever ſuch a ſociety ſhall be formed, and the directing power placed in unexceptionable hands, we may venture to hope that ſome addition to its funds may be afforded by government. It may alſo be expected, that, with a proper and economical application of thoſe funds, every thouſand pounds entruſted to the direction of it, may afford the means of forming and eſtabliſhing a new free chapel for the poor, either in London, or in Mancheſter, Briſtol, Norwich, or in ſome other of our moſt populous towns.—What the effects may eventually and ultimately be, and what ſtrength and ſtability it may give to the civil and eccleſiaſtical eſtabliſhment of the country, and what renovation of vigour and force to the moral and religious habits of the poor, we leave to the reflection and appreciation of the reader. Our earneſt wiſhes are in uniſon with thoſe of the benevolent writer of theſe remarks, and we think ourſelves fortunate in contributing to ſo laudable a work, by giving circulation to the excellent arguments uſed to enforce its neceſſity.

FREHEL, a cape of France, in the department of the North Coaſt, 13 miles W. of St. Malo. Long. 2. 20. W. Lat. 48. 41. N.

FREJUS, a town of France, in the department of Var. By the Romans, it was called Forum Julii; and had then a port on the Mediterranean, which is now above a mile from it. It is the birth-place of that great Roman general and philoſopher Agricola; and near it ſome fine remains of antiquity are ſtill viſible. It is ſeated near the river Argens, in a moraſs. 40 miles N.E. of Toulon. Long. 6. 50. E. Lat. 43. 26. N.

FRENAY-LE-VICOMTE, a town of France, in the department of Sarte, nine miles S.S.W. of Alençon. Long. 0. 5. W. Long. 48. 15. N.

FREUDENSTADT, a ſtrong town of Suabia, in the Black Foreſt, built to defend the paſſage into this foreſt. It is 12 miles S.E. of Straſburgh. Long. 8. 21. E. Lat. 48. 28. N.

FREUDENTHAL, a town of Sileſia, celebrated for its breed of horſes, and manufacture of fine linen. It was taken by the Pruſſians in 1741 and 1744, but afterwards reſtored. It is 11 miles S.W. of Jagendorf, and 17 W. of Troppau. Long. 17. 21. E. Lat. 50. 3. N.

FREYBERG, or FRIEDBERG, a town of Upper Saxony, containing above 60,000 inhabitants. In the environs are mines of copper, tin, lead, and ſilver, which employ a great number of workmen, and produce above 10,000 rix-dollars a-year. Here is the uſual burying-place of the princes of the electoral houſe of Saxony. It is ſituate on a branch of the Muldau, 15 miles S.W. of Dreſden. Long. 11. 10. W. Lat. 51. 0. N.

FREYSINGEN, a town of Germany, capital of a biſhopric of the ſame name, in the circle of Bavaria. It was taken by the French in 1796. It is ſeated on a mountain, near the Iſer, 20 miles N. by E. of Munich. Long. 11. 50. E. Lat. 48. 26. N.

FREYSTADT, a town of Hungary, in the county of Neitra, with a ſtrong caſtle, ſeated on the Waag, oppoſite Leopoldſtadt. Long. 18. 10. E. Lat. 48. 32 N.

FREYSTADT, a town of Sileſia, in the duchy of Teſchen, 20 miles E of Troppaw. Long. 18. 15. E. Lat. 50. 0. N.

FRIAS, a conſiderable town of Spain, in Old Caſtile, ſeated on a mountain, near the river Ebro, 35 miles N. of Burgos. Long. 3. 46. W. Lat. 42. 52. N.

FRIDAW, a town of Germany, in the duchy of Stiria, 104 miles S. of Vienna Long. 16. 12. E. Lat. 48. 20. N.

FRIDING, a town of Suabia, on the Danube, 30 miles N E. of Conſtance. Long. 9. 31. E. Lat. 48. 11. N.

FRIDLAND, a town of Bohemia, on the confines of Sileſia. 55 miles E of Dreſden. Long. 15. 15. E. Lat. 52. 4. N.

FRIDLENGEN, a town of Suabia, three miles eaſt of the Rhine, and four N. of Baſle. Long. 7. 36. E. Lat. 47. 40 N.

FRIENDLY SOCIETIES, certain aſſociations of mechanics and labouring perſons, for the purpoſe of ſubſiſting themſelves and their families, when rendered incapable of labour by ſickneſs, &c. They have been otherwiſe called BENEFIT CLUBS, and the good effects of the few private ones that have exiſted, have induced government to countenance them, and benevolent individuals to increaſe their number in the united kingdom. The following extract from an account of a friendly ſociety at Caſtle-Eden, in the county of Durham, by Rowland Burdon, eſq. will afford an excellent example.

* "I ſubmit (ſays Mr. Bernard) to the reader's conſideration two leading queſtions, reſpecting what, in my view of this intereſting ſubject, is *due* to the poor.—The firſt, whether the poor have not a claim on the rich and independent, for a certain portion of that time which is not occupied by a proper attention to their domeſtic or public occupations, or by a reaſonable relaxation of leiſure and amuſement? (*care and wretched anxiety* being the conſequence of *exceſs of application* in reſpect of the firſt;—and of the latter, *wearineſs and liſtleſsneſs of ſpirit*). The ſecond queſtion is, whether the miniſters of the goſpel can *quite* ſatisfy themſelves, that the general duties of the clerical order are *completely* fulfilled, until the goſpel has been really and effectually preached (as far as may be done) to *every claſs* of men in the kingdom? And in the mean time, whether any thing which they can do in the performance of works of ſupererogation, or even in attempts to convert diſtant nations, can be admitted *as a commutation of their own peculiar and indiſpenſable ſervice*?

The truſtees of the ſociety are, the lord of the manor, the clergy and juſtices of that and the two adjacent pariſhes, within which its members for the moſt part reſide. All donors or ſubſcribers of one guinea and upwards, annually, are honorary members. Twelve principal inhabitants, with the churchwardens of the three pariſhes, and all honorary members, are directors for the time being. For the immediate management of the buſineſs of the ſociety, an annual committee, with a ſteward, clerk, and treaſurer, are elected, and two viſitors are appointed from each pariſh.

The number of members has never reached two hundred; conſiſting for the moſt part of farmers, artificers, labourers, and their families. The following are the accounts from Auguſt 10th, 1793, to December 31ſt, 1796.

Dr.	£.	s.	d.	Cr.	£.	s.	d.
To donations and ſubſcriptions from honorary members ſince the commencement - -	43	—	—	By lent on intereſt	440	—	—
Intereſt from ſundry members - - - -	29	19	6	By ditto to members for purchaſe of cows -	22	—	—
Monthly contributions, deducting ſums paid during ſickneſs - - -	386	7	10	Balance in treaſurer's hands -	—	16	—
Surplus from funerals, entrances, &c.	3	8	8				
	462	16	—		462	16	0

CONTRIBUTIONS.

Ages of admiſſion.	Per month during life, for one ſhare, and ſo in proportion where no fee is paid on admiſſion.	Or 1s. per month during life for one ſhare, paying upon admiſſion the undermentioned ſums, according to their reſpective ages.
	s. d.	£. s. d.
under 22	1 —	
22 and —— 23	1 —½	— 5 —
23 —— 24	1 1	— 10 —
24 —— 25	1 1½	— 5 —
25 —— 26	1 2	1 — —
26 —— 27	1 2½	1 5 —
27 —— 28	1 3	1 10 —
28 —— 29	1 3½	1 15 —
29 —— 30	1 4	2 — —
30 —— 31	1 4½	2 6 —
31 —— 32	1 5	2 12 —
32 —— 33	1 5½	2 18 —
33 —— 34	1 6	3 4 —
34 —— 35	1 6½	3 10 —
35 —— 36	1 7	3 18 —
36 —— 37	1 7½	4 6 —
37 —— 38	1 8	4 14 —
38 —— 39	1 8½	5 2 —
39 —— 40	1 9	5 10 —
40 —— 41	1 9½	6 — —
41 —— 42	1 10	6 10 —
42 —— 43	1 10½	7 — —
43 —— 44	1 11	7 10 —
44 —— 45	1 11½	8 — —
45 —— 46	2 —	8 10 —

Sixpence is paid for each ſhare on the deceaſe of every member, for whoſe funeral the ſociety has any diſburſement to make; and each member above twenty-one years of age (excepting women) pays, at each yearly meeting, one ſhilling for dinner and liquor: but no member is obliged to be at any expence at monthly or other meetings. A depoſit of two ſhillings and ſixpence is made on propoſing any perſon to become a member, which, if the perſon be not admitted, is returned. Any member, under forty-five years of age, may increaſe his or her original ſhare, on contributing according to his or her age, at the time of making ſuch increaſe.

The following are the benefits to men in ſickneſs, lameneſs, or infirmity; but women are not entitled to benefit in ſickneſs.

For one ſhare, and ſo in proportion for half a ſhare:

Six ſhillings a-week, when confined in bed, or unable to go out of the houſe, or to perform any kind of work; and

Three ſhillings a-week, when able to walk out, or to labour to a ſmall degree: but both theſe allowances ceaſe when the member is able to follow his uſual occupation, or even to earn three ſhillings a-week regularly.

A ſurgeon and apothecary are appointed to attend the ſick members.

In old age.—For each ſhare, and ſo in proportion for a half ſhare, each member is entitled to the following annuity:

	to men £. s. d.	to women £. s. d.
from 50 to 60 years of age, a yearly annuity (by quarterly payments) of - - -	—	4 — —
from 60 to 70 years of age -	6 — —	6 — —
from 70 to 80 - -	8 — —	8 — —
from 80 to 90 - -	10 — —	10 — —
from 90 until death - -	12 — —	12 — —

Such annuities to commence from the firſt of January next, after the member's attaining the age of fifty, ſixty, ſeventy, eighty, and ninety years reſpectively; but no annuity is payable to any member, until he ſhall have contributed for fifteen years, nor for any ſhare on which he may have received relief in ſickneſs, &c. but a man may take relief in ſickneſs for one ſhare, and receive annuities for other ſhares, which occaſion many of the members to ſubſcribe for more than one ſhare.

At death.—Five pounds for each ſhare, and fifty ſhillings for each half ſhare, is paid to the repreſentative of each member, who has contributed to the fund for twelve months, whether man or woman: and if the member die before contributing twelve months, the full amount of what he or ſhe may have paid, is returned. This is repaid to the fund, by contributions from the ſurviving members.

To the widow of each member, who ſhall die after contributing fifteen years, an annuity of four pounds, by quarterly payments, from the member's death, during widowhood, for each ſhare; and ſo in proportion for half a ſhare, for which no other benefit had been received during the member's lifetime; and, if he leave no widow, the ſame annuity to be applied for the benefit of orphan children (if any) under twelve years of age, until the youngeſt of them attain that age.

To young children.—Any member, who wiſhes to make proviſion for a child or children, is allowed to enter any of them on the following terms:

If under four years of age when entered, the member pays four-pence monthly for each child, till it attains twelve years of age, if the member ſhould live ſo long.

If four years, and under ſeven years, when entered, he pays three-pence monthly for each child.

If ſeven years, and under ten years, when entered, he pays two-pence monthly for each child.

If a member die and leave any child or children ſo contributed for, under twelve years of age, one ſhilling per week is applied out of the fund of the ſociety, towards the mainte-

tenance of each ſuch child, till it attains the age of twelve years; and, if the member chooſe to contribute double the above-mentioned ſums for each child, the child or children will be entitled to double benefit: but no child is entitled to any benefit (excepting the annuity to be paid in caſe of the member's dying after contributing for fifteen years, *without leaving a widow*) unleſs entered and paid for twelve calendar months before the death of its father.

By purchaſing cows.—A ſum of money, not exceeding ten nor leſs than five pounds, is lent to any one member for this purpoſe; on his giving a promiſſory note, ſigned by himſelf and two houſeholders (to be approved of by the ſteward, directors, and committee), for the repayment with intereſt by inſtalments, after the rate of two ſhillings a-week, or ſuch other rate as may be agreed on.

By certificates.—Each member may obtain a certificate, as ſoon as admitted, which, by the act of parliament, will prevent him or her from being removed until actually chargeable; and, in caſes of unmarried women having children in a pariſh to which they do not belong, the ſociety's certificates will be a better ſecurity than many bonds of indemnity. Queſtions alſo of ſettlement may be decided without the removal of the certificated perſon, under the ſaid act, 33d of Geo. III. ch. 54. ſec. 21, 22.

The calculations for the contributions, &c. were formed upon Dr. Price's tables, making them, however, more in favour of old than young members; by which the funds are not injured, but rather the reverſe, becauſe young men are more inclined to ſubſcribe than old; and, if the latter were to contribute according to the proportions of Dr. Price's tables, very few would become members. The compoſition table is lower alſo than Dr. Price's, notwithſtanding which very few are found to avail themſelves of the advantage.

The allowance in ſickneſs is one-third higher than Dr. Price's; but members, who receive in ſickneſs, are debarred from annuities for the ſame ſhares; and conſequently this allowance in ſickneſs may well be afforded.

In drawing the Caſtle-Eden tables, the object was to make the monthly contributions fully equal to the diſburſements, and to induce perſons of *all* ages under 46 to become members, without calculating exactly what each age ought to pay.

The preceding ſtatement ſhews the accounts of the ſociety, the gradation of its contributions, and the benefits derived by its members, in which the principal rules of the ſociety may be traced. Little has been the amount of donations or ſubſcriptions, and yet, during the ſevere trial of the late ſcarcity of bread-corn, few or none of the members omitted to keep up their ſubſcriptions; teſtifying thereby an anxious and ſteady wiſh to provide permanently for themſelves and families.

On the beneficial effects of an eſtabliſhment ſo much in its infancy, we ſhould be careful not to expatiate too much; but we may already aſcertain ſome unqueſtionable advantages. The families of the poor have a more ready ſupply of medical aſſiſtance at their own houſes; and, ſince they have been aſſociated for each other's ſupport, in more inſtances than one, they have collected little ſums among themſelves to preſent to their ſick and neceſſitous neighbours, over and above the allowance from the funds of the ſociety; which is probably an effect of philanthropy derived from the inſtitution. All the members are uniformly anxious to avoid taking relief for ſickneſs, during fifteen years, on their reſpective ſhares; a circumſtance which, whilſt it protects the fund, adds force to the habitual leſſon of thrift; and, as there is a regular ledger kept in which each member's ſeparate account is entered, no miſtake can ariſe on that ſubject. The encouragement given to buying and keeping cows (ſee the article COTTAGER, *Supp.*) promiſes conſiderable improvement to the eſtate; as Mr. Burdon finds it very well worth his while, to accommodate the members with paſture for a cow, and two tons of hay each, for ſix pounds per annum. This, to a poor family, is a great advantage, and will tend much to diminiſh the weight of poor upon the pariſhes to which they belong. The locomotive faculty alſo derived from the certificates of friendly ſocieties is a very obvious advantage.

The great deſideratum, with reſpect to the maintenance of the poor, has always appeared to be the encouragement of habits of economy, and of a ſyſtem of periodical ſubſcription towards their own ſubſiſtence. Where men derive ſupport in ſickneſs and old age * from their individual efforts, in conjunction with thoſe of their neighbours, they paſs through the various periods of trial without that degradation, which attends parochial relief; being neceſſarily amenable to each other for a certain degree of forethought, and good conduct, they learn, inſenſibly, to be regular in their attention to the earnings of their buſineſs, and by acquiring a permanent connection with their neighbours, they become incapable of thoſe acts of vagrancy, which are ſo waſteful of that main ſource of national wealth, the labour of the lower orders of the people.

Upon the whole, it is highly probable, that if the 33 Geo. III. chap. 54, for the encouragement of friendly ſocieties, be allowed ſufficient time to operate, the poor will, by degrees, be induced to take care of themſelves, aſſiſted by the contributions, and encouraged by the countenance, of their ſuperiors.

In May, 1798, there was eſtabliſhed at Winſton, in the county of Durham, in conſequence of a ſuggeſtion of the Biſhop of Durham, a friendly ſociety for the aged poor; the object of which is to promote among them the due obſervance

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* In a late inſtance, in the neighbourhood of Ealing, a majority, compoſed of the *young* men of a friendly ſociety, agreed to diſſolve the ſociety, and divide the ſtock; and thereby at once defrauded all the *old* members of that proviſion for age and infirmity, which had been the object of many years' contribution. A new ſociety was immediately formed of the young perſons, and all the old members were left to the pariſh. This could not have happened, *if their rules had been regularly confirmed at the quarter ſeſſions.*—The advantages of the rules being confirmed and regiſtered (which by the act is to be without any fee or expence) are many and important;—their *bonds* are not chargeable with any *ſtamp duty*;—they have a copy of their rules on record, which they may always recur to;—if their ſteward or other perſon embezzles their money, they may apply to the court of chancery, and obtain a decree and *relief without any expence* whatever;—and in caſe any perſon, who has money or effects of the ſociety in his hands, dies, or becomes a bankrupt, the debt of the ſociety is to be diſcharged, *in preference to any other demand whatſoever.*—If all members of friendly ſocieties had been aware, how much their ſecurity and benefit are increaſed by the confirmation of their rules, there would have been none but would have taken advantage of the act.—There is an unneceſſary reſtriction in the ſtatute law, as to the time for the confirmation of the rules of any friendly ſocieties, eſtabliſhed *before* the paſſing of that act. The benefits, however, of the act may be obtained (and there is an example in the publication mentioned in a preceding note) by the members *forming their ſociety, and ſigning the rules anew*, with ſuch amendments as occur; carrying their fund to the account of the new ſociety, and giving to every member (inſtead of his divided ſhare of the money) the ſame benefit in the fund of the new ſociety, as he would have had in the old one.

of the ſabbath, the ſtudy of the Scriptures, and of other good books, and alſo frugality and good neighbourhood.

For this purpoſe, they make a point of attending church on Sundays, when not prevented by ſickneſs, infirmity, or ſome unavoidable impediment; and alſo on other days, whenever they have opportunity: they likewiſe agree not to countenance any games or improper paſtimes on a Sunday, by looking on, or ſitting near them; and to uſe all the influence which they poſſeſs, to diſſuade others from profaning the Lord's day:—they meet every Sunday evening at each other's houſes, for religious improvement: and make it a general rule, to lay by every week ſomething of their earnings, to accumulate till the end of the year; allotting however a tenth part thereof, and of the benefit they derive from the ſociety, towards the relief of any of their neceſſitous neighbours, who (though not belonging to the ſociety) ſhould appear to merit their charitable aſſiſtance. They likewiſe agree to make it their buſineſs to do every thing that in them lies, to promote good-will, good-neighbourhood, and Chriſtian charity, one amongſt another.

The following are the rules of the ſociety:

1. Any perſon may be a member of the ſociety, who is ſixty years of age or upwards.

2. Every ſubſcriber of one penny per week, who is ſixty years of age, or upwards, and under ſeventy, to be entitled to receive *double* his ſubſcription, at the end of the year; that is, his own ſubſcription, and as much more.

3. Every ſubſcriber of one penny per week, who is ſeventy years of age, or upwards, and under fourſcore, to be entitled to receive treble his ſubſcription at the end of the year; that is, his own ſubſcription, and twice as much more.

4. Every ſubſcriber of one penny per week, who is fourſcore years of age, or upwards, and under ninety, to receive *four times* his ſubſcription at the end of the year; that is, his own ſubſcription, and three times as much more.

5. And ſo in proportion for every increaſe of ten years.

6. Any blind perſon, of any age, may be a member of the ſociety; and, if under ſixty years of age, will be entitled to the ſame benefit as ſubſcribers who are ſixty years of age, and under ſeventy.

7. Every member who abſents himſelf from church on Sundays, except in caſe of ſickneſs, or ſome unavoidable impediment, to forfeit his benefit upon the ſubſcription of that week.

8. If any member of this ſociety ſhould die in the courſe of the year, his friends will be entitled to receive his ſubſcription, and ſo much benefit as is proportioned to the time of ſubſcribing.

9. Any perſon deſirous of promoting the purpoſes of the ſociety, without partaking of the benefit, may be an *honorary member*, by ſubſcribing annually a guinea, or half a guinea, or not leſs than two pence per week; for which they will be entitled to receive weekly one copy of ſuch publications as may be purchaſed for the uſe of the ſociety.

10. The ſubſcription to be paid at the time of the weekly meeting, to the member, at whoſe houſe the reading is held; to be delivered by him to the ſecretary, on the Monday following.

11. The annual ſubſcription to be paid at the time of commencing member.

12. No members to receive any publication, whoſe ſubſcription is in arrears.

13. No benefit member, who is in arrears, to receive any benefit till his arrears are paid.

This ſociety conſiſts of four honorary members (who ſubſcribe an annual guinea each for the benefit of the fund), and nine old men and women, one of the age of 101 years, one a poor blind woman, and the other ſeven of ages between 60 and 80. The honorary member have it in their power, by their weekly or annual ſubſcription, not only to enlarge and improve the means of aſſiſting the poorer members of the ſociety, but at the ſame time to contribute to the amuſement and inſtruction of their children and ſervants, and neighbours, by diſtributing among them the tracts of the Cheap Repoſitory, and thoſe of the Society for promoting Chriſtian Knowledge, which are purchaſed for the uſe of the ſociety.

The books which are ſelected for reading to them are, Orton's Diſcourſes to the Aged,--Biſhop Wilſon's Sermons,--Biſhop Wilſon on the Sacrament,—Biſhop Beveridge's Private Thoughts,—Flavell's Huſbandry ſpiritualized, adapted to preſent uſe,—Chriſtian Huſbandry,—Fawcett's Religious Weaver,—Burder's Village Sermons,—and Peers's Companion for the Aged.

Of the origin of this ſociety, the author ſays, "I ſpoke to one of the old men, who had ſome turn for reading, and offered to come and read to him on the Sunday evening. The old man thanked me for the offer, and afterwards appeared much gratified with what I had done. I then told him that I would viſit him the next Sunday evening; and that any other old perſons among his neighbours, who wiſhed it, might be preſent. A neighbour and his wife attended; and, on the Sunday after, other old perſons came, in conſequence of leave given them upon their application. Finding the Sunday readings gave pleaſure to them, I made an offer of forming a regular ſociety, on the terms before mentioned." This they gladly accepted, and have ſince expreſſed great ſatisfaction in this new employment of their Sunday evening.

There is a cheap but comfortable Sunday dinner provided, gratis, for all who attend church. It is prepared from one of the receipts in the firſt volume of the Society's Reports, the expence of it not exceeding three halfpence a-head. They dine at the houſe of one of the members, which from its ſituation is moſt convenient for the infirm members. The dinner is dreſſed at the rectory, and ſent on the Saturday evening to the houſe where they dine.

The oldeſt and moſt infirm members are now become very punctual in their attendance on church; and by their example and influence, have contributed very much to the better obſervance of the ſabbath at Winſton.

The Sunday readings were propoſed, and the ſociety which grew out of them, was eſtabliſhed, in conſequence of a ſuggeſtion in the Biſhop of Durham's charge to the clergy of the dioceſe of Durham, in 1797, where the reader will find a ſtrong recommendation of the eſtabliſhment of ſocieties of the poor for their religious improvement.

The inſtitution of ſuch ſocieties appears to be ſuſceptible of very extenſive advantages. It ſupplies, by very practicable means, what was before wanting in the religious inſtruction of the poor. Sunday ſchools provide for the inſtruction of the young;—theſe ſocieties will promote the edification and comfort of the old. The Sunday Friendly Society is founded on principles very favourable to religious and moral improvement, and to the cultivation of benevolence and philanthropy among the poor. It connects the aged poor in a friendly and Chriſtian-like manner with their miniſter, and with one another. It brings into exerciſe a virtue, which is too often conſidered as out of the poor man's ſphere; as by it they not only receive charity, but become alſo the diſpenſers of it to others.

The allotment of their charitable tithe to the benefit of neighbours, who are *not* of their ſociety, and the obliging of themſelves by their *rules* to the obſervance of the duties of religion and benevolence, may be the means of gaining two great points in the cultivation of the heart;—one, a correction of the ſelfiſh principle; the other, a deliberate reſolution of living and acting by rule and method. To the poor who cannot read at all,—to thoſe who cannot afford to buy books,—

to thoſe who are deſirous of ſpiritual improvement, and of employing their latter days in a way the moſt conducive to the comfort of their laſt hours,—to the frugal, the neighbourly, and the benevolent, ſuch an inſtitution cannot fail to be very acceptable.

The value of religious ſocieties, as helps to religious inſtruction and edification, has been long known to ſeveral ſects of Chriſtians. With them they have been the ſource of much uſeful inſtruction, and the means of keeping up a ſpirit of ſocial and vital religion; and they contribute to aid the force of example, and therefore operate very beneficially on individual conduct. It would be happy for the cauſe of Chriſtianity, if the friends of the eſtabliſhed church would unite in following their example. Happy indeed would it be, if, at length, all contention between the denominations of Chriſtians were reduced to an amicable rivalry, in the great work of ſaving ſouls;—in provoking one another to good works. In a word, if all our efforts, from however diſtant points they may originate, were to centre in a friendly competition in doing good.

To thoſe who look with an anxious eye on the progreſs of the poor's rate, every inſtitution that tends to encourage good conduct among the poor, muſt be the object of approbation; but thoſe muſt be peculiarly ſo, which are calculated to afford relief to the elder and more infirm poor, by an *annual* charity, as a benefit upon *frugality* and good behaviour.

In forming a Sunday friendly ſociety it is immaterial with how ſmall a number the commencement is made; except, indeed, that there may be rather more advantages in beginning only with a few, and letting others find out the benefits of being members from converſation with thoſe who are. The utmoſt that ſeems neceſſary (after two or three have agreed to meet together for reading the ſcriptures and other good books on Sunday evenings, and to bind themſelves to a punctual obſervance of religious duties) is to diſtribute the rules of ſuch ſocicty at ſome, or all, of the cottages in the pariſh.

It is a very deſirable circumſtance, that the meetings ſhould be at the houſes of the members by rotation; as it will not only be more ſatisfactory to them, but will conduce much to friendly intercourſe and charitable communion. If the elderly poor in any town or village, ſhould be too numerous to meet in one houſe, they may be divided into claſſes, and one or more of the members be employed as readers to the claſs, where the miniſter cannot attend regularly to more than one claſs.

The weekly penny ſhould not be conſidered as a ſubſcription, or condition of being admitted a member, but as a voluntary act of frugality. If they lay by their penny, and are not ſo regular as their rules require, they will ſtill receive their own again; but it will be their own ſingle talent unimproved. They may be members, if they pleaſe, without laying by their penny: a wiſh to partake of the Sunday readings, and to join in a religious obſervance of the ſabbath, is a ſufficient qualification.

They may, poſſibly, be devout without being frugal; and yet frugality is ſo great a virtue in the poor, that it might be worth while to encourage and recommend to them the weekly depoſit, as a means of benefiting themſelves by the charitable diſpoſition of their richer neighbours: a circumſtance that will render the charity not only more uſeful than if it was merely gratuitous, but generally (it may be ſuppoſed) on that account more acceptable to them.

In large families and populous towns, the benefit upon the weekly ſavings might be in a great degree, if not wholly, raiſed from the contributions of the honorary members. In ſmall pariſhes, the expence of the benefit will be inconſiderable: but even there, will be generally found ſome honorary members, to ſhare the expence with the landholder, and with the clergyman of the pariſh.

A ſociety of a ſimilar nature has been lately inſtituted at Biſhops Auckland by the Biſhop of Durham, who has the dinner provided for them, and ſupplies the extra fund, without the contribution of any honorary members. It conſiſts at preſent, October, 1798, of 20 members; all (as there is reaſon to believe) gradually advancing to a more comfortable ſtate of mind, and happy in their preparation for eternity. —In the formation of different ſocieties, ſome difference in the detail may be occaſioned by the circumſtances of the place or the parties, but the general idea and the object will probably be the ſame.

Friendly Female-Societies, aſſociations of the ſame nature as the foregoing, for the excluſive advantage of females. We ſelect the following examples from the Reports of the London Society for bettering the Condition and increaſing the Comforts of the Poor.

Among the many friendly ſocieties which have been inſtituted by day-labourers in different parts of the country, an idea was adopted at Lymington, that ſomething of this kind might be of great benefit to *diſtreſſed females*; and eſpecially in that place, which being a little ſea-port, and frequented by the ſeamen of ſmall coaſting veſſels, and boatmen, their wives are often put to inconveniences by the misfortunes, and even by the abſence of their huſbands.

Mrs. Pierce, a lady of Lymington, took an active part in the buſineſs. Her firſt ſtep was to conſult among her friends, what ſupport an inſtitution of this kind was likely to receive; and ſoon found there was ſufficient for the execution of her plan. Between thirty and forty inhabitants of Lymington, and its neighbourhood, were ready to ſubſcribe each 14s. a-year, or 3d. a-week, which was all the aſſiſtance ſhe deſired. A committee of ladies was then appointed to arrange the buſineſs; but Mrs. Pierce continued to be the moſt active member, by taking on herſelf the moſt troubleſome office—that of treaſurer.

On the 5th of April, 1790, the ſociety was eſtabliſhed. The regulations of it were chiefly theſe.—It was particularly intended for *lying-in* women, but was ſoon extended to the *ſick of every denomination.* No one could enter as an object of this charity under the age of 15, nor above 50. It was required that ſhe ſhould be a pariſhioner, of good character, and in good health at the time of her entrance. On putting down her name ſhe pays 6d. and three halfpence every week. Before ſhe receives relief, her name muſt have been a year on the books; ſhe is then entitled to 3s. a-week during any illneſs with which ſhe may be viſited: but ſhe receives it only during the term of 13 weeks; if ſhe is not then recovered, ſhe receives 1s. a-week only, while it is thought neceſſary. Once a-year a charity ſermon is preached, at which between 10l. and 16l. are generally collected. By this aid, and by great economy in the management of the fund, it has increaſed ſo much, that, inſtead of 3s. a-week, it already affords 4s. After the ſermon, which is generally preached on the ſecond Sunday in Auguſt, all the poor members who are able to go to church, walk in proceſſion to the town-hall, with their patroneſſes at their head, who treat them with cake and wine. This is a pleaſant day to them, and makes ſome return to the healthy, for not having had occaſion to draw upon the fund for ſickneſs. The grand murmur indeed againſt all theſe modes of relief, is, that they, who have had little occaſion for them, think their money has been ill ſpent, though at the ſame time it is a fact, that moſt of the members of this ſociety have at one time or other, received relief from it; not fewer in the whole than 65; of theſe 35 were women in child-bed. Two women have been

on the books, with lame hands, at 1s. a-week, for ſome years; and a third has been long relieved in a deep decline.

Indulgences are ſometimes added, when perſonal misfortune is not to be pleaded. In the late ſcarcity of bread-corn, each poor member received a half-gallon loaf every Wedneſday, for ſix weeks; and during the laſt two winters, each had three buſhels of coals.—The ſociety, at this time (June, 1798), conſiſts of 55 poor members.

At TOTTENHAM High-Croſs, a friendly ſociety for the benefit of women and children was eſtabliſhed on the 22d of October, 1798, under the reſpectable patronage of a number of ladies, who promiſed to ſupport it with perſonal attendance, as well as pecuniary aſſiſtance.

Combined with the main deſign of this inſtitution are two other objects; viz. a fund for loans, to prevent the uſe of pawnbrokers' ſhops, and a bank for the earnings of poor children.

The principal rules are as follow:—the honorary members pay five ſhillings on entrance, and twelve ſhillings annually. The benefited members pay two ſhillings on entrance: they are divided into three claſſes, according to their age. The firſt claſs, which conſiſts of thoſe between twenty and thirty, pay ſix pence monthly. Thoſe of the ſecond claſs are between thirty and forty, and pay nine pence monthly. Thoſe of the third claſs are between forty and fifty, and pay one ſhilling monthly.

No one is to contribute after ſixty. From ſixty-five to ſeventy, each member is to receive a penſion of one ſhilling weekly; and from ſeventy to the end of their lives, two ſhillings weekly, even ſhould they be obliged to retire into a workhouſe. In caſe of ſickneſs, four ſhillings weekly are allowed for four months in one year, and two ſhillings afterwards. And if a member dies, after having ſubſcribed ſix years, thirty ſhillings are allowed for the funeral.

The honorary members, thinking themſelves entitled to riſk part of their own contributions, have authoriſed the ſtewardeſſes, at their diſcretion, to lend ſmall ſums, from five ſhillings to thirty, to the benefited members on ſuch occaſions as they may approve. Theſe loans are directed particularly to the enabling of them to purchaſe neceſſaries at the wholeſale price: or to ſupply themſelves with articles for ſale, materials for work, a pig, or any other thing, likely to produce a profit. Theſe loans are repaid in ſmall monthly payments.

Children of either ſex, of whatever age, whether belonging to a member or not, are permitted to bring any ſum above one penny, to the monthly meeting of the ſtewardeſſes, to be laid up in the fund of the ſociety; where their ſmall earnings may accumulate in ſecurity, till wanted for an apprentice fee, clothing on going to ſervice, or ſome ſuch important purpoſe; and in caſe of death, the ſum laid up is returned to the parents of the child.

The buſineſs of the ſociety is managed by ſix ſtewardeſſes and a treaſurer, who meet monthly. Four of the ſtewardeſſes are choſen from the honorary members, and two from the benefited members. Theſe offices are filled in alphabetical order at an annual meeting of the whole ſociety. It ſhould be added, that great attention is paid to the moral character of thoſe who are admitted members; and a notorious irregularity of conduct incurs expulſion.

In the formation of all charitable inſtitutions, the increaſe of virtue and happineſs to ſociety at large, ſhould be conſidered as the great object of attainment, and the fundamental principle of action: an end which, it is preſumed, the eſtabliſhment in queſtion is particularly adapted to promote, by the reciprocal advantages of rendering the affluent acquainted with the character and the moral conduct, the wants and the reſources, of the indigent; whence they become better qualified to afford them judicious relief, and to diſtinguiſh between the deſerving and the worthleſs.

The economy and the induſtry of the poor are encouraged by judicious loans, which enables them to buy articles of domeſtic conſumption, and coals eſpecially, on the moſt advantageous terms; or to provide materials for increaſing their means of ſubſiſtence; as it is well known to thoſe who are converſant with the affairs of the labouring claſſes, that it is much eaſier for them to ſpare a ſmall ſum at ſtated periods, than to lay down what is ſufficient for either purpoſe at once.

Though the children receive no addition to the pittance they depoſit in the fund, yet it anſwers ſeveral purpoſes.—It ſtimulates them to earn and ſave that which would probably be idly ſpent, as of too ſmall importance for care; it often encourages their parents to lay by a little ſtore for them, which they would not have thought of doing, had they not been invited by this opportunity of placing it in ſafety. It habituates the children to induſtry, frugality, and foreſight; and, by introducing them to notice, it teaches the value of character, and of the eſteem of thoſe who, by the diſpenſations of Providence, are placed above them; and, in many inſtances, it may ſupply a reſource, when it is eſſentially requiſite.

The ſucceſs has already ſucceeded expectation. Above ſixty children bring their little treaſure monthly; the benefited members repay their loans with great regularity: and there is a viſible emulation to eſtabliſh a good character by reſpectable conduct, and by a regard to propriety on the part of the poor; whilſt kind attention, and active ſympathy, are exerted on the part of the opulent.

At EMPINGHAM, near Stamford, in Rutlandſhire, the following *female friendly ſociety for girls* was eſtabliſhed on the 1ſt of January, 1798; and ſixteen girls were immediately admitted at the deſire of their parents.

Female children, capable of ſpinning, knitting, or of any other profitable employ, which in that neighbourhood has been conſiderably increaſed by the Society of Induſtry there, ſubſcribe to the general fund one halfpenny a-day out of their earnings. This is to be accumulated by compound intereſt, and to form a fund, out of which each ſubſcriber, upon her marriage, is, after a contribution of fourteen years, entitled to receive two guineas; and, upon the birth of each child born in wedlock eight months or more after the expiration of the fourteen years' contribution, the like ſum of two guineas.

Girls are not permitted to ſubſcribe until ſeven years of age; and, if any girl dies under twenty-one, or before the expiration of the fourteen years of her ſubſcription, the amount of her contribution, but without intereſt, is paid to her repreſentatives at the expiration of the current half-year*: and if any ſubſcriber, for fourteen years or upwards, continues unmarried till the age of fifty years, ſhe is then entitled to two guineas a-year for life.

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* It is ſubmitted to conſideration, whether it might not be better that there ſhould be no repayment of the contribution in caſe of death: but that, inſtead of it, the period of contribution ſhould be proportionably ſhortened; ſo as to entitle the ſubſcriber to the donation, upon her marriage, after a contribution of ten or twelve (inſtead of fourteen) years.

An eſtabliſhment of this nature is only adapted to thoſe parts of England, in which the induſtry of the children of the poor has been, of late, ſo ſucceſsfully and beneficially excited: it is more peculiarly applicable to places where ſchools of induſtry, with a cheap dinner for the children (ſee SCHOOL, Supp.), are eſtabliſhed, as by Lord Winchelſea at Oakham, and by Mr. Conyers at Epping; for the miſtreſs may there, regularly and without any trouble, deduct the ſubſcriptions from their weekly pay. The probable conſequences of ſuch female friendly ſocieties are, that girls, ſo contributing *out of their own earnings* to a proviſion for their future life, will learn to ſet a higher value on their own characters, and will become examples of virtue and good conduct; and that, poſſeſſing the double advantage of a certain proviſional aſſiſtance at periods when it is peculiarly wanted by the poor, and of habits of exertion and economy inſenſibly acquired during their youth, they will become objects of attention to all the well-diſpoſed young men in the neighbourhood, and will be more likely to marry early, and to continue in a courſe of virtue and induſtry.

FRIESACH, a town of Germany, in the archbiſhopric of Saltzburg, with a ſtrong caſtle, on a mountain, 56 miles S.E. of Saltzburg. Long. 14. 12. E. Lat. 47. 12. N.

FRINWALT, a town of Germany in the margravate of Brandenburg, ſeated on the Oder, 30 miles N.E. of Berlin. Long 14. 10. E. Lat. 52. 50. N.

FRIO, CAPE, a promontory of Braſil, in the province of Rio Janeiro. Long. 41. 31. W. Lat. 92. 54. S.

FRISCH HAF, a long and narrow bay of the Baltic Sea, at the mouth of the Viſtula.

FRISCHEN HAF, a bay of the Baltic Sea, at the mouth of the Oder. It lies between Stetin and the Baltic, with which it communicates by three mouths. See ODER.

FRITHELSTOKE, a village in Devonſhire, two miles W. of Torrington, noted for the remains of its priory.

FRITZLAR, a town of Germany, in the landgravate of Heſſe Caſſel, 20 miles S.W. of Caſſel.

FRIULI, or CITTA DI FRIULI, a town of Italy, in the province of Friuli, with a biſhop's ſee, 32 miles N.N.W. of Trieſte. Long. 13. 50. E. Lat. 46. 15. N.

FRODLINGHAM, a town in the E. riding of Yorkſhire, with a market on Thurſday, 36 miles E. of York, and 194 N. of London. Long. 0. 12. W. Lat. 53. 56. N.

FROG, in farriery, a part of a horſe's foot, the form and purpoſes of which Mr. Coleman, Profeſſor at the Veterinary College, deſcribes in the following terms:

"The natural frog of the horſe," ſays he, "is placed in the centre of the ſole, externally convex, and of a wedge-like form, pointed towards the toe, but expanded as it advances to the heels. In the centre of the broad part there is a fiſſure, or ſeparation. The frog is connected internally, with another frog, of a ſimilar figure, but different in ſtructure. The external frog is compoſed of ſoft elaſtic horn, and totally inſenſible. The internal frog has ſenſation, and is much more elaſtic than the horny frog; and at the extremity of the heels is connected with two elaſtic ſubſtances called cartilages. The toe of the ſenſible frog is united to the coffin bone; but more than nine-tenths of both frogs are behind the coffin bone. The toe of the ſenſible and horny frogs, from their connection with the coffin bone, are fixed points, and have no motion; but the heels of the frogs being placed poſterior to the coffin bone, and in contact with moveable, elaſtic (and not fixed or reſiſting) ſubſtances, a very conſiderable lever is formed, and whenever the horny frog comes in contact with the ground, it firſt aſcends, and then deſcends. The preſſure of the ground alſo expands the horny frog, and the ſenſible frog expands the cartilages, and at the heels and quarters immediately below the hair, totally governs the direction of the future growth of the cruſt.

"This aſcent of the frog, not only by its wedge-like form preſerves the heels and quarters from contraction, but affords to the horſe an elaſtic ſpring, and prevents the animal from ſlipping whenever it embraces the ground. Without any anatomical enquiry into its internal ſtructure and union with other parts, the ſhape and convexity of the horny frog clearly demonſtrates that it was formed to come into contact with the ground; and the more I inveſtigate this ſubject, the more I am convinced that the uſe of the frog is to prevent the horſe from ſlipping, to preſerve the cartilages and hoof expanded, and, by its motion, to act as an elaſtic ſpring to the animal."

Mr. Coleman contends that Mr. St. Bel, and many others, who ſuppoſe that the uſe of the frog is merely *to ſerve as a cuſhion*, or guard, to the tendon of the flexor muſcle of the foot, and who, on that account, were diſpoſed rather to *raiſe the frog from the ground*, by a *thick-heel'd* ſhoe, have been in an error. On the contrary, he maintains it to be a law of nature, *that unleſs the frog perform its functions, by being allowed to preſs the ground, it muſt become diſeaſed.* Accordingly the practice of ſhoeing very much depends on the functions of the frog being underſtood. "If the opinions here advanced reſpecting its uſes, be well founded, then it muſt follow, that paring the frog and raiſing it from the ground annihilates its functions, and ultimately, if not immediately, produces diſeaſe; and that expoſing the frog to preſſure, is the only proper method to keep it in health. Moreover, it has from experience been aſcertained, that unleſs the frog ſuſtain an uniform preſſure *when at reſt*, the heels as well as the frog contract; but if that organ be in cloſe contact with the ground, then it ſpreads and is free from thruſhes and canker, and operates as a wedge to keep open the heels of the hoof.

"Granite and other hard ſubſtances, give no pain to a frog expoſed to conſtant preſſure *in the ſtable*; but when above the pavement, it generally becomes *contracted*, and the ſenſible frog inflamed, and then one ſtroke from a projecting ſtone, will produce pain, perhaps lameneſs, while perpetual perpendicular preſſure is attended with ſalutary effects.

"When the hoof contracts, the frog muſt alſo become contracted, and inflammation and a ſuppuration follow, called a *thruſh*. No contraction, however, takes place, where the frog is made to receive conſtant preſſure, as the ſtanding perpetually on that wedge increaſes its growth, preſſes upward the ſenſible frog, and expands the cartilages of the hoof. And as the firſt ſhoot of the cruſt at the coronet is very thin, the direction of its fibres will be altogether regulated by the width of the cartilages immediately below the hair at the quarters and heels, and the cartilages will be always more or leſs expanded, and the hoof more or leſs circular, as the frog has more or leſs preſſure.

"On that principle," continues Mr. Coleman, "I long ſince recommended a ſhoe with *thin heels*, as the beſt formed ſhoe to bring the frog on the ſame level; and with great truth I can aſſert, that, although in ſome inſtances, from a ſudden miſapplication of the thin-heel'd ſhoe to improper feet, I have ſeen the tendons affected, yet from all the experience I have ſince had, and from all that I have ſeen or heard of the practice of others, I know of no inſtance where *the frog*, from conſtant preſſure, did not expand and receive great benefit.

"Where the frog is in a morbid ſtate, and unnaturally deprived of perpendicular preſſure, it is ſeldom ſafe to lower the heels at once, ſo as to make the frog on a level with the ſhoe; and, in many caſes, it is not poſſible, with any ſhoes, or even without ſhoes, to give the frog preſſure on ſmooth ſurfaces;

much leſs is it practicable for the frog to reſt on the ground when ſhod with common thick-heel'd ſhoes. In the ſtable, therefore, while at reſt, the frog is generally raiſed above the ſhoe, and as preſſure is eſſential to its health, particularly when the hoof is expoſed to heat, it appeared to me of great importance, in all caſes where the heels of the ſhoe and the frog cannot with ſafety be made on the ſame level, to apply *an artificial frog* (ſee Pl. 31.), to fit and give any degree of preſſure, in the ſtable, to the natural frog, with any ſhoes. While the horſe is in motion, and the hoof expoſed to unequal ſurfaces, the artificial frog ſhould be removed, as the natural frog, out of the ſtable, will receive frequent preſſure with any ſhoes; but that period is of ſhort duration, when compared to the length of time the horſe remains at reſt, and the frog raiſed from the ground.

" Artificial preſſure is moſt particularly wanted when the heat of the ſtable operates powerfully to contract the hoof. *In all caſes, therefore, where the pavement of the ſtable does not touch the natural frog, an artificial frog is neceſſary to reſiſt contraction* of the hoof, thruſhes, and canker. Sand-cracks, alſo, very generally ariſe from a contracted hoof, and may be prevented by the artificial frog.

" If the frog does not abſolutely reſt on the pavement, whatever ſhoes are employed, the hoof in the ſtable will be as much diſpoſed to contract, as if the frog was raiſed any greater diſtance. I wiſh this fact to be well conſidered; for it has been ſuppoſed that ſhoes with a flat ſeat, without preſſure to the frog, will prevent contraction. But I am fully convinced that neither thick nor thin heeled ſhoes, *where the frog is raiſed above preſſure, and expoſed to the heat of the ſtable*, can prevent contraction, or its effects; and where the frog receives that preſſure, the heels cannot contract even with the moſt common ſhoes. For very obvious mechanical reaſons, a wedge in the centre of the heels, aided by the preſſure from below, muſt be beſt calculated to preſerve them expanded, or when the heels are contracted, to force them open. The heat of the ſtable in all caſes tends to contraction of the hoof; but with common ſhoes, there is no preſſure on the wedge, or other cauſe to counteract that tendency. The artificial frog, which is intended to cover and give any degree of preſſure to the natural frog only, is made of iron. In order to fit the natural frog, it is requiſite to aſcertain its width, the length of the foot, and the diſtance between the lower ſurface of the ſhoe and the frog. But if the artificial frog be too long, the toe, which is flat and thin, may be ſhortened; and if the heels of the ſhoe are higher than the artificial frog, nothing more is requiſite than to introduce a quantity of tow between the natural and artificial frog, ſo as to raiſe it equal or above the level of the ſhoe. I have aſcertained by experiment, that no inconvenience takes place by raiſing the artificial frog even one quarter of an inch above the ſhoe; but in ordinary caſes, it ſhould not project more than one-ſixth of an inch above the ſurface of the ſhoe. It may, however, be imagined, that ſo much perpendicular preſſure to the frog would *retard rather than increaſe its growth*. But the very reverſe is the fact: for as the frog, when long elevated above the ground, is very generally contracted, this unnatural lateral preſſure excites inflammation of the ſenſible frog, and deprives in a great degree the blood veſſels of the power of ſecreting horn. When the horny frog is expoſed to a perpendicular preſſure, it gives health, and not diſeaſe, to the ſenſible frog. The blood veſſels ſecrete their due proportion of elaſtic horn, and then the cavity of the frog is preſerved, expanded, and fully equal to contain the ſenſible frog, without the ſmalleſt degree of lateral preſſure.

" It therefore follows, that perpendicular preſſure increaſes the bulk of the frog; while its abſence from the ground produces contraction, and leſſens its growth."

The following is an explanation of the plate in which Mr. Coleman's PATENT ARTIFICIAL FROG is repreſented, with other figures that illuſtrate the ſubject.

Fig. 1, exhibits a view of the natural hoof of the horſe, which is of a circular ſhape.

a a a The external ſurface of the ſole of a concave form.
b b b The inferior edge of the cruſt.
c c The junction of the bars with the cruſt.
d d The points of the bars.
e e The ſole between the heels of the cruſt and bars, the ſeat of corns.
f f Two cavities between the ſides of the bars and the ſides of the cruſt.
g The toe of the frog.
h h The heels of the frog.
i i The cleft between the heels of the frog, the ſeat of thruſhes.

Fig. 2. A view of the hoof with contracted heels, occaſioned by raiſing the frog above the preſſure of the pavement in the ſtable.

a a a The ſole.
b b The original ſeat of the bars, but improperly removed by the farrier.
c c The original ſeat of the cavities between the bars and cruſt, but now from contraction a ſolid horn.
d d The heels of the frog very much compreſſed, by the contraction of the hoof.
e e The width of the hoof at the heel, not being more than one half of the length from *f* to *g*.
f The extremity of the heels of the frog.
g The toe of the cruſt.

Fig. 3. The patent frog, made of caſt and wrought iron.

a a The lower ſurface oppoſite the ground, formed of caſt-iron.
b An irregular cavity for the reception of the elaſtic ſpring, fig. 4.
c The toe of the patent frog, formed of wrought iron, to be occaſionally ſhortened and adapted to the length of the foot, and placed under the toe of the ſhoe to confine the artificial frog from moving forwards.
d d A hole in the heels of the iron frog, for the paſſage of a ſtrap, to buckle at the outſide quarter or coronet.

Fig. 4. A flat ſteel ſpring to fix the artificial frog in its place.

a An irregular projection, to be received into a correſponding concavity in the patent frog.
b b The ends of the ſpring, to be placed under the heels of the ſhoe oppoſite *c c* in fig. 1.

" The toe of the artificial frog is intended to be inſerted under the toe of the ſhoe. This effectually fixes the frog forwards; and to prevent backward or lateral motion, an irregular groove is made in the iron frog, to receive a correſponding piece of ſteel, placed under the heels of the ſhoe. In general it is neceſſary to fix the frog more firmly, and, for that purpoſe, a hole is neceſſary, made in the heel of the artificial frog, to receive a ſtrap, and to buckle at the outſide quarter below the coronet. And that the artificial frog may give preſſure in all caſes with ſhoes thickened, or turned up for hunting or froſt, a variety of frogs are made, to be adapted to particular feet and particular ſhoes. In caſes of thruſhes and canker of the frog, where no remedies without preſſure are likely to be ſerviceable, an aſtringent thruſh powder may be applied between the natural and artificial frog. And in contracted hoofs (or what has improperly been termed chest

foundered), where it may not be advifable to lower the heels equal with the horny frog, the artificial frog is eſſentially neceſſary. But indeed in every horſe where the ſhoe and frog on a ſmooth ſurface are not on the ſame level, whatever ſhoes may be uſed, the iron frog in the ſtable ſhould be applied; and in order to fix it with facility, the ſpring ſhould firſt be laced under the ſhoe and brought backward to the heels of the hoof.

"The toe of the iron frog ſhould then be inſerted under the centre of the ſpring, and puſhed as far as the toe of the ſhoe, while the other hand confines the ſpring until the centre of the ſpring meets the centre of the groove. The ſtrap may then be buckled. And to diſlodge the ſpring and iron frog, after the ſtrap is unbuckled, nothing more is requiſite than a *ſmall* horſe picker, introduced into a hole at the bottom of the groove of the iron frog; and the ſpring being raiſed above the groove and carried gently forward, the frog may be withdrawn from under the ſhoe without the ſmalleſt difficulty."

Mr. Coleman, in concluſion, wiſhes it to be clearly underſtood, "*that in all caſes where the frog and the heels of the ſhoe are placed on the ſame level, the patent frog is unneceſſary.* But where the frog is ſmall, or the paſtern joint long, or the action of the animal high, or the heels low, ſo as to render the application of thin-heel'd ſhoes improper, or when the frog from any cauſe is raiſed above the ground in the ſtable, an artificial frog is uſeful in all ſuch caſes, and neceſſary to reſiſt contraction of the hoof." To this equally ingenious and candid ſtatement of Mr. Coleman, we are enabled to add our individual teſtimony as to the ſoundneſs of his reaſoning, and the great practical utility of his *artificial frog*, which is now very generally adopted in the ſtables of perſons of faſhion in the united kingdom.

FRONSAC, a town of France, in the department of Gironde, ſeated on the Dordogne, 22 miles N.E. of Bourdeaux. Long. 0. 16. W. Lat. 45. 5. N.

FRONTEIRA, a town of Portugal, in Alentejo, 17 miles N.E. of Eſtremos.

FROYEN, an iſland in the North Sea, near the coaſt of Norway, about 35 miles in circumference. Long. 9. 0. E. Lat. 63. 45 N.

FRUTINGEN, a town of Swiſſerland, in the canton of Bern, which gives name to a bailiwic, and is eſteemed one of the moſt beautiful places in Swiſſerland. It is 30 miles S.E. of Friburg.

FUEL (*Encycl.*). The economy of fuel is an object of ſo much importance to the community at large, and more eſpecially to the indigent members of it, that we are truly glad of this opportunity of laying before our readers the following obſervations relative to the Means of increaſing the Quantities of Heat obtained in the Combuſtion of Fuel, by Count Rumford, from the Journals of the Royal Inſtitution of Great Britain.

"It is a fact which has been long known," ſays the Count, "that clays, and ſeveral other incombuſtible ſubſtances, when mixed with ſea coal, in certain proportions, cauſe the coal to give out more heat in its combuſtion than it can be made to produce when it is burnt pure or unmixed; but the cauſe of this increaſe of heat does not appear to have been yet inveſtigated with that attention which ſo extraordinary and important a circumſtance ſeems to demand.

"Daily experience teaches us that all bodies—thoſe which are incombuſtible, as well as thoſe which are combuſtible, and actually burning—throw off, in all directions, heat, or rather calorific (heat-making) rays, which generate heat wherever they are ſtopped, or abſorbed; but common obſervation was hardly ſufficient to ſhew any perceptible difference between the quantities of calorific rays thrown off by different bodies, when heated to the ſame temperature, or expoſed in the ſame fire; although the quantities ſo thrown off might be, and probably are, very different.

"It has lately been aſcertained, that when the ſides and back of an open chimney fire-place, in which coals are burned, are compoſed of fire-bricks, and heated red hot, they throw off into the room incomparably more heat than all the coals that could poſſibly be put into the grate, even ſuppoſing them to burn with the greateſt poſſible degree of brightneſs. Hence it appears that a red-hot burning coal does not ſend off near ſo many calorific rays as a piece of red-hot brick or ſtone, of the ſame form and dimenſions; and this intereſting diſcovery will enable us to make very important improvements in the conſtruction of our fire-places, and alſo in the management of our fires.

"The fuel, inſtead of being employed to heat the room *directly*, or by the direct rays from the fire, ſhould be ſo diſpoſed, or placed, as *to heat the back and ſides of the grate*; which muſt always be conſtructed of fire-brick or fire-ſtone, and *never of iron, or of any other metal.* Few coals, therefore, when properly placed, make a much better fire than a large quantity; and ſhallow grates, when they are conſtructed of proper materials, throw more heat into a room, and with a much leſs conſumption of fuel, than deep grates; for a large maſs of coals in the grate arreſts the rays which proceed from the back and ſides of the grate, and prevents their coming into the room; or, as fires are generally managed, it prevents the back and ſides of the grate from ever being ſufficiently heated to aſſiſt much in heating the room, even though they be conſtructed of good materials, and large quantities of coals conſumed in them.

"It is poſſible, however, by a ſimple contrivance, to make a good and an economical fire in almoſt any grate, though it would always be adviſable to conſtruct fire-places on good principles, or to improve them by judicious alterations, rather than to depend on the uſe of additional inventions for correcting their defects.

"To make a good fire in a bad grate, the bottom of the grate muſt be firſt covered with a ſingle layer of balls, made of good fire-bricks, or artificial fire-ſtone, well burnt, each ball being perfectly globular, and about $2\frac{1}{2}$ or $2\frac{3}{4}$ inches in diameter. On this layer of balls the fire is to be kindled, and, in filling the grate, more balls are to be added with the coals that are laid on; care muſt, however, be taken in this operation to mix the coals and the balls well together, otherwiſe, if a number of the balls ſhould get together in a heap, they will cool, not being kept red-hot by the combuſtion of the ſurrounding fuel, and the fire will appear dull in that part; but if no more than a due proportion of the balls are uſed, and if they are properly mixed with the coals, they will all, except it be thoſe perhaps at the bottom of the grate, become red-hot, and the fire will not only be very beautiful, but it will ſend off a vaſt quantity of radiant heat into the room; and will continue to give out heat for a great length of time. It is the opinion of ſeveral perſons who have for a conſiderable time practiſed this method of making their fires, that more than one-third of the fuel uſually conſumed may be ſaved by this ſimple contrivance. It is very probable that, with careful and judicious management, the ſaving would amount to one-half, or fifty *per cent.*

"As theſe balls, made in moulds, and burnt in a kiln, would coſt very little, and as a ſet of them would laſt a long time—probably ſeveral years—the ſaving of expence in heating rooms by chimney fires, with bad grates in this way, is

obvious; but ſtill it ſhould be remembered, that a ſaving quite as great may be made by altering the grate, and making it a good fire-place.

" In uſing theſe balls, care muſt be taken to prevent their accumulating at the bottom of the grate: as the coals go on to conſume, the balls mixed with them will naturally ſettle down towards the bottom of the grate, and the tongs muſt be uſed occaſionally to liſt them up; and, as the fire grows low, it will be proper to remove a part of them, and not to replace them in the grate till more coals are introduced:—a little experience will ſhew how a fire made in this manner can be managed to the greateſt advantage, and with the leaſt trouble.

" Balls, made of pieces of any kind of well-burnt hard brick, though not equally durable with fire-brick, will anſwer very well, provided they be made perfectly round; but if they are not quite globular their flat ſides will get together, and, by obſtructing the free paſſage of the air amongſt the coals, will prevent the fire from burning clear and bright.

" The beſt compoſition for making theſe balls, when they are formed in moulds, and afterwards dried and burnt in a kiln, is pounded crucibles mixed up with moiſtened Sturbridge clay; but good balls may be made with any very hard burnt common bricks, reduced to a coarſe powder, and mixed with Sturbridge clay, or even with common clay. The balls ſhould always be made ſo large as not to paſs through between the front bars of a grate.

" Theſe balls have one advantage, which is peculiar to them, and which might perhaps recommend the uſe of them to the curious, even in fire-places conſtructed on the beſt principles; they cauſe the cinders to be almoſt conſumed entirely; and even the very aſhes may be burnt, or made to diſappear, if care be taken to throw them repeatedly upon the fire when it burns with an intenſe heat. It is not difficult to account for this effect in a ſatisfactory manner; and in accounting for it we ſhall explain a circumſtance on which it is probable that the great increaſe of the heat of an open fire, where theſe balls are uſed, may, in ſome meaſure, depend. The ſmall particles of coal, and of cinder, which, in a common fire, fall through the bottom of the grate, and eſcape combuſtion, when theſe balls are uſed can hardly fail to fall and lodge on ſome of them; and, as they are intenſely hot, theſe ſmall bodies, which alight upon them in their fall, are ſoon heated red-hot, and diſpoſed to take fire and burn; and as freſh air from below the grate is continually making its way upwards amongſt the balls, every circumſtance is highly favourable to the rapid and complete combuſtion of theſe ſmall inflammable bodies. But if theſe ſmall pieces of coal and cinder ſhould, in their fall, happen to light upon the metallic bars which form the bottom of the grate—as theſe bars are conductors of heat, and, on account of that circumſtance, as well as of their ſituation—*below* the fire—never can be made very hot—any ſmall particle of fuel that happens to come into contact with them, not only cannot take fire, but would ceaſe to burn ſhould it arrive in a ſtate of actual combuſtion.

" Theſe facts are very important, and well deſerving of the attention of thoſe who may derive advantage from the improvement of fire-places, and the economy of fuel.

" There are ſome circumſtances which ſtrongly indicate that an admixture of incombuſtible bodies with fuel, and eſpecially with coal, cauſe an increaſe of the heat, even when the fuel is burnt in a cloſed fire-place. No fire-place can well be contrived more completely cloſed than thoſe of the iron ſtoves in common uſe in the Netherlands; but, in theſe ſtoves—which are heated by coal fires—a large proportion of wet clay is always coarſely mixed with the coal before they are introduced into the fire-place. If this practice had not been found to be uſeful, it would certainly never have been obtained generally; nor would it have been continued, as it has been, for more than two hundred years.

" The combination of different ſubſtances, combuſtible and incombuſtible, to form, artificially, various kinds of cheap and pleaſant fuel, particularly adapted for the different proceſſes in which the fuel is employed, is a ſubject well worthy the attention of enterpriſing and ingenious men. How much excellent fuel, for inſtance, might be made with proper additions, and proper management, of the mountains of refuſe coal-duſt that lie uſeleſs at the mouths of coal-pits; and how much would it contribute to cleanlineſs and elegance, if the uſe of improved coke, or of hard and light fire-balls, could be generally introduced in our houſes and kitchens, inſtead of crude, black, powdery, dirty ſea-coal? Of the great economy that would reſult from ſuch a change there cannot be the ſmalleſt doubt.

" It is a melancholy truth, but, at the ſame time, a moſt undiſputable fact, that, while the induſtry and ingenuity of millions are employed, with unceaſing activity, in inventing, improving, and varying thoſe ſuperfluities which wealth and luxury introduce into ſociety, no attention whatever is paid to the improvement of thoſe common neceſſaries of life on which the ſubſiſtence of all, and the comforts and enjoyments of the great majority of mankind, abſolutely depend.

" Much will be done for the benefit of ſociety," adds this truly patriotic philoſopher, " if means can be deviſed to call the attention of the active and benevolent to this long-neglected, but moſt intereſting ſubject." Till this, however, is effectually done, we think it of conſequence to ſhew what has been attempted in certain parts of the kingdom by way of ſupplying the poor with fuel, and inſtructing them in the economical and beneficial uſe of it. The following is an extract from an account of a proviſion made upon an incloſure, for ſupplying the poor with fuel, by Edward Parry, Eſq.

" Upon the incloſure of the pariſh of Little Dunham in the county of Norfolk, in the year 1794," ſays Mr. Parry, " being lord of the manor, I got a clauſe inſerted, directing the commiſſioners to ſet out a parcel of land, to be called '*the poor's eſtate*,' and to be veſted in the lord of the manor, rector, churchwardens, and overſeers of the poor for the time being, and to be let by them for 21 years on leaſe; the rents and profits to be laid out by them on fuel, to be delivered at the cottages of the poor, in ſuch proportions as the truſtees ſhould think proper.

" Although the prejudices of the poor, againſt the incloſure, were very great before it took place, the moment they ſaw the land incloſed, and let as *the poor's eſtate* for 21 years by auction, at the rate of 50l. a-year (although only eſtimated by the commiſſioners at 20l. a-year), they were highly gratified; and they have indeed great reaſon to rejoice, being now moſt amply ſupplied with that great comfort of life. This has been ſo apparent, that ſome neighbouring incloſures have followed the example, and it appears to me adviſable, that ſuch a plan ſhould be generally made known.

" The firſt idea was to ſell the land, and place the money in the public funds, in order to produce a larger income; but I found that was not underſtood by the poor: they ſaid, they might at any time be deprived of the money, and they had no intereſt in the land incloſed; whereas, in the mode purſued, they conſidered themſelves as having a permanent and improveable eſtate, which their children would inherit. Theſe prejudices are valuable; as in their conſequences they produce, if attended to, induſtry and content.

" I have had occaſion to obſerve as to fuel, which is certainly an important article to the poor, that, where there are commons, the ideal advantage of cutting flags, peat, or

whins, often cauſes a poor man to ſpend more time in procuring ſuch fuel, than, if he reckoned his labour, would purchaſe for him double that quantity of good firing."

An account of a proviſion of fuel for the poor at Lower Winchendon, by Scrope Bernard, eſq. appears, with the foregoing, in the Reports of the Society for bettering the Condition of the Poor, &c.

"There having been," ſays Mr. Bernard, "ſeveral proſecutions at the Ayleſbury quarter ſeſſions, for ſtealing fuel laſt winter, I was led to make ſome particular enquiries, reſpecting the means which the poor at Lower Winchendon had of providing fuel. I found that there was no fuel then to be ſold within ſeveral miles of the place; and that, amid the diſtreſs occaſioned by the long froſt, a party of cottagers had joined in hiring a perſon, to fetch a load of pit-coal from Oxford, for their ſupply. In order to encourage this diſpoſition to acquire fuel in an honeſt manner, and to induce the poor to burn coal inſtead of wood, in a country very bare of the latter article, a preſent was made to all this party (eight families in number) of as much more coal as they had purchaſed, and the carriage of the like quantity was further allowed them free of expence.—Having no grates, they had employed the village blackſmith to tack together a few iron bars by an iron rim at each end, which when raiſed above the hearth by looſe bricks, enabled them to keep up a good fire. I went to ſee one of thoſe grates: it was a foot ſquare, quite flat, and had been made out of an old ſcythe by the blackſmith, at the expence of one ſhilling.—In this manner ſome of the pooreſt families in the village got through the laſt hard winter. But they complained of the want of faggots to light their fires, which were not to be obtained by honeſt means. To remedy this, againſt the next winter, I had three waggon loads of the ſmall faggots called kindlers, made up from a fall of beechwood, in the Chiltern country, ten miles off, and brought to Winchendon in the ſummer ſeaſon. And as, in September, from the ſtate of the harveſt, it was foreſeen that it would be a trying winter for the poor, a veſtry was called, and it was propoſed to them, as one mode of relief, that they ſhould allow the poor the carriage of a limited portion of coal; which was then ſold at 1*s.* 4*d.* the hundred, at the Oxford wharf. At the ſame time they were informed that eleven hundred faggots were provided out of the Chiltern woods, as kindlers, to aſſiſt ſuch a plan; which it was intended to ſell, much under the real value, at a penny a piece. This plan was agreed to, and the neceſſary quantity ordered to be fetched at the charge of the pariſh. A few tons were fetched before the froſt ſet in, and were diſtributed at 1*s.* 4*d.* per hundred weight, with three kindlers to every hundred weight of coals, by a perſon reſiding in the centre of the pariſh; each family applying took a moderate quantity, ſuch as might be ſuppoſed to contribute to their comfort, without trenching on their means of ſubſiſtence. The price of coals at Oxford had in the interim riſen beyond what is here ſtated; but no alteration was made in the retail price on that account; the increaſe being defrayed out of a donation, which had been made at Chriſtmas, applicable to this charity. The expence of diſtribution, at 10*d.* per ton, was alſo paid out of the ſame fund. It had been ſaid that the poor would not find money to purchaſe them, when they were brought: inſtead of which, out of 35 poor families belonging to the pariſh, 29 came with ready money, huſbanded out of their ſcanty means, to profit with eagerneſs of this attention to their wants; and among them a perſon who had been lately impriſoned by his maſter for ſtealing wood from his hedges. The ſix, who did not purchaſe, were, as I learnt upon inquiry, prevented by ſome particular circumſtances, which rendered the ſupply unneceſſary.

"In this manner 29 poor families, conſiſting of 110 poor perſons, are ſupplied during the preſent ſeaſon with fuel, at an expence to the pariſh, aided by voluntary charity, of about three guineas per month; being the charge for carriage, diſtribution, and occaſional exceſs of price: the average wharf price of the article, which for the ſame period was leſs than five guineas, being paid by the poor themſelves, with thankfulneſs for the advantage which they derived from this mode of purchaſe.

"I have been the more particular in this detail, becauſe it exhibits, though on a ſmall ſcale, an inſtance of uniting pariſh relief with private ſubſcription, ſo as to lighten the weight of both; and I think it may ſometimes be convenient that they ſhould go hand in hand. At Whitchurch, in this county, the ſame kind of charity was eſtabliſhed laſt winter. It now continues by a private ſubſcription of between 17*l.* and 20*l.* for that object, during the ſeaſon: but one or two of the moſt opulent declined contributing; and though diſburthened of a part of the expence of the poor, ſhrunk from the duty of aiding ſuch a plan, becauſe it was voluntary.—In order therefore to prevent the covetous from entirely eſcaping, it ſeems to be beſter, where it can be adopted as the unanimous act of the pariſh, or where the manner of doing it can be made conſiſtent with the poor laws, that the foundation ſhould be laid by the pariſh in an allowance, as far as they think proper to go; and that the voluntary charity of individuals ſhould be grafted on that ſtock, for the purpoſe of effecting a further reduction of the price.

"I have often wiſhed to bring coal into general uſe at Winchendon; the poor however being jealous of any ſchemes, under the impreſſion that they are more calculated for the benefit of others, than of themſelves, and the farmer not being very fond of new expences, I had judged the attempt to be vain. But the circumſtances above recited having led both parties to make a trial, I believe that the one finds a great addition of comfort, and the other no great increaſe of expence.

"The attempt to introduce proper chimneys into cottages in this neighbourhood, inſtead of the preſent ſpacious and airy ones with ſeats in the corner, has met with conſtant reſiſtance; nor is it to be expected that any impreſſion will be made on the poor inhabitants, till they have had full opportunity of aſcertaining, by obſervation and experience, the comforts and advantages of chimneys on a different conſtruction. In the hope of effecting this change in their opinions, two cottage chimneys, on Count Rumford's * principles, are now building in this village.

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* It is rather unfortunate for the public that the *pretended improvements of Count Rumford's grates*, ſo pompouſly announced by different ironmongers, are chiefly calculated to increaſe the expence, and to diminiſh the effect, of his uſeful invention. When the reader viſits the Royal Inſtitution, he will ſee that the new grates put up there are very cheap, and have as little iron as poſſible about them, and that *the fire always burns againſt fire bricks:* the back and ſides of the grate being compoſed of brick, which throws out heat in greater quantity, and is not ſubject to the diſagreeable ſmell and bad effects of heated iron. In thoſe ſhops *where theſe improvements are carried on to the greateſt perfection*, they will find nothing left of the benefit of Count Rumford's original invention, except the narrow throat to the chimney; and even that is not always preſerved. The diſtinguiſhing features are—an abundance of poliſhed ſteel,—as much iron as can be uſed on every ſide of the fire,—and a very liberal accumulation of expence.

" If we wiſh effectually to prevent the poor from ſtealing wood, and from ſimilar acts of theft, it ſhould be our firſt aim to put it perfectly in their power to obtain on fair terms the articles neceſſary to their exiſtence. When the means of life and the acquiſition of food and fuel are beyond the attainment of the *induſtrious* labourer, the inducement to guilt, and to invading the ſtore of his neighbour, become ſo powerful, as to put the virtue and integrity of the poor man to a very ſevere trial.—Perſons enjoying the ſuperior advantages of education, with minds formed to habits of honour and virtue, may feel confident in their own powers of forbearance, even under ſuch circumſtances: but it will not follow that it is either wiſe, or juſt, to expoſe the cottager to ſo great a temptation. Where the option is not given them of acquiring in an honeſt manner, and in exchange for the produce of their labour, the indiſpenſable neceſſaries of exiſtence (and ſuch is fuel in this northern climate), however we may condemn any crime which may follow, we have no great reaſon to be ſurpriſed at ſuch a reſult; nor perhaps ought we to conſider ourſelves as entirely exempt from a ſhare in the guilt."

FUEN-TCHEOU-FOU, a commercial city of China, in the province of Chang-ſi. Its baths and ſprings, almoſt as hot as boiling water, attract a great number of ſtrangers. Its diſtrict contains one city of the ſecond, and ſeven of the third claſs. It is ſeated on the Fuen-ho, 250 miles S.W. of Pekin.

FUENTE DUEGNA, a town of Spain, in New Caſtile, ſeated on the Tajo, 35 miles S.E. of Madrid. Long. 3. 0. W. Lat. 40. 14. N.

FUENTE GINALDO, a town of Spain, in Eſtremadura. In 1734 it was taken and plundered by the Portugueſe, under the marquis das Minhas. It is 16 miles N.W. of Coria.

FUESEN, a town of Suabia, belonging to the biſhop of Augſburgh, with an ancient caſtle. It is ſeated on the Leech, 50 miles S. by E. of Augſburg. Long. 11. 15. E. Lat. 47. 40. N.

FUIDENTALL, a town of Sileſia, in the duchy of Troppaw, taken by the king of Pruſſia in 1741 and 1744. It is ſeated near the Mohra, 16 miles W. by S. of Troppaw.

FULA, or THULE, one of the Shetland Iſlands, W. of Mainland. It is thought by ſome to be the ſame which the ancients reckoned the ultimate limit of the habitable globe, and to which, therefore, they gave the appellation of ultima Thule. It is doubtful, however, whether this be really the iſland ſo called; becauſe, had the ancients reached it, they muſt have ſeen land ſtill further to the N.E.; Mainland, Yell, and Unſt, being all further N.

FULMINATION *(Encycl.)*. Under the head of DETONATION, &c. we have given an account of the ſubſtances heretofore known to produce this extraordinary effect. We ſhall here add the highly curious Obſervations on a new fulminating Mercury, by EDWARD HOWARD, Eſq. F.R.S. publiſhed in the Tranſactions of the Royal Society of London.

I. The mercurial preparations which fulminate, when mixed with ſulphur, and gradually expoſed to a gentle heat, are well known to chemiſts: they were diſcovered, and have been fully deſcribed, by Mr. Bayen*.

" MM. Brugnatelli and Van Mons have likewiſe produced fulminations by concuſſion, as well by nitrate of mercury and phoſphorus as with phoſphorus and moſt other nitrates†. Cinnabar likewiſe is amongſt the ſubſtances which, according to MM. Fourcroy and Vauquelin, detonate by concuſſion with oxymuriate of potaſh‡.

" Mr. Ameilon had, according to Mr. Berthollet, obſerved, that the precipitate obtained from nitrate of mercury, by oxalic acid, fuſes with a hiſſing noiſe §.

II. " But mercury, and moſt if not all its oxides, may, by treatment with nitric acid and alcohol, be converted into a whitiſh cryſtallized powder, poſſeſſing all the inflammable properties of gun-powder, as well as many peculiar to itſelf.

" I was led to this diſcovery by a late aſſertion, that hydrogen is the baſis of the muriatic acid; it induced me to attempt to combine different ſubſtances with hydrogen and oxygen. With this view I mixed ſuch ſubſtances with alcohol and nitric acid as might (by prediſpoſing affinity) favour as well as attract an acid combination of the hydrogen of the one, and the oxygen of the other. The pure red oxide of mercury appeared not unfit for this purpoſe; it was therefore intermixed with alcohol, and upon both, nitric acid was affuſed. The acid did not act upon the alcohol ſo immediately as when theſe fluids are alone mixed together, but firſt gradually diſſolved the oxide: however, after ſome minutes had elapſed, a ſmell of ether was perceptible, and a white denſe ſmoke, much reſembling that from the *liquor fumans* of LIBAVIUS, was emitted with ebullition. The mixture then threw down a dark coloured precipitate, which by degrees became nearly white. This precipitate I ſeparated by filtration; and, obſerving it to be cryſtallized in ſmaller acicular cryſtals, of a ſaline taſte, and alſo finding a part of the mercury volatilized in the white fumes, I muſt acknowledge I was not altogether without hopes that muriatic acid had been formed, and united to the mercurial oxide; I therefore, for obvious reaſons, poured ſulphuric acid upon the dried cryſtalline maſs, when a violent effervescence enſued, and, to my great aſtoniſhment, an exploſion took place. The ſingularity of this exploſion induced me to repeat the proceſs ſeveral times; and finding that I always obtained the ſame kind of powder, I prepared a quantity of it, and was led to make the ſeries of experiments which I ſhall have the honour to relate in this paper.

III. " I firſt attempted to make the mercurial powder fulminate by concuſſion; and for that purpoſe laid about a grain of it upon a cold anvil, and ſtruck it with a hammer, likewiſe cold: it detonated ſlightly, not being, as I ſuppoſe, ſtruck with a flat blow; for, upon uſing three or four grains, a very ſtunning diſagreeable noiſe was produced, and the faces both of the hammer and the anvil were much indented.

" Half a grain, or a grain, if quite dry, is as much as ought to be uſed on ſuch an occaſion.

" The ſhock of an electrical battery, ſent through five or ſix grains of the powder, produces a very ſimilar effect: it ſeems, indeed, that a ſtrong electrical ſhock generally acts on fulminating ſubſtances like the blow of a hammer. Meſſrs. Fourcroy and Vauquelin found this to be the caſe with all their mixtures of oxymuriate of potaſh.

" To aſcertain at what temperature the mercurial powder explodes, two or three grains of it were floated on oil, in a capſule of leaf tin; the bulb of a Fahrenheit's thermometer was made juſt to touch the ſurface of the oil, which was then gradually heated till the powder exploded, as the mercury of the thermometer reached the 368th degree.

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* Opuſcules Chimique de Bayen, Tom. I. p. 346, and note in p. 344.

† Annales de Chimie, Tom. XXVII. p. 74 and 79.

‡ Ibid. Tom. XXI. p. 238.

§ This fact has been miſrepreſented in the introduction to a work entitled, The chemical Principles of the metallic Arts. by W. Richardſon, ſurgeon, F.A.S. page 57.

IV. "Deſirous of comparing the ſtrength of the mercurial compound with that of gunpowder, I made the following experiment in the preſence of my friend Mr. Abernethy.

"Finding that the powder could be fired by flint and ſteel, without a diſagreeable noiſe, a common gunpowder proof, capable of containing eleven grains of fine gunpowder, was filled with it, and fired in the uſual way: the report was ſharp, but not loud. The perſon who held the inſtrument in his hand felt no recoil; but the exploſion laid open the upper part of the barrel, nearly from the touch-hole to the muzzle, and ſtruck off the hand of the regiſter, the ſurface of which was evenly indented, to the depth of 0,1 of an inch, as if it had received the impreſſion of a punch.

"The inſtrument uſed in this experiment being familiarly known, it is therefore ſcarcely neceſſary to deſcribe it: ſuffice it to ſay, that it was of braſs, mounted with a ſpring-regiſter, the moveable hand of which cloſed up the muzzle, to receive and graduate the violence of the exploſion. The barrel was half an inch in caliber, and nearly half an inch thick, except where a ſpring of the lock impaired half its thickneſs.

V. "A gun, belonging to Mr. Keir, an ingenious artiſt of Camden-Town, was next charged with 17 grains of the mercurial powder, and a leaden bullet. A block of wood was placed at about eight yards from the muzzle, to receive the ball, and the gun was fired by a tuſe. No recoil ſeemed to have taken place, as the barrel was not moved from its poſition, although it was in no ways confined. The report was feeble: the bullet, Mr. Keir conceived, from the impreſſion made upon the wood, had been projected with about half the force it would have been by an ordinary charge, or 68 grains, of the beſt gunpowder. We therefore re-charged the gun with 34 grains of the mercurial powder; and, as the great ſtrength of the piece removed any apprehenſion of danger, Mr. Keir fired it from his ſhoulder, aiming at the ſame block of wood. The report was like the firſt in ſection four, ſharp, but not louder than might have been expected from a charge of gunpowder. Fortunately Mr. Kier was not hurt, but the gun was burſt in an extraordinary manner. The breech was what is called a patent one, of the beſt forged iron, conſiſting of a chamber, 0,4 of an inch thick all round, and 0,4 of an inch in caliber; it was torn open and flawed in many directions, and the gold touch-hole driven out. The barrel, into which the breech was ſcrewed, was 0,5 of an inch thick; it was ſplit by a ſingle crack three inches long, but this did not appear to me to be the immediate effect of the exploſion. I think the ſcrew of the breech, being ſuddenly enlarged, acted as a wedge upon the barrel. The ball miſſed the block of wood, and ſtruck againſt a wall, which had already been the receptacle of ſo many bullets, that we could not ſatisfy ourſelves about the impreſſion made by this laſt.

VI. "As it was pretty plain that no gun could confine a quantity of the mercurial powder ſufficient to project a bullet, with a greater force than an ordinary charge of gunpowder, I determined to try its comparative ſtrength in another way.—I procured two blocks of wood, very nearly of the ſame ſize and ſtrength, and bored them with the ſame inſtrument to the ſame depth. The one was charged with half an ounce of the beſt Dartford gunpowder, and the other with half an ounce of the mercurial powder; both were alike buried in ſand, and fired by a train communicating with the powders by a ſmall touch-hole. The block containing the gunpowder was ſimply ſplit into three pieces: that charged with the mercurial powder was burſt in every direction, and the parts immediately contiguous to the powder were abſolutely pounded, yet the whole hung together, whereas the block ſplit by the gunpowder had its parts fairly ſeparated. The ſand ſurrounding the gunpowder was undoubtedly moſt diſturbed; in ſhort, the mercurial powder appeared to have acted with the greateſt energy, but only within certain limits.

VII. "The effects of the mercurial powder, in the laſt experiments, made me believe that it might be confined, during its exploſion, in the centre of a hollow glaſs globe. Having therefore provided ſuch a veſſel, ſeven inches in diameter, and nearly half an inch thick, mounted with braſs caps, and a ſtop-cock (ſee plate 32.); I placed ten grains of the mercurial powder on very thin paper, laid on iron wire, 149th of an inch thick, acroſs the paper, through the midſt of the powder, and, cloſing the paper, tied it faſt at both extremities, with ſilk, to the wire. As the incloſed powder was now attached to the middle of the wire, each end of which was connected with the braſs caps, the packet of powder became, by this diſpoſition, fixed in the centre of the globe. Such a charge of an electrical battery was then ſent along the wire, as a preliminary experiment (with Mr. Cuthbertſon's electrometer) had ſhewn me would, by making the wire red hot, inflame the powder. The glaſs globe withſtood the exploſion, and of courſe retained whatever gaſſes were generated; its interior was thinly coated with quickſilver, in a very divided ſtate. A bent glaſs tube was now ſcrewed to the ſtop-cock of the braſs cap, which being introduced under a glaſs jar ſtanding in the mercurial bath, the ſtop-cock was opened. Three cubical inches of air ruſhed out, and a fourth was ſet at liberty when the apparatus was removed to the water tub. The exploſion being repeated, and the air all received over water, the quantity did not vary. To avoid an error from change of temperature, the glaſs globe was, both before and after the exploſion, immerſed in water of the ſame temperature. It appears therefore, that the ten grains of powder produced four cubical inches only of air.

"To continue the compariſon between the mercurial powder and gunpowder, 10 grains of the beſt Dartford gunpowder were in a ſimilar manner ſet fire to in the glaſs globe: it remained entire. The whole of the powder did not explode, for ſome complete grains were to be obſerved adhering to the interior ſurface of the glaſs. Little need be ſaid of the nature of the gaſſes generated during the combuſtion of the gunpowder: they muſt have been, carbonic acid gas, ſulphureous acid gas, nitrogen gas, and (according to Lavoiſier) perhaps hydrogen gas. As to the quantity of theſe, it is obvious that it could not be aſcertained; becauſe the two firſt were, at leaſt in part, ſpeedily abſorbed by the alkali of the nitre, left pure after the decompoſition of its nitric acid."

The following are the references to the figures of the glaſs globe, &c. in pl. 32.

A, is a ball or globe of glaſs, nearly half an inch thick, and ſeven inches in diameter. It has two necks, on which are cemented the braſs caps B, C, each being perforated with a female ſcrew, to receive the male ones D, E: through the former a ſmall hole is drilled; the latter is furniſhed with a perforated ſtud or ſhank G. By means of a leather collar H, the neck C can be air-tightly cloſed. When a portion of the powder is to be exploded, it muſt be placed on a piece of paper, and a ſmall wire laid acroſs the paper, through the midſt of the powder: the paper being then cloſed, is to be tied at each end to the wire, with a ſilken thread, as ſhewn at I. One end of this wire is to be faſtened to the end of the ſhank G, and the ſcrew D inſerted to half its length into the braſs cap B; the other end of the wire *a*, by means of the needle K, is to be drawn through the hole F. The ſcrew E being now fixed in its place, and the wire drawn tight, is to be ſecured by puſhing the irregular wooden plug L into the aperture of the ſcrew D, taking care to leave a paſſage for the air. The ſtop-cock M, the ſection of which is at N, is now to be ſcrewed on the part D, which is made air-tight by the leather collar *b*. The glaſs tube O is

bent, that it may more conveniently be introduced under the receiver of a pneumatic apparatus. P, ſhews the manner of connecting the glaſs tube with the ſtop-cock.

VIII. "From the experiments related in the fourth and fifth ſections, in which the gunpowder proof and the gun were burſt, it might be inferred, that the aſtoniſhing force of the mercurial powder is to be attributed to the rapidity of its combuſtion; and a train of ſeveral inches in length being conſumed in a ſingle flaſh, it is evident that its combuſtion muſt be rapid. From the experiments of the ſixth and ſeventh ſections, it is ſufficiently plain that this force is reſtrained to a narrow limit, both becauſe the block of wood charged with the mercurial powder was more ſhattered than that charged with the gunpowder, whilſt the ſand ſurrounding it was leaſt diſturbed, and likewiſe becauſe the glaſs globe withſtood the exploſion of 10 grains of the powder fixed in its centre; a charge I have twice found ſufficient to deſtroy old piſtol barrels, which were not injured by being fired when full of the beſt gunpowder. It alſo appears from the laſt experiment, that 10 grains of the powder produced by ignition four cubical inches only of air; and it is not to be ſuppoſed that the generation, however rapid, of four cubical inches of air, will alone account for the deſcribed force; neither can it be accounted for by the formation of a little water, which, as will hereafter be ſhewn, happens at the ſame moment; the quantity formed from 10 grains muſt be ſo trifling, that I cannot aſcribe much force to the expanſion of its vapour. The ſudden vaporition of a part of the mercury ſeems to me a principal cauſe of this immenſe yet limited force; becauſe its limitation may then be explained, as it is well known that mercury eaſily parts with caloric, and requires a temperature of 600 degrees of Fahrenheit, to be maintained in the vaporous ſtate. That the mercury is really converted into vapour, by ignition of the powder, may be inferred from the thin coat of divided quickſilver, which, after the exploſion in the glaſs globe, covered its interior ſurface; and likewiſe from the quickſilver with which a tallow candle, or a piece of gold, may be evenly coated, by being held at a ſmall diſtance from the inflamed powder. Theſe facts certainly render it more than probable, although they do not demonſtrate, that the mercury is volatilized; becauſe it is not unlikely that many mercurial particles are mechanically impelled againſt the ſurface of the glaſs, the gold, and the tallow.

"As to the force of the dilated mercury, Mr. Baumé relates a remarkable inſtance of it, as follows:

'Un alchymiſte ſe préſenta à Mr. Geoffroy, et l'aſſura qu'il avoit trouvé le moyen de fixer le mercure par une opération fort ſimple. Il fit conſtruire ſix boîtes rondes en fer fort épais, qui entroient les unes dans les autres; la dernière étoit aſſujettie par deux cercles de fer qui ſe croiſoient en angles droits. On avoit mis quelques livres de mercure dans la capacité de la première: on mit cet appareil dans un fourneau aſſez rempli de charbon pour faire rougir à blanc les boîtes de fer; mais, lorſque la chaleur eut pénétré ſuffiſamment le mercure, les boîtes crevèrent, avec une telle exploſion qu'il ſe fit un bruit épouvantable: des morceaux de boîtes furent lancés avec tant de rapidité qu'il y en eut qui paſsèrent au travers de deux planchers; d'autres firent ſur la muraille des effects ſemblables à ceux des éclats de bombes *.'

"Had the alchemiſt propoſed to fix water by the ſame apparatus, the neſt of boxes muſt, I ſuppoſe, have likewiſe been ruptured; yet it does not follow that the exploſion would have been ſo tremendous: indeed, it is probable that it would not, for if (as Mr. Kirwan remarked to me) ſubſtances which have the greateſt ſpecific gravity have likewiſe the greateſt attraction of coheſion, the ſuppoſition that the vapour of mercury exceeds in expanſive force the vapour of water, would agree with a poſition of Sir Iſaac Newton, that thoſe particles recede from one another with the greateſt force, and are moſt difficultly brought together, which upon contact cohere moſt ſtrongly.

IX. "Before I attempt to inveſtigate the conſtituent principles of this powder, it will be proper to deſcribe the proceſs and manipulations which, from frequent trials, ſeem to be beſt calculated to produce it. 100 grains, or a greater proportional quantity, of quickſilver (not exceeding 500 grains), are to be diſſolved, with heat, in a meaſured ounce and a half of nitric acid. This ſolution being poured cold upon two meaſured ounces of alcohol, previouſly introduced into any convenient glaſs veſſel, a moderate heat is to be applied until an effervescence is excited. A white fume then begins to undulate on the ſurface of the liquor; and the powder will be gradually precipitated, upon the ceſſation of action and re-action. The precipitate is to be immediately collected on a filter, well waſhed with diſtilled water, and carefully dried in a heat not much exceeding that of a water-bath. The immediate edulcoration of the powder is material, becauſe it is liable to the re-action of nitric acid; and, whilſt any of that acid adheres to it, it is very ſubject to the influence of light. Let it alſo be cautiouſly remembered, that the mercurial ſolution is to be poured upon the alcohol.

"I have recommended quickſilver to be uſed in preference to an oxyd, becauſe it ſeems to anſwer equally, and is leſs expenſive; otherwiſe, not only the pure red oxyd, but the red nitrous oxyd, and turpeth, may be ſubſtituted; neither does it ſeem eſſential to attend to the preciſe ſpecific gravity of the acid, or the alcohol. The rectified ſpirit of wine, and the nitrous acid of commerce, never failed, with me, to produce a fulminating mercury. It is indeed true, that the powder prepared without attention is produced in different quantities, varies in colour, and probably in ſtrength. From analogy, I am diſpoſed to think the whiteſt is the ſtrongeſt; for it is well known, that black precipitates of mercury approach the neareſt to the metallic ſtate. The variation in quantity is remarkable; the ſmalleſt quantity I ever obtained from 100 grains of quickſilver being 120 grains, and the largeſt 132 grains. Much depends on very minute circumſtances. The greateſt product ſeems to be obtained when a veſſel is uſed which condenſes and cauſes moſt ether to return into the mother liquor; beſides which, care is to be had in applying the requiſite heat, that a ſpeedy, and not a violent action, be effected. 100 grains of an oxyd are not ſo productive as 100 grains of quickſilver.

"As to the colour, it ſeems to incline to black when the action of the acid on the alcohol is moſt violent, and *vice verſa*.

X. "I need not obſerve, that the gaſes which were generated during the combuſtion of the powder in the glaſs globe, were neceſſarily mixed with atmoſpheric air; the facility with which the electric fluid paſſes through a vacuum, made ſuch a mixture unavoidable.

"The cubical inch of gas received over water was not readily abſorbed by it; and, as it ſoon extinguiſhed a taper without becoming red, or being itſelf inflamed, barytes water was let up to the three cubical inches received over mercury, when a carbonate of barytes was immediately precipitated.

"The reſidue of ſeveral exploſions, after the carbonic acid had been ſeparated, was found, by the teſt of nitrous gas, to contain nitrogen or azotic gas; which does not proceed from any decompoſition of atmoſpheric air, becauſe the powder may

* Chymie Expérimentale et Raiſonnée Tom. II. p. 393. Paris, 8vo. 1773.

be made to explode under the exhauſted receiver of an air-pump. It is therefore manifeſt that the gaſes generated during the combuſtion of the fulminating mercury, conſiſt of carbonic acid and nitrogen gaſes.

XI. "The principal re-agents which decompoſe the mercurial powder are the nitric, the ſulphuric, and the muriatic acids. The nitric changes the whole into nitrous gas, carbonic acid gas, acetous acid, and nitrate of mercury. I reſolved it into theſe different principles, by diſtilling it pneumatically with nitric acid: this acid, upon the application of heat, ſoon diſſolved the powder, and extricated a quantity of gas, which was found, by well-known teſts, to be nitrous gas mixed with carbonic acid gas. The diſtillation was carried on until gas no longer came over. The liquor of the retort was then mixed with the liquor collected in the receiver, and the whole ſaturated with potaſh; which precipitated the mercury in a yelloviſh brown powder, nearly as it would have done from a ſolution of nitrate of mercury. This precipitate was ſeparated by a filter, and the filtrated liquor evaporated to a dry ſalt, which was waſhed with alcohol. A portion of the ſalt being refuſed by this menſtruum, it was ſeparated by filtration, and recognized, by all its properties, to be nitrate of potaſh. The alcoholic liquor was likewiſe evaporated to a dry ſalt, which, upon the effuſion of a little concentrate ſulphuric acid, emitted acetous acid, contaminated with a feeble ſmell of nitrous acid, owing to the ſolubility of a ſmall portion of the nitre in the alcohol.

XII. "The ſulphuric acid acts upon the powder in a remarkable manner, as already has been noticed. A very concentrate acid produces an exploſion nearly at the inſtant of contact, on account, I preſume, of the ſudden and copious diſengagement of caloric from a portion of powder which is decompoſed by the acid. An acid ſomewhat leſs concentrate likewiſe extricates a conſiderable quantity of caloric, with a good deal of gas; but, as it effects a complete decompoſition, it cauſes no exploſion. An acid, diluted with an equal quantity of water, by the aid of a little heat, ſeparates the gas ſo much leſs rapidly, that it may with ſafety be collected in a pneumatic apparatus. But, whatever be the denſity of the acid (provided no exploſion be produced), there remains in ſulphuric liquor, after the ſeparation of the gas, a white inflammable and uncryſtallized powder mixed with ſome minute globules of quickſilver.

"To eſtimate the quantity, and obſerve the nature, of this uninflammable ſubſtance, I treated 100 grains of the fulminating mercury with ſulphuric acid a little diluted. The gas being ſeparated, I decanted off the liquor as it became clear, and freed the inſoluble powder from acid by edulcoration with diſtilled water; after which, I dried it, and found it weighed only 84 grains; conſequently had loſt 16 grains of its original weight. Suſpecting, from the operation of the nitric acid in the former experiment, that theſe 84 grains (with the exception of the quickſilver globules) were oxalate of mercury, I digeſted them in nitrate of lime, and found my ſuſpicion juſt. The mercury of the oxalate united to the nitric acid, and the oxalic acid to the lime. A new inſoluble compound was formed; it weighed, when waſhed and dry, 48,5 grains. Carbonate of potaſh ſeparated the lime, and formed oxalate of potaſh, capable of precipitating lime-water and muriate of lime: although it had been depurated from exceſs of alkali, and from carbonate acid, by a previous addition of acetous acid. That the mercury of the oxalate in the 84 grains had united to the nitric acid of the nitrate of lime was proved, by dropping muriatic acid into liquor from which the ſubſtance demonſtrated to be oxalate of lime had been ſeparated; for a copious precipitation of calomel inſtantly enſued.

"The ſulphuric liquor, decanted from the oxalate of mercury, was now added to that with which it was edulcorated, and the whole ſaturated with carbonate of potaſh. As effervescence ceaſed, a cloudineſs and precipitation followed; and the precipitate, being collected, waſhed, and dried, weighed 3,4 grains: it appeared to be a carbonate of mercury. Upon evaporating a portion of the ſaturated ſulphuric liquor, I found nothing but ſulphate of potaſh; nor had it any metallic taſte. There then remains, without allowing for the weight of the carbonic acid united to the 3,4 grains, a deficit from the 100 grains of mercurial powder of 12,6 grains, which I aſcribe to the gas ſeparated by the action of the ſulphuric acid. To aſcertain the quantity, and examine the nature, of the gas ſo ſeparated, I introduced into a very ſmall tubulated retort 50 grains of the mercurial powder, and poured upon it 3 drachms, by meaſure, of ſulphuric acid, with the aſſiſtance of a gentle heat. I firſt received it over quickſilver; the ſurface of which, during the operation, partially covered itſelf with a little black powder.

"The gas, by different trials, amounted from 28 to 31 cubical inches: it at firſt appeared to be nothing but carbonic acid, as it precipitated barytes water, and extinguiſhed a taper, without being itſelf inflamed, or becoming red. But, upon letting up to it liquid cauſtic ammoniac, there was a reſidue from 5 to 7 inches of a peculiar inflammable gas, which burnt with a greeniſh blue flame. When I made uſe of the water-tub, I obtained, from the ſame materials, from 25 to 27 inches only of gas, although the average quantity of the peculiar inflammable gas was likewiſe from 5 to 7 inches; therefore, the difference of the aggregate product, over the two fluids, muſt have ariſen from the abſorption, by the water, of a part of the carbonic acid in its naſcent ſtate. The variation of the quantity of the inflammable gas, when powder from the ſame parcel is uſed, ſeems to depend upon the acid being a little more or leſs dilute.

"With reſpect to the nature of the peculiar inflammable gas, it is plain to me, from the reaſons I ſhall immediately adduce, that it is no other than the gas (in a pure ſtate) into which the nitrous etherized gas can be reſolved, by treatment with dilute ſulphuric acid.

"The Dutch chemiſts have ſhewn, that the nitrous etherized gas can be reſolved into nitrous gas, by expoſure to concentrate ſulphuric acid, and that, by uſing a dilute inſtead of a concentrate acid, a gas is obtained which enlarges the flame of a burning taper, ſo much like the gaſeous oxyd of azote, that they miſtook it for that ſubſtance, until they diſcovered that it was permanent over water, refuſed to detonate with hydrogen, and that the fallacious appearance was owing to a mixture of nitrous gas with inflammable gas.

"The inflammable gas ſeparated from the powder anſwers to the deſcription of the gas which at firſt deceived the Dutch chemiſts; 1ſt, in being permanent over water; 2dly, refuſing to detonate with hydrogen; and, 3dly, having the appearance of the gaſeous oxyd of azote, when mixed with nitrous gas.

"The gas ſeparable by the ſame acid, from nitrous etherized gas, and from the mercurial powder, have therefore the ſame properties. Every chemiſt would thence conclude, that the nitrous etherized gas is a conſtituent part of the powder, and the inflammable and nitrous gas, inſtead of the inflammable and carbonic acid gas, been the mixed product extricated from it by dilute ſulphuric acid.

"It however appears to me, that nitrous gas was really produced by the action of the dilute ſulphuric acid; and that, when produced, it united to an exceſs of oxygen preſent in the oxalate of mercury.

"To explain how this change might happen, I muſt premiſe, that my experiments have ſhewn me that oxalate of mer-

cury can exiſt in two, if not in three ſtates. 1ſt. By the diſcovery of Mr. Ameilon, already quoted, the precipitate obtained by oxalic acid, from nitrate of mercury, fuſes with a hiſſing noiſe. This precipitate is an oxalate of mercury, ſeemingly with exceſs of oxygen. Mercury diſſolved in ſulphuric acid and precipitated by oxalic acid, and alſo the pure red oxyd of mercury digeſted with oxalic acid, give oxalates in the ſame ſtate. 2dly. Acetate of mercury, precipitated by oxalic acid, although a true oxalate is formed, has no kind of inflammability. I conſider it as an oxalate with leſs oxygen than thoſe above mentioned. 3dly. A ſolution of nitrate of mercury, boiled with dulcified ſpirit of nitre, gives an oxalate more inflammable than any other; perhaps it contains moſt oxygen.

" The oxalate of mercury remaining from the powder in the ſulphuric liquor is not only always in the ſame ſtate as that precipitated from acetate of mercury, entirely devoid of inflammability, but contains globules of quickſilver, conſequently it muſt have parted with even more than its exceſs of oxygen; and, if nitrous gas was preſent, it would of courſe ſeize at leaſt a portion of that oxygen. It is true, that globules of quickſilver may ſeem incompatible with nitrous acid; bnt the quantity of the one may not correſpond with that of the other, or the dilution of the acid may deſtroy its action.

" As to the preſence of the carbonic acid, it muſt have ariſen either from a complete* decompoſition of a part of the oxalate; or, admitting the nitrous etherized gas to be a conſtituent principle of the powder, from a portion of the oxygen, not taken up by the nitrous gas, being united with the carbon of the etherized gas.

XIII. " The muriatic acid, digeſted with the mercurial powder, diſſolves a portion of it, without extricating any notable quantity of gas. The diſſolution evaporated to a dry ſalt taſtes like the corroſive ſublimate; and the portion, which the acid does not take up, is left in a ſtate of an uninflammable oxalate.

XIV. " Theſe effects all tend to eſtabliſh the exiſtence of the nitrous etherized gas, as a conſtituent part of the powder; and likewiſe corroborate the explanation I have ventured to give of the action of the ſulphuric acid. Moreover, a meaſured ounce and a half of nitrous acid, holding 100 grains of mercury in ſolution and 2 meaſured ounces of alcohol, yield 90 cubical inches only of gas: whereas, without the intervention of mercury, they yield 210 inches. Upon the whole, I truſt it will be thought reaſonable to conclude, that the mercurial powder is compoſed of the nitrous etherized gas, and of oxalate of mercury with exceſs of oxygen. 1ſt. Becauſe the nitric acid converts the mercurial powder entirely into nitrous gas, carbonic acid gas, acetous acid, and nitrate of mercury. 2dly. Becauſe the dilute ſulphuric acid reſolves it into an uninflammable oxalate of mercury, and ſeparates from it a gas reſembling that into which the ſame acid reſolves the nitrous etherized gas. 3dly. Becauſe an uninflammable oxalate is likewiſe left, after the muriatic acid has converted a part of it into ſublimate. 4thly. Beeauſe it cannot be formed by boiling nitrate of mercury in dulcified ſpirit of nitre; although a very inflammable oxalate is by this means produced. 5thly. Becauſe the difference of the product of gas, from the ſame meaſures of alcohol and nitrous acid, with and without mercury in ſolution, is not trifling; and, 6thly. Becauſe nitrogen gas was generated during its combuſtion in the glaſs globe.

" Should my concluſions be thought warranted by the reaſons I have adduced, the theory of the combuſtion of the mercurial powder will be obvious to every chemiſt. The hydrogen of the oxalic acid, and of the etherized gas, is firſt united to the oxygen of the oxalate, forming water†; the carbon is ſaturated with oxygen, forming carbonic acid gas; and a part, if not the whole of the nitrogen of the etherized gas, is ſeparated in the ſtate of nitrogen gas; both which laſt gaſes, it may be recollected, were after the exploſion preſent in the glaſs globe. The mercury is revived, and, I preſume, thrown into vapour; as may well be imagined, from the immenſe quantity of caloric extricated, by adding concentrate ſulphuric acid to the mercurial powder.

" I will not venture to ſtate, with accuracy, in what proportions its conſtituent principles are combined. The affinities I have brought into play are complicated, and the conſtitution of the ſubſtances I have to deal with not fully known. But, to make round numbers, I will reſume the ſtatement, that 100 grains of the mercurial powder loſt 16 grains of its original weight, by treatment with dilute ſulphuric acid: 84 grains of the mercurial oxalate, mixed with a few minute globules of quickſilver, remained undiſſolved in the acid. The ſulphuric liquor was ſaturated with carbonic of potaſh, and yielded 3,4 grains of carbonate of mercury. If 1,4 grain ſhould be thought a proper allowance for the weight of carbonic acid in the 3,4 grains, I will make that deduction, and add the remaining 2 grains to the 84 grains of mercurial oxalate and quickſilver; I ſhall then have,

Of oxalate and mercury, - - -	86 grains.
And a deficit, to be aſcribed to the nitrous etherized gas and exceſs of oxygen, -	14
	100

" It may perhaps be proper to proceed ſtill further, and recur to the 48,5 grains, ſeparated by nitrate of lime from the 84 grains of mercurial oxalate and globules of quickſilver, in the 11th ſection. Theſe 48,5 grains were proved to be chiefly oxalate of lime; but they likewiſe contained a minute inſeparable quantity of mercury, almoſt in the ſtate of quickſilver, formerly part of the 84 grains from which they were ſeparated. Had the 48,5 grains been pure calcareous oxalate, the quantity of pure oxalic acid in them would, according to Bergmann, be 23,28 grains. Hence, by omitting the 2 grains of mercury, in the 3,4 grains of carbonate, 100 grains of the mercurial powder might have been ſaid to contain of pure oxalic acid 23,28 grains; of mercury 62,72 grains; and of nitrous etherized gas and exceſs of oxygen 14 grains. But, as the 48,5 grains were not pure oxalate, inaſmuch as they contained the mercury they received from the 84 grains, from which they were generated by the nitrate of lime, ſome allowance muſt be made for the mercury ſucceſſively intermixed with the 84 grains and the 48,5 grains. In order to make correſponding numbers, and allow for unavoidable errors, I ſhall eſtimate the quantity of that mercury to have amounted to 2 grains, which I muſt of courſe deduct from the 33,28

* Inflammable oxalate of mercury, made to fuſe in a retort connected with the quickſilver tube, gives out carbonic acid gas.

† Drops of water were obſerved on the internal ſurface of the globe, the day after ſeveral exploſions had been produced in its centre.

grains of oxalic acid. I ſhall then have the following ſtatement:

That 100 grains of fulminating mercury ought to contain of pure, oxalic acid, -		21,28 grains.
Of mercury formerly united to the oxalic acid, - - -	60,72	
Of mercury diſſolved in the ſulphuric liquor, - - -	2	
And of mercury left in the ſulphuric liquor after the ſeparation of the gaſes,	2	
Total of mercury, - -		64,72
Of nitrous etherized gas, and exceſs of oxygen,		14
		100

" Since 100 grains of the powder ſeem to contain 64,72 grains of mercury, it will be immediately enquired, what becomes of 100 grains of quickſilver, when treated as directed, in the deſcription of the proceſs for preparing the fulminating mercury.

" It has been ſtated (in ſection IX.) that 100 grains of quickſilver produce, under different circumſtances, from 120 to 132 grains of mercurial powder; and, if 100 grains of this powder contain 64,72 grains, 120 grains, or 132 grains, muſt, by parity of reaſoning, contain 78,06 grains, or 85,47 grains; therefore 13,34 grains, or 20,75 grains, more of the 100 grains are immediately accounted for; becauſe 64,72 grains + 13,34 grains = 78,06, and 64,72 grains + 20,75 grains = 85,47 grains. The remaining deficiency of 21,94 grains, or 14,53 grains, which, with the 78,06 grains, or 85,47 grains, would complete the original 100 of quickſilver, remains partly in the liquor from which the powder is ſeparated, and is partly volatilized in the white denſe fumes, which in the beginning of this paper I compared to the liquor fumans of Libavius. The mercury cannot, in either inſtance, be obtained in a form immediately indicative of its quantity; and a ſeries of experiments, to aſcertain the quantities in which many different ſubſtances can combine with mercury, is not my preſent object. After obſerving, that the mercury left in the reſiduary liquor can be precipitated in a very ſubtle dark powder, by carbonate of pot-aſh, I ſhall content myſelf with examining the nature of the white fumes.

XV. " It is clear, that theſe white fumes contain mercury: they may be wholly condenſed in a range of Woulfe's apparatus, charged with a ſolution of muriate of ammoniac. When the operation is over, a white powder is ſeen floating with ether on the ſaline liquor, which, if the bottles are agitated, is entirely diſſolved. After the mixture has been boiled, or for ſome time expoſed to the atmoſphere, it yields to cauſtic ammoniac a precipitate, in all reſpects ſimilar to that which is ſeparated by cauſtic ammoniac from corroſive ſublimate.

" I would infer from theſe facts, that the white denſe fumes conſiſt of mercury, or perhaps oxyd of mercury, united to the nitrous etherized gas; and that, when the muriate of ammoniac containing them is expoſed to the atmoſphere, or is boiled, the gas ſeparates from the mercury; and the exceſs of nitrous acid, which always comes over with nitrous ether, decompoſes the ammoniacal muriate of ſublimate, and forms corroſive mercurial muriate or ſublimate. This theory is corroborated by comparing the quantity of gas eſtimated to be contained in the fulminating mercury with the quantities of gas yielded from alcohol and nitrous acid, with and without mercury in ſolution; not to mention that more ether, as well as more gas, is produced without the intervention of mercury; and that, according to the Dutch chemiſts, the product of ether is always in the inverſe ratio to the product of nitrous etherized gas. Should a further proof be thought neceſſary of the exiſtence of the nitrous etherized gas in the fulminating mercury, as well as in the white denſe fumes, it may be added, that, if a mixture of alcohol and nitrous acid holding mercury in ſolution be ſo dilute, and expoſed to a temperature ſo low, that neither ether nor nitrous etherized gas are produced, the fulminating mercury, or the white fumes, will never be generated; for, under ſuch circumſtances, the mercury is precipitated chiefly in the ſtate of an inflammable oxalate. Further, when we conſider the different ſubſtances formed by an union of nitrous acid and alcohol, we are ſo far acquainted with all, except the ether and the nitrous etherized gas, as to create a preſumption, that no others are capable of volatilizing mercury, at the very low temperature in which the white fumes exiſt, ſince, during ſome minutes, they are permanent over water of 40° Fahrenheit.

XVI. " Hitherto, as much only has been ſaid of the gas which is ſeparated from the mercurial powder by dilute ſulphuric acid, as was neceſſary to identify it with that into which the ſame acid can reſolve the nitrous etherized gas: I have further to ſpeak of its peculiarity *.

" The characteriſtic properties of the inflammable gas ſeem to me to be the following: 1ſt. It does not diminiſh in volume, either with oxygen or nitrous gas. 2dly. It will not explode with oxygen by the electric ſhock, in a cloſe veſſel. 3dly. It burns like hydrocarbonate, but with a blueiſh-green flame; and, 4thly. It is permanent over water (ſection xii).

" It is of courſe either not formed, or is convertible into nitrous gas by the concentrate nitric and muriatic acids; becauſe by thoſe acids, no inflammable gas was extricated from the powder.

" Should this inflammable gas prove not to be hydrocarbonate, I ſhall be diſpoſed to conclude, that it has nitrogen for its baſis; indeed, I am at this moment inclined to that opinion, becauſe I find that Dr. Prieſtley, during his experiments on his dephlogiſtated nitrous air, once produced a gas which ſeems to have reſembled this inflammable gas, both in the mode of burning and in the colour of the flame.

" After the termination of the common ſolution of iron in ſpirit of nitre, he uſed heat, and got, ſays he, 'ſuch a kind of air as I had brought nitrous air to be, by expoſing it to iron, or liver of ſulphur; for, on the firſt trial, a candle burned in it with a much enlarged flame. At another time, the application of a candle to air produced in this manner was attended with a real, though not a loud exploſion; and, immediately after this, a greeniſh-coloured flame deſcended from the top to the bottom of the veſſel in which the air was contained. In the next produce of air, from the ſame proceſs, the flame deſcended blue, and very rapid, from the top to the bottom of the veſſel.'

" Theſe greeniſh and blue coloured flames, deſcending from the top to the bottom of the veſſel, are preciſely deſcriptive of the inflammable gas ſeparated from the powder. If it can be produced with certainty by the repetition of Dr. Prieſtley's experiments, or ſhould it by any means be got pure from the

* It muſt be firſt noticed, that it is never pure when obtained from the nitrous etherized gas; nor am I aware how it is to be purified, unleſs the nitrous gas could be taken from it, without being converted into nitrous acid; for, by that acid, it would probably be itſelf converted into nitrous gas.

nitrous etherized gas, my curiosity will excite me to make it the object of future research; otherwise, I must confess, I shall feel more disposed to prosecute other chemical subjects: for having reason to think that the density of the acid made a variation in the product of this gas, and having never found that any acid, however dense, produced an immediate explosion, I once poured 6 drachms of concentrate acid upon 50 grains of the powder. An explosion, nearly at the instant of contact, was effected: I was wounded severely, and most of my apparatus destroyed. A quantity moreover of the gas I had previously prepared, was lost by the inadvertency of a person who went into my laboratory, whilst I was confined by the consequences of this discouraging accident. But, should any one be desirous of giving the gas a further examination, I again repeat, that, as far as I am enabled to judge, it may with safety be prepared by pouring 3 drachms of sulphuric acid, diluted with the same quantity of water, upon 50 grains of the powder, and then applying the flame of a candle until gas begins to be extricated. The only attempt I have made to decompose it, was by exposing it to copper and ammoniac; which during several weeks did not effect the least alteration.

"I will now conclude (says Mr. Howard), by observing, that the fulminating mercury seems to be characterised by the following properties:

"It takes fire at the temperature of 368 Fahrenheit; explodes by friction *, by flint and steel, and by being thrown into concentrate sulphuric acid. It is equally inflammable under the exhausted receiver of an air-pump, as surrounded by atmospheric air; and it detonates loudly, both by the blow of a hammer, and by a strong electrical shock.

"Notwithstanding the composition of fulminating silver and of fulminating gold, differ essentially from that of fulminating mercury, all three have similar qualities. In tremendous effects, silver undoubtedly stands first, and gold perhaps the last. The effects of the mercurial powder and of gunpowder admit of little comparison. The one exerts, within certain limits, an almost inconceivable force: its agents seem to be gas and caloric, very suddenly set at liberty, and both mercury and water thrown into vapour. The other displays a more extended but inferior power: gas and caloric are, comparatively speaking, liberated by degrees; and water, according to Count Rumford, is thrown into vapour †.

"Hence it seems that the fulminating mercury, from the limitation of its sphere of action, can seldom, if ever, be applied to mining; and, from the immensity of its initial force, cannot be used in fire-arms, unless in cases where it becomes an object to destroy them; perhaps, where it is the practice to spike cannon, it may be of service, because I apprehend it may be used in such a manner as to burst cannon, without dispersing any splinters.

"The inflammation of fulminating mercury by concussion offers nothing more novel or remarkable, than the inflammation, by concussion, of many other substances. The theory of such inflammations has been long since exposed by the celebrated Mr. Berthollet, and confirmed by Messieurs Fourcroy, and Vauquelin: yet, I must confess, I am at a loss to understand why a small quantity of mercurial powder made to detonate by the hammer, or the electric shock, should produce a report so much louder than when it is inflamed by a match, or by flint and steel. It might at first be imagined, that the loudness of the report could be accounted for, by supposing the instant of the inflammation, and that of the powder's confinement between the hammer and anvil, to be precisely the same; but, when the electrical shock is sent through or over a few grains of the powder, merely laid on ivory, and a loud report is the consequence, I can [illegible] idea of what causes such a report.

"The operation by which the powder is prepared is perhaps one of the most beautiful and surprising in chemistry, and it is not a little interesting to consider the affinities which are brought into play. The superabundant nitrous acid of the mercurial solution must first act on the alcohol, and generate ether, nitrous etherized gas, and oxalic acid. The mercury unites to the two last in their nascent state, and relinquishes fresh nitrous acid, to act upon any unaltered alcohol. The oxalic acid, although a predisposing affinity seems exerted in favour of its quantity, is evidently not formed fast enough to retain all the mercury; otherwise, no white fumes, during a considerable period of the operation, but fulminating mercury alone, would be produced.

"Should any doubt still be entertained of the existence of the affinities which have been called predisposing or conspiring, a proof that such affinities really exist, will, I think, be afforded, by comparing the quantity of oxalic acid which can be generated from given measures of nitrous acid and alcohol, with the intervention of mercury, and the intervention of other metals. For instance, when two measured ounces of alcohol are treated with a solution of 100 grains of nickel in a measured ounce and a half of nitrous acid, little or no precipitate is produced; yet, by the addition of oxalic acid to the residuary liquor, a quantity of oxalate of nickel, after some repose, is deposited. Copper affords another illustration; 100 grains of copper dissolved in a measured ounce and a half of nitrous acid, and treated with alcohol, yielded me about 18 grains only of oxalate; although cupreous oxalate was plentifully generated, by dropping oxalic acid into the residuary liquor. About 21 grains of pure oxalic acid seem to be produced, from the same materials, when 100 grains of mercury are interposed. (See section XIV.) Besides, according to the Dutch paper, more than once referred to, acetous acid is the principal residue after the preparation of nitrous ether. How can we explain the formation of a greater quantity of oxalic acid, from the same materials, with the intervention of 100 grains of mercury, than with the intervention of 100 grains of copper, otherwise than by the notion of conspiring affinities, so analogous to what we see in other phenomena of nature?

"I have attempted, without success, to communicate fulminating properties, by means of alcohol, to gold, platina, antimony, tin, copper, iron, lead, zinc, nickel, bismuth, cobalt, arsenic, and manganese; but I have not yet sufficiently varied my experiments, to enable me to speak with absolute certainty. Silver, when 20 grains of it were treated with nearly the same proportions of nitrous acid and alcohol as 100 grains of mercury, yielded, at the end of the operation, about 3 grains of a grey precipitate, which fulminated with extreme violence. Mr. Cruickshank had the goodness to repeat the experiment: he dissolved 40 grains of silver in 2 ounces of the strongest nitrous acid diluted with an equal

* Consequently it should not be inclosed in a bottle with a glass stopper.

† See Philosophical Transactions for the year 1797, p. 222. The hard black substance mentioned by the Count, as remaining after the combustion of gunpowder, must, I believe, have been an alkaline sulphuret, mixed chiefly with sulphate and carbonate of pot-ash. The conjecture, that it is white when first formed, is certainly just, as my experiment with the glass globe evinced.

quantity of water, and obtained (by means of 2 ounces of alcohol) 60 grains of a very white powder, which fulminated like the grey precipitate above described. It probably combines with the same principles as the mercury, and of course differs from Mr. Berthollet's fulminating silver, before alluded to. I observe, that a white precipitate is always produced in the first instance; and that it may be preserved by adding water, as soon as it is formed; otherwise, when the mother liquor is abundant, it often becomes grey, and is re-dissolved."

Several trials of the mercurial powder were afterwards made at Woolwich, in conjunction with Colonel Blomefield and Mr. Cruickshank, upon heavy guns, carronades, &c. from which Mr. Howard generally infers, that any piece of ordnance might be destroyed, by employing a quantity of the mercurial powder equal in weight to one half of the service-charge of gunpowder; and, from the seventh and last experiment, we may also conclude, that it would be possible so to proportion the charge of mercurial powder to the size of different cannons, as to burst them without dispersing any splinters. But the great danger attending the use of fulminating mercury, on account of the facility with which it explodes, will probably prevent its being employed for that purpose.

"In addition to the other singular properties of the fulminating mercury (says Mr. Howard), it may be observed, that two ounces inflamed in the open air, seem to produce a report much louder than when the same quantity is exploded in a gun capable of resisting its action. Mr. Cruickshank, who made some of the powder, by my process, remarked that it would not inflame gunpowder. In consequence of which, we spread a mixture of coarse and fine-grained gunpowder upon a parcel of the mercurial powder; and, after the inflammation of the latter, we collected most, if not all, of the grains of gunpowder. Can this extraordinary fact be explained by the rapidity of the combustion of fulminating mercury? or is it to be supposed (as gunpowder will not explode at the temperature at which mercury is thrown into vapour) that sufficient caloric is not extricated during this combustion? From the late opportunity I have had of conversing with Mr. Cruickshank, I find that he has made many accurate experiments on gunpowder; and he has permitted me to state, that the matter which remains after the explosion of gunpowder consists of pot-ash united with a small proportion of carbonic acid, sulphate of pot-ash, a very small quantity of sulphuret of pot-ash, and unconsumed charcoal. That 100 grains of good gunpowder yielded about 53 grains of this residuum, of which three are charcoal. That it is extremely deliquescent, and, when exposed to the air, soon absorbs moisture sufficient to dissolve a part of the alkali; in consequence of which, the charcoal becomes exposed, and the whole assumes a black or very dark colour. Mr. Cruickshank likewise informs me, that after the combustion of good gunpowder under mercury, no water is ever perceptible."

FUMIGATION (*Encycl.*) This mode of affecting the human constitution with mercury, was much practised by the celebrated Astruc, and has since been revived in France, by Lalonette. Mr. Abernethy, who, in his Surgical Cases, p. 194, gives the following account of the use of mercurial fumigations, professes his approbation of that practice. He presents his readers with some cases which clearly shew the advantages that attend this method of treating lues venerea. The grounds of preference in favour of fumigation, are: *First*, from its affecting the constitution when other means have failed; and, *secondly*, from its producing its effects in a much shorter time than any other mode requires.

"I beg leave, however, previously to observe (says Mr. Abernethy), that the term, mercurial fumigations, is apt to excite wrong ideas of this method in the minds of surgeons. Fumigations have been, of late, generally employed to correct local diseases; and they have often, by design, been made of an acrid quality. And even when they were formerly employed with a view of affecting the constitution, it was at a time when the chemical compounds of quicksilver were not understood, and sufficient attention was not paid to those circumstances on which the success of their application depends.

"But, in the year 1776, the Chevalier Lalonette, a physician at Paris, laid before the public an account of a new mode of mercurial fumigation, free from the inconveniences of former ones, and which, in the space of thirty-five years, he had successfully employed in more than four hundred cases, that had resisted all the ordinary methods of cure. His method consisted in enclosing the patient, previously undressed, in a kind of box resembling a sedan chair, with an opening at the top to let out the head, and another at the bottom, to which was fitted a small grate or furnace, having in it a heated iron for converting the mercurial remedy into fume. The preparation he made use of was a kind of calomel, which, by repeated sublimation from iron-filings, was so far deprived of its muriatic acid, as to be in part reduced into running quicksilver; and, while it possessed considerable volatility, was perfectly irritating. Some of this powder being strewed upon the hot iron placed below, was immediately converted into smoke, which surrounded the patient's body, and after some time settled on his skin in the form of a white and very fine calx of quicksilver: a complete dress, having its inner surface fumigated with the same powder, was then put on.—The remedy being thus generally applied to the mouths of the cutaneous absorbents, soon got admission into the circulating fluids; and the constitution became thereby more speedily affected than by any other process known before."

For a more particular account of the chemical preparations used by M. Lalonette, and his manner of employing them, Mr. Abernethy refers to his treatise, which was published in 1776. He adds, "With regard to the process, I would only further observe, that the feelings of the patient during it, are not at all unpleasant, provided the heat be properly regulated; that there is nothing uncleanly or disagreeable in the powder applied to the skin; and that all who have had an opportunity of comparing it with the common method by inunction, have been highly pleased with the superior advantages attending it."

The fumigating powder of M. Lalonette being a very operose and expensive preparation, and having no advantage over one made by abstracting the muriatic acid from calomel, Mr. Abernethy employed the following in lieu of it: Two drachms of aqua ammoniæ were added to six ounces of distilled water, and four ounces of calomel thrown into this liquor, and shaken up with it; the powder was afterwards separated by a filter, and dried.

"The powder thus obtained (says the author), is of a grey colour, and contains a good deal of quicksilver in its metallic state, which of course is extremely volatile, but becomes oxydated when raised into fume, and afterwards condenses into a white and very fine dust.

"This mode of using mercury is not, however, so well adapted to hospital practice; for sometimes the iron was too much heated, and the patients were made by this means to perspire profusely, so that the powder was formed into a paste, which was irregularly incrusted on the skin; besides, the patients either could not or would not wear a complete undress; and in that case the powder was wiped away, and the plan of treatment frustrated: for the design is to allow of a

conſtant abſorption of this ſubtile preparation of quickſilver from the whole ſurface of the body."

Mr. Abernethy gives ſome caſes in which this remedy was very ſpeedy in its effects; and could relate (he aſſerts) many others in which fumigation accompliſhed with *facility* the cure of complaints which had reſiſted long-continued mercurial courſes both by friction and internal exhibition. "It is reaſonable to think (continues he), that this object will be more certainly obtained by the abſorption thus taking place from almoſt the whole ſurface of the body, than by any other method hitherto deviſed. Yet it is but right to ſay, that my hopes of ſucceſs from it have not always been fulfilled; and that, in ſome few caſes where mercury ſhewed a particular tendency to act on the bowels without affecting the mouth, the mercurial fumes ſeemed to produce this effect even ſooner than the ointment had done: and in one young man, whoſe mouth neither frictions nor the internal uſe of mercury could be made to affect, but in whom they occaſioned conſtant tremors of the muſcles, and ſpaſms of the bowels, the fumigations were not attended with any better ſucceſs. Happily, however, ſuch caſes are rare; and in general the fumigations affect the conſtitution ſpeedily, and in the uſual manner."

To the objections which have been brought againſt the cure by fumigations, Mr. Abernethy makes this reply. He ſays, "I have heard it objected, that fumigation cannot be depended on for the cure of lues. But I never knew it fail, nor do I ſee why mercury, uſed thus, ſhould, when abſorbed, prove leſs effectual than when this mineral is combined with lard in the common ointment. If fumigations in this mode have failed, it was more probably owing to their being improperly managed, than to any inſufficiency peculiar to them. Thus, if adminiſtered frequently and largely at firſt, they may have conſiderably affected the mouth without proportionally affecting the conſtitution in general; or, from the quickneſs with which they heal venereal ulceration, the cure may have been too ſoon ſuppoſed complete, and their uſe diſcontinued before they had entirely eradicated the diſeaſe. Under proper management, I have no doubt but mercury, employed in this manner, will be found adequate to the cure of every variety of the diſeaſe.

"Beſides their general application, there is another way in which mercurial fumigations may be occaſionally employed with advantage, though the benefit is leſs important; and perhaps this method may be regarded merely as a refinement in the practice of ſurgery. In local diſeaſe of the joints, ſuch, for inſtance, as frequently takes place in the knee, and in ſarcomatous enlargements of the breaſt in women, Mr. Sharp and Mr. Blicke have been long accuſtomed to direct fumigated ſtockings, or under-waiſtcoats, to be worn; when the complaints have been relieved, and the conſtitutions of the patients affected, without the trouble and unpleaſantneſs ariſing from the uſe of the common mercurial ointment."

FUNGIBLES, in Scots law, are ſuch things as are eſtimated by their number, weight, or meaſure; as coin, butter, ale, &c.

FUORLI, a town of Naples, in Abruzzo Citeriore, 21 miles S.S.E. of Solmona.

FURNES, a town of Flanders, ſeated near the German Ocean, on the canal from Bruges to Dunkirk. It was one of the barrier towns; but, in 1781, the emperor Joſeph II. expelled the Dutch garriſon. It was taken by the French in 1793, and is 12 miles E. of Dunkirk. Long. 2. 45. E. Lat. 51. 4. N.

FURRUCKABAD, a diſtrict of Hindooſtan Proper, contiguous to the W. bank of the Ganges, and ſurrounded by Oude. It is little more than 30 miles in extent, and belongs to a chief of the Patan Rohilla tribe. The principal town is of the ſame name, 70 miles E. of Agra, and 76 N. W. of Lucknow. Long. 79. 30. W. Lat. 27. 28. N.

FURSTENBURG, a principality of Suabia, bounded by the duchy of Wirtemberg, the county of Hohenburg and other territories of the houſe of Auſtria, by the Briſgaw, the Black Foreſt, and the lake and biſhopric of Conſtance. In this ſtate the river Danube takes its riſe.

FURSTENFELD, a town of Lower Stiria, with a caſtle, on the river Auſtnitz, 50 miles S. of Vienna. Long. 16. 5. E. Lat. 47. 23. N.

FURSTENWALD, a town of Germany, in the Middle Marche of Brandenburg, ſeated on the Spree, 20 miles W. of Francfort on the Oder. It was taken by the Swedes in 1631. Long. 14. 8. E. Lat. 52. 23. N.

FURSTENWERDER, a town of Upper Saxony, in the Ucker Marche of Brandenburg, 10 miles W.N.W. of Prenzlo.

FURT, a town of Lower Bavaria, ſituate on the Chample, 56 miles N.N.W. of Paſſau, and 86 N.N.E. of Munich. Long. 12. 46. E. Lat. 49. 13. N.

FURTH, a town of Franconia, in the principality of Anſpach, on the Redwitz, four miles W. of Nuremburg.

FUTTYPOUR, SICRI, a conſiderable town of Hindooſtan Proper, in the province of Agra. It is ſeated under a range of hills, the ſouthern boundary of an immenſe plain, in which, for the greateſt part, not a ſhrub is to be ſeen, and the ſoil is almoſt as fine as hair powder; a circumſtance productive of the moſt diſagreeable effects, when this fine duſt is taken up by the hot winds from the weſtward. Its ſituation, too, is unhealthy, from the indifferent water with which the whole country abounds; but the country immediately near the town, is in tolerable cultivation. On the ſummit of the higheſt hill is a large moſque, built by the emperor Acbar, in the firſt ſtyle of Mooriſh architecture; and at the foot of this hill are the ruins of an imperial palace, which occupy a great extent of ground. It is 42 miles W. of Agra. Long. 77. 45. E. Lat. 27. 0. N.

FYAL, one of the Azores, or Weſtern Iſlands. It is well cultivated; and has abundance of cheſnuts, beeches, myrtles, and aſpen-trees. The cottages of the common people are built of clay, thatched with ſtraw; and are ſmall, but cleanly and cool. The moſt conſiderable place is called Villa de Horta. Long. 28. 36. W. Lat. 38. 32. N.

FYERS, a river in Inverneſsſhire, which, deſcending from the S. flows toward Loch Neſs. Over this river is built a ſtupendous bridge, on two oppoſite rocks; the top of the arch being above 100 feet from the level of the water. A little below the bridge is the celebrated Fall of Fyers, where a great body of water darts through a narrow gap between two rocks, then falls over a vaſt precipice into the bottom of a chaſm.

FYNE, Loch, an inlet of the Atlantic, in Argyleſhire, nearly 40 miles in length. It receives and returns a tide on each ſide of the iſle of Arran, which is directly oppoſite its entrance. It is indented with bays; and at certain ſeaſons, its waters are filled with herrings, when it becomes the reſort of numerous fiſhing veſſels.

FYZABAD, a city of Hindooſtan Proper, in the territory of Oude, of which it was once the capital. Here are the remains of a vaſt building, the palace of the late nabob Sujah ul Dowlah. The city is very populous; but ſince the removal of the court of Oude to Lucknow, the people are of the loweſt claſs. It is ſeated on the Gogra, 80 miles E. of Lucknow, and 500 N.W. of Calcutta. Long. 82. 30. E. Lat. 26. 34. N.

G.

GABARET, a town of France, in the department of Gers, ſeated on the Geliſſe, 20 miles W. of Condom. Lon. 0. 6. E Lat. 44. 59. N.

GABEL, a town of Bohemia, where Prince Henry of Pruſſia entered that country, after having gained an advantage over the Auſtrians, in 1778. It is 45 miles N. of Prague.

GABIAN, a village of France, in the department of Herault, famous for its mineral waters, nine miles N.W. of Beziers.

GABIN, a town of Poland, in the palatinate of Rava, 50 miles N.W. of Warſaw. Long. 19. 45. E. Lat. 52. 26. N.

GADEBUSCH, a town of Lower Saxony, in the duchy of Mecklenburg, near which the Swedes defeated the Danes in 1712. It is 16 miles N.N.W. of Schwerin.

GAETA, an ancient town of Naples, in Terra di Lavoro, with a fort, a citadel, a harbour, and a biſhop's ſee. It was taken by the Auſtrians in 1707, and by the Spaniards in 1734. It is ſeated at the foot of a mountain, near the ſea, 30 miles N.W. of Capua. Long. 13. 47. E. Lat. 51. 30. N.

GAIRLOCH, a large bay of Scotland, on the W. coaſt of Roſsſhire, which gives name to a tract of land near it. The fiſhing of cod, and other white fiſh, is here very conſiderable.

GALACZ, or GALASI, a town of Bulgaria, ſeated near the Danube, between the mouths of the Pruth and Seret, 55 miles W. of Iſmael, and 120 S.S.W. of Bender. Long. 28. 24. E. Lat. 45. 24. N.

GALASHIELS, a village in Selkirkſhire, near the confluence of the Gala and Tweed. Here is a flouriſhing manufacture of woollen cloth, called Galaſhielſgray, being of a dark colour and coarſe texture; flannels and ſuperior cloths are alſo made here. It is 25 miles S. by E. of Edinburgh.

GALASO, a river of Naples, in Otranto, which riſes in the opening near Oria, and falls into the gulf of Taranto.

GALFALLY, a town of Ireland, in the county of Tipperary, 23 miles S.E. of Limerick. Long. 8. 20. W. Lat. 52. 15. N.

GALISTIO, a town of Spain, in Eſtremadura, 10 miles N.W. of Placentia. Long. 5. 8. E. Lat. 40. 2. N.

GALITSCH, a town of Ruſſia, in the government of Koſtroma, on the S. ſide of a lake to which it gives name, 56 miles E.N.E of Koſtroma. Long. 22. 54. E. Lat. 57. 56. N.

GALLAM, the capital of a kingdom of the ſame name, in Africa, on the river Senegal. Long. 9. 55. W. Lat. 14. 25. N.

GALLARDON, a town of France, in the department of Eure and Loire, 12 miles N.E. of Chartres.

GALLIPOLI, a ſtrait between European and Aſiatic Turkey. It forms the communication between the Archipelago and the ſea of Marmora, and is defended at the S.W. entrance by the Dardanelles. It is here two miles over, and is thirty-three miles long. It was anciently called the Helleſpont. See DARDANELLES.

GALVANISM, an appellation given to the influence of metals, by mere external contact with the human body, diſcovered by Prof. GALVANI, at Bologna, about ten years ſince, and which he called *Animal Electricity*. The following account of this intereſting diſcovery is given by Dr. Willich in THE DOMESTIC ENCYCLOPÆDIA.

"Certain convulſive motions on the nerves of living and dead animals," ſays the doctor, "may be excited by the application of metallic or other conductors of electricity; but theſe motions may alſo be induced, by ſimply touching the animal fibre with two *different* metals, that are brought in contact with each other at the ſame moment. This ſurpriſing phenomenon has lately been reſorted to, in order to aſcertain whether a drowned, ſuffocated, or otherwiſe ſuddenly deceaſed perſon, was really or apparently dead. For this purpoſe, Dr. CREVE, Prof. of Medicine in the Univerſity of Mayence, has contrived an inſtrument formed like a bow, both ends of which are furniſhed with two ſmall round plates. The whole is compoſed of two parts made of different metals; one-half of ſolid zinc, the other of fine ſilver; or gold and zinc, or lead, tin, and gold. The proportion of the firſt metal ſhould be leſs than the other combined with it; namely, the weight and ſize of the zinc-plate ſhould be leſs than the oppoſite one of gold. Both plates are only ſcrewed on the bow, which chiefly conſiſts of ſilver. But, where this inſtrument cannot be procured on the ſpur of the occaſion, a ſmall piece of tin or lead, and a ſilver coin of a moderate ſize (for inſtance a ſhilling, or half-a-crown piece) may be ſubſtituted. Although any part of the body may be fixed upon for making the experiment with perſons apparently dead, yet the upper arm will be the moſt proper. The ſkin, however, in that part where the inciſion is made, ought to be ſound, and not of a gangrenous appearance. The muſcles muſt be cleared of all fat and cellular texture, as far as this be practicable; and the blood is to be taken up by a ſponge dipped in water. Next, the muſcle ſhou'd be ſlightly extended, by ſtretching the arm; and, in order to keep the lips of the wound ſeparate, the ſkin ought to be expanded, and the muſcular fibres clearly expoſed. After theſe preparatory ſteps, either the inſtrument above deſcribed, or two looſe metallic plates, are to be applied towards the centre of the hollow place or wound made by the inciſion, and both flat plates brought into perfect contact with the bare muſcular fibres. If any irritability exiſt, or remain, in the ſyſtem of the ſubject, the muſcular fibres will be contracted and twiſted in a manner ſimilar to ſpaſms; or convulſive motions will be evident: every ſymptom, however, diſappears on withdrawing the inſtrument, and again becomes manifeſt on re-applying it as before. But no motion whatever will be perceptible, if all irritability be loſt or deſtroyed, in which caſe the body may be conſidered as *irrecoverably dead*.—In thoſe inſtances, where perſons have been deprived of life by intenſe cold, a moderate degree of warmth ſhould be previouſly applied, with a view to render the limbs flexible. Hence, this experiment cannot with propriety be undertaken, till all other means of reſtoring animation have been *unſucceſsfully* employed.

"Whatever two metals be choſen, they will, with few exceptions, produce thoſe remarkable contractions, when applied in the manner before deſcribed; but the moſt powerful are, zinc and ſilver, or zinc and gold; or in general, zinc, tin, or lead, when uſed in combination with gold, ſilver, molybdena, ſteel, or copper.

"Theſe ſingular phenomena take place in conſequence of a mutual communication between any two points of contact, whether more or leſs diſtant, in a ſyſtem of muſcular and nervous organs. The extent of this communication may be conſidered as a complete circle divided into two parts, one of which compriſing the organs of the animal under the experiment, is called the *animal arc*; the other, which is formed by

the metals or *galvanic* exciters, is denominated the *excitatory arc*; and conſiſts of more than one piece, of various kinds.

Beſides the effects thus produced on the muſcles, the impreſſions made on the organs of the ſenſe are equally remarkable. And as the experiments illuſtrating them may be eaſily repeated, we ſhall ſpecify ſome of the moſt intereſting. For inſtance, if a thin plate of zinc be placed on the upper ſurface of the tongue, and a half-crown, ſhilling, or ſilver tea-ſpoon, be laid on the lower ſurface of the tongue, and both metals after a ſhort ſpace of time be brought into contact, a peculiar ſenſation ſimilar to taſte, will be perceived at the moment when the mutual touch happens. If the ſilver be put beneath, and the zinc upon the tongue, the ſame ſenſation will ariſe, but in a weaker degree, reſembling diluted ammoniac, from which it in all probability derives its origin.

If a ſilver probe be introduced as far as convenient into one of the noſtrils, and then be brought into contact with a piece of zinc placed on the tongue, a ſenſation not unlike a ſtrong flaſh of light will be produced in the correſponding eye, at the inſtant of contact. A ſimilar perception will reſult, both at the moment of contact and at that of ſeparation, if one of the metals be applied as high as poſſible between the gums and upper lip, and the other in a ſimilar ſituation with the under lip, or even under the tongue.—Laſtly, when a probe or rod of zinc, and another of ſilver, are introduced as far back as poſſible into the roof of the mouth, the irritations produced by bringing the external ends into contact, are very powerful; and that cauſed by the zinc is ſimilar in taſte to the ſenſation ariſing from its application to the tongue.

No method has hitherto been diſcovered, of applying the Galvanic influence in ſuch a manner as to affect the ſenſes of ſmell, hearing, and touch; though ſeveral eminent philoſophers have carefully inveſtigated the ſubject. Nor are the *cauſes* of theſe phenomena clearly aſcertained; Galvani and ſome of his followers, ſuppoſing them to depend on the electric fluid, while others attribute them to the influence of various phyſical agency.

In this ſtate was Galvaniſm, when in the year 1800, Signor Volta, profeſſor of natural philoſophy, at Como, in the Milaneſe, communicated to Sir Joſeph Banks, a diſcovery of the vaſt accumulation of this power: it was accordingly preſented to the Royal Society, from the 2d part of whoſe Tranſactions, for 1800, we have ſelected the following account:

Signor Volta's apparatus conſiſts of a number of copper or ſilver plates (which laſt are preferable), together with an equal number of plates compoſed of tin, or ſtill better of zinc, and a ſimilar number of pieces of card, leather, or woollen cloth, the laſt of which ſubſtances appears to be the moſt ſuitable. Theſe laſt ſhould be well ſoaked in water ſaturated with common ſalt, muriat of ammonia, or, more effectually, with nitre.—The ſilver or copper may be pieces of money, and the plates of zinc may be caſt of the ſame ſize. A pile is then to be formed, by placing a piece of ſilver on a correſponding one of zinc, and on them a piece of wet cloth or card: which is to be repeated alternately, till the number required be arranged in regular ſucceſſion. But, as the pieces are apt to tumble down, if their numbers be conſiderable, unleſs properly ſecured, it will be adviſable to ſupport them by means of three rods of glaſs, or baked wood, fixed into a flat wooden pedeſtal, and touching the pieces of metal at three equi-diſtant points. Upon theſe rods may be made to ſlide a ſmall circular piece of wood, perforated with three holes, which will ſerve to keep the top of the pile firm, and the different layers in cloſe contact. The moiſtened pieces ſhould likewiſe be ſomewhat ſmaller than thoſe of metal, and gently ſqueezed before they are applied, to prevent the ſuperfluous moiſture from inſinuating itſelf between the pieces of metal. Thus conſtructed, the apparatus will afford a perpetual current of the animal-electric fluid, or Galvanic influence, through any conductor that communicates between the uppermoſt and loweſt plate; and, if one hand be applied to the latter, and the other to the higheſt metal, a ſhock will be perceived, which may be repeated as often as the contact is renewed. This ſhock greatly reſembles that given by the torpedo, or *gymnotus electricus*: and, according to the larger ſize of the metallic plates, the ſhock will be proportionably ſtronger. The intenſity of the charge, however, is ſo low, that it cannot penetrate the dry ſkin; it will therefore be neceſſary to wet both hands, and to graſp a piece of metal in each, in order to produce the deſired effect: its power may be conſiderably increaſed, both by an elevation of temperature, and by augmenting the number of pieces that compoſe the pile. Thus 20 pieces of each will emit a ſhock, that is very perceptible in the arms; if 100 be employed, a very ſevere but tremulous and continued ſenſation will extend even to the ſhoulders; and, if the ſurface of the ſkin be broken, the action of the Galvanic influence will be uncommonly painful.

The ſenſation of a flaſh, or ſhock with this apparatus, does not materially differ from that produced by two ſimple plates; but it may be effected in various ways, eſpecially if one or both hands be applied in a wet ſtate to the loweſt plate of the pile; or any part of the face be brought in contact with a wire communicating with the top piece. Further, if a wire be held between the teeth, ſo as to reſt upon the tongue, that organ, as well as the lips, will become convulſed, the flaſh will appear before the eye, and a very pungent taſte will be perceived in the mouth.

In an account of ſome experiments on Galvanic electricity, Mr. W. Cruickſhank, of the Royal Artillery, Woolwich, communicates the following particulars:

"In ſubjecting a number of fluids to the action of Galvaniſm," ſays he, "ſeveral facts have been diſcovered, which to me, at leaſt, are perfectly new, and which appear to throw ſome light on the nature and powers of this new influence.

"I ſhall, therefore, without any further apology, give a brief detail of ſome of the moſt important, hoping that they may prove acceptable to thoſe who are employed in the ſame purſuits.

"I ſhall not give any particular account of the apparatus employed, being a pile, and not differing materially from that in uſe. I ſhall only juſt obſerve, that it conſiſted of plates of zinc and ſilver, of about 1.6 inches ſquare, and that the number of each employed in the following experiments varied from 40 to 100, according to the power required.

"I found that a ſolution of the muriate of ammonia anſwered better for moiſtening the interpoſed papers than common water.

"When the machine was in full action, ſparks, which were perfectly viſible in the day-time, could be taken at pleaſure, by making a communication in the uſual way between the extremities of the pile, and a ſmall report or ſnap could be heard; the ſhock given at that time was very ſtrong, and a gold leaf electrometer, placed in the circle of communication was very ſenſibly affected: theſe circumſtances, ſome of which I believe have been already aſcertained by Meſſrs. Nicholſon and Carliſle, ſhew the ſtrong reſemblance of this influence to electricity. Theſe gentlemen have likewiſe diſcovered that Galvaniſm decompoſes water with much greater facility than electricity, but with phenomena ſomewhat different."

The following is an account of ſome Galvanic combinations formed by the arrangement of ſingle metallic plates and fluids, analogous to the new Galvanic apparatus of Mr. Volta, by Mr. Humphry Davy, lecturer on chemiſtry in the Royal In-

ſtitution.—Mr. Davy remarks that, "All the Galvanic combinations analogous to the new apparatus of Mr. Volta, which have been heretofore deſcribed by experimentaliſts, conſiſt (as far as my knowledge extends) of ſeries containing at leaſt two metallic ſubſtances, or one metal and charcoal, and a ſtratum of fluid. And it has been generally ſuppoſed, that their agencies are, in ſome meaſure, connected with the different powers of the metals to conduct electricity. But I have found that an accumulation of Galvanic influence, exactly ſimilar to the accumulation in the common pile, may be produced by the arrangement of ſingle metallic plates, or arcs, with different ſtrata of fluids."

Some facts, which the author then relates, induced him to ſuppoſe "that the alternation of two metallic bodies with fluids, was eſſential to the production of accumulated Galvanic influence, only ſo far as it furniſhed two conducting ſurfaces of different degrees of oxidability; and that this production would take place, if ſingle metallic plates could be connected together by different fluids, in ſuch a manner that one of their ſurfaces only ſhould undergo oxidation, the arrangement being regular.—On this ſuppoſition I made a number of experiments on different arrangements of ſingle metals and fluids; and after many various proceſſes, I was enabled to aſcertain, that many of theſe arrangements could be made active, not only when oxidations, but likewiſe when other chemical changes were going on in ſome of their parts."

Having made obſervations on the different combinations formed by ſingle metallic plates and fluids, which he divides into three claſſes, the ingenious author then proceeds to ſtate that "In all the ſingle metallic piles conſtructed with cloths, the action is very tranſient: the decompoſition of the acids, and of the ſulphurets, is generally completed in a few minutes; and, in conſequence, the Galvanic influence ceaſes to be evolved. The arrangement of all the different ſeries may, however (by means of an apparatus conſtructed after the ideas of Count Rumford), be made in ſuch a manner as to give conſiderable permanency to their effects. This apparatus is a box, covered with cement incapable of conducting electricity, and compoſed of three pieces of mahogany, each containing grooves capable of receiving the edges of the different plates proper for compoſing the ſeries. One half of theſe plates muſt be compoſed of horn, or glaſs, and the other half of metallic ſubſtances; and the conductors of electricity, and the non-conductors, muſt be alternately cemented into the grooves, ſo as to form water-tight cells.

"When the apparatus is uſed, theſe cells are filled, in the Galvanic order, with different ſolutions, according to the claſs of the combination; and connected in pairs with each other, by ſlips of moiſtened cloth, carried over the non-conducting plates.

"A combination of fifty copper-plates, arranged in this manner, with weak ſolutions of nitrous acid, or nitrate of ammoniac, and ſulphuret of potaſh, gives pretty ſtrong ſhocks, rapidly evolves gas from water, and affects the condenſing electrometer.

"It does not loſe its power of action for many hours; and, when this power is loſt, it may be reſtored by the addition of ſmall quantities of concentrated ſolutions of the proper chemical agents to the fluids in the different cells.

"From two experiments made on copper and ſilver, it would appear, that the ſingle metallic batteries act equally well, when the metals made uſe of are ſlightly alloyed, and when they are in a ſtate of purity."

Many other curious facts have tranſpired on this intereſting diſcovery; but, as they have not been hitherto applied to medical purpoſes (though we believe that *Galvaniſm* may be ſafely, and perhaps ſucceſsfully, reſorted to, in *paralytic* and other caſes, where the muſcles require excitement), we ſhall content ourſelves with referring the curious reader to Dr. Fowler's *Eſſay on Animal Electricity*, 8vo.;—for a further account of Signor Volta's diſcovery, to the volume of the *Philoſophical Tranſactions* above cited; and to the 4th volume of Mr. Nicholſon's *Journal of Natural Philoſophy*: and, for later diſcoveries, to the *Journals of the Royal Inſtitution of Great Britain*, where the ſubject is perſpicuouſly treated.

GAME-LAWS (*Encycl.*). The following is a ſhort ſketch of the laws, as they now ſtand (1802), relating to hares, partridges, pheaſants, and other game.

The penalty for killing in the night a hare, partridge, or pheaſant,—qualified or unqualified, is 5l.

Any unqualified perſon expoſing to ſale a hare, partridge, pheaſant, or other game, is liable to a penalty of 5l.

If any hare, pheaſant, partridge, or other game, be found in the ſhop, houſe, or poſſeſſion of any poulterer, ſaleſman, fiſhmonger, cook, or paſtry-cook, or of any perſon not qualified in his own right to kill game, or entitled thereunto under ſome perſon ſo qualified, it ſhall be deemed an expoſing thereof to ſale.

For ſelling a hare, partridge, pheaſant, or other game,—qualified or unqualified, 5l.

Any unqualified perſon uſing tunnels or other engines, to kill or deſtroy a hare, partridge, pheaſant, or other game, forfeits 5l.

Any unqualified perſon keeping and uſing greyhounds, ſeting-dogs, lurchers, tunnels or other engines, to kill or deſtroy hares, partridges, pheaſants, or other game, is liable to 5l. penalty—the 5l. penalty is either for keeping or uſing.

[Perſons taking, killing, deſtroying, carrying, ſelling, buying, or having in their poſſeſſion, any partridge, between the 1ſt of February and the 1ſt of September,—qualified or unqualified, 5l. 39 Geo. 3. c. 34.]

For uſing greyhounds, lurchers, or ſetting-dogs*, to kill a hare, partridge, or pheaſant,—unqualified, 5l.

For killing a pheaſant, between the 1ſt of February and 1ſt of October,—qualified or unqualified, 5l.

[The information in the above caſes muſt be laid within ſix calendar months, before a juſtice of the peace, or by action of debt, bill, plaint, or information. The whole penalty to be given to the informer, with double coſts, if brought on in the courts of Weſtminſter.] Half to the informer and half to the poor.

For tracing in the ſnow, or ſhooting with a gun or long bow, a hare,—qualified or unqualified, impriſonment for 3 months, or fine 1l.

For uſing ſnares to take or kill a hare,—qualified or unqualified, impriſonment one month, or fine 10s.

[The information in the above caſes muſt be laid before a juſtice of the peace within one year.]

The informer to be entitled to all coſts and charges, and to half the penalty, the other half to be given to the poor of the pariſh.

Any game-keeper killing or taking a hare, pheaſant, partridge, or other game, under colour of being for the uſe of the lord of the manor, and afterwards ſelling and diſpoſing thereof without the conſent of the ſaid lord of the manor—upon conviction, on the complaint of ſuch lord, and on the

* Greyhounds, lurchers, and ſetting-dogs, are the only dogs for keeping and uſing which the penalty of 5l. is levied. But by another ſtatute, a penalty not exceeding 20s. may be levied for keeping and uſing the above or any other dogs.

oath of one witneſs, before a juſtice, ſhall be committed to the houſe of correction for three months, and there kept to hard labour.

Any perſon who ſhall deſtroy, ſell, or buy any hare, pheaſant, &c. and ſhall in three months make diſcovery of any higler, chapman, carrier, innkeeper, alehouſe-keeper, or victualler, that hath bought or ſold, or offered to buy or ſell, or had in their poſſeſſion, any hare, pheaſant, partridge, &c. ſo as any one ſhall be convicted; ſuch diſcoverer ſhall be diſcharged of the pains and penalties hereby enacted for killing or ſelling ſuch game, and ſhall receive the ſame benefit as any other informer.

Any juſtice of the peace, and lord within his manor, may take away any ſuch hare, pheaſant, partridge, &c. from any higler, chapman, innkeeper, victualler, or carrier, or any other perſon not qualified, which ſhall be found in his cuſtody or poſſeſſion.

Any perſon that ſhall knowingly and wilfully kill, take, or deſtroy, or uſe any gun, dog, ſnare, net, or other engine, with intent to kill, take, or deſtroy, any hare, partridge, or other game, in the night, viz. between the hours of ſeven at night and ſix in the morning, from the 12th of October to the 12th of February, and between the hours of nine at night and four in the morning, from the 12th of February to the 12th of October; or in the day-time on a Sunday or Chriſtmas-day; ſhall forfeit for the firſt offence not exceeding 20l. nor leſs than 10l. For the ſecond offence not exceeding 30l. nor leſs than 20l. For the third and every other ſubſequent offence, 50l.

[The information to be laid within one calendar month before a juſtice of the peace. The informer to be entitled to all coſts and charges, and to half the penalty, the other half to be given to the poor of the pariſh.]

No perſon ſhall ſhoot with any croſs-bow, hand-gun, or demihake, unleſs ſuch perſon is really poſſeſſed of 100l. per annum, on pain of forfeiting 10l.

No perſon, of what eſtate or degree ſoever, ſhall ſhoot with, carry, keep, uſe, or have in his poſſeſſion, any hand-gun, not being in the ſtock and gun of the length of one yard; or any hagbut, or demihake, not being in the ſtock and gun of the length of three quarters of a yard, on pain of forfeiting 10l.

Any perſon having 100l. per annum as above, may ſeize every ſuch croſs-bow, hand-gun, &c. being ſo deficient in length; but ſhall break and deſtroy them in 20 days after ſuch ſeizure, on pain of forfeiting 2l.

No perſon ſhall command his ſervant to ſhoot with any croſs-bow, hand-gun, hagbut, or demihake, at any deer, fowl, or other thing, except at a butt or bank of earth, on pain of forfeiting 10l.

N. B. Perſons qualified to kill game, muſt be in poſſeſſion of lands, tenements, or ſome other eſtate of inheritance, either in right of themſelves or their wives, of the clear yearly value of 100l.—or for life, or leaſe of 99 years of 150l. per annum; other than the ſon and heir of an eſquire, or perſon of a higher degree, or lord of a manor, or keepers of parks, chaſes, or free warrens.

The following is Lord Mansfield's opinion: "An unqualified perſon may go out to beat the hedges, buſhes, &c. with a qualified perſon, and to ſee the game purſued or deſtroyed, provided the unqualified perſon has no gun or other engine with him for the deſtruction of the game, without being ſubject to a penalty."

The licences for killing game are under the following regulations:

By the 25 Geo. III. c. 50. and 31 Geo. III. c. 21. every perſon who ſhall uſe any dog, gun, net, or other engine, for the taking or deſtruction of game (not acting as gamekeeper), ſhall deliver in an account in writing, containing his name and abode, to the clerk of the peace, and annually take out a certificate thereof; and every ſuch certificate ſhall be charged with a ſtamp-duty of 2l. 2s. and 1l. 1s. making in the whole 3l. 3s.

Every deputation of a gamekeeper ſhall be regiſtered with the clerk of the peace, and ſuch gamekeeper ſhall annually take out a certificate thereof; which certificate ſhall be charged with a ſtamp duty of 10s. 6d. and 10s. 6d. making in the whole 1l. 1s.

Clerks of the peace delivering a certificate ſhall be entitled to 1s. for their trouble.

Every certificate to bear date the day when iſſued, and to continue in force until the 1ſt day of July then following.

Any perſon that ſhall uſe any greyhound, hound, pointer, ſetting-dog, ſpaniel, or other dog, or any gun, net, or engine, for taking or killing of game, without a certificate, is liable to a penalty of 20l.

If any gamekeeper ſhall, for the ſpace of twenty days after appointment, neglect or refuſe to regiſter his deputation and take out a certificate thereof, he is liable to the penalty of 20l.

This act not to extend to the royal family.

If any gamekeeper, who ſhall have regiſtered his deputation, and taken out a certificate thereof, ſhall be changed, and a new gamekeeper appointed in his ſtead, the firſt certificate is declared null and void, and the perſon acting under the ſame, after notice, is liable to the penalty of 20l.

Any perſon in purſuit of game, who ſhall refuſe to produce his certificate, or to tell his name and place of abode, or ſhall give in any falſe or fictitious name or place of abode to any perſon requiring the ſame, who ſhall have obtained a certificate, is liable to the penalty of 50l.

The certificates are not to authoriſe perſons to kill game at any time prohibited by law, nor give any perſon any right to kill game, unleſs ſuch perſon ſhall be qualified ſo to do by the laws now in being; and if he is not qualified, although he may have ſuch certificate, he is liable to the ſame penalties as if this act had not paſſed.

Witneſſes refuſing to appear on juſtice's ſummons, or appearing and refuſing to give evidence, forfeit 10l.

Penalties exceeding 20l. are to be recovered in any of his Majeſty's courts of record at Weſtminſter; and penalties not exceeding 20l. are recoverable before two juſtices, and may be levied by diſtreſs.

N. B. The above penalties go half to the king and half to the informer, if ſued for within ſix months. 26 Geo. III. c. 82.

GANDERSHEIM, a town of Lower Saxony, in the duchy of Brunſwick Wolfenbuttle, with a celebrated nunnery, 17 miles S.W. of Goſlar. Long. 18. 20. E. Lat. 51. 54. N.

GANDIA, a ſea-port of Spain, in Valencia, with a ſmall univerſity, 55 miles N. of Alicant. Long. 0. 20. E. Lat. 39. 6. N.

GANDICOTTA, a town of the peninſula of Hindooſtan, ſubject to the regent of Myſore, remarkable for a ſtrong fortreſs, and a diamond mine near it. It is ſeated on the river Pennar, between Gooty and Cuddapa.

GANDINA, a town of Italy, in the Bergamaſco, 10 miles N.E. of Bergamo.

GANGEA, or GANJA, a town of Perſia, in the province of Erivan, 105 miles S. by E. of Teflis. Long. 45. 50. E. Lat. 41. 10. N.

GANGELI, a town of Weſtphalia, in the duchy of Juliers, 12 miles S.S.E. of Ruremonde. Long. 5. 48. E. Lat. 51. 8. N.

GANGOTRI, a town of Thibet, on the Ganges, 138 miles N. of Delhi. Long. 76. 35. E. Lat. 33. 8. N.

GANGPOUR, a town of the peninſula of Hindooſtan, in the country of Oriſſa, 226 miles S. of Patna. Long. 83. 57. E. Lat. 21. 25. N.

GANJAM, a town of the peninſula of Hindooſtan, in one of the Northern Circars, ſubject to the Engliſh. It lies on the Bay of Bengal, between a river and the S.W. end of Chilka Lake. Long. 85. 20. E. Lat. 19. 22. N.

GANNAT, a town of France, in the department of Allier, 30 miles S. of Moulins.

GAOGA, a country of Africa, to the W. of Nubia. The inhabitants are ſaid to be barbarous and uncivilized. It has a town of the ſame name, ſituate on a large lake. Long. 26° E. Lat. 16° N.

GAP, an ancient town of France, in the department of the Upper Alps, and lately a biſhop's ſee. It was taken in 1692, by the Duke of Savoy, who burnt a great part of it. Gap is ſeated on the ſmall river Bene, at the foot of a mountain, in which ſome mineral waters are found, 27 miles N. of Siſteron. Long. 6. 10. E. Lat. 44. 34. N.

GAPSAL, a town of Ruſſia, in the government of Revel, 36 miles W.S.W. of Revel. Long. 60. 10. E. Lat. 59. 5. N.

GARACK, an iſland in the gulf of Perſia, remarkable for the fine pearls fiſhed upon its coaſts. Long. 48. 0. Lat. 28. 15. N.

GARD, a department of France, including part of the late province of Languedoc. Niſmes is the epiſcopal town.

GARD, PONT DU, a Roman aqueduct, in France, nine miles N.E. of Niſmes, erected, it is ſuppoſed, by Agrippa, in the time of Auguſtus. It is 160 feet in height, and conſiſts of three bridges riſing above each other, and uniting two craggy mountains. The higheſt of theſe bridges has ſix arches, of great blocks of ſtone, without cement; the centre one has eleven; and the loweſt (under which flows the Gardon, an inconſiderable, but rapid river) has 36. Lewis XIV. when he repaired, in 1699, the damages which this ſtupendous work had ſuſtained by time, cauſed a real bridge, over which paſſengers now paſs, to be conſtructed by the ſide of the lower range of arches. This aqueduct was built, in order to convey to Niſmes the water of the ſpring of Eure, which riſes near Uzes.

GARDA, a town of Italy, in the Veroneſe, ſeated at the end of a lake of its own name, 17 miles N.W. of Verona. Long. 11. 4. E. Lat. 45. 36. N.

GARDELEBEN, a town of Germany, in the Old Marche of Bradenburg. It has a trade in hops and excellent beer, and is ſeated on the river Beiſe, 32 miles N. by W. of Magdeburg. Long. 11. 35. E. Lat. 52. 41. N.

GARDENS, FOR COTTAGERS. The following extract from an account of cottagers' gardens, in the county of Cambridge, by the Rev. James Plumptree, is publiſhed by the Society for bettering the Condition of the Poor.

"At Arrington, in the month of July, 1800," ſays Mr. Plumptree, "I obſerved on the church door a notice from the Earl of Hardwick, addreſſed to the cottagers and labourers of the pariſh, 'that premiums of one guinea and a half, one guinea, and half a guinea, would be given to the three perſons of that deſcription, who ſhould appear to have taken the greateſt care of their gardens, and to have raiſed and brought to perfection, in the courſe of the ſummer, the greateſt quantities of peas, beans, carrots, turnips, cabbages, onions, or potatoes, in proportion to the extent of ground occupied.' The gardens were to be inſpected by his lordſhip's gardener, and three other perſons appointed for that purpoſe, as often, and at ſuch times, as they might think proper; and the premiums were to be adjudged on the 20th of October. Such perſons as wiſhed to be conſidered as candidates for the premiums, were previouſly to ſignify their intentions to the judges.

"A plan ſo well calculated to promote the induſtry, comfort, and reſources of the cottager, and even of thoſe candidates who ſhould not be ſo fortunate as to gain the rewards, naturally excited curioſity; and on further enquiry it appeared that his lordſhip had inſtituted the ſame premiums in his other pariſhes of Wimple and Whaddon.

"When the time for adjudging the premiums was paſt, anxious to know the reſult, I made enquiries, and found that the plan, both as to external neatneſs, and the internal comfort and ſupply of their families, had fully anſwered. In order that theſe means of promoting the induſtry and comforts, and conſequently improving the morals of the cottager, and rendering every village a pleaſing ſcene of rural plenty and happineſs, might be made known, and thereby the heads of other pariſhes be engaged to follow ſo benevolent an example, I inſerted a ſtatement of the above, with the names of the ſucceſsful candidates, in the Cambridge Chronicle, for November 29, 1800.

"In the pariſh of Hinxton, in the ſame county, upon the firſt mention of theſe premiums, the principal land-proprietor immediately came into the plan, and gave notice that ſimilar premiums would be diſtributed to the cottagers and labourers of that pariſh for the enſuing year. And as he and I purpoſed being two of the inſpectors, I reſolved to go over to Wimple, and ſee the gardens, and gain ſome further information reſpecting them.

"Accordingly, on the 18th of December, I went over to Wimple, and, accompanied by his lordſhip's gardener, viſited the gardens of the ſucceſsful candidates. All three of them lay together amongſt others, ſix in number, with a ſtrong outward fence encloſing them, and divided from each other by young quick hedges, in a very thriving condition. Each garden might be about 16 poles; and, though it was ſo late in the ſeaſon, and the principal crops were off the ground, yet the ground was in excellent order, and well ſtocked with cabbages, kale, &c. for winter vegetables. The potatoes and onions, of which each had a ſufficient ſtock, were ſome of the fineſt I have ſeen this year. The cottages, to which theſe gardens belong, have been built within a few years by his lordſhip, and are of brick and very commodious; beſides the garden, each has its pig-ſtye and other conveniences: a pond of water is near at hand. Even taſte is diſplayed in theſe ruſtic ſcenes; and a honey-ſuckle, twining round a pole, formed an arch over the entrance into ſome of the gardens. We next viſited the garden of another cottager, who, though he had not gained one of the premiums, had been diſtinguiſhed for his induſtry. It was not above three poles of ground, but it was well ſtocked, and in good order.

"The garden of the cottager who gained the firſt premium at Arrington, was larger than thoſe at Wimple. It might be about 20 poles. This had been kept in order by a very hard working man with a family of ſeven children; the eldeſt of which, a girl, was about 15 years of age: he uſed to work at it early and late. Beſides a variety of other vegetables, he had got from it 50 buſhels of potatoes, which at that time ſold at 4s. per buſhel. The gardens of the two other ſucceſsful candidates, and others which I viſited, were all in good order, and well ſtocked for the time of the year. As I thought I could not make a more acceptable preſent to theſe ſons of induſtry, I took with me ſome of the *Information to Cottagers*, publiſhed by the ſociety; a copy of which I gave at each cottage.

"Beſides the encouragement given to the cottagers in their

gardens, he permits them to plant potatoes in his new plantations, and on the fallows, provided they dung the ground. One man from ſix loads of dung, had got 70 buſhels of potatoes. Some waſte ground by the road ſide had likewiſe been encloſed for the poor, which they ſowed in what is called *lazy bed*. The method of doing this is, a ſpace of eight feet wide is marked out for the bed, and then another two feet wide for the path, and ſo on. The potatoes or eyes, are laid on the ſward, in alternate rows; the ſward is then dug up from the path, and laid over the potatoes, and as they grow they are earthed up with the ſoil out of the path, which likewiſe ſerves as a drain, if the weather ſhould prove wet.

"As I found it was with difficulty that three perſons were ſelected at Whaddon, deſerving of the premiums, and that the gardens* were not ſo well worth ſeeing, I did not go thither; but was happy to find that a ſpirit of exertion began to be excited among the cottagers there, and they had promiſed better for the enſuing year.

"When the premiums had been awarded, the nine ſucceſsful candidates, and ſix others (three from each of the pariſhes of Wimple and Arrington, recommended to Lord Hardwick's generoſity on account of their induſtry), attended at church on the Sunday following, after which the gardener conducted them into the great hall, where his lordſhip diſtributed the rewards, with a gratuity to each of the others, with ſome good advice on the occaſion; recommending induſtry and virtue in general, and promiſing his friendſhip ſo long as they were deſerving of it.

"The advantages ariſing from this plan, appear to be ſo very obvious, that it ſeems ſcarcely neceſſary to enumerate them. For the ſum of three guineas in a pariſh, a number of families†, perhaps all the cottagers, are excited to induſtry. A valuable ſtock of vegetables is produced, both for ſummer and winter conſumption; and great aſſiſtance given towards the keep of a pig. Beſides the good accruing to the cottager in thus finding uſeful and innocent employment for his leiſure hours, and in keeping him from the alehouſe, an example is ſet to his family; which will probably be trained up, under his care, to follow the ſame uſeful employment throughout life. At the ſame time the cottager muſt derive no ſmall degree of ſatisfaction, from the idea that he is become the object of the attention, and commendation, of his richer neighbour.

"The only difficulty which ſeems to occur, is in forming a correct eſtimate of the comparative merits of the gardens. This, however, I think is more in appearance, than in reality. I do not apprehend that the ſum total of the excellence will often be ſo nicely balanced as to make it difficult. The requiſites, in the judges, ſeem to be *ſcience* and *impartiality*. The firſt of theſe was, moſt unqueſtionably, poſſeſſed at Wimple, and there is no cauſe to doubt of the exiſtence of the other. At Hinxton, however, to the head and under gardener, we have added a very honeſt farmer and ourſelves; thinking that ſome additional advantage might accrue from our attention; and from our being able to judge in ſome degree of the other eſtimates, by going our rounds, keeping an eye to the cottager, and on his cottage, his family, and his garden; and thus getting an inſight into the real merits of our poorer neighbours.

"The *method* of eſtimating ſeems to be, to meaſure the ground of each candidate; and, at proper times, to go round, and value the reſpective crops. He, who produces moſt in proportion to his ground, is the moſt deſerving. A paper divided into columns, or a ſmall memorandum book, with the name of the candidates at the top of each column or page, and their reſpective portions of ground, ſhould be provided, and the memorandums and eſtimates placed under each. Two things ſeem eſpecially neceſſary to demand attention; one, that the viſits ſhould be uncertain, in order that the cottager may be obliged to be always prepared; and the other, that the cottager may have the power to invite a viſit, in order that his crops may be ſeen at the time when he himſelf thinks them in perfection."

GATEHOUSE, a conſiderable village in Kirkcudbrightſhire, at the mouth of the river Fleet. Here is a cotton-mill; and ſloops come up the river, within a ſhort diſtance of the town. It is nine miles N.W. of Kirkcudbright.

GAVARDO, a town of Italy, in the Breſciano, ſeated on the Weiſe, ſeven miles W. of Lake Garda. Long. 10. 9. E. Lat. 45. 40. N.

GAUDENS, St. a town of France, in the department of Upper Garonne, ſeated on the Garonne, eight miles N.E. of St. Bertrand. Long. 0. 56. E. Lat. 43. 1. N.

GAVEREN, or Waveren, a town of Auſtrian Flanders, ſeated on the Scheld, eight miles S. of Ghent. Long. 3. 51. E. Lat. 50. 56. N.

GAVI, a town of Italy, in the territory of Genoa, ſeated on the Lemo, 19 miles N.W. of Genoa. Long. 8. 57. E. Lat. 45. 40. N.

GAUTS, or Indian Appennines, a ſtupendous wall of mountains, extending from Cape Cormorin, the S. extremity of Hindooſtan, to the Tapty, or Surat River, at unequal diſtances from the coaſt; in one ſhort ſpace only, it approaches within ſix miles, the common diſtance is 40, and it ſeldom exceeds 70. They riſe abruptly from the low country, called the Concan, or Cockum; ſupporting, in the nature of a terrace, a vaſt extent of fertile and populous plains, which are ſo elevated, as to render the air cool and pleaſant. This celebrated ridge does not terminate in a promontory when it approaches the Tapty; but, departing from its meridional courſe, it bends eaſtward, in a wavy line, parallel with the river; and is afterwards loſt among the hills, in the neighbourhood of Burhampour. In its courſe along the Tapty, it forms ſeveral paſſes, or deſcents (that is Gauts, according to the original import of the word, which means a landing-place), toward that river.

GEARON, or Jaron, a town of Perſia, in Farſiſtan, in whoſe territory the beſt dates of Perſia are produced. Long. 51. 17. E. Lat. 28. 15. N.

GEFLE, the capital of the province of Geſtrike, in Sweden, ſeated on three branches of a river of the ſame name, which begins to be navigable here, and falls, in a ſhort diſtance, into a bay of the Baltic. It is the moſt commercial town in this northern part of Sweden; and its exports are principally iron, pitch, tar, and planks. It is 55 miles N. by W. of Stockholm. Long. 17. 0. E. Lat 63. 0. N.

GEGENBACH, a free imperial city of Suabia, and under the protection of the houſe of Auſtria. It is ſeated on the Kinzia, 12 miles S.E. of Straſburg. Long. 8. 2. E. Lat. 48. 24. N.

GEHMEN, a town of Weſtphalia, ſituate on the Aa, 16 miles N.E. of Weſel. Long. 6. 43. E. Lat. 51. 36. N.

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* In a ſeparate ſheet is added a cottager's garden calendar; to inform and aſſiſt thoſe cottagers who wiſh *to make the moſt of their gardens*, for the benefit of themſelves and their families. Some of the articles are directed to a little profit by ſale. It may be had gratis, at Hatchard's, Piccadilly, London, by the members of the ſociety.

† There were 14 candidates at Wimple, 11 at Arrington, and 10 or 11 at Whaddon.

GEILEKIRCHER, a town of Weſtphalia, in the duchy of Juliers, eight miles N.W. of Juliers. Long. 5. 56. E. Lat. 51. 2. N.

GEILLDORF, a town of Suabia, near the river Kocher, with a caſtle belonging to the lords of Limpurg.

GEISLINGEN, an imperial town of Suabia, 17 miles N.W. of Ulm. Long. 10. 3. E. Lat. 48. 36. N.

GEISMAR, a town of Germany, in the principality of Heſſe, 14 miles N.N.W. of Caſſel, and 22 W. of Gottingen. Long. 8. 57. E. Lat. 51. 19. N.

GEMAPPE, a village of Auſtrian Hainault, three miles W. by S. of Mons, famous for a victory which the French obtained here over the Auſtrians, Nov. 5, 1792; in which the carnage on both ſides was ſo great, that three coal-pits adjacent were filled up with the dead bodies of men and horſes.

GEMBLOURS, a town of Auſtrian Brabant, with an ancient abbey. Don John of Auſtria gained a battle here over the Dutch in 1578; and it was twice burnt down, in 1628 and 1712. It is ſeated on the Orneau, 22 miles S.E. of Bruſſels. Long. 4. 51. E. Lat. 50. 37. N.

GEMINIANI, St. a town of Tuſcany, in the Florentino, ſeated on a mountain, in which is a mine of vitriol, 25 miles S.S.W. of Florence.

GEMMINGEN, a town of Germany, in the palatinate of the Rhine, 30 miles E. of Philipſburg. Long. 9. 13. E. Lat. 49. 6. N.

GEMUND, an imperial town of Suabia, with a manufacture of chaplets or beads. It was taken by the French in Auguſt 1796; and is ſeated on the Reims, 30 N. by W. of Ulm. Long. 9. 48. E. Lat. 48. 48. N.

GENAP, a town of Auſtrian Brabant, with an ancient caſtle, ſeated on the Dyle, 15 miles S.E. of Bruſſels. Long. 4. 40. E. Lat. 50. 40. N.

GENEVOIS, a duchy of Savoy, of which Geneva and its territory were formerly a part. Annecy is the capital.

GENGENBACH, a town of Suabia, 10 miles S.E. of Straſburg. Long. 7. 53. E. Lat. 48. 28. N.

GENGOUX DE ROYAL, St. a town of France, in the department of Saone and Loire, remarkable for its excellent wines. It is ſeated at the foot of a mountain, 17 miles S.W. of Chalons. Long. 4. 43. E. Lat. 46. 37. N.

GENIEZ, St. a town of France, in the department of Aveiron, 24 miles N.E. of Rhodez. Long. 3. 0. E. Lat. 44. 35. N.

GENIS, a town of Savoy, ſeated on the Guier, 12 miles W. of Chamberry. Long. 5. 30. E. Lat. 45. 40. N.

GENLIS, a town of France, in the department of Aiſne, 12 miles S. of St. Quentin.

GENOA, a territory and republic of Italy, extending along that part of the Mediterranean called the gulf of Genoa, 152 miles; but its breadth is very unequal, being from eight to twelve miles. Where it is not bounded by the ſea, it is bordered from W. to E. by Piedmont, Montferrat, Milan, Placentia, Parma, Tuſcany, and Lucca. It is populous, well cultivated, and fertile near the ſea; but the inner parts are mountainous, and barren in ſeveral places, having neither trees nor graſs upon them. The corn grown is inſufficient for its own conſumption; but this is amply compenſated by its vineyards, and abundance of excellent fruits, particularly lemons, oranges, pomegranates, almonds, and figs; and its mulberry and olive trees are innumerable.

GENTIAH, a town of the kingdom of Aſſam, 370 miles E. of Patna. Long. 92. 10. E. Lat. 25. 10. N.

GEOGRAPHY (*Encycl.*). In the Britiſh Magazine for 1800 are the following Obſervations on the Geography of Homer's Odyſſey, which are extremely curious and intereſting.

The occidental geography of Homer ſeems never to have been examined with due accuracy, and the received opinions concerning it are liable to very ſtrong objections. The learned Abbé Banier enquires *qui eſt ce qui peut dire où etoient les Cimmeriens d'Homere, et l'Iſle de Calypſo?* The Roman writers, whoſe national vanity arrogated the entire weſtern geography of Homer to Italy and Sicily, may be conſidered as the predeceſſors of Rudbeck; who, perhaps with equal reaſon, has drawn the whole of that geography to Scandinavia.

For the ſake of the general reader we ſhall omit the original paſſages, and content ourſelves with Mr. Pope's tranſlation of the Odyſſey. Hence it will appear; 1. That Ulyſſes leaving Troy attacked the *Cicones*, beneath the mountain of Iſmarus, in Thrace. Book ix. v. 41. *et ſeq.*

> The winds from Ilion to the Cicons' ſhore,
> Beneath cold Iſmarus, our veſſels bore;
> We boldly landed on the hoſtile place,
> And ſack'd the city, and deſtroy'd the race.

2. That a violent north wind drove them down on *Cythera*, an iſland at the ſouth-eaſtern corner of Peloponneſus. Book ix. v. 77. *et ſequent.*

> Strong was the tide, which by the northern blaſt,
> Impell'd our veſſels on Cythera caſt.

3. That the tempeſt, in *ten days*, conveyed him to the coaſt of the *Lotophagi*, in the middle of the northern ſhore of Africa.—*Ibid.* v 95. *et ſequent.*

4. From the land of the Lotophagi they were borne along unknown coaſts, and through unexplored ſeas, till they came to the land of the *Cyclops*, and the iſland of *Lachæa*. Verſe 119, &c.

> V. 133.—Oppos'd to the Cyclopean coaſts, there lay
> An iſle, whoſe hills their ſubject fields ſurvey;
> Its name Lachæa, crown'd with many a grove,
> Where ſavage goats thro' pathleſs thickets rove.

It would be difficult in this chorography to diſcover any reſemblance of Sicily. The land of the Cyclops appears evidently to belong to the continent; and the general geography of the voyage muſt lead us to infer that it was in that part of Africa where Carthage was afterwards to bid defiance to Rome.

5. From the land of the Cyclops, Ulyſſes returned to the iſland of *Æolus*, probably one of the Liparæ, on the weſtern coaſt of Sicily; and in ten days of rapid navigation with a favourable wind, the ſpecial and miraculous gift of Æolus, they diſcovered Ithaca. Book x. v. 31.

6. Driven back to the iſland of Æolus, v. 59, the tempeſt ſtill rages from the *eaſt*; and in ſix days and nights drives them to the ſhore of the *Leſtrigons*, and the city of *Lamos*, in all appearance ſituated in Spain.

7. The tempeſt further impels them to the iſland of *Circe*, ſeemingly one of the Fortunate Iſlands, or what are now called the Canaries. That the iſland of Circe belonged to the Fortunate group, is poſitively aſſerted by ſeveral ancient writers.

8. Hence, Book xi. he proceeded to the land of the *Cimmerii* in one day, by the potency of Circe's magic. All the ancient traditions bear that his voyage lay along Portugal (where ſtood *Ulyſſipona*); and thence even to Germany and Caledonia, where were the altars of Ulyſſes (Tacit. Germ. chap. 3.) Theſe circumſtances, however fabulous, evince the extenſive ideas entertained by the ancients concerning the navigation of Ulyſſes.

9. Upon leaving the iſland of Circe, Ulyſſes endeavours to navigate homewards, by the rocks of the *Syrens*, and Scylla and Charybdis. The Syrens in all appearance dwelled in the iſlands ſtyled the *Baleares*, now Majorca and Minorca.

The ſtrait of Scylla and Charybdis was certainly between *Corſica* and *Sardinia*; for,

10. Long after paſſing that ſtrait he arrived at *Trinacria*, which all grant to be Sicily; whereas if we take Scylla and Charybdis in the modern acceptation, when he had paſſed them he muſt in fact have paſſed Trinacria, inſtead of coming to it afterwards. An additional argument alſo here ariſes, that the Cyclops were not inhabitants of Sicily, for Homer mentions Trinacria as the iſland where the flocks of Apollo paſtured, and ſays not one word of the Cyclops.

11. The ſhip leaving Trinacria is wrecked, and a *ſouth* wind drives Ulyſſes *back*, through the ſtrait of Scylla and Charybdis, to *Ogygia*, the iſland of Calypſo, probably one of the *Hieres* on the coaſt of France.

12. *In ſeventeen* days and nights he reaches the coaſt of Phæacia. Book v. v. 345.

> And now rejoicing in the proſp'rous gales,
> With beating heart Ulyſſes ſpreads his ſails;
> Plac'd at the helm he ſat, and mark'd the ſkies,
> Nor clos'd in ſleep his ever-watchful eyes.
> There view'd the Pleiads, and the northern team,
> And great Orion's more refulgent beam;
> To which, around the axle of the ſky,
> The bear, revolving, points his golden eye;
> Who ſhines exalted on th' ethereal plain,
> Nor bathes his blazing forehead in the main.
> Far on the left thoſe radiant fires to keep,
> The nymph directed, as he ſail'd the deep.
> Full ſeventeen days he cut the foamy way,
> The diſtant land appear'd the following day;
> Then ſwell'd to ſight Phæacia's duſky coaſt,
> And woody mountains, half in vapours loſt,
> That lay before him, indiſtinct and vaſt,
> Like a broad ſhield amid the wat'ry waſte.

From Phæacia Ulyſſes ſailed to Ithaca, in *one night*. The iſland of Ogygia has been abſurdly placed on the eaſt of Italy, at about twice the diſtance of Phæacia from Ithaca: whereas Ulyſſes employed ſeventeen days and nights, even with a proſperous gale, to ſail from Ogygia to Phæacia, and only one night (Book xiii. v. 112) to paſs from Phæacia to Ithaca!

Some obſervations on the ſtate of geographical knowledge, at that remote period, here naturally ſuggeſt themſelves. There are two errors which have greatly impeded the progreſs of our knowledge of ancient geography. The firſt, and the moſt deſtructive of juſt ideas on the ſubject, is that of thoſe who have too far extended the knowledge of the ancients; the ſecond, and by far the moſt rational, is that which reſtricts it within narrow bounds.

Sir Iſaac Newton has attempted very much to reduce the Pagan chronology, by calculations from celeſtial appearances, which M. Bailly has ſince mathematically demonſtrated, in his *Aſtronomie Ancienne*, are anterior by four or five hundred years to the period affixed by our great Engliſh philoſopher. The chief cauſe of Sir Iſaac's failure was his approximation of celebrated events, while he ſeems to forget that tradition will preſerve equally freſh a remote event of vaſt conſequence, or of ſtriking ſplendour, with a more recent occurrence of inferior moment. Thus, in the darkneſs of night, a beacon at the diſtance of thirty miles may diſplay a ſimilar appearance to that of a torch at the diſtance of three.

In like manner, if we attempt to compreſs the priſtine, preciſe notions of geography, within too narrow and connected limits, we may fall into groſs errors. The Phœnicians, and other nations on the Mediterranean ſea, ever adventuring in queſt of freſh ſources of gain, or impelled by ſtorms, and the prevalence of certain winds, could not fail, even in very early times, to diſcover every region adjacent to that vaſt baſon. Nature had opened to them, as it were, a highway, which they could hardly help exploring to its furtheſt extremity. The *Tharſiſh* of Solomon is generally allowed to have been the *Tarteſſus* of the ancients near Cadiz, the port whence the ſilver from the Spaniſh mines was brought to the oriental world. But not to waſte time in learned diſcuſſion, it is well known that the Phœnicians had, many ages before the days of Homer, made numerous diſcoveries in the weſt of Europe. Of theſe diſcoveries, when retailed by tradition, ſeveral confuſed notions muſt have been formed. Homer, certainly no ſtranger to Phœnician ſcience, and deſirous to enrich his poem with the new and the marvellous, has no doubt availed himſelf of their furtheſt diſcoveries; and the confined limits within which we reſtrict the voyage of Ulyſſes, ſeems, in the firſt place, to have proceeded from the vanity of the Roman writers; and, in the next place, from the complete inattention which the moderns have paid to the ſubject.

GEORGE, St. *(Encycl.)*. To what has been ſaid in our original article, we wiſh to add the following curious diſquiſition on the figure of St. George, the patron of England, as it is found on the coins of Ruſſia. See plate 33.

St. George, the patron ſaint of England, and of the order of the Garter, is much revered in Ruſſia, and his figure occurs in all the churches. He is repreſented as uſual, riding on a horſe, and piercing a dragon with his lance. This ſame device alſo forms part of the arms of the Ruſſian ſovereign, and is obſerved upon ſeveral of the coins. As moſt perſons endeavour, if poſſible, to derive every cuſtom and alluſion from their own country, ſome of the Engliſh hiſtorians have conjectured, that Ivan Vaſſilievitch the Second, being preſented with the Garter by Queen Elizabeth, aſſumed the George and the Dragon for his arms, and ordered it to be ſtamped upon the current money. But this ſuppoſition is erroneous, as it by no means appears, that the Tzar was created a knight of the Garter; and it is certain that the ſovereigns of Moſcow bore this device before they had the leaſt connection with England; for the arms of Moſcovy are thus deſcribed by Chanceler, the firſt Engliſhman who diſcovered Ruſſia, as being affixed to a diſpatch ſent in 1554, from Ivan Vaſſilievitch to Queen Mary:—"This letter was written in the Moſcovian tongue, in letter much like to the Greeke letters, very faire written in paper, with a broade ſeale hanging at the ſame, ſealed in paper upon waxe. This ſeale was much like the broad ſeale of England, having on the one ſide the *image of a man on horſeback in complete harneſſe fighting with a dragon.*" Hackluyt, vol. i. p. 255.

The Ruſſian antiquaries find great difficulty in endeavouring to aſcertain the origin of St. George, and his firſt introduction into their country.

Among a liſt of the Ruſſian coins accompanied with engravings, publiſhed by Le Clerc, are ſeveral of a very early date, which repreſent the figure of a horſeman ſpearing a dragon: one particularly of Michael Androvitz, which appears to have been ſtruck in 1305, 40 years before the inſtitution of the order of the Garter. From this period numerous Ruſſian coins are ſucceſſively diſtinguiſhed by the ſame emblem. Another, ſtruck in the reign of Vaſili Vaſſilievitch in the 15th century, exhibits alſo the coarſe figure of a man on horſeback piercing a ſerpent or a dragon: of which device

a learned antiquary* has ingeniouſly given the following ſolution. The reign of Vaſſili Vaſſilievitch was an epoch of great troubles and inteſtine diſſenſions between the Great Duke and his relations. During theſe conteſts he was depoſed and impriſoned, and his eyes were put out; but having regained poſſeſſion of the throne, he ordered the money to be impreſſed with the figure of a man on horſeback piercing a ſerpent, as an emblem of ingratitude puniſhed and rebellion defeated. Soon after this period the ſucceeding great dukes uſed this device for their arms, inſtead of the cuſtom which before prevailed of adopting the head of the ſaint by whoſe name they were baptized. About the beginning of the ſeventeenth century, wings being added to the ſerpent, it was changed into a dragon, and the knight on horſeback into St. George. But this is conjecturing too curiouſly, and ſeems too far-fetched a ſolution for ſo barbarous an age. It is far more probable, that the Ruſſians received the image of St. George and the dragon either from the Greeks or from the Tartars, by both of whom he was much revered; by the former as a Chriſtian ſaint and martyr, and by the latter as a prophet, or a deity. With reſpect to the Greeks, we know from hiſtory that in the fourth or fifth century he was much worſhipped amongſt them; and that, afterwards, the cruſaders, during their firſt expedition into the Holy Land, found many temples erected in his honour. The Ruſſians, therefore, who were converted to Chriſtianity by the Greeks, certainly muſt have received at the ſame time a large catalogue of ſaints, which made an eſſential part of the Greek worſhip, and we have no reaſon to imagine that St. George was omitted.

In a villa of Prince Dolgorucki, near Moſcow, is an old baſſo-relievo of St. George and the dragon, found in a ruined church at Intermen, in the Crimea; it had a Greek inſcription almoſt eraſed, but the words ΑΙΟΟ ΓΕΟΡΓΟΟ, or St. George, and the date 1330, were ſtill legible. As it appears from this baſſo-relievo that he was worſhipped in the Crimea ſo near the court of Ruſſia, when the great dukes reſided at Kiof, his introduction into that country is eaſily accounted for.

Notwithſtanding, however, the probability of this opinion, it is very likely that the Ruſſians received from the Tartars the image of a horſeman ſpearing a ſerpent, as it is repreſented upon their moſt ancient coins, and which formed a part of the great duke's arms towards the beginning of the ſixteenth century. And firſt, with reſpect to their coins: the Ruſſians had no coins before they were conquered by the Tartars; and ſoon after they were brought under the Tartar yoke, they ſtruck money: the firſt Ruſſian coins bear a Tartar inſcription; afterwards they have Tartar letters on one ſide, and Ruſſian characters on the other; and there is ſtill preſerved in the cabinet of St. Peterſburgh, a piece of money, exhibiting a horſeman piercing a dragon, with the name of the great duke in Ruſſian, and on the reverſe a Tartar inſcription.

With reſpect to the arms, Herberſtein, in his account of his embaſſy to Moſcow in 1518, under Vaſſili Ivanovitch, has given a wooden print of that prince, at the bottom of which are engraved his arms, repreſenting a naked man on horſeback† piercing a ſerpent with his lance. See fig. A. The equeſtrian figure in this device has a Tartar-like appearance, and is ſo coarſe and rude, that it ſeems to have been derived from a people in a far more unciviliſed ſtate of ſociety than the Greeks: add to this, as the Greeks always repreſented St. George clad in armour, what could have induced the Ruſſians, if they had adopted this emblem from them, to have figured the horſeman naked?

Shall we conclude, therefore, that the Tartars were not unacquainted with an emblem ſimilar to that of St. George and the Dragon? In proof of this opinion, we may venture to remark, that the ſtory of a ſaint or a deity ſpearing a dragon was known over the eaſt; that among the Mahometans (ſee Herbelot Biblioth. Orientalis, article Gergis), a perſon called Gergis or George, under a ſimilar figure, was much revered as a prophet; and that ſimilar emblems have been diſcovered among many barbarous nations of the eaſt. Whether theſe nations took it from the Greeks, or the latter from them, is a matter that cannot be aſcertained; for with reſpect to the real exiſtence of ſuch a perſon as St. George, no poſitive proofs‡ have ever been advanced.

But whether we conclude that the Ruſſians received the emblem of St. George from the Greeks, or from the Tartars, it will ſtill be difficult to reconcile how under Vaſſili Ivanovitch the arms of the great dukes exhibited a naked man on horſeback ſpearing a dragon, and under his ſon, Ivan Vaſilievitch II. the horſeman is repreſented in armour. But perhaps we may reconcile theſe two opinions by ſuppoſing, that the naked man on horſeback, ſpearing a dragon, is the Tartar emblem; and the knight in complete armour (which is evidently the figure of St. George) was adopted as the arms of the great dukes, and not improbably introduced by Ivan Vaſſilievitch II. in compliment to his grand-mother, Sophia, a Greek princeſs.

Since this period, the emblem of St. George and the dragon has uniformly been repreſented on the reverſe of Ruſſian coins, as may be ſeen by the engraving of a rouble of the late Empreſs, Catharine II. See fig. B.

Although any enquiry into the origin of St. George, and his introduction into England, is foreign to the preſent purpoſe, yet it may be obſerved, that amongſt us ſeveral contradictory opinions have been held of St. George; and a whimſical controverſy has ariſen, whether the patron of England

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* See Tſcherebetoff's Verſuch neber die alten Ruſſis. Muenzen in Journ. of St. Pet. for 1781, part II. p. 66.

† In unâ parte hominis nudi equo inſidentis, et draconem haſtâ ferientis imaginem habet; in alterâ verò parte, nomen magni ducis exprimitur. Herberſtein Moſc. Deſcr. p. 157.

‡ The arguments brought by the ingenious Mr. Pegge to aſcertain the exiſtence and martyrdom of St. George, will ſerve equally to prove the exiſtence of St. Januarius, or any other ſaint in the Roman Calendar. "We may depend upon it," he ſays, "that though at this diſtance of time we can recover ſo few particulars of St. George's ſtory, and can arrive at ſo little certainty about the circumſtances of it; yet the adventurers in the cruſades undoubtedly regarded him as a real perſon, a moſt glorious and illuſtrious martyr. They found his name in the calendars; they met with various places denominated from him; they frequented his tomb and heard him invoked, and heard much of his apparitions; they ſaw churches and monaſteries dedicated to him, and even received, as they thought, ſeaſonable and ſpecial aſſiſtance from Heaven, through his mediation; and laſtly, not to mention his reliques, they could not but obſerve proper ſervices appointed for him in the Greek and Roman Liturgies. After all which, it is not poſſible that our anceſtors, on their return from the Eaſt, and in particular in the reign of King Edward III. ſhould deem of him otherwiſe, than as having been once a true man, and more than an ideal figment of the brain." See Pegge's Obſervations on the Hiſtory of St. George, in the fifth vol. of the Archæologia, p. 5.

was a real or imaginary perſonage. Some are of opinion, that this hiſtory is an allegory; others maintain that the device is borrowed by the Chriſtian church from the ancient ſtory of Perſeus and the ſea-monſter, of Bellerophon and the Chimera, or of Apollo and the ſerpent Pithon, or from ſome Egyptian hieroglyphics, or from charms and amulets worn by the Pagans*; others have traced his legend from the hiſtory of George† of Cappadocia, the Arian archbiſhop of Alexandria. Amongſt the authors who have written upon this ſubject with the greateſt ſucceſs, muſt not be omitted, Mr. Byrom (Miſcellaneous Poems, vol. I. p. 100), who has compoſed a metrical rhapſody addreſſed to Lord Willoughby, preſident of the Antiquarian Society, in which he endeavours to prove that St. George is a corruption of St. Gregory; and to uſe his own words:—

Now, my lord, I would aſk of the learn'd and laborious,
If Ge-orgius ben't a miſtake for Gregorius?
In names ſo like letter'd it would be no wonder,
If haſty tranſcribers had made ſuch a blunder;
And miſtake in the names, by a ſlip of their pen,
May, perhaps, have occaſion'd miſtake in the men.
That this has been made, to omit all the reſt,
Let a champion of yours, your own Selden atteſt;
See his book upon titles of honour—that quarter
Where he treats of St. George, and the knights of the Garter.

And again:

This, my lord, is the matter—the plain ſimple rhimes
Lay no fault, you perceive, upon Proteſtant times:
I impute the miſtake, if it ſhould be one, ſolely
To the pontiffs ſucceeding, who chriſten'd wars holy;
To monarchs who, madding around their round tables,
Preferr'd, to converſion, their fighting and fables:
When ſoldiers were many, good Chriſtians but few,
St. George was advanc'd to St. Gregory's due.
One may be miſtaken—and therefore would beg
That a Willis, a Stukely, an Ames, or a Pegge,
In ſhort, that your lordſhip, and all the fam'd ſet,
Who are, under your auſpices, happily met
In perfect good humour—which you can inſpire,
As I know by experience—would pleaſe to enquire,
To ſearch this one queſtion, and ſettle, I hope;
Was old England's old patron, a knight, or a pope?

In oppoſition to theſe opinions, ſeveral authors have entered the liſts: particularly Heylin, Selden, and Fuller; and lately, Mr. Pegge endeavours to reſcue this ſaint from annihilation, and to prove, at the ſame time, that he was a different perſonage from St. Gregory. But unfortunately for the arguments of the learned antiquarian, Mr. Byrom's treatiſe, which he oppoſes, is written in verſe with ſo much eaſe, humour, and whimſical rhyming, that the reader is abſolutely almoſt diveſted of his judgment, and with difficulty is prevented by the moſt weighty reaſons from ſiding with the poet, who, inſtead of dull and dry diſquiſitions, treats us with much wit, couched in an eaſy flow of doggrel metre. However, after reading all (if any one can have patience‡ to read all) the diſquiſitions upon this ſubject, the reader retires without being convinced, or without yielding abſolutely to any other opinion than this, that the ſtory of St. George is immerſed in fable, and loſt amid the uncertainty of ancient lore.

GERBSTADT, a town of Upper Saxony, 30 miles S.W. of Deſſau, and 36 S. of Magdeburg.

GERMAINS, St. a borough in Cornwall, with a market on Friday. It was once the largeſt town in the county, and a biſhop's ſee. What remains of the cathedral is uſed as the pariſh-church; and near it is the priory. The town now conſiſts chiefly of fiſhermen's cottages, but is governed by a mayor, and ſends two members to parliament. It ſtands near the ſea, 10 miles W. of Plymouth, and 224 W. by S. of London. Long. 4. 24. W. Lat. 50. 22. N.

GERMAIN-LAVAL, St. a town of France in the department of Rhone and Loire, remarkable for excellent wine. It is 18 miles S. of Roanne, and 225 S.E. of Paris. Long. 4. 2. E. Lat. 45. 50. N.

GERMAN DRAMA. See Drama in this Supplement.

GERMANO, St. a town of Naples, in Terra di Lavoro, at the foot of Mount Caſſano, and belonging to an abbey at the top of that mount. Long. 13. 59. E. Lat. 41. 13. N.

GERMERSHEIM, a town of Germany, in the palatinate of the Rhine, ſituate near the Rhine, five miles W. of Philipſburg. Long. 17. 19. E Lat. 49. 10. N.

GERMS, a town of the archduchy of Auſtria, 62 miles W.N.W. of Vienna. Long. 14. 57. E. Lat. 48. 32. N.

GEROLDSTEIN, a town of Weſtphalia, ſituate on the Kill, 24 miles N. of Treves. Long. 6. 19. E. Lat. 50. 19. N.

GERS, a department of France, which includes the late provinces of Gaſcony and Armagnac. It has its name from a river that waters Auch and Lectoure, and falls into the Garonne, above Agen. Auch is the capital.

GERSAU, a town of Switzerland, on the N. ſide of the lake of Schweitz, at the foot of the Rigi. It is a republic, the ſmalleſt in Europe. Its territory is two leagues in length and one in breadth. It contains 1000 inhabitants, who have their general aſſembly of burgeſſes, their landamman, council of regency, courts of juſtice, and militia. Gerſau is compoſed entirely of ſcattered houſes and cottages, of a very neat and pictureſque appearance. The inhabitants are much employed in preparing ſilk for the manufacture at Baſle. This republic is under the protection of the cantons of Lucern, Vri, Schweitz, and Underwalden; and, in caſe of war, furniſhes its quota of men. Gerſau is 12 miles S.W. of Schweitz.

GERTRUDENBURG, an ancient town of Dutch Brabant, one of the principal bulwarks of the Dutch. It has a good harbour on the Maeſe, which here expands into a large lake, called Bies Boſch. It has been often taken, the laſt time by the French in 1795. It is 10 miles N. of Breda. Long. 4. 52. E. Lat. 52. 44. N.

GERUMENHI, an ancient town of Portugal, in Alentejo, with a ſtrong caſtle; but was taken, in 1662, by the Spaniards. It is ſeated on a hill, near the river Guadiana, 18 miles below Badajoz.

GESEKE, a town of Weſtphalia, ſeated on the Weyck, eight miles from Lippe.

GESTRIKE, a province of Sweden, bounded on the N. by Helſingia, on the E. by the gulf of Bothnia, on the S. by Upland, and on the W. by Dalecarlia. It is diverſified by foreſts, rocks, hills, and dales, paſture and arable land, lakes

* See Pettiugal's ingenious Diſſertation on the Original of the Equeſtrian Figure of the George and of the Garter.

† See Gibbon's Hiſtory of the Decline and Fall of the Roman Empire, vol. II. p. 404, where the hiſtory of George of Cappadocia is inveſtigated with great judgment and learning.

‡ Heylin's Hiſtorie of that moſt famous Saint and Soldier of Chriſt Jeſus, St. George of Cappadocia, in quarto, contains 426 pages, printed very cloſely.

and rivers; and theſe beauties are much heightened by the Dam, the fineſt river in Sweden, which meanders through the whole extent of the province.

GEVAUDAN, a late territory of France, in Languedoc, bounded on the N. by Auvergne, on the W. by Rouergue, on the S. by the Cevennes, and on the E. by Velay. It is a mountainous, barren country; and now forms the department of Lozere.

GEX, a town of France, in the department of Ain, noted for excellent cheeſe. It is ſeated at the foot of Mount St. Claude, between the Rhone, the lake of Geneva, and Switzerland, 10 miles N.W. of Geneva. Long. 6. 1. E. Lat. 46. 20. N.

GEZIRA, a town of Diarbeck, in an iſland formed by the Tigris, 70 miles N.W. of Mouſul. Long. 40. 50. E. Lat. 36. 36. N.

GEZULA, a province of Morocco, which is very productive, and contains mines of iron and copper. The inhabitants are numerous, and conſidered as the moſt ancient people of Africa: they live in tents, and are ſo independent, that they are rather the allies than the ſubjects of the emperor of Morocco.

GHANAH, or GHINNAH, a town of Caſhna, ſeated between a lake and the river Niger, which is here called Neel-il-Abeed, or the Nile of the Negroes. It is 90 miles N.E. of Caſhna, and 208 S. of Agadez. Long. 13. 12. E. Lat. 15. 55. N.

GHERGONG, a city and the capital of the kingdom of Aſſam. It is ſeated on a river which runs, in a ſhort diſtance, into the Burrampooter, 400 miles N.E. of Calcutta. Long. 93. 15. E. Lat. 25. 55. N.

GHIZNI, or GAZNA, a town of Hindooſtan Proper, in Cabul, once the capital of a powerful empire of the ſame name. It is called the ſecond Medina, from the great number of illuſtrious perſons who have been interred there. It is 54 miles S. of Cabul, and 150 E. of Candahar. Long. 68. 20. E. Lat. 16. 12. N.

GHOURBOND, a town of Hindooſtan Proper, in the country of Cabul, 42 miles N.W. of Cabul. Long. 67. 52. E. Lat. 34. 55. N.

GIBBON (Edward), a celebrated Engliſh hiſtorian, was born at Putney in Surrey, on the 27th of April, 1737. He was the firſt-fruit of the marriage of Edward Gibbon, eſq. and Judith Porten, the youngeſt daughter of a merchant in London. Mr. Gibbon appears to delight in tracing his pedigree from John Gibbon architect to King Edward III. who poſſeſſed lands in the hundred and pariſh of Rolvenden, in the diſtrict which is now called the *Weald* of Kent. In that diſtrict the elder branch of the family ſtill adheres to its native ſoil, without much increaſe or diminution of property; but the fortunes of the younger branch, from which our hiſtorian ſprung, were fluctuating.

So feeble was he, and ſo precarious his life during his childiſh years, that at the baptiſm of each of his brothers (five in number) his father ſucceſſively repeated the name of Edward, that, in caſe of the death of the eldeſt, this patronymick appellation might ſtill be perpetuated in the family. His brothers and a ſiſter died in their infancy; and, in terms of affectionate gratitude, he attributes his own preſervation to the more than maternal care of a maiden aunt, his mother's eldeſt ſiſter.

At the age of ſeven years he was delivered into the hands of Mr. John Kirby, who exerciſed, about eighteen months, the office of his domeſtic tutor; but he afterwards was ſent to Kingſton-upon-Thames, to a ſchool of ſeventy boys kept by Dr. Wooddeſon. He does not repreſent himſelf either as happy or as having made great progreſs at that ſchool. The want of ſtrength and activity diſqualified him for the ſports of the field; his companions reviled him for the ſins of his Tory anceſtors; and his ſtudies were frequently interrupted by ſickneſs. After paſſing nearly two years at Kingſton, he was, in Dec. 1747, called away by the death of his mother. By this time he was well acquainted with Pope's Homer, the Arabian Nights Entertainments, Dryden's Virgil, and a tranſlation of Ovid's Metamorphoſes; and the entertainment which he received from theſe books gave him a taſte for deſultory reading.

After living a year with his maternal aunt, during which period he read many books on religious ſubjects too deep for the comprehenſion of a boy, he was in January 1749 entered at Weſtminſter ſchool, of which Dr. John Nicoll was then head maſter. "There (ſays he) in the ſpace of two years, interrupted by danger and debility, I painfully climbed into the third form; and my riper age was left to acquire the beauties of the Latin and the rudiments of the Greek tongue. Inſtead of audaciouſly mingling in the ſports, the quarrels, and the connections of our little world, I was ſtill cheriſhed at home under the maternal wing of my aunt, who now lived in College-ſtreet; and my removal from Weſtminſter long preceded the approach of manhood."

He was firſt carried to Bath for the recovery of his health; then to Wincheſter, where he lived in the houſe of a phyſician; then to Bath again, where he read with a clergyman ſome odes of Horace and ſome epiſodes of Virgil; after which an unſucceſsful trial was made to renew his attendance at Weſtminſter ſchool. "It might now be apprehended (ſays he) that I ſhould continue for life an illiterate cripple; but as I approached my ſixteenth year, Nature diſplayed in my favour her myſterious energies: my conſtitution was fortified and fixed; and my diſorder, inſtead of growing with my growth, and ſtrengthening with my ſtrength, moſt wonderfully vaniſhed." In conſequence of this he was ſent to Oxford; and before he had accompliſhed his fifteenth year, was, on April 3, 1752, matriculated a gentleman-commoner of Magdalen College, the tutors of which he repreſents as wholly regardleſs of his morals or his ſtudies. Speaking of the beſt he ſays, "No plan of ſtudy was recommended for my uſe; no exerciſes were preſcribed for his inſpection; and at the moſt precious ſeaſon of youth, whole days and weeks were ſuffered to elapſe without labour or amuſement, without advice or account." His contemporaries however have given different accounts of the college; and it is ſurely a very ſingular circumſtance, that at this period of *idleneſs*, our author ſhould have become enamoured of Sir John Marſham's *Canon Chronicus*, and have conceived the idea of writing an *Eſſay on the Age of Seſoſtris*. Such, however, was the caſe; and there is great reaſon to ſuppoſe Mr. Gibbon deſirous of attributing to this negligent conduct of his tutors, his having at the age of ſixteen bewildered himſelf in the errors of the church of Rome. On the 8th of June, 1753, at the feet of a prieſt in London, he ſolemnly, though privately, abjured the errors of hereſy, and an elaborate controverſial epiſtle, approved by his director, and addreſſed to his father, announced and juſtified the ſtep he had taken. The old gentleman, however, in the firſt ſally of paſſion having divulged the ſecret, the gates of Magdalen College were ſhut againſt the convert, and as it then was neceſſary therefore to form a new plan of education, our young Catholic was ſettled, on the 30th of June, under the roof of Mr. Paviliard, a Calviniſt miniſter at Lauſanne in Switzerland.

Under this amiable preceptor's tuition he deſcribes his progreſs in the French and Latin claſſics, in hiſtory, geography, logic, and metaphyſics, as uncommonly rapid; and he allows to the ſame man a handſome ſhare of the honour of reclaiming him from the errors of popery. The various diſcriminating articles of the Romiſh creed diſappeared like a dream;

and, after a full conviction, on Chriſtmas-day 1754 he received the ſacrament in the church of Lauſanne. Thus had our author communicated with three different ſocieties of Chriſtians before the completion of his eighteenth year; and as ſuch changes from church to church are always dangerous, we need not wonder that, in a mind ſo ill furniſhed as Mr. Gibbon's then was for theological inveſtigations, they paved the way for his laſt change to Deiſm, of which he has ſince been the notorious advocate.

In 1757 Voltaire arrived at Lauſanne, and our ſtudent's deſire to ſee the man who was at once a poet, an hiſtorian, and, as he deemed himſelf, the prince of philoſophers, was ardent, and eaſily gratified. He was received by the vain and arrogant Frenchman with civility as an Engliſh youth, but could not boaſt of any peculiar notice or diſtinction. "The higheſt gratification (ſays he) which I received from Voltaire's reſidence at Lauſanne, was the uncommon circumſtance of hearing a great poet declaim his own productions on the ſtage. His declamation was faſhioned to the pomp and cadence of the old ſtage; and he expreſſed the enthuſiaſm of poetry rather than the feelings of Nature."

Mr. Gibbon now became enamoured of Mademoiſelle Suſan Curchod, the daughter of the miniſter of Craſſy, in the mountains which ſeparate the Pays de Vaud from the county of Burgundy. In terms of rapture he deſcribes this lady as poſſeſſed of every accompliſhment which could adorn her ſex. She liſtened to the voice of truth and paſſion; her parents honourably encouraged the connection; and our author indulged in the dream of felicity: but on his return to England, he diſcovered that his father would not hear of this ſtrange connection, and that without his conſent he was deſtitute and helpleſs. "After a painful ſtruggle (ſays he) I yielded to my fate. I ſighed as a lover, I obeyed as a ſon; and my wound was inſenſibly healed by time, abſence, and the habits of a new life." The lady conſoled herſelf by giving her hand to the celebrated M. Neckar, then a rich banker of Paris, afterwards the miniſter, and at laſt one of the deſtroyers of the French monarchy.

In the ſpring of the year 1758 our author returned to London, where, having but few acquaintances, and hardly any friends, and being accuſtomed to a very ſmall ſociety at Lauſanne, he was far from finding himſelf agreeably ſituated. This at length determined him once more to preſer the retirement of the country to the buſtle of an over-grown metropolis, where he found hardly any entertainment but in the theatres.

Before he quitted Lauſanne, however, he had begun a work on the ſtudy of ancient literature, which was ſuggeſted by the deſire of juſtifying and praiſing the object of a favourite purſuit. "In France (ſays he), to which my ideas were confined, the learning and language of Greece and Rome were neglected by a philoſophic age. The guardian of thoſe ſtudies, the Academy of Inſcriptions, was degraded to the loweſt rank among the three royal ſocieties of Paris: the new appellation of *Erudits*, was contemptuouſly applied to the ſucceſſors of Lipſius and Caſaubon; and I was provoked to hear, that the exerciſe of the memory, their ſole merit, had been ſuperſeded by the nobler faculties of the imagination and the judgment. I was ambitious of proving by my own example, as well as by my precepts, that all the faculties of the mind may be exerciſed and diſplayed by the ſtudy of ancient literature." This laudable ambition continued; and in his father's houſe at Beriton in Hampſhire he finiſhed his *Eſſai ſur l'Etude de la Littérature;* which, after being reviſed by Mallet the poet and Dr. Maty of the Britiſh Muſeum, was, in 1761, publiſhed in a ſmall 12mo. volume.

At the end of the war he again went abroad, and reached Paris on the 28th of January, 1763, only 36 days after the diſbanding of the militia in which he had borne the commiſſion of a captain. In that metropolis he viſited the palaces, churches, gardens, and theatres, was introduced to D'Alembert and Diderot, then conſidered as at the head of French ſcience, and then proceeding to Switzerland, he once more took up his reſidence at his favourite Lauſanne. Voltaire's impieties had forced him from that town to his own caſtle at Ferney, where our author once viſited him, without (he ſays) "courting his more intimate acquaintance."

The ſociety in which Mr. Gibbon moſt delighted during his ſecond reſidence at Lauſanne was a very ſingular one. "It conſiſted of fifteen or twenty unmarried ladies of genteel families; the eldeſt perhaps about twenty, all agreeable, ſeveral handſome, and two or three of exquiſite beauty. At each other's houſes they aſſembled almoſt every day, without the control, or even the preſence, of a mother or an aunt; they were truſted to their own prudence, among a crowd of young men of every nation in Europe. They laughed, they ſung, they danced, they played at cards, they acted comedies; but in the midſt of this careleſs gaiety, they reſpected themſelves, and were reſpected by the men; the inviſible line between liberty and licentiouſneſs was never tranſgreſſed by a geſture, a word, or a look, and their virgin chaſtity was never ſullied by the breath of ſcandal or ſuſpicion."

We readily agree with our author that this ſingular inſtitution was expreſſive of the innocent ſimplicity of Swiſs manners; and we only regret that he had not the ſame reſpect for the ladies of his own country as for thoſe frolic females of Switzerland. He would not, in that caſe, have ſtained ſome of his moſt brilliant pages with obſcene ribaldry.

We ſhall not follow him in his ramble through Italy, or repeat his remarks on the towns which he viſited. It is ſufficient to obſerve, that it was at Rome, on the 15th of October, 1764, while he ſat muſing amidſt the ruins of the Capitol, that the idea of his great work firſt aroſe into his mind.

To that great work, The Hiſtory of the Decline and Fall of the Roman Empire, he ſat down ſeriouſly in 1768; and the hiſtory which he gives of his preparatory ſtudies ſufficiently accounts for the inaccuracy of his quotations. Through the darkneſs of the middle ages he explored his way in the annals and antiquities of Italy by the learned Muratori and other moderns; and ſeems to acknowledge that, from the beginning to the end of his work, he frequently contented himſelf with authorities furniſhed at ſecond hand.

In 1776, the firſt volume of his hiſtory was publiſhed; and the ſucceſs of it far ſurpaſſed his expectation. The encomiums laviſhed on it by Dr. Robertſon and Mr. Hume in letters to the author, and the fulſome compliments which thoſe three eminent hiſtorians paid to each other, are melancholy ſpecimens of lettered littleneſs and vanity. The ſecond and third volumes appeared in 1781; the fourth, fifth, and ſixth in 1787; and Mr. Gibbon's fame was eſtabliſhed as an hiſtorian. The work was admired both by natives and by foreigners, and tranſlated into ſeveral of the languages of Europe. Dr. Zimmermann repreſents the author as excelling perhaps Hume and Robertſon, who were hiſtorians of the firſt rank. "All the dignity (he adds), all the charms of hiſtoric ſtyle, are united in Gibbon: his periods are melody itſelf, and all his thoughts have nerve and vigour." This praiſe, however, muſt not be admitted without exception. Few writers, indeed, were poſſeſſed of ſuch popular talents as our hiſtorian. The acuteneſs of his penetration, and the fertility of his genius, have been ſeldom equalled, and ſcarcely ever ſurpaſſed. He ſeizes, with ſingular felicity, on all the moſt intereſting facts and ſituations, and theſe he embelliſhes with the utmoſt luxuriance of fancy and elegance of ſtyle. His periods are full

and harmonious; his language is always well choſen, and is frequently diſtinguiſhed by a new and peculiarly happy adaptation. His epithets, too, are in general beautiful and happy; but he is rather too fond of them. The uniform ſtatement of his diction ſometimes imparts to his narrative a degree of obſcurity, unleſs he deſcends to the miſerable expedient of a note, to explain the minuter circumſtances. His ſtyle, on the whole, is much too artificial; and this gives a degree of monotony to his periods, which extends, we had almoſt ſaid, to the turn of his thoughts.

A more ſerious objection is his attack upon Chriſtianity; the looſe and diſreſpectful manner in which he mentions many points of morality regarded as important on the principles of natural religion; and the indecent alluſions and expreſſions which too often occur in the work. An attack upon Chriſtianity is not cenſurable merely as ſuch; it may proceed from the pureſt and moſt virtuous motives: but, in that caſe, the attack will never be carried on in an inſidious manner, and with improper weapons; and Chriſtianity itſelf, ſo far from dreading, will invite every mode of fair and candid diſcuſſion. Our hiſtorian, it muſt be confeſſed, often makes, when he cannot readily find, an opportunity to inſult the Chriſtian religion. Such, indeed, is his eagerneſs in the cauſe, that he ſtoops to the moſt deſpicable pun, or to the moſt awkward perverſion of language, for the pleaſure of turning the Scripture into ribaldry, or calling Jeſus an impoſtor.

Yet of the Chriſtian religion has Mr. Gibbon himſelf obſerved, that it "contains a pure, benevolent, and univerſal ſyſtem of ethics, adapted to every duty and every condition of life." Such an acknowledgment, and from ſuch a writer too, ought to have due weight with a certain claſs of readers, and of authors likewiſe, and lead them ſeriouſly to conſider, how far it is conſiſtent with the character of good citizens, to endeavour, by ſly inſinuations, oblique hints, indecent ſneer, and profane ridicule, to weaken the influence of ſo *pure* and *benevolent* a ſyſtem as that of Chriſtianity, acknowledged to be admirably calculated for promoting the happineſs of individuals, and the welfare of ſociety.

The part of the Hiſtory which gave ſuch offence to his own friend, as well as to the friends of the Chriſtian religion in general, was the account which our hiſtorian has given of the progreſs and eſtabliſhment of Chriſtianity in the two laſt chapters of his firſt volume; in which he endeavours to prove that the wonderful triumph of that religion over all the eſtabliſhed religions of the earth, was not owing to any miraculous atteſtations to its truth, but to five ſecondary cauſes which he enumerates; and that Chriſtianity, of courſe, could not be of divine origin. Several anſwers appeared on this occaſion, written, as we may naturally ſuppoſe, with different degrees of temper and ability. His principal oppoſers were Dr. Chelſum, Dr. Randolph, Dr. Watſon (biſhop of Llandaff), Lord Hailes, Dr. White, Mr. Apthorpe, Mr. Davis, and Mr. Taylor, author of The Letters of Ben Mordecai. One of them only, Mr. Davis, who had undertaken to point out various inſtances of miſrepreſentation, inaccuracy, and even plagiariſm in his account, did our hiſtorian condeſcend particularly to anſwer, and that in a tone of proud contempt and confident ſuperiority. To this Mr. Davis replied; and it is but juſtice to obſerve, that his reply bears evident marks of learning, judgment, and critical acumen, and that he has convicted our author of ſometimes quoting inaccurately to ſerve a purpoſe. At his other anſwerers Mr. Gibbon merely glanced, treating Dr. Watſon, however, with particular reſpect; but his poſthumous memoirs ſhew how much he felt the attacks made on him by Lord Hailes, Dr. White of Oxford, and Mr. Taylor. To Dr. Prieſtley, who, in his *Hiſtory of the Corruptions of Chriſtianity*, threw down his gauntlets at once to Biſhop Hurd and the hiſtorian of the Roman empire, and who preſented the latter with a copy of his book, declaring, at the ſame time, that he ſent it not as a gift but as a *challenge*, he wrote in ſuch terms as produced a correſpondence, which certainly added not to the honour of the diſſenting divine.

At the beginning of the conteſt between Great Britain and America, our author was returned, by the intereſt of Mr. Eliot (now Lord Eliot), for the borough of Liſkeard, and ſupported, with many a ſincere and ſilent vote, the rights, though not, perhaps, the intereſt, of the mother country. "After a fleeting illuſive hope, prudence condemned me (ſays he) to acquieſce in the humble ſtation of a mute. I was not armed by Nature and education with the intrepid energy of mind and voice. '*Vincentem ſtrepitus, et natum rebus agendis.*' Timidity was fortified by pride; and even the ſucceſs of my pen diſcouraged the trial of my voice."

That pen, however, was uſeful to the miniſtry whom he could not ſupport by his eloquence in the houſe. At the requeſt of the Lord Chancellor and Viſcount Weymouth, then ſecretary of ſtate, he vindicated, in a very able manner, againſt the French manifeſto, the juſtice of the Britiſh arms; and his *Mémoire Juſtificatif* was delivered as a ſtate paper to the courts of Europe. He was rewarded for this ſervice with the place of one of the lords commiſſioners of trade and plantations; and kept it till the board was aboliſhed by Mr. Burke's reform bill. For accepting this place he was ſeverely, but moſt unjuſtly, blamed by ſome of the leaders of the oppoſition, as if he had deſerted a party in which he had never enliſted, and to the principles of which he was rendered inimical both by family prepoſſeſſion and by his own judgment.

On the downfal of Lord North's adminiſtration, Mr. Gibbon was of courſe in the oppoſition, deprived of an office, without the ſalary of which he could not conveniently ſupport the expence of living in London. The coalition was indeed ſoon formed, and his friends were again in power; but having nothing to give him immediately, they could not detain him in parliament or even in England. He was tired of the buſtle of the metropolis, and ſighed once more for the retirement of Lauſanne, at which he arrived before the overthrow of the coalition miniſtry, and where he lived happily till the laſt years of his life. It was in this retreat that he wrote the fourth, fifth, and ſixth volumes of his hiſtory; and he left it only for a year, to ſuperintend the publication of theſe volumes in London. This great work being concluded, he returned to the banks of the Leman lake, but found his enjoyments damped by the diſtreſs, and ſoon afterwards by the death, of his oldeſt and deareſt Swiſs friend. Lauſanne had now loſt much of its attraction; the French revolution had crowded it with unfortunate emigrants, who could not be cheerful themſelves or excite the cheerfulneſs of others; and the demons of democracy had begun to poiſon the minds of the ſober citizens with principles which Mr. Gibbon had always held in abhorrence. From the effects of this Gallic phrenſy, which began to be very viſible ſo early as the beginning of the year 1792, Mr. Gibbon reſolved to take ſhelter in England, and to abandon, for ſome time at leaſt, what he called his paradiſe at Lauſanne. Difficulties intervened, and forced him to poſtpone his journey from week to week, and from month to month; but on receiving the accounts of Lady Sheffield's death, he haſtened to adminiſter conſolation to his friend, and arrived in London in the beginning of June 1793.

He continued well through the whole of that ſummer; but his conſtitution had ſuffered much from repeated attacks of the gout, and from ſymptoms of dropſy, under which he at laſt ſunk, and died at his lodgings in St. James's ſtreet, London, on the 16th of January 1794.

To draw at once a general and juſt character of this extraor-

dinary man, would be difficult perhaps to one who had enjoyed the pleafure of his acquaintance, and muft be impoffible to thofe to whom his perfon was a ftranger. Of the extent of his erudition there can be but one opinion; but various opinions may be held refpecting the accuracy of his knowledge. Lord Shefficld, who knew him well, and loved him much, aflures us, that his converfation was ftill more captivating than his writings: but this could not refult from the brilliancy of his wit; for of wit he declares, himfelf, that he had none. His memory was capacious and retentive, his penetration uncommon, and his colloquial eloquence ready and elegant; fo that he could illuftrate almoft any topic of converfation from the copious ftores of his own mind. From his private correfpondence, and a journal not written for the public eye, he appears to have been a dutiful fon, a loyal fubject, and an affectionate and fteady friend; but it is difficult to reconcile with fo much moral and political worth his unfair and unmanly fneers at the religion of his country.

GIEN, a town of France, in the department of Loiret, feated on the Loire, 76 miles S.E. of Paris. Long. 2. 43. E. Lat. 47. 34. N.

GIENGEN, an imperial town of Suabia, 16 miles N.N.E. of Ulm, and 28 N.W. of Augfburg. Long. 10. 18. E. Lat. 48. 37. N.

GIENZOR, a town of Barbary, in Tripoli, 10 miles from the town of Tripoli.

GIERACE, an epifcopal town of Naples, in Calabria Ulteriore, feated on a mountain, near the fea, 32 miles N.E. of Reggio. Long. 16. 40. E. Lat. 38. 13. N.

GIESEN, a town of Germany, in the landgravate of Heffe-Caffel, with a caftle and a univerfity. It belongs to the houfe of Darmftadt, and furrendered to the French in 1796, but was foon after taken by the Auftrians. It is feated on the Lohn, 16 miles W.S.W. of Marpurg. Long. 8. 41. E. Lat. 50. 30. N.

GIGA, a fmall ifland on the W. coaft of Scotland, between the ifle of Skye and the peninfula of Cantyre, in Argyleffhire, in which county it is included. The inhabitants annually export a confiderable quantity of grain.

GIGNAC, a town of France, in the department of Herault, fituate on the Herault, 14 miles W. of Montpellier. Long. 3. 44. E. Lat. 43. 39. N.

GILCHRIST (Dr. Ebenezer), an eminent Scots phyfician, was born at Dumfries in 1707. He began the ftudy of medicine at Edinburgh, which he afterwards profecuted at London and Paris. He obtained the degree of doctor of medicine from the univerfity of Rheims; and in the year 1732 he returned to the place of his nativity, where he afterwards conftantly refided, and continued the practice of medicine till his death.

It may with juftice be faid, that few phyficians of the prefent century have exercifed their profeffion in a manner more refpectable or fuccefsful than Dr. Gilchrift; and few have contributed more to the improvement of the healing art. Having engaged in bufinefs at an early period of life, his attention was wholly devoted to obfervation. Endowed by nature with a judgment acute and folid, with a genius active and inventive, he foon diftinguifhed himfelf by departing, in various important particulars, from eftablifhed but unfuccefsful modes of practice. Several of the improvements which he introduced have procured him great and deferved reputation, both at home and abroad.

His practice, in ordinary cafes, was allowed to be judicious, and placed him high in the confidence and eftcem of the inhabitants of that part of the country where he lived. But his ufefulnefs was not confined to his own neighbourhood. On many occafions he was confulted by letter from the moft diftant parts of the country.

In different collections are to be found feveral of his performances, which prove that he had fomething new and ufeful to offer upon every fubject to which he applied himfelf. But thofe writings which do him the greateft honour, are two long differtations on nervous fevers, in the Medical Eflays and Obfervations publifhed by a Society in Edinburgh; and a treatife on the ufe of fea-voyages in medicine, which firft made its appearance in the year 1757, and was afterwards reprinted in 1771. By means of the former, the attention of phyficians was firft turned to a fpecies of fever which is now found to prevail univerfally in this country; and the liberal ufe of wine, which he was the firft among the moderns to recommend, has fince been adopted in thefe fevers by the moft judicious phyficians of the prefent age, and has probably contributed not a little to the fuccefs of their practice. His treatife on fea-voyages points out in a manner fo clear, and fo much on the fure footing of experience, their utility in various diftempers, particularly in confumptions, that there is now a profpect of our being able to employ a remedy in this untractable difeafe much more efficacious than any hitherto in ufe. Dr. Gilchrift died in 1774.

GIMONT, a town of France, in the department of Gers, in the department of Gers, 12 miles E. of Auch. Long. 9. 48. E. Lat. 43. 37. N.

GIODDA, or GIDDAH, a fea-port of Arabia, on the Red Sea. It is the port of Mecca, and carries on a great trade. Long. 39. 27. E. Lat. 21. 30. N.

GIOVENAZZO, a town of Naples, in Terra di Bari, with a caftle. It has high walls of ruftic architecture, and high houfes and towers, rifing in narrow rows, built of polifhed ftone with flat roofs, which give it a fingular appearance. It is feated on a mountain, near the fea, 10 miles N.W. of Bari. Long. 16. 50. E. Lat. 41. 26. N.

GIREST, a large town of Perfia, in Kerman. Its trade confifts in wheat and dates. Long. 57. 55. E. Lat. 27. 30. N.

GIRGE, a town of Egypt, the capital of the Said, and refidence of the bey of Upper Egypt, fituate near the left bank of the Nile. It is about three miles in circumference; and is about 160 miles N. of Syene and 215 S. of Cairo. Long. 31. 22. E. Lat. 26. 30. N.

GIRVAN, a village in Ayrfhire, at the mouth of a river of the fame name, almoft oppofite the rock of Ailfa. Here are fome manufactures; particularly in the tanning of leather, and the making of fhoes and boots. It is 16 miles S. by W. of Ayr.

GISBURN, a town in the W. riding of Yorkfhire, with a market on Monday, 60 miles W. of York, and 219 N.W. of London. Long. 2. 22. W. Lat. 53. 55. N.

GISORS, a town of France, in the department of Eure. It belonged to the famous marfhal Belleifle, whofe only fon, the count de Gifors, being killed at the battle of Grevcldt, in 1758, the marfhal, at his own death, in 1761, prefented it to Lewis XV. It is feated on the Ept, 28 miles S.E. of Rouen. Long. 1. 43. E. Lat. 49. 15. N.

GITSCHIN, a town of Bohemia, which fuffered greatly during the long war of the Swedes in Germany. It is 22 miles N.W. of Koningfgratz, and 44 N.E. of Prague.

GIVET, a fortified town in the bifhopric of Liege, divided in two by the river Maefe, 21 miles S.W. of Namur. Long. 4. 34. E. Lat. 50. 13. N.

GIVIRA, a town of Italy, in the Milanefe, feated on a lake of the fame name, eight miles from Anghiera.

GLADBACH, a town of Weftphalia, in the duchy of Juliers, 16 miles N. of Juliers. Long. 6. 10. E. Lat. 51. 14. N.

GLADENBACH, a town of Germany, in the principality of Upper Heffe, 12 miles N. of Giefen.

GLAMMIS, a village in the S.W. part of Angusfhire.

Near it is Glammis caſtle, the ancient ſeat of the earl of Strathmore, in which is ſhewn the apartment where Malcolm II. was aſſaſſinated in 1034.

GLANFORDBRIDGE, or Brigg, a town in Lincolnſhire, with a market on Thurſday; ſeated on the Ancholme, which is noted for fine eels, and has been lately made navigable for ſloops to the Humber. It is 23 miles N. of Lincoln, and 156 N. by W. of London. Long. 0. 23. W. Lat. 53. 35. N.

GLASS-PAINTING. Having often been delighted with the grand effect produced by the windows of ſtained glaſs in old churches and monaſteries, we have regretted that ſuch fine and durable colouring ſhould, in ſo many caſes, have been proſtituted upon wretched deſigns inferior to the productions of our ſign-poſt daubers. We have wiſhed that ſome mode could be deviſed of copying and *multiplying* pictures upon glaſs—ſome mechanical mode, which ſhould require the aid of the artiſt in the firſt inſtance only, and leave all the ſubſequent operations to be performed by inferior hands, as in the caſe of copper-plate printing. Portraits at leaſt, on a ſingle piece of glaſs, which ſhould perpetuate the features of great men and beautiful women, ſecure from that decay of colour and of canvas which has already begun to obliterate the fineſt paintings of the greateſt artiſts whom the world has ever produced, might poſſibly be produced in the following way:

Suppoſe, after the outline of a likeneſs is drawn, that blocks were cut from it after the ſame manner as for callicoes, or paper-hangings, only with ſuperior nicety, and in greater number for the purpoſe of multiplying and better blending the tints.

Enamelers muſt determine what ſhall be the proper ſubſtances for the different colours, and with what liquid they ſhall be moiſtened, that they may be readily taken up by the blocks, and thence transferred to another body by preſſure.

From theſe blocks, and with theſe colours, let the figure be printed on paper; and, to prevent inaccuracy in bringing the ſeparate parts, cut on the different blocks, to unite into a complete whole, let the paper be placed under a frame ſecured in an immovable poſition during the operation. The blocks being accurately ſquared, all exactly of the ſame dimenſions, and each nicely fitting the frame, cannot, in paſſing through it to deliver their ſeveral impreſſions, make the ſmalleſt deviation from their intended places, but muſt produce an exact picture—at leaſt on the paper.

To *transfer* that impreſſion *to glaſs*, is, indeed, a work of nicety and difficulty. Were it not for ſome ſmaller ſtrokes which muſt neceſſarily be in wood, the entire impreſſion might in the outſet be made on the glaſs itſelf, without any intervention of paper; ſince experience has proved to the callico-printers that the great maſſes of colour cannot be ſucceſsfully delivered from wood; wherefore they are obliged, in thoſe parts of their patterns, to uſe bits of ſmooth worn-out beaver-hat, which might very well be preſſed on the glaſs-plate.

However, from what we every day ſee effected in the caſe of prints affixed to glaſs without any of the paper remaining, and alſo of copper-plate embelliſhments upon porcelain and queen's ware, we doubt not that the picture, while freſh, may, by well-managed preſſure, be transferred from the paper to an even plate of ground glaſs coated with a proper gluten which ſhall not, at leaſt not materially, offuſcate its tranſparency: and experiment muſt determine whether the paper may afterward be gently drawn or peeled off, or muſt be burned away, or deſtroyed by a corroſive liquid, if any ſuch can be found which will not injure the colours.

Suppoſe, however, the operation of removing the paper to be ſatisfactorily performed, proceed we now to ſecure the indelibility of the picture.

Let a ſquare plate of caſt-iron, an inch or two in thickneſs, and as level and ſmooth as poſſible, be furniſhed on every ſide with a metal ledge riſing an inch or more in height, which ought to be in two ſeparate pieces, the one permanently faſtened to the plate, the other capable of being removed at pleaſure, for the purpoſe of laying in and taking out the glaſs without violence.

Within that ledge let the glaſs be fitted, cloſely touching it on every ſide, and lying with the painted ſurface uppermoſt. Upon this lay another plate of glaſs, fitted in the ſame manner.

Let, now, the metal frame, with the incloſed glaſſes, be expoſed to the action of fire until the glaſs plates, without being melted to abſolute fluidity, ſhall nevertheleſs become ſufficiently ſoft to coaleſce into one body under a ſtrong preſſure. The body which conveys the preſſure, and lies in immediate contact with the glaſs, muſt equally fit and completely fill the entire ſpace between the ledges, that there be no room for the ſoft glaſs to ſpread in any direction, ſo as to diſtort any of the lines of the picture.

Thoſe who have witneſſed the proceſs purſued in ſoftening tortoiſe-ſhell in the fire, and preſſing it into the various ſhapes of ſnuff-boxes, *étuis*, &c. &c. will not conceive much difficulty in this uſe of the glaſs. It may be managed by the aid of a machine ſomewhat ſimilar to, but more powerful than, a common printing-preſs, with a ſolid metal platine, to fit and fill the frame, as above; though much better contrivances may be found among the multifarious engines employed at Birmingham for the purpoſes of coining, and ſtriking the heavy dies, than any we can poſſibly ſuggeſt.

In whatever manner the two glaſſes may be preſſed into union, the united body may be afterward ground and poliſhed: and, in proportion to the greater ſmoothneſs of the two compreſſing bodies, the leſs grinding and poliſhing will be afterward required.

GLAUCHAU, a town of Upper Saxony, which has conſiderable manufactures of ſtuffs. It is ſeated on the Muldaw, 46 miles W.S.W. of Dreſden. Long. 12. 35. E. Lat. 50. 45. N.

GLAZING *(Encycl.)*. The glazing of all our earthen ware is very apt to crack, both from moiſture and heat, being compoſed of *lead*, one of the moſt pernicious metals that could be deviſed for ſuch an important purpoſe. It is well known that lead is eaſily volatilized by heat, and readily decompoſed by any vegetable acid: hence it has been affirmed by various eminent writers, that we are under the neceſſity of inhaling or ſwallowing, perhaps every day, a minute portion of a metal which is one of the ſloweſt, but moſt deſtructive poiſons, and lays the foundation of many fatal diſorders, ſuch as palſy, dry colic, conſumption, &c. the remote cauſe of which has not, till lately, been ſuſpected. In fact, there appears to be ſufficient reaſon to believe, that our *glazed* culinary veſſels are a latent ſource of diſeaſe; and when fruit or acids are allowed to remain in them for ſome time, the liquors or ſubſtances thus preſerved will neceſſarily acquire a very dangerous impregnation from the metal. We therefore recommend various ſubſtitutes for *lead* to the attention of the public, both for this and other purpoſes.

M. Weſtrumb, an eminent German chemiſt, was required by the government of Hanover to deviſe a leſs pernicious method of glazing earthen ware than any hitherto practiſed. In conſequence of numerous experiments, he has at length publiſhed the ſucceſsful reſult of ſeveral compoſitions, in which not a particle of lead was employed, and which is

his opinion will prove an uſeful glazing for ordinary veſſels. *Firſt:* 32 parts of ſand; 11, 15, or 20 parts of purified potaſh; and from 3 to 5 parts of borax. *Second:* 32 parts of glaſs (we ſuppoſe *flint-glaſs*); 16 parts of borax; and 3 parts of pure potaſh. *Third:* 150 parts of cryſtallized Glauber's-ſalt, with 8 parts of pulverized charcoal, previouſly roaſted, till it has acquired a grey colour; 16 parts of ſand; and 8 parts of borax.

Another method of *glazing without lead* has been invented by M. Nieſeman, a potter at Leipzig: it conſiſts of half a pound of ſaltpetre, half a pound of potaſh, and one pound of common ſalt. This compoſition is not very expenſive, and ſaid to produce an enamel not inferior to that prepared with lead. Profeſſor Leonhardi has inveſtigated, and found it eminently uſeful. We truſt, therefore, our potters will in future conſcientiouſly deſiſt from uſing that pernicious and ſlowly poiſonous metal.

GLENARM, a ſmall ſea-port of Ireland, in the county of Antrim, with a caſtle; ſeated near a bay of its own name, 20 miles N.N.W. of Carrickfergus. Long. 6. 16. W. Lat. 55. 3. N.

GLENCOE, Vale of, a valley, near the head of Loch Etive, in Argyleſhire; noted for a cruel maſſacre of its inhabitants in 1691. William III. having offered a general amneſty to the Highlanders who had been in arms for James II. provided they accepted it before the firſt of January, on pain of military execution after that period; the laird of Glencoe, on the laſt day of December, went to Fort William, the governor of which referred him to a civil officer. This made it the firſt of January before he could reach Inverary, where he ſurrendered to the ſheriff, who, however, accepted his ſubmiſſion, in conſideration of his offer to ſurrender the day before. The laird having taken the oaths, returned to Glencoe, in full aſſurance of ſafety; notwithſtanding which, he, and his whole clan, were butchered, on the 15th of February, and all the houſes in the valley were burnt.

GLENCROY, Vale of, a wild and romantic tract, near the N.E. extremity of Loch Loung, in Argyleſhire. The two ranges of mountains, which overhang this valley, approach each other, and between theſe the traveller is immured. Their ſtupendous height, and the roaring of numerous cataracts, that pour over their broken ſurface, produce an awful effect.

GLENLUCE, a town in Wigtonſhire, ſeated on the river Luce, near its entrance into the bay of that name, 16 miles W. by S. of Wigton.

GLENSHEE, Spital of, a noted paſs of the Grampian mountains, in Scotland, a little S. of the point where the counties of Perth, Angus, and Aberdeen meet. In 1718, a ſmall body of Highlanders, with 300 Spaniards, took poſſeſſion of this paſs: but they retired at the approach of the king's forces, and were driven from one eminence to another till night, when the Highlanders diſperſed; and, the next day, the Spaniards ſurrendered.

GLOMME, a river of the province of Aggerhuys, in S. Norway, which flows into the North Sea, at Fredericſtadt. It receives the river Worme, which iſſues from Lake Mios. It is not navigable in any part of its courſe from this lake to Fredericſtadt, its ſtream being intercepted by ſuch frequent cataracts and ſhoals, as, in ſome places, to render it neceſſary to drag the trees, which are floated down, over the ground. At leaſt 50,000 trees are annually floated by this river to Fredericſtadt.

GLOUCESTER (*Encycl.*). See next article to Globule.

GNESEN. See Gnesna.

GOAR, St. of Gower, a town of Germany, in the circle of Lower Rhine, ſubject to the landgrave of Heſſe Caſſel. It is ſeated under the ſtupendous rock and caſtle of Rheinfels, with which it ſurrendered to the French in 1794. It has a conſiderable commerce in wines and hides, and is 15 miles S.E. of Coblentz.

GOBCEIN, a town of Germany, in the palatinate of the Rhine, 18 miles S.E. of Philipſburgh. Long. 8. 56. E. Lat. 49. 6. N.

GOCH, a town of Germany, in the duchy of Cleves, ſeated on the Neers, ſix miles S. of Cleves. Long. 5. 52. E. Lat. 51. 39. N.

GOCHSHEIM, or Gochsen, a town of Suabia, in the duchy of Wurtemberg, 16 miles S. of Heidelberg, and 24 N.N.W. of Stutgard.

GOCIANO, a town of Sardinia, capital of a county of the ſame name, with a caſtle, ſeated on the Thurſo, 25 miles E. of Alghero.

GODERVILLE, a town of France, in the department of Lower Seine, nine miles N.E. of Montivilliers.

GODRA, a town of Hindooſtan Proper, in Guzerat, 55 miles E. of Amedabad. Long. 73. 40. E. Lat. 22. 50. N.

GOES, or Ter Goes, a ſtrong town of the United Provinces, in Zealand, and capital of the iſland of S. Beveland. It communicates with the Scheld by a canal, and is 20 miles E. of Middleburg. Long. 3. 50. E. Lat. 51. 33. N.

GOGMAGOG-hills, are hills ſo called, three miles from Cambridge, remarkable for the intrenchments and other works caſt up here: whence ſome ſuppoſe it was a Roman camp; and others, that it was the work of the Danes.

GOGRA, or Soorjew River, a large river, which riſes in Lake Lankee Dhe, in Thibet, and forcing its way through Mount Himmaleh, takes a S.E. direction, and unites with the Ganges, above Chuprah, in the province of Bahar.

GOHUD, a territory of Hindooſtan Proper, in the province of Agra; ſubject to a rajah, who is tributary to the Poonah Mahrattas. Gwalior is the capital.

GOLDBERG, a town of Sileſia, in the duchy of Lignitz. It receives its name from a gold-mine near it, which was formerly very rich. The inhabitants are engaged in manufactures of woollen and linen. It is nine miles S.W. of Lignitz, and 36 W. of Breſlaw. Long. 16. 23. E. Lat. 51. 3. N.

GOLD-FINCH, in ornithology. See Fringilla.

Theſe are ſeed-birds of very curious colours, and which, were they not ſo common in this country, would probably be very much eſteemed.

They are uſually taken about Michaelmas, and ſoon become tame; but they differ very much in their ſong.—They frequently breed in the upper part of plum-trees, making their neſts of the moſs that grows upon apple-trees, and of wool; quilting the inſide with all ſorts of hairs they find upon the ground. They breed three times a-year; and the young are to be taken with the neſt at about ten days old, and fed as follows:—Pound ſome hemp-ſeed very fine in a mortar; then ſift it through a ſieve, and add to it as much wheat-bread as hemp-ſeed; and likewiſe a little flower of canary-ſeeds: then with a ſmall ſtick or quill, take up as much as the bigneſs of a white-pea, and give them ſeveral times a-day. This ought to be made freſh every day: for if it is ſuffered to ſour, it will ſpoil their ſtomachs, cauſing them to caſt up their meat; which if they do, it is very probable that they will die.—Theſe young birds muſt be carefully kept warm till they can feed themſelves, for they are very tender. In feeding, be ſure to make your bird clean his bill and mouth. If any of the meat falls upon his feathers, take it off, or elſe he will not thrive. Such as eat hemp-ſeed, to purge them, ſhould have the ſeeds of melons, ſuccory, and mercury; or elſe let them have lettuce and plantane for that

purpoſe. When there is no need of purging, give them two or three times a-week a little ſugar or loam in their meat, or at the bottom of the cage; for all ſeeds have an oilineſs, ſo that if they have not ſomething to abſorb it, in length of time it fouls their ſtomachs, and brings on them a flux, which is very dangerous.

GOLDEN ISLAND, a barren iſland at the mouth of the river or gulf of Darien, where the Scots attempted to make a ſettlement in 1698. Long. 77. 10. W. Lat. 9. 0. N.

GOLDEN RULES, a diſtinguiſhing name for any precepts, worthy of univerſal obſervation. A better inſtance cannot be given than in "The twelve true old golden rules for thoſe who like to fare better than they now do, and at the ſame time to thrive and grow rich," publiſhed during the late ſcareity, by the Society for bettering the Condition of the Poor:

1. The *ready penny* always fetches the beſt bargain. He who buys upon truſt, muſt not complain if he is cheated. The ſhopkeeper ſuſpects his cuſtomer *who buys on truſt*, and thinks that he means to cheat, and never to pay; and therefore he takes good care to be beforehand, and charges high accordingly.

2. The beſt pennyworth is to be had where moſt ſit together, in the open market; and bargains are often cheaper in the latter end of the day.—When honeſt men have done their work, it is better for them to go to market, than to the alehouſe.

3. When times are hard, why ſhould we make them harder ſtill? Is it not enough to be taxed once by government, without being taxed twice by folly, thrice by drunkenneſs, four times by lazineſs, and ſo on?—A good man, even in hard times, will do twice as well, as a bad man will in the beſt of times. Let us all then riſe up *againſt ourſelves*, who thus *tax and injure ourſelves:* and we ſhall ſoon find that the times will mend. *Let us do good to ourſelves at home*, and we ſhall become happy in our own habitations; and learn that it is a true ſaying, that "God helps thoſe who help themſelves."

4. *Time is our eſtate;* it is our moſt valuable property. If we loſe it, or waſte it, we can never—*never* purchaſe it back again. We ought, therefore, not to have an idle hour, or throw away an idle penny. While we employ our time and our property (however ſmall that property may be) to the beſt advantage, we ſhall find that *a fortune may be made in any ſituation of life;* and that the poor man, who once wanted aſſiſtance himſelf, may become able to aſſiſt and relieve others.

5. *Induſtry* will make a man a purſe, and *frugality* will find him ſtrings for it. Neither the purſe nor the ſtrings will coſt him any thing. He who has it, ſhould only draw the ſtrings as frugality directs; and he will be ſure always to find a uſeful penny at the bottom of it. *The ſervants of induſtry* are known by their livery; it is always *whole* and *wholeſome*. Idleneſs travels very leiſurely, and poverty ſoon overtakes her. Look at the *ragged ſlaves of idleneſs*, and judge which is the beſt maſter to ſerve;—Induſtry, or Idleneſs.

6. *Marriage is honourable:* and the married ſtate, when entered into with prudence, and continued in with diſcretion, is of all conditions of life the *moſt happy;* but to bring a wife home, before we have made proviſion by our induſtry and prudence, for her and our children, or to chooſe a wife, who has not, by attention and economy on her part, proved herſelf fit to manage a family, is *extremely imprudent and improvident.* Let, therefore, the young prepare themſelves for the married ſtate, by treaſuring up *all the ſurplus of their youthful earnings*, and they will marry with confidence, and live together in comfort.

7. Of all *idolatry*, that ever debaſed any ſavage and ignorant nation, the worſhip of the *gin bottle* is the moſt diſgraceful. The worſhipper of the gin bottle becomes unfit for any thing; he ſoon rots his liver, and ruins himſelf and his family.

8. He who does not make his family comfortable, will himſelf never be happy at home; and he who is not happy at home, will never be happy any-where.—Charity begins at home: the huſband and wife, who can hardly keep themſelves and their children, ſhould not keep a dog to rob the children of part of their food.

9. She who roaſts or broils her meat, waſtes half of it in the *fire*. She who boils it, loſes half of it in the *water*. But when the good wife ſtews her meat gently, thickening the liquor with a little meal, ground rice, or peaſe and vegetables, and making it ſavoury with fried onions, herbs, and ſeaſoning, her huſband and ſhe fare much better, their children thrive and grow hearty and ſtout, and their money goes twice as far.

10. When you ſtew or boil your meat, if you leave the veſſel uncovered, a great deal of the beſt part goes off and is waſted in ſteam; and when you make the fire in a wide chimney, with a large open throat, there is at leaſt twice as much of the heat goes up the chimney, as ever comes into the room to warm the family.

11. Sinning is a very expenſive occupation.—Aſk thoſe who have practiſed it; they can tell you what it has coſt them. The man who attempts to make you laugh at the fear of God is your worſt enemy. In ſo doing, he endeavours to teach you to be alſo your own *bitter and irreconcileable enemy for ever*, both in this world, and in the next.

12. Sin is the greateſt of all evils; the ſalvation of the ſoul our beſt good; and the grace of God our richeſt treaſure. Let the poor man find his way to the cheapeſt market on Saturday, to a place of divine worſhip on Sunday, and, like an honeſt man, go to his labour on Monday. Following theſe plain directions, he may be *twice happy*:—happy here, and happy hereafter to all eternity.

GOLEITA, an iſland of Africa, at the entrance of the bay of Tunis; taken by the emperor Charles V. when he attempted the ſiege of Tunis, and kept by the Chriſtians ſeveral years. It is 29 miles N. of Tunis. Long. 10. 20. E. Lat. 37. 10. N.

GOLLING, a town of Germany, in the archbiſhopric of Saltzburg, 14 miles S.S.E. of Saltzburg.

GOLNAW, a town of Pruſſian Pomerania, ſeated on the Ilna, 18 miles N.E. of Stetin. Long. 14. 59. E. Lat. 53. 46. N.

GOMORRAH (anc. geog.), one of the cities of the plain or of the vale of Siddim in Judæa, deſtroyed together with Sodom by fire from heaven, on account of the wickedneſs of the people. To determine its particular ſituation at preſent, is impoſſible.

GOMMERN, a town of Upper Saxony, ſituate on the Ehle, eight miles S.E. of Magdeburg, and 20 N.W. of Deſſau. Long. 11. 50. E. Lat. 52. 5. N.

GOMS, a town of Swiſſerland, which gives name to one of the departments of the Valais. It is 33 miles E. of Sion.

GONAIVES, a ſea-port of the iſland of St. Domingo, with an excellent harbour. Long. 72. 26. E. Lat. 19. 36. N.

GONAVE, an iſland in the W. Indies, near the W. coaſt of St. Domingo. Long. 73. 4. W. Lat. 18. 51. N.

GONDEGAMA, or GONDLACOMMA, a river of the peninſula of Hindooſtan, which riſes near Combam, forms the nominal boundary of the Carnatic on the N. and enters the bay of Bengal, at Mootapilly.

GONDRECOURT, a town of France, in the department

of Meuſe, ſeated on the Orney, 20 miles S. of St. Michel. Long. 5. 37. E. Lat. 48. 30. N.

GONDREVILLE, a town of France, in the department of Meurthe, with a caſtle, and a magnificent hoſpital. It ſtands on a hill, on the river Moſelle, eight miles from Nanci. Long. 6. 9. E. Lat. 48. 40. N.

GONESSE, a town of France, in the department of Seine and Oiſe. It is the birth-place of King Philip Auguſtus, and noted for the goodneſs of its bread, which is brought twice a-week to Paris. It is ſeated on the Crould, 10 miles N.E. of Paris. Long. 2. 30. E. Lat. 48. 58. N.

GONGA, an ancient town of Romania, ſeated near the ſea of Marmora, 37 miles N. E. of Gallipoli. Long. 37. 31. E. Lat. 40. 53. N.

GONJAH, a kingdom of Africa, between the coaſt of Guinea on the S. and Tombuctou on the N. Gonjah, the capital, is 870 miles W. by S. of Caſhna. Long. 6. 10. W. Lat. 13. 20. N.

GOORACPOUR, a town of Hindooſtan Proper, in the country of Oude, 65 miles E. of Fyzabad. Long. 83. 35. E. Lat. 26. 45. N.

GORITZ, the capital of a county of the ſame name, in the duchy of Carniola, with a caſtle, ſeated on the Liſonzo, 16 miles N.E. of Aquileia. Long. 13. 30. E. Lat. 46. 20. N.

GORKAH, the capital of a country of the ſame name, in Aſia, on the borders of Napaul, 35 miles N.W. of Catmandu, and 200 N. of Benares. Long. 84. 36. E. Lat. 28. 25. N.

GORZE, a town of France, in the department of Moſelle. It had lately a rich abbey, and is ſeated on a hill, eight miles S.W. of Metz.

GOSSWEINSTEIN, or Gossmanstein, a town of Germany, in the circle of Franconia, and biſhopric of Bamberg, 20 miles E.S.E. of Bamberg, and 23. N.N.E. of Nuremberg. Long. 11. 19. E. Lat. 49. 45. N.

GOSTYNEN, or Gostavin, a town of Poland, in the palatinate of Rava, 36 miles N.E. of Rava. Long. 20. 40. E. Lat. 51. 54. N.

GOTTSBERG, a town of Sileſia, in the duchy of Schweidnitz, remarkable for its ſilver mines. Near it is likewiſe a mine of gold, but it is not worked. It is 12 miles S. W. of Schweidnitz.

GOTTSCHEE, a town of Germany, in Carniola, 23 miles S.S.E. of Laybach, and 160 S.S.W. of Vienna. Long. 14. 43. E. Lat. 45. 53. N.

GOUDHURST, a town in Kent, with a market on Wedneſday, 12 miles S.W. of Maidſtone, and 44 S.E. of London. Long. 0. 31. E. Lat. 51. 8. N.

GOVERNOLO, a town of Italy, in the Mantuan, ſeated on the Mincio, 12 miles S.E. of Mantua. Long. 10. 56. E. Lat. 45. 4. N.

GOURA, or Gura, a town of Poland, in the palatinate of Maſovia, belonging to the biſhop of Poſnania. Long. 21. 50. E. Lat. 52. 1. N.

GOURAINCOURT, a town of France, in the department of Meuſe, 15 miles N. E. of Verdun.

GOURDON, a town of France, in the department of Lot, 18 miles N.W. of Cahors. Long. 1. 24. E. Lat. 45. 43. N.

GOUROCK, a town in Renfrewſhire, on a bay of the frith of Clyde. In its neighbourhood, a copper mine was lately worked.

GOWER, the peninſulated extremity of Glamorganſhire, to the W. of the bay of Swanſey. It has very lofty lime-ſtone cliffs next the ſea, whence large quantities of lime are exported to the Engliſh counties acroſs the Briſtol channel. The coaſt abounds with oyſters. The land is a fertile tract of arable and paſture.

Gower, or Gever. See Goar, St. *Supp.*

GOZZI, or Gozes, an iſland of the Mediterranean, to the S. of the iſle of Candia, 12 miles from fort Selino.

GOZZO, a fortified iſland of the Mediterranean, five miles N.W. of Malta, and belonging to the knights of that iſland.

GRABOW, a town of Lower Saxony, in the duchy of Mecklenburg, 18 miles S. of Schwerin. Long. 11. 44. E. Lat. 53. 26. N.

GRACCHUS (Tiberius), elected tribune of the Roman people, demanded in the ſenate, in their name, the execution of the Agrarian law; by which all perſons poſſeſſing above 200 acres of land were to be deprived of the ſurplus, for the benefit of the poor citizens, amongſt whom an equal diſtribution of them was to be made; having carried his plan into execution by violent meaſures, he fell a victim to his zeal, being aſſaſſinated by his own party, 133 B.C. Caius, his brother, purſuing the ſame ſteps, was killed by the conſul Opimius, 121 B.C.

GRACIAS A DIOS, a town of Mexico, in the province of Honduras, 140 miles E. of Guatimala. Long. 72. 15. W. Lat. 14. 30. N.

GRACIOSA, one of the Azores, or Weſtern Iſlands. Its inhabitants are about 300, and its produce is wheat, wine, butter, and cheeſe. Long. 27. 58. W. Lat. 39. 2. N.

Graciosa, a rocky, barren, uninhabited iſland, one of the Canaries, to the N. of Lacerota. It is three miles long, and two broad.

GRAFTON, a village in Northamptonſhire, between Stony Stratford and Northampton, where there is a manor-houſe and park, given by Charles II. to the Duke of Grafton, whence the title is derived.

GRAHAM's Muir, between the Carron Works and Falkirk, in Scotland, a field celebrated for being the ſpot where Sir William Wallace, in 1298, cut his way through the midſt of his victorious enemies.

GRAMAT, a town of France, in the department of Lot, 22 miles N.N.E. of Cahors. Long. 1. 37. E. Lat. 44. 47. N.

GRAN, a town of Lower Hungary, with an archbiſhop's ſee. It has been ſeveral times taken and retaken, but laſt of all by the Auſtrians, in 1683. It is ſeated on the Danube, 87 miles E. by S. of Vienna. Long. 18. 6. E. Lat. 47. 46. N.

GRANARY (*Encycl.*) In the 8th vol. of the "*Letters and Papers of the Bath and Weſt of England Society*," &c. Thomas South, eſq. gives a deſcription of a cheap and efficacious ventilator, for preſerving corn on ſhip-board. This machine conſiſts of a forcing pump, with perforated tubes annexed to it; and by means of which freſh air may be communicated to every part of the cargo.—Mr. South's air-veſſel is, for the ſake of cheapneſs, confined to a diameter of 10 inches; but he obſerves that, if the latter be enlarged to 14 inches, the effect of the machine will be nearly doubled; and if the length of the trough (by the ſuction-valve) be extended 10 inches, a power will be obtained capable of ventilating a cargo of 400 tons in the courſe of one hour. The price of a ventilator on the ſmaller plan, is computed by Mr. South at about five or ſix guineas; one on a larger ſcale might perhaps amount to twenty guineas: a ſum which, in either caſe, enhances the price of corn only at a rate of leſs than four pence per quarter, on the firſt cargo. Theſe machines, if well painted and properly preſerved, will continue uſeful for many years.—A more minute account of Mr. South's invention is

contained in the volume of the "*Letters*," &c. before quoted, where its various parts are ſpecified and illuſtrated by an engraving.

To preſerve corn in barns or granaries, Dr. Darwin obſerves, it is requiſite firſt to make them dry, and, ſecondly, to keep them in that ſtate; becauſe no ſeeds will vegetate without moiſture. In order to dry ſeeds, the heaps ſhould be frequently turned over in warm dry weather: hence, in this climate, the doors and windows of granaries ſhould open towards the ſouth, for the reception of the warmth of the ſun, with air-holes round the building, for ſufficient ventilation; and which apertures ought to be ſheltered from rain or ſnow, by boards placed for that purpoſe on the outſide.—Heaps of corn ſhould be ſurrounded with planks, in order to prevent them from touching either brick or ſtone walls; becauſe, when cold north-eaſt winds are ſucceeded by moiſt and warm ſouth-weſt winds, ſuch walls frequently precipitate the moiſture from the atmoſphere, and communicate it to thoſe bodies which are in contact with them.—According to Mr. Tull, the ſafeſt method of preſerving a large quantity of wheat is, to dry it gradually in a malt-kiln on a hair-cloth, with no other fuel than clean ſtraw, and with a heat ſcarcely exceeding that produced by the rays of the ſun.—In this temperature, the grain is to remain from 4 to 12 hours, in proportion to its previous dampneſs. The vegetative principle of the corn is not deſtroyed by this proceſs; as inſtances have occurred of its growing when ſown, after it had been thus kept for ſeven years.

GRANDEUR *and* SUBLIMITY. Theſe terms have a double ſignification: they commonly ſignify the quality or circumſtance in objects by which the emotions of grandeur and ſublimity are produced; ſometimes the emotions themſelves.

In handling the preſent ſubject, it is neceſſary that the impreſſion made on the mind by the magnitude of an object, abſtracting from its other qualities, ſhould be aſcertained. And becauſe abſtraction is a mental operation of ſome difficulty, the ſafeſt method for judging is, to chooſe a plain object that is neither beautiful nor deformed, if ſuch a one can be found. The plaineſt that occurs, is a huge maſs of rubbiſh, the ruin perhaps of ſome extenſive building; or a large heap of ſtones, ſuch as are collected together for keeping in memory a battle or other remarkable event. Such an object, which in miniature would be perfectly indifferent, makes an impreſſion by its magnitude, and appears agreeable. And ſuppoſing it ſo large, as to fill the eye, and to prevent the attention from wandering upon other objects, the impreſſion it makes will be ſo much the deeper. See ATTENTION.

But though a plain object of that kind be agreeable, it is not termed *grand*: it is not entitled to that character, unleſs, together with its ſize, it be poſſeſſed of other qualities that contribute to beauty, ſuch as regularity, proportion, order, or colour: and according to the number of ſuch qualities combined with magnitude, it is more or leſs grand. Thus St. Peter's church at Rome, the great pyramid of Egypt, the Alps towering above the clouds, a great arm of the ſea, and above all a clear and ſerene ſky, are grand; becauſe, beſide their ſize, they are beautiful in an eminent degree. On the other hand, an overgrown whale, having a diſagreeable appearance, is not grand. A large building agreeable by its regularity and proportions, is grand; and yet a much larger building deſtitute of regularity, has not the leaſt tincture of grandeur. A ſingle regiment in battle-array, makes a grand appearance; which the ſurrounding crowd does not, though perhaps ten for one in number. And a regiment where the men are all in one livery and the horſes of one colour, makes a grander appearance, and conſequently ſtrikes more terror, than where there is confuſion of colour and dreſs. Thus greatneſs or magnitude is the circumſtance that diſtinguiſhes grandeur from beauty: agreeableneſs is the genus, of which beauty and grandeur are ſpecies.

The emotion of grandeur, duly examined, will be found an additional proof of the foregoing doctrine. That this emotion is pleaſant in a high degree, requires no other evidence but once to have ſeen a grand object: and if an emotion of grandeur be pleaſant, its cauſe or object, as obſerved above, muſt infallibly be agreeable in proportion.

The qualities of grandeur and beauty are not more diſtinct, than the emotions are which theſe qualities produce in a ſpectator. All the various emotions of beauty have one common character, that of ſweetneſs and gaiety. The emotion of grandeur has a different character: a large object that is agreeable, occupies the whole attention, and ſwells the heart into a vivid emotion, which, though extremely pleaſant, is rather ſerious than gay. And this affords a good reaſon for diſtinguiſhing in language theſe different emotions. The emotions raiſed by colour, by regularity, by proportion, and by order, have ſuch a reſemblance to each other, as readily to come under one general term, viz. *the emotion of beauty*; but the emotion of grandeur is ſo different from theſe mentioned, as to merit a peculiar name.

Though regularity, proportion, order, and colour, contribute to grandeur as well as to beauty, yet theſe qualities are not by far ſo eſſential to the former as to the latter. To make out that propoſition, ſome preliminaries are requiſite. In the firſt place, the mind, not being totally occupied with a ſmall object, can give its attention at the ſame time to every minute part; but in a great or extenſive object, the mind, being totally occupied with the capital and ſtriking parts, has no attention left for thoſe that are little or indifferent. In the next place, two ſimilar objects appear not ſimilar when viewed at different diſtances: the ſimilar parts of a very large object, cannot be ſeen but at different diſtances; and for that reaſon, its regularity, and the proportion of its parts, are in ſome meaſure loſt to the eye; neither are the irregularities of a very large object ſo conſpicuous as of one that is ſmall. Hence it is, that a large object is not ſo agreeable by its regularity, as a ſmall object; nor ſo diſagreeable by its irregularities.

Theſe conſiderations make it evident, that grandeur is ſatisfied with a leſs degree of regularity, and of the other qualities mentioned, than is requiſite for beauty; which may be illuſtrated by the following experiment. Approaching to a ſmall conical hill, we take an accurate ſurvey of every part, and are ſenſible of the ſlighteſt deviation from regularity and proportion. Suppoſing the hill to be conſiderably enlarged, ſo as to make us leſs ſenſible of its regularity, it will upon that account appear leſs beautiful. It will not, however, appear leſs agreeable, becauſe ſome ſlight emotion of grandeur comes in place of what is loſt in beauty. And at laſt, when the hill is enlarged to a great mountain, the ſmall degree of beauty that is left, is ſunk in its grandeur. Hence it is, that a towering hill is delightful, if it have but the ſlighteſt reſemblance of a cone; and a chain of mountains not leſs ſo, though deficient in the accuracy of order and proportion. We require a ſmall ſurface to be ſmooth; but in an extenſive plain, conſiderable inequalities are overlooked. In a word, regularity, proportion, order, and colour, contribute to grandeur as well as to beauty; but with a remarkable difference, that in paſſing from ſmall to great, they are not required in the ſame degree of perfection. This remark ſerves to explain the extreme delight we have in viewing the face of nature, when ſufficiently enriched and diverſified with objects. The

bulk of the objects in a natural landscape are beautiful, and some of them grand: a flowing river, a spreading oak, a round hill, an extended plain, are delightful; and even a rugged rock, or barren heath, though in themselves disagreeable, contribute by contrast to the beauty of the whole; joining to these the verdure of the fields, the mixture of light and shade, and the sublime canopy spread over all; it will not appear wonderful, that so extensive a groupe of splendid objects should swell the heart to its utmost bounds, and raise the strongest emotion of grandeur. The spectator is conscious of an enthusiasm which cannot bear confinement, nor the strictness of regularity and order: he loves to range at large; and is so enchanted with magnificent objects, as to overlook slight beauties or deformities.

The same observation is applicable in some measure to works of art. In a small building, the slightest irregularity is disagreeable: but in a magnificent palace, or a large gothic church, irregularities are less regarded. In an epic poem, we pardon many negligences that would not be permitted in a sonnet or epigram. Notwithstanding such exceptions, it may be justly laid down for a rule, that in works of art, order and regularity ought to be governing principles; and hence the observation of Longinus, "In works of art we have regard to exact proportion: in those of nature, to grandeur and magnificence."

The same reflections are in a good measure applicable to SUBLIMITY: particularly, that, like grandeur, it is a species of agreeableness; that a beautiful object placed high, appearing more agreeable than formerly, produces in the spectator a new emotion, termed *the emotion of sublimity;* and that the perfection of order, regularity, and proportion, is less required in objects placed high, or at a distance, than at hand.

GRANICUS (*Encycl.*). Authors disagree very much about the number of the Persians engaged in this remarkable battle, though all agree that they were vastly more numerous than the Greeks. Justin and Orosius tell us, that the Persian army consisted of 600,000 foot and 20,000 horse; Arrian makes the foot amount to 200,000; but Diodorus tells us, that they were not more than 100,000 foot, and 10,000 horse. The Macedonian army did not exceed 30,000 foot, and 5000 horse. The Persian cavalry lined the banks of the Granicus, in order to oppose Alexander wherever he should attempt a passage; and the foot were posted behind the cavalry on an easy ascent. Parmenio would have had Alexander to allow his troops some time to refresh themselves; but he replied, that, after having crossed the Hellespont, it would be a disgrace to him and his troops to be stopped by a rivulet. Accordingly a proper place for crossing the river was no sooner found, than he commanded a strong detachment of horse to enter, he himself following with the right wing which he commanded in person; the trumpets in the mean time sounding, and loud shouts of joy being heard through the whole army. The Persians let fly such showers of arrows against the detachment of Macedonian horse, as caused some confusion; several of their horses being killed or wounded. As they drew near the bank a most bloody engagement ensued; the Macedonians attempting to land, and the Persians pushing them back into the river. Alexander, who observed the confusion they were in, took the command of them himself; and landing in spite of all opposition, obliged the Persian cavalry, after an obstinate resistance, to give ground. However, Spithrobates, governor of Ionia, and son-in-law to Darius, still maintained his ground, and did all that lay in his power to bring them back to the charge. Alexander advanced full gallop to engage him; neither did he decline the combat, and both were slightly wounded at the first encounter. Spithrobates having thrown his javelin without effect, advanced sword in hand to meet his antagonist, who ran him through with his pike as he raised his arm to discharge a blow with his scymitar. But Rosaces, brother to Spithrobates, at the same time gave Alexander such a furious blow on the head with his battle-ax, that he beat off his plume, and slightly wounded him through the helmet. As he was ready to repeat the blow, Clitus with one stroke of his scymitar cut off Rosaces's head, and thus in all probability saved the life of his sovereign. The Macedonians then, animated by the example of their king, attacked the Persians with new vigour, who soon after betook themselves to flight. Alexander did not pursue them; but immediately charged the enemy's foot with all his forces, who had now passed the river. The Persians, disheartened at the defeat of their cavalry, made no great resistance. The Greek mercenaries retired in good order to a neighbouring hill, whence they sent deputies to Alexander, desiring leave to march off unmolested. But he, instead of coming to a parley with them, rushed furiously into the middle of this small body; where his horse was killed under him, and he himself in great danger of being cut in pieces. The Greeks defended themselves with incredible valour for a long time, but were at last almost entirely cut off.—In this battle the Persians are said to have lost 20,000 foot, and 2,500 horse, and the Macedonians only 55 foot, and 60 horse.

GRANT (Francis), Lord Cullen, an eminent lawyer and judge in Scotland, was descended from a younger branch of the family of the Grants of Grant in that kingdom, and was born about the year 1660. When he commenced advocate he made a distinguished figure at the Revolution, by opposing the opinion of the old lawyers, who warmly argued on the inability of the convention of estates to make any disposition of the crown. The abilities he shewed in favour of the revolution recommended him to an extensive practice; in which he acquired so much honour, that when the union between the two kingdoms was in agitation, Queen Anne unexpectedly, and without application, created him a baronet, with a view of securing his interest in that measure; and upon the same principle, she soon after created him a judge, or one of the lords of session. From this time, according to the custom of Scotland, he was styled, from the name of his estate, Lord Cullen; and the same good qualities that recommended him to this honourable office, were very conspicuous in the discharge of it; which he continued for 20 years with the highest reputation, when a period was put to his life by an illness which lasted but three days. He expired without any agony on March 16th, 1726.

His character is drawn to great advantage in the Biographia Britannica; where it is observed, among other remarks to his honour, "that as an advocate he was indefatigable in the management of business; but at the same time that he spared no pains, he would use no craft. He had so high an idea of the dignity of his profession, that he held it equally criminal to neglect any honest means of coming at justice, or to make use of any arts to elude it.

"In respect to fortune, though he was modest and frugal, and had a large practice, yet he was far from being avaricious. His private charities were very considerable, and grew in the same proportion with his profits. He was, besides, very scrupulous in many points; he would not suffer a just cause to be lost through a client's want of money. He was such an enemy to oppression, that he never denied his assistance to such as laboured under it; and with respect to the clergy of all professions (in Scotland), his conscience obliged him to serve them without a fee. He saw their wrongs required assistance, and he knew their circumstances would not admit of expence. His additions, therefore, to his paternal estate were much infe-

rior to what might have been expected, and a large acceſſion of character was the principal produce of that activity and diligence by which he was diſtinguiſhed at the bar.

" When his merit had raiſed him to the bench, he thought himſelf accountable to God and man for his conduct in that high office; and that deep ſenſe of his duty, at the ſame time that it kept him ſtrictly to it, encouraged and ſupported him in the performance. The pleadings in Scotland are carried on chiefly in writing, which renders them ſometimes very prolix, ſo as to take up much of the judge's time, and to exerciſe alike his parts and his patience in going through and making himſelf maſter of them. In this the diligence and dexterity of Lord Cullen were equally conſpicuous: he went through every thing that came into his hands very carefully, and ſifted it thoroughly; ſo that the lawyers at the bar never found themſelves too ſtrong for the bench, but on the contrary were often told many things by his lordſhip, which had either eſcaped their notice, or which the intereſt of their client had engaged them to conceal. As his attention to the pleadings guided him to the real merits of the cauſe; ſo when he was once maſter of theſe, his ſecond care was to diſpatch it. He knew, that, in judicature, the next fault to denying, was delaying juſtice; by which families are always injured, and too often ruined. Whenever, therefore, he had provided againſt being miſtaken, he was deſirous of bringing the matter to a ſhort deciſion; and as he was very ſolicitous about the former, ſo the parties themſelves helped him not a little as to the latter. Whenever he ſat as lord ordinary; the paper of cauſes was remarkably full, for his reputation being equally eſtabliſhed for knowledge and integrity, there were none, who had a good opinion of their own pretenſions, but were deſirous of bringing them before him, and not many who did not ſit down ſatisfied with his deciſion. This prevailed more eſpecially after it was found that few of his ſentences were reverſed; and when they were, it was commonly owing to himſelf: for if, upon mature reflection, or upon new reaſons offered at the re-hearing, he ſaw any juſt ground for altering his judgment, he made no ſcruple of declaring it; being perſuaded, that it was more manly, as well as more juſt, to follow truth, than to ſupport opinion: and his conduct in this reſpect had a right effect; for inſtead of leſſening, it raiſed his reputation.

" He would not, however, with all his great ſtock of knowledge, experience, and probity, truſt himſelf in matters of blood, or venture to decide in criminal caſes on the lives of his fellow-creatures; which was the reaſon that, though often ſolicited, he could never be prevailed upon to accept of a ſeat in the juſticiary court.

" He was ſo true a lover of learning, and was ſo much addicted to his ſtudies, that notwithſtanding the multiplicity of his buſineſs while at the bar, and his great attention to his charge when a judge, he nevertheleſs found time to write various treatiſes, on very different and important ſubjects: ſome political, which were remarkably well-timed, and highly ſerviceable to the government: others of a moſt extenſive nature, ſuch as his eſſays on law, religion, and education, which were dedicated to his preſent Majeſty when Prince of Wales; by whoſe command; his then ſecretary, Mr. Samuel Molyneaux, wrote him a letter of thanks, in which were many gracious expreſſions, as well in relation to the piece, as to its author. He compoſed, beſides theſe, many diſcourſes on literary ſubjects, for the exerciſe of his own thoughts, and for the better diſcovery of truth; which went no further than his own cloſet, and from a principle of modeſty were not communicated even to his moſt intimate friends.

" In his lordſhip's private character he was as amiable as he was reſpectable in his public. There were certain circumſtances that determined him to part with an eſtate that was left him by his father; and it being foreſeen that he would employ the produce of it, and the money he had acquired by his profeſſion, in a new purchaſe, there were many decayed families who ſolicited him to take their lands upon his own terms, relying entirely on that equity, which they conceived to be the rule of his actions. It appeared that their opinion of him was perfectly well grounded. For being at length prevailed upon to lay out his money on the eſtate of an unfortunate family, who had a debt upon it of more than it was worth; he firſt put their affairs into order, and by claſſing the different demands, and compromiſing a variety of claims, ſecured ſome thouſand pounds to the heirs, without prejudice to any, and of which they had never been poſſeſſed but from his interpoſition and vigilance in their behalf: ſo far was he either from making any advantage to himſelf of their neceſſities, or of his own ſkill in his profeſſion; a circumſtance juſtly mentioned to his honour, and which is an equal proof of his candor, generoſity, and compaſſion. He was charitable without oſtentation, diſintereſted in his friendſhips, and beneficent to all who had any thing to do with him. He was not only ſtrictly juſt; but ſo free from any ſpecies of avarice, that his lady, who was a woman of great prudence and diſcretion, finding him more intent on the buſineſs committed to him by others, than on his own, took upon herſelf the care of placing out his money; and to prevent his poſtponing, as he was apt to do, ſuch kind of affairs, when ſecurities offered, ſhe cauſed the circumſtances of them to be ſtated in the form of caſes, and ſo procured his opinion upon his own concerns, as if they had been thoſe of a client. Theſe little circumſtances are mentioned as more expreſſive of his temper, than actions of another kind could be; becauſe, in matters of importance, men either act from habit, or from motives that the world cannot penetrate; but, in things of a trivial nature, are leſs upon their guard, ſhew their true diſpoſition, and ſtand confeſſed for what they are."

GRASMERE-WATER, a ſmall lake of Weſtmoreland, to the W. of Ambleſide. Its margin is hollowed into ſmall bays, with bold eminences; ſome of rock, ſome of turf, that half conceal and vary the figure of the lake. From the ſhore, a low promontory projects far into the water; and on it ſtands a white village, with the pariſh church riſing in the midſt of it.

GRASON, an iſland in the gulf of Bothnia, near the coaſt of Sweden. Long. 18. 20. E. Lat. 60. 12. N.

GRASSANO, a town of Naples, in Baſilicata, 18 miles E.S.E. of Cirenza.

GRASSE, a town of France, in the department of Var. It was lately a biſhop's ſee; and is ſeated on an eminence, 15 miles W. of Nice. Long. 6. 56. E. Lat. 43. 39. N.

GRASSE, a town of France, in the department of Aude, ſeated on the river Othieu, at the foot of the mountain of Courbiere, 18 miles S E. of Carcaſſonne.

GRATELEY, a village in Hampſhire, on the S.E. ſide of Quarley hill, in the road from Andover to Saliſbury, where, in 926, King Athelſtan held a grand council of the nobility. Near it is a great Roman camp, and on Quarley hill is a large Britiſh camp.

GRATES (*Encycl.*) Grates are peculiarly adapted to the uſe of pit-coal, which requires a greater draught of air to promote its burning freely, than any other kind of fuel. Moſt of them however are ill conſtructed for the purpoſe, and are eſpecially injudicious, Count Rumford obſerves, when made of, or connected to, large maſſes of iron, which being a rapid conductor of heat, ſends off a large portion of what the fuel ſupplies, and which would otherwiſe be reflected into the room. No ſubſtance in nature, he ſays, has *a ſtronger power*

of reflecting heat than brick, a fact both underſtood and applied in the culture of wall-fruit: it is therefore of conſequence to have as *little iron* as poſſible in our fire-places, and as much *brick* or fire-ſtone. See FIRE-PLACE.

Count Rumford's *cottage* and *gridiron* grates, are important contrivances to thoſe who wiſh to derive a great deal of comfort from a ſmall quantity of fuel. But for this end it is neceſſary to have the fire-place conſtructed with a ſcrupulous regard to his inſtructions, and to the models to be ſeen at the Royal Inſtitution.

In the year 1791, a patent was granted to Mr. BENJAMIN CHARLES COLLINS, of Saliſbury, Wilts, for a grate on a new conſtruction, to be uſed either in or out of a chimney. This invention is ſaid to be calculated to increaſe the action of the air upon fire, by augmenting and directing the paſſage of the former through the latter. Thus the fire may be rendered ſo intenſe as to preſent a perfect white heat; and, as the draught of air is very great, the patentee obſerves, that "all, or nearly all of the unignited ſmoke is carried down into the fire and there conſumed, inſtead of paſſing off in the common way." To effect this purpoſe, he conſtructs one or more air-flues provided with ſtops, by which he may at pleaſure promote the draught of air to the requiſite degree of heat.

Grates of this conſtruction are aſſerted to be very uſeful for light-houſes, and other places requiring a ſtrong fire, ſuch as laboratories, brew-houſes, ſmelting-furnaces, glaſs-houſes, &c. —For a more circumſtantial account of this patent, we muſt refer the reader to the 8th vol. of the *Repertory of Arts and Manufactures*.

A later invention is that of Mr. BURNS's for fire-grates and ſtoves.

The object of this ſuppoſed improvement is to prevent thoſe diſagreeable currents of air which guſh from every opening and crevice in an apartment toward the fire-place, and alſo to impart greater equality to the temperature of the air in the different parts of the room. Theſe objects he accompliſhes by a contrivance ſimilar to that uſed by many chemiſts for ſupplying their furnaces with freſh air. In lieu of our preſent ſtoves or grates, he ſubſtitutes an urn-ſhaped ſtove ſtanding in the chimney, having an opening in front to ſhew the fire, and ſupplied with air from without the houſe, where practicable, by means of a tube communicating with the fire, paſſing through the pedeſtal of the ſtove, and conducted through the hearth, in whatever manner is moſt convenient, to the outſide of the houſe. Where the tube cannot be thus made to communicate with the external atmoſpheric air, it is conducted to a cellar or any other cool part of the houſe, whence the fire draws its requiſite ſupplies of air, and at the ſame time creates a wholeſome circulation in the air of that cellar or other room. The aſhes fall into a metal drawer, where they remain concealed from view, and in which they are removed at once without raiſing any duſt in the apartment.

Thoſe who attempt to appreciate inventions of this kind, ſhould examine well whether they are not (many of them) conſtructed on falſe principles; not perhaps as to the *production* but the *application* of heat.

GRAUDENTZ, a town of Poland, in the palatinate of Culm, with a caſtle; ſeated on the Viſtula, 30 miles N. of Thorn, and 110 N.W. of Warſaw. Long. 18. 52. E. Lat. 53. 36. N.

GRAVEN MACHEREN, a town of Luxemburg, on the Moſelle, 18 miles E.N.E. of Luxemburg. It was ſacked and burnt, in 1552, by the Marquis of Brandenburg.

GRAVENWERT, a town of Lower Bavaria, 42 miles E.N.E. of Nuremberg.

GRAVESANDE, a town of Holland, where the ancient counts of Holland reſided. It is ſeven miles W. of Delft.

GRAULHET, a town of France, in the department of Tarn, 12 miles N.W. of Caſtres.

GRAY'S THURROCK, a town in Eſſex, with a market on Thurſday, ſeated on the Thames, 24 miles E. of London. Long. 0. 24. E. Lat. 51. 26. N.

GREBENSTEIN, a town of Germany, in the principality of Heſſe Caſſel, 12 miles N.W. of Caſſel, and 16 N.N.E. of Naumburg. Long. 8. 58. E. Lat. 51. 16. N.

GREENLAW, the county-town of Berwickſhire, ſeated on a river that joins the Tweed, before it reaches Berwick. It is 17 miles W. by S. of that town. Long. 2. 18. W. Lat. 53. 43. N.

GREENSBURGH, the county-town of Weſtmoreland, in Pennſylvania, 178 miles W. by N. of Philadelphia. Long. 78. 36. W. Lat. 40. 8. N.

GREENSTED, a village in Eſſex, one mile W. of Chipping Ongar, remarkable for its little church (built prior to the Conqueſt), the walls of which are formed of the trunks of trees placed in rows.

GREIFFENHAGEN, a town of Upper Saxony, 37 miles N. of Caſtrin. Long. 15. 9. E. Lat. 53. 12. N.

GREIN, a town of the archduchy of Auſtria, ſituate on the Danube, 62 miles W. of Vienna. Long. 18. 5. E. Lat. 48. 16. N.

GREITZ, a town of Upper Saxony, in Voightland, with ſome ſtuff manufactures; ſituate on a ſmall river, which runs into the Elſter, 12 miles S.W. of Zwickau.

GRENADA (*Encycl.*). See GRANADA.

GREVENBROICH, a town of Weſtphalia, in the duchy of Juliers, 10 miles E.N.E. of Juliers. Long. 6. 18. E. Lat. 51. 6. N.

GREUSSEN, a town of Upper Saxony, in the county of Schwaitzburg, 16 miles N. of Erfurt, and 18 E. of Muhlhauſen. Long. 10. 45. E. Lat. 51. 6. N.

GRIESSEWALDE, a town of Upper Saxony, 24 miles S.S.E. of Stralfund. Long. 11. 18. E. Lat. 54. 4. N.

GRIFFENHAKEN, a town of Pruſſian Pomerania, in the duchy of Stetin, ſeated on the Oder, oppoſite Gartz. Long. 14. 42. E. Lat. 53. 25. N.

GRIMBERGEN, a town of Auſtrian Brabant, with an abbey and a caſtle, ſix miles N. of Bruſſels. Long. 4. 27. E. Lat. 50. 57. N.

GRIMM, a town in the electorate of Saxony, with a citadel, ſeated on the Muldaw, 10 miles S.E. of Leipſic. Long. 12. 35. E. Lat. 51. 15. N.

GRIMMEN, a town of Swediſh Pomerania, five miles S. of Stralſund. Long. 13. 27. E. Lat. 54. 12. N.

GRIMPERG, a town in the electorate of Treves, with a biſhop's ſee, 17 miles S.E. of Treves. Long. 6. 59. E. Lat. 49. 35. N.

GRIMSBY, GREAT (*Encycl.*). The market at this place is on *Friday* only.

GRINDELWALD, a town of Switzerland, in the canton of Bern, ſeated among mountains, at the foot of a celebrated Glacier, 25 miles S.E. of Thun. Long. 7. 43. E. Lat. 46. 27 N.

GROHNDE, a town of Lower Saxony, on the Weſer. Near it is a monument of ſtone, erected in memory of a bloody battle fought there in 1421. It is nine miles S. of Hamelin.

GROLL, a town of Dutch Guelderland, in the county of Zutphen. It was often taken and retaken in the wars between the Dutch and Spaniards. The French took it in the year 1672, and demoliſhed the fortifications. It is ſeated on the Slinghe, 15 miles S.E. of Zutphen.

GROSSA, an iſland of Dalmatia, in the gulf of Venice, near the coaſt of the county of Zara. It is 50 miles in circumference, and belongs to the Venetians.

GROSE (Francis), a diſtinguiſhed antiquarian, born about the year 1731, was the ſon of Mr. Francis Groſe of Richmond, jeweller, who filled up the coronation crown of George II. By his father he was left an independent fortune, which he was not of a diſpoſition to add to, or even to preſerve. Having once had a commiſſion in the army, he entered into the Surrey militia, of which he became adjutant and paymaſter; but ſo much had diſſipation taken poſſeſſion of him, that in a ſituation which above all others required attention, he was ſo careleſs as to have for ſome time (as he uſed pleaſantly to tell) only two books of accounts, viz. his right and left hand pockets. In the one he received, and from the other paid; and this too with a want of circumſpection which may be readily ſuppoſed from ſuch a mode of book-keeping. His loſſes on this occaſion rouſed his latent talents. With a good claſſical education he united a fine taſte for drawing; and encouraged by his friends, as well as prompted by his ſituation, he undertook the work from which he derived both profit and reputation; we mean, his Views of Antiquities in England and Wales, which he firſt began to publiſh in numbers in the year 1773, and finiſhed in the year 1776. The next year he added two more volumes to his Engliſh Views, in which he included the iſlands of Guernſey and Jerſey, which were completed in 1787. This work anſwered his moſt ſanguine expectations; and, from the time he began to the end of his life, he continued without intermiſſion to publiſh various works (a liſt of which we ſubjoin), generally to the advantage of his literary reputation, and almoſt always to the benefit of his finances. His wit and good-humour were the abundant ſource of ſatisfaction to himſelf, and entertainment to his friends. He viſited almoſt every part of the kingdom, and was well received wherever he went. In the ſummer of 1789 he ſet out on a tour in Scotland; the reſult of which he began to communicate to the public in 1790 in numbers. Before he had concluded this work, he proceeded to Ireland, intending to furniſh that kingdom with views and deſcriptions of her antiquities, in the ſame manner as he had executed thoſe of Great Britain; but ſoon after his arrival in Dublin, being at the houſe of Mr. Hone there, he died ſuddenly of an apoplectic fit, on the 6th of May, 1791, and was interred in Dublin. His natural tendency was to humour, in which he excelled both by the ſelection of anecdotes and his manner of telling them: it may be ſaid, too, that his figure (extremely uncouth and bulky) rather aſſiſted him, for it was in fact the very title page to a joke. He had neither the pride nor malignity of authorſhip: he felt the independency of his own talents, and was ſatisfied with them, without degrading others. His friendſhips were of the ſame caſt; conſtant and ſincere, overlooking ſome faults, and ſeeking out greater virtues. He had a good heart; and, abating thoſe little indiſcretions natural to moſt men, could do no wrong.

He married at Canterbury, and reſided there ſome years, much beloved and reſpected for his wit and vivacity. He had two ſons, Francis Groſe, a major in the army, who, after ſeveral campaigns in America, was appointed in 1790 deputy governor of the new ſettlement at Botany Bay; and Onſlow Groſe, in the ſervice of the Eaſt-India Company, lately deceaſed. Beſides theſe he had two daughters both living.

His works are as follow: 1. The Antiquities of England and Wales, 8 vols. 4to. and 8vo. 2. The Antiquities of Scotland, 2 vols. 4to. and 8vo. 3. The Antiquities of Ireland, 2 vols. 4to. and 8vo. 4. A Treatiſe on ancient Armour and Weapons, 4to. 1785. 5. A Claſſical Dictionary of the Vulgar Tongue, 8vo. 1785. 6. Military Antiquities; being a Hiſtory of the Engliſh Army from the Conqueſt to the preſent time, 2 vols. 4to. 1788. 7. The Hiſtory of Dover Caſtle, by the Rev. Wm. Danell, 4to 1786. 8. A Provincial Gloſſary, with a Collection of local Proverbs and popular Superſtitions, 8vo. 1788. 9. Rules for drawing Caricatures, 8vo, 1788, 10. Supplement to the Treatiſe on Ancient Armour and Weapons, 4to. 1789. 11. A Guide to Health, Beauty, Honour, and Riches; being a Collection of humourous Advertiſements, pointing out the Means to obtain thoſe Bleſſings; with a ſuitable introductory Preface, 8vo. 12. The Olio; being a Collection of Eſſays in 8vo. 1793.

GROSETTO, a town of Tuſcany, with a caſtle and a biſhop's ſee; ſituate near the ſea, 30 miles S.W. of Sienna. Long. 11. 1. E. Lat. 42. 40. N.

GROYNE, a river of Spain, in Gallicia, which enters the bay of Biſcay, at Corunna.

GRUCKFELDT, a town of Carinthia, with a caſtle, on the river Save. Long. 15. 45. E. Lat. 46. 7. N.

GRUNBERG, a town of Germany in the principality of Upper Heſſe, where the kings of the Merovingian race and Charlemagne held their court. It is 10 miles E. of Gieſen, and 28 W. of Fulda.

GRUNBERG, a town of Sileſia, in the principality of Glogau, ſurrounded with vineyards. Here is a manufacture of cloth. It is 12 miles N. of Freyſtadt, and 24 N.W. of Glogau.

GRUNDE, a town of Germany, in the duchy of Brunſwick, and in the mountains of Hartz. Long. 13. 35. E. Lat. 52. 10. N.

GRUNHAYN, a town of Upper Saxony, in the circle of Ergzeburg, 46 miles W.S.W. of Dreſden. Long. 12. 46. E. Lat. 50. 32. N.

GRUNINGEN, a town of Lower Saxony, in the principality of Halberſtadt, on the river Felke. Long. 11. 41. E. Lat. 52. 4. N.

GRUNSTADT, a town of Germany, in the circle of Upper Rhine, and county of Leiningen, 22 miles N.N.W. of Spire, and 28 S. of Mentz. Long. 7. 58. E. Lat. 49. 32. N.

GUACOCKINGO, a town of New Spain, 30 miles S.E. of Mexico. Long. 99. 45. W. Lat. 19. 36. N.

GUADARAMA, a town of Spain, in Old Caſtile, remarkable for its great trade in cheeſe. It is ſeated on the Guadarama, 25 miles N.W. of Madrid. Long. 3. 48. W. Lat. 41. 45. N.

GUADRAMIRO, a town of Spain, in Leon, 33 miles W.S.W. of Salamanca.

GUARDAMAR, a ſea-port of Spain, in Valentia, at the mouth of the Segura. The chief trade conſiſts in the exportation of ſalt. It is 17 miles S.S.W. of Alicant. Long. 0. 18. W. Lat. 38. 7. N.

GUARMA, a ſea-port of Peru, 120 miles N.W. of Lima. Long. 77. 49. W. Lat. 10. 10. S.

GUASTO, or VASTO, a town of Naples, in Abruzzo Citeriore, on the Gulf of Venice, 15 miles S.E. of Lanciano, Long. 15. 6. E. Lat. 42. 15. N.

GUAYAQUIL, a ſea-port of Peru, in the audience of Quito, and the capital of a juriſdiction of the ſame name. It is defended by three ſtrong forts, and ſituate on the river Guayaquil, at its entrance into the gulf of Guayaquil, 140 miles N.N.E. of Paita, and 150 S.S.W. of Quito. Long. 78. 36. W. Lat. 2. 12. S.

GUERCHE, a town of France, in the department of Iſle and Vilaine, 20 miles E.S.E. of Rennes. Long. 1. 20. W. Lat. 47. 57. N.

GUERGELA, a town of Barbary, in Biledulgerid, 80 miles S. of Mount Atlas. Long. 4. 50. E. Lat. 31. 45. N.

GUERNSEY *(Encycl.)*. Of this iſland, Dr. Campbell gives the following account: "It lies 20 leagues ſouth-weſt from Weymouth in Dorſetſhire, between eight and nine leagues weſt from the coaſt of Normandy, 13 ſouth of Bre-

tagne, ſeven north-weſt from Jerſey, five ſouth-weſt of Alderney, and two weſt from Sarke. In length from north-eaſt to ſouth-weſt, about twelve miles; in breadth, from ſouth to north, about nine; in circumference, upwards of 30; containing 30 ſquare miles, or 32,000 acres. The climate is mild and temperate; not ſubject to exceſſive heats, much leſs to ſevere cold; ſomewhat windy; but, taking all things together, equally healthy and pleaſant. The ſoil is, generally ſpeaking, rich and fertile; the country, though ſufficiently encloſed with ſtone fences, yet more open than in Jerſey, and as capable of cultivation of every kind. On the north ſide, the coaſt is commonly low and flat, riſing gradually, ſo that on the ſouth ſide the cliffs are of a prodigious height. The face of the country is variegated with hills and little eminences, and tolerably well watered with ſprings and ſharp gravelly ſtreams. There was formerly a fine lake, about half a league in extent, now filled up, and turned into a meadow; but many gentlemen have ſtill very beautiful and convenient fiſh-ponds.

"There are very few countries in the world more capable of improvement. Moſt of the riſing grounds afford a ſhort thick graſs, equally beautiful to the eye, and ſucculent as paſture. Roots and herbs it produces of all kinds, eſculent, medicinal, and aromatic; with a profuſion of flowers that grow wild, and are exquiſitely fragrant. All ſort of ſhrubs and fruit-trees flouriſh here: and there is ſome, though but little, timber; not through any defect of ſoil or climate, but becauſe they cannot conveniently afford it room. Grain they have of every ſpecies we cultivate in Britain, but more eſpecially wheat; and though they have not either lime, chalk, or marle, yet the ſea-wreck anſwers all the intention of manure, ſo well as to keep their ground in conſtant heart. They have large quantities of ſheep, but ſmall in ſize; and had formerly a very ſingular breed, of which the ewes had four horns, and the rams ſix; but theſe are now become very ſcarce. Their black cattle are in ſuch abundance, as not only to ſupport their own uſes, but to furniſh alſo a conſiderable exportation; and their horſes, though but little, are equally ſtrong and hardy. The ſea alſo furniſhes a prodigious variety as well as plenty of fiſh, more eſpecially red and grey mullet, excellent mackarel, and above all, conger-eels. To theſe advantages we may add, the ſingular privilege of being free from all venomous creatures.

"There are in this iſland ten pariſhes, each of which is divided into ſeveral vintons, for the more eaſy management of affairs, civil, eccleſiaſtical, and military, and the choice of their reſpective officers and magiſtrates. Though the country is very fully peopled, yet the houſes are ſcattered up and down, according to the humour or the conveniency of the inhabitants: ſo that there is, properly ſpeaking, but one town in the iſland, which is likewiſe the only haven of any reſort; though there are ſome creeks on the north and weſt ſides of the iſland, ſuch as Bazon, L'Aucreſſe, Ferminer, St. Sampſon, and the Weſt Paſſage. All theſe ports are in a ſtate of nature; but might be certainly improved and fortified, which would be productive of many advantages to the iſland; as was long ago obſerved and propoſed to government by Captain Yarranton. In the reign of King Charles II. when the French formed an inſidious deſign of making themſelves maſters of this iſle by treachery, it left ſuch an impreſſion on his majeſty's mind, that ſome years after he ſent over the Lord Dartmouth, accompanied by certain engineers, who diſcovered on the north-weſt ſide of the iſle, a deep bay, which, by the help of a mole, might cover a numerous ſquadron, even of ſhips of the line, under the protection of what was alſo intended to be built, a ſtrong caſtle: but his exchequer being exhauſted, this neceſſary work was never carried into execution. As this port would look full into the channel, it deſerves conſideration, how far it might be uſeful to us in the time of a French war, and of what infinite detriment it might prove if this iſland ſhould ever fall into the hands of our enemies.

"The inhabitants are very induſtrious in their reſpective employments; naturally ſober, frugal in their manner of living, honeſt in their dealings, ſincere in their religion, which is that of the church of England, and loyal to their princes, as well as ſteady to the Britiſh intereſt. They are, however, reſerved to a degree that makes them ſometimes thought moroſe; they are ſomewhat ſuſpicious; and, which is their greateſt error, they are, or at leaſt were, very litigious. They are good huſbandmen in their own way, and manage the ſea-wreck (which firſt ſerves the poor people for fuel, and then its aſhes are employed by thoſe in better circumſtances for manure) with great ſkill, and under very prudent regulations. The wreck is cut in ſummer, and about the vernal equinox, by the proclamation of the magiſtrates, and when dried, diſtributed by their order. As for the winter-wreck, which after ſtorms is thrown in large quantities on the coaſt; this is alſo equitably divided, and being ſtrewed wet, and ſo ploughed into the ground, renders it continually fertile. They have a ſtronger turn, however, to grazing, than to agriculture; and though they bring in annually ſome corn, yet in the ſame ſpace they ſend out a few hundred cattle. They are ſtill more inclined to orchards, which enables them to make many thouſand hogſheads of cyder every year; of which, it being the common drink of the people, they export but little. The woollen is their principal manufacture, for the carrying on of which they are allowed to import 2000 tons from England, which they work up chiefly in ſtockings, waiſtcoats, and breeches. They might certainly make their fiſhery turn to profit, more eſpecially as of late years they have ſet up ſalt works; and yet, except lobſters, I never heard that any of their fiſh went to a foreign market. Our French and Portugal merchants have large ſtocks of wine here, which they import as they have occaſion. As they are enabled, by this method, to keep it to a proper age before they are obliged to pay the duty, it ſeems to be a benefit to the mother country, by putting it in their power both to buy and ſell cheaper: as on the other hand, from the rent of warehouſes, the ſubſiſting factors and their ſervants, the reſort of ſhips employed in this trade, it muſt be very advantageous to the inhabitants of this iſland. It is a point of juſtice to obſerve, that this manner of depoſiting wines, has nothing at all to do with ſmuggling; a practice equally injurious to the intereſts of this country and to the people of Guernſey, as it breeds few ſeamen, is carried on in very ſmall veſſels, and upon the whole is not only an infamous, but a very unprofitable kind of traffic. Heretofore, merchants of this iſle traded to moſt parts of Europe, and had ſeveral ſtout ſhips of their own; and if this vile practice was aboliſhed, as it might eaſily be, without any violation of the liberties of the people, they would ſoon find their account in it, by the revival of many lucrative branches of commerce. As they take away from England ſome of the neceſſaries, and almoſt all the conveniences, of life, ſuch as corn, malt-liquor, ſugars, ſpices, coals, houſehold-furniture, many ſpecies of the iron and leather manufactures, grocery, haberdaſhery, and hard-wares, the balance is greatly in our favour; and muſt continually increaſe, in proportion as they augment in number, and grow eaſier in circumſtances. At preſent, upon a very moderate computation, there are in Guernſey upwards of 15,000 ſouls.

"The ſeveral iſlets and vaſt chains of rocks that ſurround this country on every ſide, and cauſe ſuch a variety of tides and currents, add much to the ſecurity of the place, by reu-

dering it equally difficult and dangerous for ſhips to approach it, unleſs they have pilots aboard extremely well acquainted with the coaſt. On the ſouth ſide, the cliffs are prodigiouſly high; ſo that the old writers ſay, it looks like a park in the ſea, impaled with rocks. On the weſt ſide lie the Hanoys, or, as the French write them, *Hanovaux*, which cover that coaſt ſo effectually, that a deſcent there is little to be feared. At the north-weſt extremity lies a little iſland called *the Howe*; which would be a very convenient place for a ſalt-work, glaſs-houſe, or manufactory of ſoap. At the north-eaſt extremity we meet with St. Michael in the Vale, a peninſula ſome miles in extent, connected with Guernſey by a very narrow iſthmus, with bays that might be rendered uſeful on both ſides. This peninſula is likewiſe guarded by rocks and iſlets, the moſt conſiderable of which are the Bryants, the Hummet, and the Hays. South-eaſt from the vale, lies the iſland of Harnet, or Arne, about a league in compaſs, formerly deſert, but now cultivated. At a league ſouth from thence lies Briehoe, of leſs extent; and between both, the little iſland of Gythau, or Jethau, which ſerves the governor for a kind of park, or rather paddock.

GUETA, a town of Spain, in New Caſtile, 60 miles E. of Madrid. Long. 1. 56. W. Lat. 40. 22. N.

GUGLINGEN, a town of Suabia, in the duchy of Wirtemberg, ſituate on the Zaber, 18 miles N. of Stutgard, and 22 S.S.E. of Heidelberg. Long. 8. 56. E. Lat. 49. 2. N.

GUILLAIN, St. a town of Auſtrian Hainault, ſeated in marſhy land, on the river Haiſne, ſix miles W. of Mons. Long. 3. 53. E. Lat. 50. 27. N.

GUILLESTREE, a town and caſtle in the Alps, once belonging to Dauphiny, in France, It was taken by Prince Eugene in 1692, and is nine miles N.E. of Embrun. Long. 6. 36. E. Lat. 44. 41. N.

GUIMALAENS, an ancient town of Portugal, in the province of Entre-Douero-e-Minho. It has formerly been the reſidence of their kings, and is divided into the Old and New. The public buildings are magnificent, and the collegiate church is ſaid to be founded on the ruins of a temple of Ceres. It is 10 miles S.E. of Braga. Long. 8. 21. W. Lat. 41. 35. N.

GUM (*Encycl.*). The following account of a diſcovery made by Citizen Leroux, of a gummy ſubſtance contained in the bulbous root of the *Hyacinthus non ſcriptus*, is given by Citizen Deyeux, in the Annales de Chimie.

"It had long ſince been obſerved," ſays Citizen Leroux, "that the bulbous roots of ſome plants contained a mucilaginous ſubſtance; but no one had yet attempted to extract it, and ſtill leſs to analize it. A particular circumſtance having given me occaſion to employ the bulbs of the *Hyacinthus non ſcriptus*, I was ſo much ſurpriſed at the great degree of viſcoſity which I found them to poſſeſs, that I did not ſuffer the favourable opportunity to eſcape me, which preſented itſelf, for ſubjecting theſe roots to various experiments. It would be ſuperfluous here to give an account of all the different trials which I have made: it will be ſufficient for the preſent to inform you, that, having reduced 50 kilogrammes of the above-mentioned bulbs into a paſte, by pounding them in a mortar, I diluted this paſte with a ſufficient quantity of water: the liquor, having been ſtrained through a fine piece of linen, was afterwards evaporated to the conſiſtence of a thick ſyrup. In this ſtate it was poured into moulds of tinned iron, which were immediately placed in a ſtove.

The deſiccation took place pretty rapidly; and when it was completed I found, at the bottom of each mould, a brittle tranſparent ſubſtance, which exhibited all the external characters of a real gum.

The 50 kilogrammes of the bulbs, which I employed, yielded me 8 kilogrammes of this gummy product. On comparing this product with various kinds of gums, it poſſeſſes the ſame properties; for, 1. treated with nitric acid, it yielded a twelfth of its weight of oxalic acid.

2. Diſſolved in water, it rendered this fluid very (tinctucent).

3. This ſolution, left to itſelf in a rather warm temperature, ſoon grew ſour and mouldy

4. Mixed with alcohol, it became turbid, and depoſited a white flaky matter.

5. By diſtilling the dried gummy matter in a retort, the following products were obtained: phlegm, a very ſmall quantity of oil, and the pyro-mucous acid. All theſe fluids had the ſmell of burnt bread, &c.

It is probable that this matter, as it exiſts in this root, is perfectly colourleſs; on cutting ſeveral pretty large bulbs tranſverſely, the fluid, which flowed out ſpontaneouſly, dried upon the ſurface that had been laid bare, and formed a very tranſparent, and entirely colourleſs, pellicle.

The quantity of gum that may be extracted from theſe roots is ſufficiently conſiderable to render its extraction an object worthy of attention. On calculating the expence with which it would be attended, it already appears, that if the extraction were carried on upon a large ſcale, it would not only repay the coſts, but one might alſo hope to obtain ſome profit from it.

Citizen Leroux, after having proſecuted theſe experiments, imagined that he had ſucceeded, by a very ſimple proceſs, in converting the above-mentioned gum into a ſubſtance analogous to the amylaceous matter.

A patent was obtained in June, 1788, by Mr. Francis Blaikie, of Glaſgow, merchant, for the invention (diſcovered to him) of a ſubſtitute for gum, in thickening colours for printing, which fully anſwers the purpoſe, and at a more reaſonable rate.—This article is prepared by boiling flax-ſeed in water, till the whole ſubſtance is completely extracted; the liquor is next to be ſtrained through a linen or woollen cloth, and boiled down to the conſiſtence of a jelly. It is then to be put into a cloſe veſſel, and a ſmall quantity of ſpirits, or ſweet oil, poured on the top, in order to preſerve it in a freſh ſtate. In uſing this ſubſtitute, the printer is directed to put a certain portion into a gallon of *colour*, according to the nature of the latter, and the particular kind of work; while he ſhould regulate himſelf by trial, in the ſame manner as is practiſed in employing common gum.

GUM (*Gumma*), in medicine, is a tumour ariſing out of the ſubſtance of a bone; it is ſo ſoft as to yield to the finger. When theſe tumours are harder they are called *tophs*; when harder ſtill, they receive the name of *nodes*: but the hardeſt tumours in bones are *exoſtoſes*. In venereal patients ſuch tumours often happen on the head, and even in the middle of the moſt ſolid bones. They ſeem to be produced when the veſſels running between the bony laminæ, being either obſtructed or inflamed, are dilated, and ſo raiſe the incumbent laminæ. Perhaps the bone degenerates too into a morbid ſoftneſs. A ſoftneſs of the bones ſometimes ſucceeds abſceſſes of the adjacent parts; and ſometimes the origin of the diſorder is lodged in the ſubſtance of the bone, eſpecially in the lues venerea; gummata have, however, been diſcovered, when no ſuch adequate cauſe could be obſerved. See SURGERY.

GUN (*Encycl.*) The following is the ſpecification of a patent granted to Mr. Proſſer, of Charing Croſs, ſword-cutler, for a water-proof pan and hammer for gun and piſtol locks, and alſo a breech for gun and piſtol barrels, for the purpoſe of a quicker and more forcible exploſion of gunpowder. It

is dated Dec. 9, 1800, and the proprietor thus deſcribes and aſcertains the nature of his invention, and in what manner it is to be performed. A, in plate 32, is the hammer, perforated with a large hole, a little conical, to receive the cylinder B, round which A moves forward and backward. The end, No. 1, of the hammer A, in the inner ſide, has a circular groove, to receive the ward No. 2, which is on the ſcrewed end of the cylinder B. This ward is for the purpoſe of preventing the admiſſion of any water (which may fall between the hammer and the barrel of the gun or piſtol) into the joint. The heel, No. 2, when the cock ſtrikes the hammer A, falls upon the hammer ſpring, and prevents the hammer A going further round on the cylinder B than is neceſſary to expoſe the pan on the cylinder B. At the bottom of the face of the hammer A is a hole, made exactly the ſhape and ſize of the pan in the cylinder B; which hole, when the hammer A is turned round to its extent, admits the fire to fall into the pan on the cylinder B. Inſide of the end, No. 3, of the hammer A, is a female ſcrew, to receive the male ſcrew C into it, which, when ſcrewed into the end No. 3 of A, completely encloſes the end of the cylinder B, ſo as to prevent the admiſſion of water. B, is the cylinder, round which the hammer A acts, and which cylinder may be made of iron, ſteel, or metal, and is made a little conical. In this cylinder the pan and touch-hole are made; at the end of which is a male ſcrew, No. 1, of a ſmaller diameter than the cylinder. This ſcrewed end, No. 1, paſſes through the whole of the end No. 1 of the hammer A, and ſcrews into the female ſcrew of the hole No. 1 of the breech D. This ſcrew goes quite into the chamber of the breech D, and a large conical hole is made in it, quite up to the touch-hole in the pan. This hole is made ſo large as to admit with eaſe the powder that falls into the chamber into it, and brings the bottom of the charge of powder quite cloſe to the prime in the pan. The ſhoulder or ward No. 2, on the end of the cylinder B, when the cylinder B is in the hammer A, works in the circular groove, which is in the inner ſide of the end No. 1 of the hammer A, for the purpoſe before deſcribed. One ſide of the cylinder B is filed away to the ſame ſhape as the hole in the face of the hammer A, ſo as to give no impediment to the falling water of the face of the hammer A, when it is turned round over the pan. The hammer A is prevented falling too near the cock by having a knob of iron on the falſe breech of the barrel. The toe, No. 4, of the hammer A, works upon the uſual kind of hammer ſprings, and might be uſed either with a roller or ſwivel ſpring. The breech D is made of two parts, and are ſcrewed into each other, there being a male and female ſcrew, each half being concaved into nearly equal parts, ſo as to form an oval chamber; at the bottom of which the touch-hole is placed, and at the top the chamber is contracted, ſo as to prevent the ramrod entering into the chamber; by which means the powder is left all looſe, and free from preſſure, and conſequently will more forcibly, and with greater quickneſs, explode on the ſide of the breech D. A ſmall ſcrew, No. 2, is made to ſcrew into the ſcrewed end of the cylinder B, to prevent its turning round with the hammer A when it is operating. The above water-proof hammer and pan can be applied to any gun or piſtol already made, either ſeparate from, or in conjunction with, the breech D. The ſection E is a true repreſentation of the form of the chamber in the breech D, when both parts are ſcrewed together; and of the cylinder B, when ſcrewed into the hole No. 1 of breech D."

GUNDELSINGEN, a town of Bavaria, in the duchy of Neuberg, ſituate on the Brenz, near the Danube, 19 miles N.E. of Ulm. Long. 10. 12. E. Lat. 48. 34. N.

GUNPOWDER *(Encycl.)* Some writers having lately attributed the invention of gunpowder to the Indians, and aſſerted that they employed it in their wars againſt Alexander, the writer of the following remarks was induced to examine the ſubject with ſome attention: he found the beſt account of gunpowder, as known to the Aſiatics in early ages, given by the learned *Caſiri*, in his *Biblioth. Hiſpan.-Arabica*, or Catalogue of the Oriental Manuſcripts depoſited in the Library of the *Eſcurial* in Spain (vol. II. p. 6.) He there digreſſes into a curious little eſſay entitled, "*De Tormentorum bellicorum et nitrati pulveris apud Arabas antiquitate et uſu:*" from which we have extracted and tranſlated the following paſſages:

It is ſufficiently known to thoſe who have made ancient tactics the ſubject of their ſtudy, that the Greeks and Romans uſed miſſile fires, ſuch as torches or flambeaux, burning arrows, and other inſtruments of fiery deſtruction, which they either caſt by means of certain engines and machines, or flung with the hand into the places beſieged.

Vegetius, in his book *De re militari*, and *Leo*, in his *Tactica*, treat very fully of theſe matters. The former, among his precepts to thoſe who ſtudy the art of war, has the following paſſage: "If there ſhould be houſes in the fortreſs, or place beſieged, of ſuch materials as may be eaſily kindled, you may burn them by means of fiery arrows directed various ways, eſpecially if the wind blow violently. You may alſo uſe ſquared ſtones full of fire and *manganica alacotia*, which project ſtones," &c. But among the Greeks and Romans we do not find any mention of *pulvis nitratus*, or gunpowder; and the time of its invention is not exactly aſcertained by the antiquaries. *Charles Du Freſne*, in his *Gloſſar. Med. et inf. Latinit.* (in the word *Bombarda*), informs us, that "the inventor of gunpowder is ſaid to have been a certain chemiſt, a monk, named Berthold *Schwartz*, or *Black;* and, according to the calculation of Bartholomew du Drach, it was uſed in France ſince the year 1338. But the invention has been aſcribed to many others more modern than Schwartz.

The records, however, of the Arabians, trace the uſe of gunpowder to ages of far greater antiquity, among the Perſians and the Africans. Whence it is very probable that the knowledge and uſe of it paſſed from the Arabians to the Spaniards, and from the Spaniards to the French, who, in proceſs of time, improved on the original invention by reducing the crude powder to grains, and blending the various ingredients according to certain rules of compoſition. That this was the caſe, appears from ſeveral Arabic manuſcripts depoſited in the Eſcurial library, and particularly from one (No. MDCXXXIV), of which the author (who flouriſhed in the year 1249) thus deſcribes the various inſtruments of deſtruction by fire uſed in his time among the Arabians: "Scorpions (ſays he), twiſted round and blazing with *nitrous powder*, creep along, hiſſing as they go, and at length exploding, they ſend forth flames like lightning, and burn: then you may behold a *manganum* diſcharged, ſtretching like a cloud through the air, making a noiſe like thunder, and vomiting out fire on all ſides, overthrowing, burning, and reducing all things to aſhes."

From this paſſage it would appear, that our author alluded to the globes or bombs of iron, burſt by means of artificial fire; for he uſes the words *naphta* and *barud*, of which, in thoſe times, gunpowder was compoſed. By the word *barud*, the Perſians, Turks, and Arabians, formerly underſtood *nitre*. At preſent they uſe it to expreſs *nitrous powder*, or gunpowder. *Naphta* ſignifies a kind of bitumen mixt with ſulphur. A noble writer of Granada, *Abu Abdallah Ebn Alkatib*, in his *Hiſtory of Spain* (about the year of Chriſt 1312 and 1323), ſpeaking of the globes or balls exploded by means of naphta over the heads of enemies, has the following paſſage: "Abalvalid Iſmael ben Naſſer, at that time king of Granada,

moving his camp, laid ſiege to the town of *Beza*, where he exploded at the fortified tower, by means of fire, an immenſe machine furniſhed with *naphta* and a globe or ball, making a loud noiſe."

That the uſe of ſuch inſtruments of war obtained among the Arabs, may be gathered from the *Chronicle of Alfonſo XI.* cap. 223, wherein we read, that whilſt Algezira was beſieged (in 1380), the Moors diſcharged many *peals of thunder* upon the army, caſting iron balls equal in ſize to very large apples, ſome of which went ſo far as to paſs the ſtation of the troops, &c. In the ſame work (cap. 227) the matter is more clearly expreſſed: "In the year 1382, five veſſels entered the port, laden with corn, honey, butter, and the powder with which *thunder was darted forth*," &c.

Of the former tranſaction Peter Mexia takes notice in his *Sylva Variæ Lectionis*, lib. 1, cap. 8; but he is ſilent on the other: proving, however, the great antiquity of thoſe machines (in the edition of his work publiſhed in 1570), he mentions a ſea fight between the Tuniſians and Spaniards, in which the ſhips of the Mahometans were furniſhed with iron ordnance, or *bombardas*, diſcharged by means of fire, with great effect upon the enemy. From this circumſtance the author infers, that the inſtruments of deſtruction which we now denominate *artillery*, muſt have exiſted among the Mahometans above four hundred years ago, but leſs perfect than at preſent (1570).

There is alſo a paſſage of *Elmakine* (tranſlated from Arabic into Latin, by Erpenius), which ſhews that the uſe of gunpowder was known to the very ancient Arabs; for he tells us, that in the year of the Hegira 71 (of Chriſt, 690), Hejaje beſieged Mecca, and deſtroyed, by means of fire, the holy Caaba, uſing *manganas* and mortars, with fire and *naphta*.

To theſe may be added the teſtimonies of European writers (apud Fabric. Biblioth. Antiq. p. 636). *Hyde*, in his Hiſt. Shahiludii, p. 175, informs us, that the Indians had for many centuries the uſe of gunpowder, and of machines for ſending forth fire; and that the Chineſe learned the knowledge of them from the Indians; and it appears in his *Var. Obſervat.* p. 89, that the Saracens learned it from the Chineſe; and Joinville, an eye-witneſs, acknowledges that the Saracens uſed inſtruments of fiery deſtruction againſt St. Louis, king of France.

GUNTOOR, one of the Northern Circars, in the peninſula of Hindooſtan. It is alſo called Mortinazagur and Condavir, and occupies the ſpace between Condapilla, the ſouthernmoſt of the four Engliſh Circars, and the N. part of the Carnatie; extending more than 30 miles along the bay of Bengal. The maritime parts of this circar are flat and open, but the interior parts contain ſome very ſtrong fortreſſes and poſts. It is ſubject to the Nizam of the Deccan.

GUNTZBERG, a town of Suabia, in the Margravate of Burgaw, with a caſtle, ſeated on the Danube, 16 miles N.E. of Ulm. Long. 10. 25. E. Lat. 48. 35. N.

GUNTZENHAUSEN, a town of Franconia, 5 miles from Weiſſemburg. It is ſeated on the Altmul, near a foreſt, and ſubject to the King of Pruſſia.

GURIEF, a town of Ruſſia, in the government of Aſtracan, ſeated near the Caſpian Sea, between the mouths of the Ural, 210 miles E. by N. of Aſtracan. Long. 52. 50. E. Lat. 46. 32. N.

GURRAH, a town of Hindooſtan Proper, ſituate near the river Nerbuddah, 168 miles S.S.W. of Allahabad, and 208 S.W. of Benares. Long. 80. 23. E. Lat. 23. 9. N.

GURRAMCONDA, a town of the peninſula of Hindooſtan, in the kingdom of Myſore, 73 miles N.E. of Bangalore, and 112 N.N.W. of Madras. Long. 78. 36. E. Lat. 13. 47. N.

GUSTROW, a city of Germany, in the duchy of Mecklenburg-Schwerin, and capital of the circle of Wenden. The chief courts of judicature for the duchy are held here; and it has an elegant palace, in which the dukes ſometimes reſide. It is 35 miles E. by N. of Schwerin. Long. 12. 13. E. Lat. 53. 57. N.

GUTTA, a town of Hungary, ſeated on the E. ſide of the Danube, oppoſite the iſland of Schut, 25 miles E. by S. of Preſburg. Long. 17. 47. E. Lat. 48. 10. N.

GUTSKOW, a town of Swediſh Pomerania, capital of a county of the ſame name. It is ſeated on the Peene, 14 miles W. of Wolgaſt. Long. 13. 39. E. Lat. 54. 0. N.

GUZERAT, a peninſula of Hindooſtan Proper, 200 miles long and 140 broad, formed by the Arabian Sea and the gulfs of Cambay and Cutch. The weſt part is mountainous and woody, inhabited by a wild hardy race, and governed by rajahs of their own; but the largeſt and fineſt part is included within the extenſive empire of the Mahrattas. Amedabad is the capital.

GWALIOR, an ancient fortreſs of Hindooſtan Proper, in the province of Gohud. It ſtands on a vaſt rock, about four miles in length, but narrow and of unequal breadth, and nearly flat on the top. The ſides are ſo ſteep as to appear almoſt perpendicular in every part; for where it was not naturally ſo, it has been ſcraped away; and the height from the plain below, is from 200 to 300 feet. The rampart conforms to the edge of the precipice all around; and the only entrance is by ſteps running up the ſide of the rock, defended on the ſide next the country by a wall and baſtions. The area within is full of noble buildings, reſervoirs of water, wells, and cultivated land; ſo that it is a little diſtrict within itſelf. At the N.W. foot of the mountain is the town, pretty large, and well built, the houſes all of ſtone. This place is conſidered as the Gibraltar of the Eaſt; but, in 1780, Major Popham took it by an unexpected nocturnal eſcalade. It is 80 miles S. of Agra. Long. 78. 30. E. Lat. 26. 9. N.

GYFHORN, a town of Lower Saxony, in the duchy of Lunenburg, ſeated on the rivers Aller and Iſer, 25 miles N. of Brunſwick. Long. 10. 49. E. Lat. 52. 49. N.

H.

HABITATION, a general name given to any dwelling or place of reſidence calculated for ſhelter and domeſtic accommodation. The term, however, is moſt commonly applied to dwellings of an inferior order: ſuch as the low houſes and cottages in which the poor reſide. The following obſervations on the ſituation of cottages, with a plan for enabling cottagers to build them, is extracted from "An Addreſs to the Landed Intereſt," by William Morton Pitt, Eſq. M.P. publiſhed in 1797.

"There are few pariſhes," ſays the author, "without ſeveral rough, encumbered, and uncultivated tracts of land, which might be converted into large gardens, and on which cottages might be erected, either by ſome of the poor themſelves, to be held on lives, or at the expence of the pariſh, or of the proprietors of eſtates. Where there is no land uncultivated, other grounds, which can be moſt conveniently ſpared, ſhould be allotted to them. Many young men, having ſaved a little money, would be very deſirous of taking ſuch ſpots of ground on leaſes for three lives, and of building cottages thereon. I have frequently remarked that the labourers who poſſeſs this kind of property, are the moſt induſtrious, ſober, and frugal, that they ſeldom apply to their pariſhes for relief, and that their houſes have an appearance of neatneſs and comfort, not often met with elſewhere. If theſe were more attainable by the poor, frugality would revive amongſt them, and young people would ſtrive to lay up a ſum of money for this purpoſe. Every labourer poſſeſſing ſuch property of his own, would conſider himſelf as having a permanent intereſt and ſtake in the country. The hope of improving their lot is the main ſpring of induſtry in all other ſtations in life. Would it not then be policy as well as humanity, to afford to the agricultural poor the ſame opportunity? The wealth and greatneſs of this country has been attributed, not only to the ſpirit of enterpriſe of our merchants and manufacturers, but to the effect which the poſſeſſion and the ſecurity of property, enjoyed under our free and excellent conſtitution, have on the minds of men. If this effect has been ſo ſalutary among other claſſes, why may not ſimilar encouragement create the ſame energy among the cultivators of the land, and why ſhould thoſe alone remain in a diſpirited, and diſtreſſed ſtate?

"To attach this numerous, hardy, and leſs corrupted body of men more and more to their country, nothing would ſo much contribute, as allowing them the means of improving by induſtry their own ſituation in life, or that of their children. A man who owns a houſe, with a large garden annexed to it, on a leaſe for lives, for which he only pays a moderate quit-rent, is richer by far than he who receives much higher wages, but who has to pay a conſiderable rent for a cottage, with little or no garden ground, and who is obliged to purchaſe all he conſumes. The produce of a garden diminiſhes the conſumption of bread, which is the moſt conſiderable article of a poor man's expenditure: it is an advantage wholly created by the cultivator's induſtry, at times when not otherwiſe engaged, and by that of his wife and children; and is therefore ſo much labour, or in other words riches, gained to the community: and the employment gives health and vigour to his children, inures them to fatigue, and trains them to induſtry. The value to him who receives the ground is immenſe, yet it is no loſs to him who grants it. It procures the poor man comfort and plenty; and, by ſo doing, keeps within moderate bounds the wages of labour. Every man, who is averſe to raiſing the wages of labour in huſbandry, ſhould at leaſt encourage the culture of gardens.

"As the land, on which ſuch cottages would be built, will uſually be of an inferior value, it will be enough to eſtimate it, at an average, at 10s. an acre; where the land is better, a higher rent may be added without injuſtice; for, the better the land, the greater will be the advantage to the leſſee from its produce as a garden. The quantity of land to be attached to ſuch a cottage ſhould be half an acre; if it be more than ſufficient to produce the vegetables wanted for a family, a part of it may be ſown with a little wheat for bread, peaſe to fatten the pigs, and barley for malt, to enable them to brew a little ſmall-beer; the want of which induces many to frequent the alehouſe, and proves the ſource of vicious courſes.

"The corn in theſe gardens ſhould be raiſed by dibbling, which is already very much practiſed in many parts of the kingdom. The cultivation of the garden will be chiefly conducted by the wife and younger children of the family (who will thus very ſoon contribute largely to their own ſupport, if not wholly maintain themſelves, ſo that a numerous offſpring will ceaſe to be a great burthen), to which muſt be added a certain proportion of aſſiſtance from the father, at his extra hours. Where 10s. an acre is the value of the land, 5s. per annum muſt of courſe be added, for the half acre of ground, to the quit-rent for the houſe. Let that be 5s. and the whole annual payment will be 10s.; and, when it is conſidered that the proprietor of the eſtate has been at no expence whatſoever in building or repairing the cottage, and that he receives annually the quit-rent for the houſe, in addition to the full rent of the land on which it is built, I think the fine, to be required in putting in a life, ſhould not exceed one year's purchaſe, computed on the real value. The cottager then, who builds a houſe upon this principle, acquires the following advantages; permanency of property, that all improvements are for the benefit of himſelf and his family, reſpectability of ſituation, a diminution of annual expenditure, and that he cannot be removed under any circumſtances.

"This arrangement will anſwer in all caſes, where a labourer has a ſufficiency of money to enable him to build a cottage; but that cannot be the lot of all. Yet a plan may be deviſed, by means of which, a man, having but a ſmall proportion of the ſum requiſite for ſuch an undertaking, may be enabled to adopt it. The owner of the land may, without riſk, advance to any labourer in want of ſuch aſſiſtance, 10l. or even 15l. towards carrying on his work, not to be paid to him in money, but laid out for his uſe as wanted, in the purchaſe of materials, or in wages to the workmen whom he is obliged to call in to aſſiſt him in the conſtruction of his houſe. The cottage itſelf would be a ſufficient ſecurity for the loan; ſince the money will only be iſſued, in proportion, as the work advances. The cottager ſhould pay intereſt, at 5 per cent. and part of the principal, at leaſt 10 per cent. every year. If he fail in making theſe payments, his effects ſhould be liable: or, if the demand be not otherwiſe ſatisfied in a reaſonable time, the houſe itſelf. The ſooner he diſcharges his debt, the better it will be for him; and he will look forward with

impatience to the time of its liquidation, that he may enjoy the effects of his induſtry and ſo comfortable a ſituation. In 10 years, however, at all events, he will be clear from incumbrances, and in the mean while he will have to pay each year not more, and in many parts of England not ſo much as he would have given as annual rent for an ordinary cottage. The landlord would alſo be benefited, by being relieved from the expence of repairs, and by the reduction of poor's rate; he would receive his quit-rent annually, and a fine from time to time, in addition to the full rent of his land, as well as 5 per cent. intereſt on the money lent, the whole debt being diſcharged in 10 years at furtheſt."

To theſe judicious remarks we ſhall annex ſome obſervations on the larger ſort of cottages, and the mode of erecting them, extracted from "Hints to Gentlemen of Landed Property," by Nathaniel Kent, Eſq. publiſhed in 1775.

"The *larger ſort of cottage*," ſays Mr. Kent, "which may ſometimes be preferred, will coſt, when built of brick and tiles, 70l. Theſe might be appropriated to the uſe of labourers of the moſt induſtrious diſpoſition. And, as it would have an excellent effect to make ſome gradation among cottages, as well as farms, it would be highly proper, and uſeful, to lay (beſides half an acre of garden-ground) a ſmall portion of paſture-land, about 3 acres, to each of theſe larger cottages, to enable the occupiers of them to ſupport a cow; which would be a real comfort to their families, as milk is the natural food of children. If we value theſe three acres and a half of land at a guinea an acre upon an average, and add it to the rent of the houſe, it will bring the rent to 6l. 9s. 6d. The value of the cow, if her produce were even ſent to market, would at leaſt amount to 4l.; but being uſed in the family, would, with the aſſiſtance of the garden, enable them to keep a ſow, or two ſtore pigs, which would at leaſt double the market price. As one acre or more of this ground might be mowed every year for hay, the cow might be kept in good order with this quantity; and it would be better worth a cottager's while, to give this rent for this lot of land, than to truſt to the precarious advantage of a common, which always ſtarves his cow in the winter. If it ſhould be alleged, that there is not one cottager in twenty who can afford to buy a cow; this difficulty may be eaſily obviated, by the landlord's letting him a cow, as well as the land, in the manner that dairies are generally let.

"This would be dealing with the poor as we would wiſh to be dealt with ourſelves, in a ſimilar ſituation; but, inſtead of this, cottagers are chiefly left by gentlemen to the farmer's diſpoſal; and, when they are accommodated with a ſmall quantity of land, are obliged to pay, at leaſt, a *double* proportion of rent for it, to what the farmers pay themſelves.

"Warm cottages of this ſort would require much leſs fuel than thoſe in the preſent ſtyle, which is a very conſiderable article to a cottager.

"The next conſideration is, to chooſe a convenient ſituation for cottages. Great farmers are very unwilling to admit them cloſe to their farms; and nothing is more common, than for a poor labourer to be obliged to come a mile, and ſometimes more, to his labour, and return home again at night, in all kinds of weather, after he has done a hard day's work. Cottages ſhould therefore be erected, if poſſible, on ſome ſheltered ſpot, near the farm where the labour lies; and true policy points out, that every farm ought to have a ſufficient number of ſuch uſeful appendages, in proportion to its ſize. Such cottages, under ſome ſuch regulations as theſe, would be of great uſe and ornament to a country, and a real credit to every gentleman's reſidence; as, on the contrary, nothing can reflect greater diſgrace upon him, than a ſhattered miſerable hovel at his gate, unfit for human creatures to inhabit. Upon encouragement like this good tenants would never be wanting. Induſtry would meet with a reward, the poor-rates would neceſſarily be lightened, and population increaſed. A farm thus provided with ſuch a ſufficient number of labourers as might, at all times and ſeaſons, be depended upon, would be of more value on that account. The tenant of ſuch farm would not be ſubject to pay exorbitant wages, as he otherwiſe muſt, on particular occaſions. He would not be obliged to court the vagrant to lend him a precarious aſſiſtance, or to have recourſe to towns, to pick up diſorderly people. In ſummer, beſides the uſual buſineſs of haymaking, he might employ even the women and children, in weeding, and other uſual buſineſs.

"Almoſt every pariſh is, in a great meaſure, ſubject to ſome particular gentleman, who has ſufficient power and influence over it, to correct the preſent grievance, and to ſet a better example. Such gentlemen ſhould conſider themſelves as guardians of the poor, and attend to their accommodation and happineſs: it is their particular buſineſs, becauſe they and their families have a laſting intereſt in the proſperity of the pariſh; the farmers only a temporary one. If a gentleman's fortune be ſo large, that he cannot attend to objects of this ſort, he ſhould, at leaſt, recommend the cottagers to the attention of his agent; and give him ſtrict inſtructions, to act as their friend and protector: for unleſs ſome ſuch check be put upon great farmers, they are very apt to contribute to the demolition, inſtead of the protection of cottages; and when the neſt is deſtroyed, the bird muſt emigrate into ſome other pariſh. A cottager, in this caſe, has no other choice, unleſs it be to make application to the neighbouring juſtice of the peace, for his order to the pariſh-officers to find him ſome other place to lay his head in. If it were not for this excellent law, which obliges pariſh-officers to find habitations for their poor, I am ſorry to remark, that in many pariſhes they would be literally driven into the open fields.

"There is another plan relative to cottages, which generally anſwers extremely well, and that is, to leaſe them off to induſtrious labourers, for the term of three lives, at their nomination; taking a very moderate fine, not exceeding 10l. or 12l. upon a cottage worth about 40s. a-year; reſerving a ſmall quit-rent, not exceeding half a crown a-year, and making it a point to renew any life which drops off, upon one year's value only. This ſcheme is beneficial for landlord and tenant; for though the farmer does not let his cottages for ſo much as he might at rack-rent, yet what he does get is all clear money; and by this means he preſerves the value of all other parts of his eſtate, by keeping up a proper number of inhabitants. The latter finds his account in it, becauſe he makes a ſettlement for his family; and can repair and improve his cottage at leiſure hours with his own hands; and if he be an induſtrious man, he can generally find a friend to lend him his firſt fine on ſuch an occaſion, if he cannot raiſe it himſelf.*

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* "I am perſuaded that if there were a certain number of comfortable cottages, with two or three acres of graſs land each, in proportion to the ſize of the eſtates, to be beſtowed as a reward to labourers of particular good conduct, it would do wonders towards the reduction of the rates, and the preſervation of order; for I have been witneſs to ſeveral ſtriking proofs of this, in two or three labourers, who have been thus favoured; whoſe attachment to their maſters was exemplary, as they were not only

"I ſhould recommend that cottages ſhould be built double; becauſe it will be a conſiderable ſaving in the expence of their erection.—Where pollards are plenty, and bricks ſcarce, it will ſometimes be proper to prefer the wooden-lath and rough-caſt cottages, becauſe half the quantity of timber may be pollards; but, where they are built with brick, the following particulars ſhould be attended to:

"The walls ſhould be fourteen inches thick to the bottom of the chamber-floor, except in the window ſpaces; and the upper part of the walls nine inches. In theſe brick buildings no framed timber ſhould be uſed: but the lintel of the windows ſhould be laid the whole length of the building, nine inches ſcantling by two and a half; and then the ſame piece will ſerve to lay joiſts upon, which ſhould be pinned with oaken pegs, which will prove a great tie to the walls. The joiſts ſhould be cut eight inches by two and a half, and laid edgeways. The length of the ſpur to be 10 feet, being a proper pitch for tiling; and to be cut two inches and a half thick, five at bottom, and three and a half at the top. The lower rooms to be ſeven feet high, in the clear, under the joiſts. In the largeſt ſized brick cottages, the roof to be hipped in at the ends, which will have the two peaks of brickwork, and will not require more tiling, than would be made uſe of without it. One great advantage derived from hipping, is, in the building's being better braced together, and more ſecure from the effect of tempeſts; for, where the gable ends are carried up in peaks, to any conſiderable height, without chimneys to ſtrengthen them, they are not ſo well fitted to reſiſt an end-wind.

"The ceiling ſhould be between the joiſts, nailing firſt a few laths at about a foot apart, croſs-ways, and the other laths length-ways over them; otherwiſe the mortar has nothing to get hold of. This makes leſs expence than ceiling over the joiſts; and is beſides better calculated to retain the mortar, and will afford more ſpace; for the joiſts, being left naked, will be very uſeful to hang many things to. The ceiling joiſts upon the top of the chamber need be only five inches by one and a quarter, and may be nailed to the ſpars-feet, and not pinned. The other ſcantlings are as follow: The partition ſtuds three inches by two. The lower cills ſix inches by five. The window-frames three inches by three. Lower door-caſes five inches by four. Croſs mantle-pieces for the chimneys eight inches by eight.

"In the wooden cottages, the frame-ſtuds are to be ſix inches by five. The intermediate, or ſmaller ſtuds, five inches by three. The girt-pieces ſix inches by five, and the upper cill five inches ſquare."

HABITE *and* REPUTE, in Scots law, the common opinion of the people, among whom a perſon lives, with reſpect to any circumſtance relating to him.

HADAMAR, a town of Germany, in Weteravia, with a caſtle, ſeated near the Elſs, 22 miles N.W. of Mentz. Long. 8. 0. E. Lat. 50. 23. N.

HADLEY, a village in Eſſex, five miles S.W. of Rochford. Here are ſome conſiderable ruins of a caſtle, on the brow of a ſteep hill, on a channel of the Thames between Canvey Iſland and the ſhore.

HADLEY, a village in Middleſex, N. of Barnet. Over the weſt door of the church is the date 1498, and on the top of the ſteeple is an iron pitch-pot, originally placed there as a beacon.

HAGENBACH, a town of Germany, in the palatinate of the Rhine, 12 miles S.E. of Landau. Long. 8. 7. E. Lat. 48. 59. N.

HAGENBURG, a town of Weſtphalia, in the county of Schauenburg, 15 miles W. of Hanover, and 46 S.S.E. of Bremen. Long. 9. 7. E. Lat. 52. 30. N.

HAGGERSTOWN, or ELIZABETH TOWN, a flouriſhing town of Maryland, in the fertile valley of Conegocheague. It carries on a conſiderable trade with the weſtern country, and is 73 miles N.W. of Baltimore.

HAGIAR, a town of Arabia Deſerta, 87 miles N. of Medina. Long. 39. 25. E. Lat. 25. 30. N.

HAILBRON, a free imperial town of Suabia, in the duchy of Wirtemburg. The inhabitants, who are Proteſtants, derive a great advantage from the baths near it, whence the town has its name, which ſignifies the fountain of health. It is ſeated on the Neckar, over which is a ſtone bridge, 25 miles N. by E. of Stutgard. Long. 9. 15. E. Lat. 49. 9. N.

HAIMBURG, a town of Lower Auſtria, on the Danube, 10 miles W. of Preſburg, and 25 E. of Vienna. Long. 16. 58. E. Lat. 48. 12. N.

HAIN, a town of Upper Saxony, in Miſnia. It has a manufacture of cloth, and is ſeated on the Rhedar, 12 miles N.W. of Dreſden.

HAINBURG, a town of Auſtria, on the Danube, 35 miles E. of Vienna. Long. 17. 18. E. Lat. 48. 14. N.

HAINGEN, a town of Suabia, in the lordſhip of Gundelfingen, 21 miles W.S.W. of Ulm. Long. 10. 2. E. Lat. 48. 12. N.

HAIR-POWDER. On the licence for wearing this, there is a tax of one guinea per annum, with the following exemptions: Nothing in the act ſhall extend to any of the royal family, or to any of the immediate ſervants of his majeſty, or any of the royal family, ſerving in any of the capacities deſcribed in the act impoſing a duty on ſervants.

Neither ſhall it extend to charge any clergyman who ſhall not be poſſeſſed of an annual income of one hundred pounds, or upwards, whether ariſing from eccleſiaſtical preferment or otherwiſe. Nor any preacher of any congregation of Diſſenters, or any perſon diſſenting from the church of England in holy orders; or pretended holy orders, entitled to the benefit of the ſeveral ſtatutes made for the relief of diſſenters; or perſons profeſſing the Popiſh religion; and who ſhall not be poſſeſſed of an annual income of one hundred pounds or upwards, however ariſing.

Neither ſhall the act extend to charge any ſubaltern or non-commiſſioned officer, or private man, in the army, artillery, militia, marines, corps of engineers, or fencible corps;—nor any officer employed in the navy under the rank of commander;—nor any officer or private man in any corps of yeomanry or volunteers, either cavalry or infantry, *voluntarily enrolled for the defence of the kingdom during the war.*

Parents having more than two unmarried daughters, being aſſeſſed for them in twice the duty of a ſingle perſon wearing hair powder, ſuch aſſeſſment ſhall exempt the whole.

Perſons claiming exemption are to prove their right; and the income of beneficed clergymen is to be eſtimated on the average of ſeven years.

If a maſter pay the hair-powder duty for his ſervants (returning a liſt), they ſhall be exempted from it during their continuance in his ſervice, and their ſucceſſors during the year for which it is paid.

ſteady in themſelves, but by their example kept others from running into exceſs. *I know of no law that can enforce induſtry; it may be encouraged and great good will reſult from it; but it never can be effected by compulſion."—Kent's Agricultural Survey of Norfolk.*

HALDENSLEBEN, a town of Lower Saxony, in the principality of Magdeburg, 12 miles N. of Magdeburg.

HALLENBERG, a town of the duchy of Weſtphalia, 62 miles E. of Cologne.

HALVA, a town of the kingdom of Fez, ſeated on the Cebu, eight miles S. of Fez. Long. 5. 5. W. Lat. 33. 32. N.

HAMAR, a town of Norway, in the government of Aggerhuys, 60 miles N.E. of Chriſtiana. Long. 11. 5. E. Lat. 60. 30. N.

HAMARS, a town of France, in the department of Calvados, 13 miles S.S.W. of Caen.

HAMBACH, a town of Weſtphalia, in the duchy of Juliers, five miles S.E. of Juliers. Long. 6. 38. E. Lat. 50. 54. N.

HAMBACH, a town of the upper palatinate of Bavaria, ſix miles N.N.W. of Amberg. Long. 12. 10. E. Lat. 49. 33. N.

HAMBLEDON HILL, near Sturminſter, in Dorſetſhire. Here was a Roman camp, and many Roman coins have been dug up. It is the antagoniſt camp to that of Hog Hill, and extends E. and W. three quarters of a mile.

HAMBURGH (*Encycl.*). The following is extracted from an account of the management of the poor at Hamburgh, by that truly benevolent prelate, the Biſhop of Durham.

In the beginning of the year 1788, an inſtitution was formed for the poor at Hamburgh. Of 110,000* inhabitants in Hamburgh, there were above 7000 diſtreſſed perſons in want of regular relief, beſides an average of 2500 in the hoſpitals.—There were peculiar circumſtances attending this great and commercial city, which contributed to increaſe the number of poor, requiring aſſiſtance;—ſevere winters, heavy taxes on the neceſſaries of life, fluctuation of trade, the attraction of the poor from neighbouring countries in expectation of employment; and a great number of female ſervants at very low wages, of whom many muſt neceſſarily remain unprovided for, when age or ſickneſs ſhould unfit them for active ſervice.

As ſoon as the outline of the plan was agreed upon, an arrangement was formed, that ſuch revenues as till then had been expended in alms by the ſeveral churchwardens, and thoſe the adminiſtration whereof had been connected with the workhouſe, ſhould be united under one adminiſtration with the monies to be collected from private benevolence. The moſt reſpectable inhabitants went round perſonally to collect ſubſcriptions; and the town was divided into ſixty diſtricts, each being allotted to the care of three overſeers; and the whole being under the direction of a board, or committee of fifteen directors, elected from among the overſeers.

The general object was to provide comfort and ſubſiſtence for the aged, and for thoſe afflicted with incurable diſeaſe, or labouring under temporary ſickneſs; to ſupply the means of occupation for thoſe who could work; and, by giving education and employment to children, to afford the moſt beneficial relief to thoſe burthened with large families.

For the reception of the aged, a public building, or aſylum, was provided; but in caſes where they had friends, who would receive them, they were allowed as much as their expence in the aſylum would have amounted to. For the ſick, and particularly for women at a period when they have the greateſt need of charitable relief, medical aſſiſtance was provided. For the different diſtricts in the town there were appointed five phyſicians, five ſurgeons, and five midwives, who upon notice were to attend the lodging of the patient, if not capable of going abroad. Food and medicine were immediately ſupplied, with ſo much attention and economy, that, in the courſe of the three firſt years, 12,969 poor perſons had been attended in ſickneſs, whoſe cure (including broth and an occaſional ſupply of other food) had not coſt more, upon an average, than 3*s*. 6*d*. each.

For a proviſion for the children of the poor, where, from the vice or the deceaſe of a parent, no ſuitable home remained for the child, they boarded them in the houſes of the better ſort of poor. In other caſes they allow the mother † a weekly ſum for the younger children. They alſo prepared a warm room in every pariſh, and bread, milk, and potatoes in plenty; ſo that parents, who went out to work, might leave their young children there during the day, and thus prevent any obſtacle to their own induſtry, or to that of their elder children. At the ſame time they came to a determination, "that no family ſhould be allowed any relief for any child above ſix years of age; but that ſuch child, being ſent to ſchool ‡, ſhould receive not only payment for its work, but alſo an allowance in the compound ratio of attendance at ſchool, good behaviour, and application to work." For the inſtruction of the children, three ſorts of ſchools were opened:—the firſt for thoſe who had no other employment; theſe were ſchools of occupation as well as inſtruction: the ſecond, evening ſchools for the education of children who worked with their parents during the day;—the third were Sunday ſchools, which continued alike open to all, as well to thoſe who had gone into ſervice in Hamburgh, as to children on the ſchool liſt. The average number in theſe ſchools were 600; the expence of them about £.700. a-year.

The moſt difficult part of the undertaking ſtill remained:—

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* This account is extracted from an excellent publication on the ſubject by Mr. Voght, publiſhed in 1796, by Kay, No. 332, Strand; and from the twenty-third report of the directors, publiſhed in German at Hamburgh in January, in 1798. The firſt is earneſtly recommended to the attention of thoſe who intereſt themſelves in the welfare of the poor: the latter, it is hoped, the ſociety will be able to get tranſlated, and publiſhed for the peruſal of the Engliſh reader.

† See Mr. Voght's excellent work, publiſhed by Kay, as above ſtated. His obſervations on the removal of children from their parents are feeling and judicious.—"We were averſe (ſays he) to place the children in a general hoſpital, and the poor mothers would have been ſtill more ſo."—May all the favourers of thoſe houſes, ſuch as they are, ſeriouſly reflect whether the advantages they offer, can compenſate for the education of the heart, which nature yields in thoſe huts of poverty, where both parties become ſo neceſſary to each other; and where heroic exertions of parental and filial piety are not ſeldom become habitual. Would the humane and philoſophical obſerver look through the rags of pale miſery; calculate the ſacrifices daily made there in many families, and amongſt neighbours; and enjoy the rapture with which a mother embraces her ſon, whom ſhe ſees eagerly devour *the crumb of bread that ſhe had refuſed to her own wants*; the annals of the poor might reconcile him to human nature, when diſguſted with the liſt of crimes which blacken the page of its hiſtory.

‡ It ſhould be obſerved that this was in a *town*, where children can attend ſchool conveniently. In the country (we ſpeak from obſervation) great prejudice, both to the health and to the morals of children, attends their being ſent to and returning from a diſtant ſchool, or manufactory, at early and late hours, and in all variety of weather and ſeaſon.

that of procuring regular and ſuitable employment for thoſe who could work; and of aſcertaining who were, and who were not able. A reſolution was adopted, "not to permit any one to receive a ſhilling, which he would have been able to have earned for himſelf; and at the ſame time to reduce the ſupport of thoſe, who required relief, below the ſcale of what any induſtrious perſon, in ſuch circumſtances, could earn." Printed queries were ſent to the poor, the anſwers to which were written on the blank column of the page, verified by the evidence of their neighbours, and by the perſonal attendance of the overſeer, or (where the ſtate of health was in queſtion) of the phyſician. Many of the queries were calculated to aſcertain the average earning of each member of the family: but in this reſpect the truth was, for ſome time, very difficult to be obtained; it being the intereſt of the party, to make his capacity for work appear leſs than it really was.

A manufactory for ſpinning flax exiſted at that time in Hamburgh. The proprietor gave it up to the inſtitution, together with the ſtock, the teachers, and the experience of ſeveral years. As the poor who wanted relief, were chiefly women and children, this was adopted as their general work. The clean flax was ſold to the women at a certain and low price; and the yarn which they ſpun, purchaſed of them at £.30. per cent. above the uſual rate. To whatever fineneſs the yarn was ſpun, the whole profit was received by the poor. Every poor woman brought with her work a book, in which the pieces delivered in by her were noted; ſo that ſhe thereby received a certificate of induſtry, and the inſtitution had a regular account always before them of the employment of the poor. In the mean time, the men and larger boys (who were not the numerous or neceſſitous part of the poor) were employed in mending the roads, cleaning the ſtreets, making rope yarn, and other labour, at a certain allowance per day.

After theſe general preparations were made, the committee conceived that they could now offer relief to all ſorts of poor; as they had the means of enforcing the only condition required;—that of their contributing towards their own ſupport, the degree of exertion which they were capable of. The overſeers therefore went through the ſtreets, and made enquiries if any inhabitants were in need of relief. Thoſe who applied, if capable of work, were ſupplied with employment; if prevented by want of ſkill, they were admitted into a ſchool opened for that purpoſe; and in the courſe of three months were taught to ſpin; being allowed for the firſt week a gratuity of two ſhillings: every week after, two pence leſs; and, in the twelfth week, diſmiſſed with the donation of a pound of flax, and a ſpinning wheel.

The quantity of work, which the diſabled poor were capable of, was eaſily and accurately aſcertained by a week's trial at the ſpinning ſchool. The reſult was produced weekly before a ſub-committee; and the ſum that each poor perſon could earn, was entered in a book: from that time they were paid weekly, what their earnings fell ſhort of 1*s.* 6*d.* a-week, whenever it appeared by their book, that they had earned to the known extent of their abilities. The means of ſubſiſtence however, are much cheaper at Hamburgh than in London.

In the proportion of two ſhillings a-week, an allowance was made for their lodging. But as this is paid every ſix months, and the pauper's allowance is weekly, it was thought proper (except in caſes where the lodging was otherwiſe provided for) to retain four pence a-week, for the purpoſe of paying the landlord's rent; thereby keeping the poor out of debt, and giving them a more comfortable habitation, than what otherwiſe they could have expected.

Clothing and bedding were at firſt much wanted; but in order to prevent their being pawned or ſold, it was thought proper to mark them as the property of the inſtitution, which the pauper was to keep while he behaved well. The committee purchaſed the materials by wholeſale, and employed ſome of the poor in making them up. They were delivered to the pauper on the recommendation of the overſeer, counterſigned by the director of the diſtrict; or to children, upon the recommendation of the ſub-committee of the ſchools.

A complete liſt of the poor being at length obtained, public notice was given, in the month of October, 1788, that no deſerving poor perſon could or would, in future, remain unnoticed. Inſtructions were very generally diſtributed among the poor, as to the mode of obtaining relief; and the public was intreated to inform the committee, if any pauper had not been duly attended to.—No ſuch caſe has hitherto occurred.

It was eſtabliſhed as a general rule, that three years' reſidence in Hamburgh ſhould entitle the party to relief; allowance being alſo made for accidents, illneſs, or child-bed; which, in all caſes, were held to be proper objects of charity. A place of reception was opened for foreign poor, where they were taken care of for three days, and then diſcharged with the means of ſubſiſtence home. At the ſame time, in order to prevent the further influx of other poor, it was prohibited to receive any ſtranger, without informing the magiſtrate or overſeer, under pain of bearing all the expence of ſupporting ſuch ſtranger, if he ſhould become an object of charity within three years.

Theſe general regulations have been ſtrictly adhered to for ten years; except in the caſes of poor perſons being ill, when they have ſick tickets given them, which exempt them from the general rules; and during the moſt ſevere winter weeks, when a regular increaſe of allowance is ordered by the committee. But no inequality of diſtribution is ever admitted, whatever may have been the prior ſituation of the party. Thoſe who had formerly been in a more reſpectable ſituation, continued to be the proper objects of private benevolence; of which no public inſtitution ought to ſuperſede the exertions.

The conduct of the inſtitution is in the general committee, conſiſting of fifteen directors. They appoint four ſub-committees from among themſelves; one for manufactures, another for the ſchools, a third for clothing, and a fourth for the police of the poor. The ſub-committees have each their ſeparate officers, and keep diſtinct accounts, which are given in every month to the treaſurer and the board.

Ten of the directors are ſelected; each one of them ſuperintending ſix of the ſixty diſtricts, to receive from the overſeers accounts of what is wanted in the reſpective diſtricts for fixed ſupport, for occaſional relief, for accidents, and for diſcretionary aſſiſtance; which, when certified by the director of the diſtrict, is ſent for payment to the treaſurer; whoſe accounts are laid every month before the committee, and checked by the director's certificate. Theſe ten directors may be conſidered as "the advocates for the inſtitution," to prevent, in their ſeveral diſtricts, exceſs of expence.

From the enquiries made at the commencement of the inſtitution, it appeared that there were more than 4,000 women, 2,000 children, and 1,000 men, then in Hamburgh in the utmoſt want * of immediate relief. The whole number conſiſted of 7,391 individuals, and compoſed 3,903 families.

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* The poor at Hamburgh had been habituated to live almoſt entirely on a miſerable beverage, which was *called coffee*, and ſold in meſſes, with about half a pound of indifferent bread. This wretched ſubſtitute for food they took twice a-day. About

The firſt clothing of ſo great a number of deſtitute perſons, would have exceeded the powers of the inſtitution, but for the quantity of ready-made ſhirts and other apparel, which the ladies ſupplied with a liberal hand. Clothing and ſchools for inſtruction are now wanted only for the children.

The purchaſe of ſpinning wheels, and of other inſtruments of employment, and the ſupport of ſchools where 500 grown perſons were at the ſame time inſtructed in ſpinning, added to the allowance made to the poor for the loſs of time while they were learning to ſpin, occaſioned a very enormous expence at the commencement of the inſtitution. But this was not of long continuance. The ſchools for teaching ſpinning to grown perſons ſoon became unneceſſary; 3,354 ſpinning wheels had been given to thoſe who had proved themſelves able to ſpin. Theſe were employed in ſpinning, when more lucrative employment was not to be found. 2,000 poor, who at the time they entered the ſchool could do nothing at all, have ſince earned from eight pence to twenty pence a-week, at times, and during hours, which were formerly entirely loſt to them. The average of all expences attending the employment of the poor during three years, up to December, 1796, including the loſs upon the ſale of manufactured goods, has been only £.611 per annum; and, in the worſt caſes that have occurred, the expence of enabling a pauper to earn five guineas a-year, has not been more than half-a-guinea.

It will not be a ſmall recommendation to many perſons, that ſince the year 1788 *ſcarce a beggar has been ſeen at Hamburgh.* But there is another much more important circumſtance; the decreaſe of ſickneſs and miſery among the poor. The average mortality of the medical inſtitution at Hamburgh, before 1788, had been above one in ten. In the year 1789, it was greatly reduced, and has ſince, by a gradual progreſs, diminiſhed to leſs than one in twenty.—This and the extenſion of the ſchools, and of the benefit of the medical inſtitution to perſons *not actually entitled to relief*, has greatly diminiſhed, and muſt ſtill have a much greater effect in diminiſhing, the liſt of diſtreſſed poor, and in increaſing the number of induſtrious and thriving citizens at Hamburgh.

Observations.—The diviſion of *labour* has not produced more extraordinary effects in a well-conducted manufactory, than the diviſion of *attention* in a well-arranged inſtitution. The giving to every acting member his peculiar and appropriate duty, not interfered in by any other perſon, as has been done with great effect at Hamburgh, is of the utmoſt importance in every eſtabliſhment. Thoſe who have attended much to the conduct of charities, muſt have had frequent occaſion to regret, that, even among the beſt-intentioned men, more time, and more power, is often waſted in the counteraction and controverſion of petty and trivial meaſures, than in the furtherance of the real objects of the inſtitution. This is the *friction*, the impediment of action, the obſtruction to progreſs, which it is moſt eſſential to prevent; and it is in this reſpect, that the benevolent and enlightened founders of the inſtitution at Hamburgh, have been peculiarly judicious and ſucceſsful.

The maxims adopted at Hamburgh in the execution of their plan, are very deſerving of attention:——"That every allowance, which ſuperſedes the neceſſity of working, becomes a premium to idleneſs:—that labour, not alms, ſhould be offered to all who have any ability to work, however ſmall that ability may be:—that one ſhilling, which the poor man earns, does him more real ſervice than two which are given him:—that, if the manner in which relief is given is not a ſpur to induſtry, it becomes in effect a premium to ſloth and profligacy;—and that, if the mere ſupport of a pauper is above what any induſtrious perſon in the ſame circumſtances could earn, idleneſs will become more profitable than induſtry, and *beggary* a better trade than the *workſhop*." In proportion as the conductors of the inſtitution at Hamburgh have rigidly adhered to theſe maxims, they have found the benefit extended and increaſed; whenever they have relaxed, the *thermometer of induſtry* has been lower, and leſs work has been done.

One great cauſe of the ſucceſs of the inſtitution at Hamburgh has been the *publicity* and *regularity* of the accounts. Without this all charities become jobs, the directors grow indifferent to public approbation or cenſure, and the adminiſtration falls into the hands of under officers, who ſoon learn ſo to entangle the buſineſs, that no ſubſequent director is ever able to unravel the clue.

That which has been done in Hamburgh, by the cooperation of its beſt and wiſeſt citizens, has been effected at Munich by the abilities and perſeverance of one truly diſtinguiſhed individual, Count Rumford. (See Soup in this Supplement.) The particulars of that eſtabliſhment are ſo well and ſo generally known, that it is unneceſſary for us to enter into the detail of them. The inſtitution has, in both inſtances, been wiſely adapted to the circumſtances and condition of the reſpective places;—at Munich with additional power, from the eſtabliſhment being blended with the government of the ſtate, and producing an influence on the country, of which that city is the capital; and from its being connected with a variety of uſeful and extraordinary inventions and improvements, which Count Rumford has made, and *is now making*, for the benefit of mankind.

HAMERSTEIN, a caſtle and village of Germany, belonging to the elector of Treves. The caſtle is ſeated on a lofty mountain, on the E. ſide of the Rhine, two miles N. by W. of Andernach.

HANSBACH, a town of Bohemia, in the circle of Leitmeritz, with manufactures of cotton, thread, and paper, 12 miles N. of Kamnitz.

HANSFELDEN, a town of Germany, in the duchy of Stiria, eight miles N.N.W. of Judenburg.

HAN-TCHONG-FOU, a large and populous city of China, in the province of Chenſi. It has 16 cities of the ſecond and third claſs under its juriſdiction, and is ſeated on the river Han, 845 miles S.W. of Pekin. Long. 106. 55. E. Lat. 32. 45. N.

HAN-YANG-FOU, a populous and commercial city of China, in the province of Hou-quang. It has one city under its juriſdiction.

HARDBERG, a town of Germany, in the duchy of Stiria, 52 miles S. of Vienna. Long. 16. 12. E. Lat. 47. 22. N.

HARDEGSEN, a town of Lower Saxony, in the principality of Calenberg, with a conſiderable manufacture of leather, 10 miles N.W. of Gottingen.

HARDENBERG, a town of Weſtphalia, in the duchy

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two years ago, the directors introduced the uſe of Count Rumford's ſoups, with great benefit to the poor at Hamburgh. It has been a ſaving of 9 parts in 16, or rather more than half the former expence of their food. Children, in particular, have derived great advantage in health and ſtrength from the uſe of theſe ſoups. The ſaving to the inſtitution in reſpect of fuel, by the introduction of Count Rumford's boilers, is ſtated in the Report (which contains a great deal of minute and curious detail in reſpect to fuel as well as food) to have been rather more than 61 parts in 66; the coſt of their fuel, which is very ſcarce at Hamburgh, being at preſent not a tenth of what it was.—*Hamburgh Report of Jan.* 1798.

of Berg, 13 miles E.N.E. of Duſſeldorp. Long. 6. 43. E. Lat. 51. 19. N.

HARDENBURG, a town of Overyſſel, ſituate on the Vecht, 10 miles S.W. of Covoerden.

HARLEBECK, a town of Auſtrian Flanders, on the river Lis, three miles N.E. of Courtray. Long. 3. 29. E. Lat. 50. 52. N.

HARLESTON, a town in Norfolk, with a market on Wedneſday, ſeated on the Waveney, 16 miles S. of Norwich, and 100 N.E. of London. Long. 1. 20. E. Lat. 52. 26. N.

HARMONDSWORTH, a village in Middleſex, two miles E. by N. of Colnbrook. It is remarkable for one of the largeſt barns in England, whoſe ſupporting pillars are of ſtone, and ſuppoſed to be of great antiquity.

HARNESS (*Encycl.*). The following is the ſpecification of a patent granted to Mr. Dickinſon, of Long-acre, for certain improvements in the conſtruction of ſaddles, harneſs, and other gear, uſed for the employ of horſes and other animals in riding or carrying loads, or in drawing carriages of any deſcription. It is dated November 10, 1801.

"Whereas (ſays the inventor), in the conſtruction of the ſaddles, and other gear and appendages hitherto made or manufactured, the ſeveral parts have generally poſſeſſed no elaſticity, except that ſlight degree which might depend upon the nature of the materials themſelves, and it conſequently follows, that ſaddles and cruppers are either girthed too tight, ſo as to impede the reſpiration of the animal, and ſo as to endanger their breaking, or ſo looſely as to render the ſeat of the rider more or leſs unſafe, and very ſeldom can be fixed with that exact degree of tenſion which is beſt adapted to every uſeful purpoſe. And, moreover, in the adjuſtment of the crupper, and with the breaſt-plate, a difficulty of the ſame nature preſents itſelf, namely, that in the firſt tenſion of theſe, if the ſame be too looſe, the ſaddle will not be duly confined to its place, or if the ſame be too tight, the animal will be very much incommoded, and in either caſe, when by ſudden jerks, or other motions, the breaſt-plate or crupper, or girth, ſhall be required to produce their reſpective effects, the parts will either break, or elſe the action, particularly of the crupper upon the tail of the animal, will be ſudden, unqualified, and pernicious. Now my ſaid improvements in the conſtruction of, and additions to the ſaddles, harneſs, and other gear aforeſaid, conſiſt in certain ſprings, or elaſtic portions, interpoſed between, and in effect conſtituting parts of the ſaid inſtruments or parts; that is to ſay, more particularly, I improve the conſtruction of ſaddles, by affixing one or more ſpiral ſprings, ſimilar to thoſe uſed in the ſmall inſtrument for weighing, commonly called ſpring ſteel-yards, unto thoſe parts of the ſaddle to which the girths, the crupper, and the breaſt-plate, are reſpectively to be faſtened. The ſaid ſpiral ſprings are ſo lodged in certain cavities, ſheaths, or receptacles, that a piece of catgut or wire, or chain, or other fit material, paſſing within the cavity of the ſpring, and faſtened to, or bearing againſt one end of the ſaid ſpring, ſhall, when drawn or acted upon, cauſe the turns of the ſpring to approach more nearly together, and conſequently cauſe it to re-act againſt the ſaid catgut or rod, or chain, or other fit material, and tend to draw the ſame towards the ſaddle itſelf. I fix to the end of the ſaid catgut, rod, chain, or other fit material, ſtraps or buckles, or other faſtenings, for the ready fixing of the girth, breaſt-plate, and crupper, in the uſual manner. And moreover, in ſome caſes, where convenience or choice may cauſe the preference, I fix the ſaid ſpiral ſprings within proper ſheaths or receptacles, of metal, wood, cloth, leather, or other fit material, ſo as to form a ſeparate piece capable of being applied or attached between the ſaddle, and the extremity of the girth, breaſt-plate, or crupper, reſpectively, ſo as to communicate to the ſaid appendages the effect of its own elaſtic extenſibility in the longitudinal direction or otherwiſe. I fix the ſaid ſprings ſo fitted up in the breaſt-plate and crupper in ſuch a manner, that the ſame ſhall conſtitute parts of thoſe appendages to the ſaddle, and communicate the ſame effect as in the other caſes juſt deſcribed. And further, I do hereby declare, that I do not confine myſelf in the ſtructure and uſe of the ſprings or elaſtic parts of my ſaid invention to any ſuch preciſion of figure or material as not to allow of conſiderable variations. The ſprings may be made to act by drawing the convolutions or turns further apart, inſtead of compreſſing the ſame together, as before deſcribed. The wire of which the ſprings are made, may be taken of any fit metal, but ſteel is the beſt, and it may be either round, ſquare, or of any other figure, as to its ſection or baſe, and the ſprings may be either ſtraight or curved, according to the numerous well-known forms of ſprings, and the application thereof; but I conſider the ſpiral or helix, as before deſcribed and applied, as the cheapeſt, moſt convenient, and as good as any. On ſome occaſions I make uſe of a ſimple ſtrap or piece of Indian rubber, or *caoutchouc*, inſtead of the ſprings; the uſe of which ſprings is ſupplied by the natural elaſticity of the ſaid *caoutchouc*; but I do not conſider this laſt material as deſerving any general preference, becauſe its ſpring or elaſtic force is greatly weakened by heat, and in cold weather it becomes rigid, and liable to ſnap."

HARO, a town of Spain, in Old Caſtile, the chief place of a county; ſeated on the Ebro, 32 miles N.E. of Burgos. Long. 2. 23. W. Lat. 42. 40. N.

HARPONELLY, a town of the peninſula of Hindooſtan, capital of a diſtrict of the ſame name, in the Myſore country, 152 miles N.N.W. of Seringapatam. Long. 75. 28. E. Lat. 14. 40. N.

HARRISBURG, a town of Pennſylvania, capital of the county of Dauphin, ſituate on the E. branch of the Suſquehanna, 86 miles W. by N. of Philadelphia. Long. 76. 55. W. Lat. 40. 15. N.

HARRODSBURG, a town of Kentucky, in the county of Mercer, on the head waters of the Salt River, 60 miles S.E. of Louiſville.

HARTENSTEIN a town of Upper Saxony, in the lordſhip of Schonburg, ſix miles S.E. of Zwickau.

HARTFORD, a commercial town of Connecticut, divided by a ſmall river, over which is a bridge. It is ſeated on the W. ſide of the river Connecticut, 50 miles from its entrance into the Sound, and 30. S.W. of Boſton. Long. 72. 35. W. Lat. 41. 50. N.

HARTZGERODE, a town of Upper Saxony, in the principality of Anhalt Bernburg, ſituate near the Hartz mountain. The walls and houſes are built of a motley kind of marble. It has a mine office and a caſtle; and is 24 miles S.W. of Bernburg, and 44 W.S.W. of Deſſau. Long. 11. 2. E. Lat. 51. 46. N.

HASLINDEN, a town in Lancaſhire, with a market on Wedneſday, 16 miles N. by W. of Mancheſter, and 196 N.N.W. of London. Long. 2. 16. W. Lat. 53. 40. N.

HASTENBECK, a town of Lower Saxony, in the principality of Calenberg, near which the French, under Marſhal d'Eſtrees, gained a victory over the Duke of Cumberland, in 1757. It is five miles S.E. of Hamelin.

HAT (*Encycl.*). A patent was granted in January 1782 to Mr. Robert Golding, of Southwark, hat-dyer; for his method of dyeing, ſtaining, and colouring beaver hats green, or any other colour. The inventor directs the nap of the hat to be raiſed by means of a *card*, on the ſide intended to be dyed, and then boiled in alum argol. A thin paſte ſhould be made of flour, or clay, which is ſpread over every part that is not

to be dyed, and then cloſed; or the hat may be previouſly paſted, and inſtead of being boiled, it ſhould only be ſimmered in the ſame liquor. As ſoon as the paſte is ſpread, plates of copper or other metal, ſhaped like a common funnel, are fixed over the paſte, to prevent the dye from penetrating through. In this ſtate the hat is immerſed in the dye, till the colour be ſufficiently fixed; when it is taken out, opened, and cleanſed from the paſte: but if any colouring particles have penetrated through the felt, they may be removed by rubbing them with a ſmall quantity of ſpirit of ſalt, aqua fortis, &c. The compounds employed in dyeing, are fuſtic, turmeric, ebony, ſaffron, alum, argol, indigo, and vitriol, with urine, or pearl-aſh, at the option of the dyer; all of which are uſed together, or ſeparately, according to the colour required.

Among the different patents granted to hatters, for diſcovering new materials in this manufacture, ſuch as that of Mr. J. Burn, in 1792, for *mole-fur*; and another to Mr. J. Tilſtone, in 1794, for *kid-hair*; we ſhall firſt notice an invention of Mr. George Dunnage, who, in November 1794, obtained a patent for his *Water-proof Hats*, in imitation of beaver.

The articles he employs are ſimilar to thoſe commonly uſed for the making of hats, with which he mixes Bergam, Piedmont, or Organzine ſilk. Theſe are dreſſed and worked in a peculiar manner; though we underſtand that hats thus prepared become heavy and oppreſſive to the wearer, while they acquire an ugly colour.—The curious reader will find the patentee's ſpecification inſerted, at full length, in the 4th vol. of the *Repertory of Arts and Manufactures*. The ſame manufacturer procured another patent in November 1798, for a method of ventilating the crowns of hats. This invention conſiſts in ſeparating the top from the ſides of the crown, ſo that the tip, or top-crown, may be either raiſed or let down at pleaſure, in order to admit the external air, or to exclude it from circulating in the crown of the hat. The whole contrivance is effected by means of ſprings, ſliders, ſockets, grooves, loops, and caſes, which are connected with the top and ſide-crown: thus the admiſſion or excluſion of atmoſpheric air in front, behind, or on either ſide, may be regulated accordingly.—As this invention is ingenious, we refer the reader to the 10th vol. of the work laſt quoted, where he will find a minute account given of it.

The following is the ſpecification of a patent granted to Meſſrs. Walker and Alphey, for making and manufacturing caps and hats, and rendering them perfectly water-proof; as alſo all kinds of leather, ſilks, linen, cotton, ſtuffs, paſteboard, and other manufactures and ſubſtances, for the purpoſe of being worked up into boots, ſhoes, gaiters, women's hats or bonnets, and other wearing apparel, ſo as to be uſed on all occaſions, where the repelling of wet or moiſture may be required. It is dated November 3, 1801, and the patentees expreſs themſelves in the following terms:

"For the making and manufacturing of our new-invented caps, which are principally intended for the uſe and wear of the military, we take a ſuitable piece or pieces of manufacture, called paſteboard, and cover both ſides thereof with linen cloth, or any other texture wrought in a loom, which we cement thereto by glue or paſte, or paſte and glue mixed, out of which the cap is then cut and ſhaped on a block, or otherwiſe, according to the ſhape and faſhion the ſame is ordered to be made, and as circumſtances may require. The ſeams or joinings of the paſteboard are united by ſewing, and by glue or paſte, or paſte and glue mixed; and alſo by ſlips of leather, linen, or other wove texture, glued or paſted over the ſame, both inſide and outſide, where found neceſſary. It is then painted both inſide and outſide, with any kind of oil-paint, or oil and lamp-black (which latter is greatly to be preferred), with one or more coats, as circumſtances may require: when this is dry, it is then to be covered with one or more coats of Japan or varniſh, mixed with lamp-black or ivory-black. The peak or rim of the cap, together with the cape behind, agreeable to the quality and faſhion ordered to be made, is alſo to be painted, japanned, or varniſhed, on one or both ſides, as may be thought neceſſary, in like manner as the other parts of the cap are. When the peak or rim, together with the cape and lining, are affixed to the crown, in the uſual manner, the cap is then finiſhed, excluſive of any ornament or ornaments that may be thought proper to affix to the ſame. The men's hats are made in the ſame manner, and with the ſame materials as the crown of the cap, except being principally covered with ſilk, linen, cotton, or other texture, wrought in a loom, cemented to the paſteboard in like manner as deſcribed for the cap. And alſo except that ſuch breadth is given to that ſide or inner part, or edge of the flap, or rim, that is next the crown, as will admit of its being notched and turned up, ſo as to lie cloſe to the ſide of the crown, and is to be united thereto by ſewing. And, with the ſame cement as applied to the cap and other articles, the parts ſo turned up, ſewed, and cemented to the crown, are to be covered with leather, or any texture wove in a loom: the whole is then to be painted, japanned, or varniſhed, on one or both ſides, as may be thought proper, and in like manner as the caps. The preparation of leather for boots, ſhoes, gaiters, or other articles where a power of repelling wet is required, is to be painted, japanned, or varniſhed, in like manner as the caps are, on one or both ſides as may be found neceſſary. When this operation is performed upon leather, it muſt be upon ſuch leather only which has not been dreſſed with oil, or any other greaſy ſubſtance. The preparatinns of paſteboard, and ſilk, linen, cotton, ſtuffs, or any other texture wrought in a loom, for the purpoſe of making ſhoes, gaiters, women's hats or bonnets, are to be painted, japanned, or varniſhed on one or both ſides, as may be found neceſſary, in like manner as the caps are herein-before ſpecified to be done."

The following duty on hats commenced October 2, 1784, by the act 24 Geo. III. c. 51.

	£.	d.
Licence to ſell hats retail in London, Weſtminſter, Borough, and within the Bills of Mortality	2	0 0
Ditto in other parts of the kingdom	0	5 0
No hats to be ſold without ſuch licence, under forfeiture of	50	0 0
And "Dealers in hats" to be written over the door, under forfeiture of	2	0 0
Duty on every hat of 4s. or under	0	0 3
Ditto above 4s. and not exceeding 7s.	0	0 6
Ditto above 7s. and not exceeding 12s.	0	1 0
Ditto above 12s. and upwards	0	2 0

And by *the New Act*, 36 *Geo.* III. *c.* 125, it is enacted that, after Aug. 5, 1796, the above duty ſhall be calculated according to the full price of the hat, and of all the mountings and other ornaments (except gold and ſilver lace) ſold therewith.

And every hat made wholly of felt, wool, ſtuff, beaver, or leather, or any mixture therewith, ſhall be liable to the duties.

And every ſuch hat, after Aug. 5, 1796, ſhall, previous to the ſale and delivery, be lined or covered in the inſide of the crown with ſilk, linen, or other proper materials, with a durable ſtamp affixed thereon to denote the above duties.

And, after Aug. 5, 1796, if any perſon (other than licenſed dealers buying hats from other licenſed dealers) ſhall

receive on ſale, or if any perſon ſhall, after April 5, 1797, *wear or uſe* any hat wherein no lining or inſide covering ſhall be affixed, or if the lining or covering ſhall not be ſtamped according to this act, or not have the ſtamp placed therein in a viſible manner, every ſuch perſon ſhall forfeit 10l.

And no perſon (other than manufacturers or dealers ſelling to other dealers) ſhall ſell or exchange any hat wherein no lining or inſide covering ſhall be affixed, or wherein there ſhall be a lining that ſhall not be ſtamped, or that ſhall not be ſtamped with a ſtamp placed in the inſide of the crown ſo as to be viſible, or that ſhall be ſtamped with a ſtamp of leſs value than required, on pain to forfeit 10l.

Perſons carrying about hats for ſale without any lining, or with a lining not duly ſtamped, may be apprehended and carried before a magiſtrate, and the apprehender, on conviction of the offender, is to be entitled to 40s. and the offender in ſuch caſe is to be committed to the houſe of correction for not exceeding ſix nor leſs than two calendar months.

And if any perſon ſhall take out of any hat the ſtamped lining after the ſame ſhall have been uſed or worn, with intent to affix the ſame to any other hat, or ſhall affix any ſuch ſtamped lining after the ſame ſhall have been uſed or worn, ſuch perſon ſhall forfeit 20l.

Shapes for linings may be ſent to the office to be ſtamped; and an account of the numbers brought, and the duties, are to be entered in a book, and the ſhapes to be then ſtamped, on payment of the duty. Or the commiſſioners may open accounts at the Stamp Office with dealers or manufacturers, and ſtamp the linings on credit, if ſuch dealers or manufacturers enter into ſuch bond as the commiſſioners ſhall direct for payment of the amount of the duty, at ſuch times as the commiſſioners may fix, not being at leſs than two payments in the year.

And the commiſſioners are to make ſuch regulations as they ſhall think fit, as well to prevent the concealment of the ſtamp upon the linings, as to prevent the ſtamps from being made uſe of again; which regulations, being printed, ſhall be delivered to all dealers upon their taking out their licence.

Dealers may ſend any number of hats, not leſs than one dozen at one time, wherein a lining ſhall then be affixed, to be ſtamped; and they may ſell to other dealers lined hats for ſale for home conſumption, or to any perſons for exportation, without being ſtamped.

Perſons are not liable to penalty for wearing hats ſtamped according to the former act, if they were worn before Aug. 5, 1796; but proof of that, and alſo that the duty has been paid, lies on the owner of the hat.

Perſons offending, diſcovering the other party, if convicted, freed from the penalty.

Stamped linings damaged, or ſtamps under the former act not uſed, may be cancelled by the commiſſioners, and exchanged for others.

Such diſcount to be made on purchaſing ſtamps to the amount of 10l. as the commiſſioners of the Treaſury ſhall direct.

Price of hats in bargains or bills to be diſtinguiſhed from duties.

Hats, not leſs than a dozen in a package, may be exported unlined, or with unſtampt linings.

Perſons counterfeiting ſtamps, &c. guilty of felony.

The pecuniary penalties are to be divided (if ſued for within the ſpace of ſix calendar months), one moiety to his Majeſty and the other to the informer; and may be recovered, with coſts, either in the Court of Exchequer, or before one Juſtice of the Peace, in a ſummary way. And if witneſſes neglect or refuſe to give evidence, the penalty is 5l.

HATTENGEN, a town of Weſtphalia, in the county of Marek, ſeated on the Roer, 17 miles E.N.E. of Duſſeldorp. Long. 7. 14. E. Lat. 51. 17. N.

HATTENHEIM, a town of Germany, in the electorate of Mentz, ſituate on the Rhine, 12 miles W. of Mentz.

HAUENSTEIN, a town of Suabia, capital of a county of the ſame name, in the Auſtrian Briſgau. The county contains rich mines of iron, and is divided into eight communities. The town is ſituate near the Rhine, 13 miles N.W. of Baden.

HAVERING BOWER, a village in Eſſex, three miles N.E. of Rumford. It was once the ſeat of a royal palace, in which died Joan queen of Henry IV.

HAUTE-RIVE, a town of France, in the department of Upper Garonne, ſeated on the Arriege, 10 miles S. of Toulouſe. Long. 1. 26. E. Lat. 43. 26. N.

HAUTVILLIERS, a town of France, in the department of Marne, with a late famous rich abbey. It is ſeated on the Marne, 20 miles S. by E. of Rheims.

HAWICK, a town in Roxburgſhire, ſeated on the Tiviot, amid wooded rocks, cataracts, and bridges, 15 miles S.W. of Kelſo.

HAWKERS *(Encycl.)*. The following are abſtracts from the Acts for granting duties on hawkers, pedlars, and petty chapmen; and for regulating their trade.

By 29 Geo. III. c. 26. from Auguſt 1, 1789, the following duties ſhall be paid by every hawker, pedlar, petty chapman, and every other trading perſon or perſons, going from town to town, or to other men's houſes, and travelling either on foot, or with horſe, horſes, or otherwiſe, in England, Wales, or the town of Berwick-upon-Tweed, carrying to ſell, or expoſing to ſale, any goods, wares, or merchandizes, a duty of 4l. per annum.

Every perſon ſo travelling with a horſe, aſs, or mule, or other beaſt bearing or drawing burthen, the additional ſum of 4l. yearly for each beaſt he or ſhe ſhall ſo travel with, over and above the firſt-mentioned duty of 4l.

Perſons applying for licences to produce a certificate of their good character, ſigned by the clergyman of the pariſh and two reputable inhabitants.

Hawkers are to mark on every pack, box, bag, trunk, caſe, cart, waggon, or other vehicle of conveyance, and every room or ſhop in which they ſhall trade, and likewiſe upon every handbill or advertiſement which they ſhall diſtribute, the words *licenſed hawker*, with the number, name, or other mark of diſtinction, written or printed upon the reſpective licences, in large Roman capitals, under a penalty of 10l. for every offence. Unlicenſed perſons ſo marking their packs, &c. to forfeit 10l.

Hawkers ſelling ſmuggled goods, or goods fraudulently procured, either by themſelves or others, with their privity or knowledge, ſhall forfeit their licences, and for ever be incapable of obtaining a new licence, over and above the penalties inflicted on illegal trafficking.

Nothing herein ſhall authorize any hawker to open a room or ſhop, and expoſe to ſale any goods by retail, in any town, pariſh, or place, not being a houſeholder there, or the ſame not being an uſual place of his abode, or of his carrying on buſineſs, nor to ſell any goods by auction, on the penalty of 50l. for every offence.

Every perſon forging or travelling with a forged or counterfeit licence ſhall forfeit 100l.

Every perſon lending or letting his licence to hire, and every perſon travelling or trading with a borrowed licence, ſhall forfeit 40l. and the licence of the perſon lending it ſhall be from thenceforth forfeited and void, and he or ſhe ſhall be utterly incapable of having any licence again.

It ſhall be lawful for any perſon whatſoever to ſeize and detain any hawker who ſhall be found trading without a licence, or ſhall refuſe to produce to ſuch perſon a licence according to this act, or after being required ſo to do, for a reaſonable time, in order to give notice to a conſtable, headborough, tithingman, or other peace officer, who are hereby required to carry ſuch perſons ſo ſeized, unleſs they ſhall in the mean time produce their reſpective licences, before ſome juſtice of the peace, who upon proof by confeſſion of the party offending, or by the oath of one or more credible witneſſes of the like offence, and no licence being produced by ſuch offender before the ſaid juſtice, he is required by warrant under his hand and ſeal to cauſe the ſaid ſum of 40l. [this is a miſtake in the act, for the penalty of trading without a licence is only 10l.] to be levied by diſtreſs, rendering the overplus, if any, to the owner of the goods, after deducting the charges of the ſaid diſtreſs.

It ſhall and may be lawful for any perſon or perſons authorized by two commiſſioners, ſhewing that ſuch authority, or upon demand of any juſtice of the peace, mayor, conſtable, or other officer of the peace where the hawker ſhall trade, or by any officer of the cuſtoms or exciſe, to demand any hawker found trading to produce a licence according to this act, and upon refuſal, or not having his licence ready to produce, ſhall forfeit 10l. and for non-payment thereof the juſtice may, by 35 Geo. III. c. 91. levy the ſame by diſtreſs and ſale of goods, and in the mean time he may commit the offender to gaol, there to remain until the penalty is levied by diſtreſs, or until the ſame ſhall be paid thereon.

Every conſtable, &c. refuſing to aſſiſt in the execution of this act, ſhall on conviction by the oath of one or more credible witneſs or witneſſes before a juſtice of the peace, forfeit 10l. for each offence.

The clauſes reſtricting hawkers from ſelling in market towns, except on a fair or market day, is repealed by 35 Geo. III. c. 91.

Hawkers, &c. who were licenſed on May 1, 1789, may ſet up, occupy, uſe, or exerciſe, any craft, myſtery, or occupation, in the place where they are reſident inhabitants, though not brought up thereto by apprenticeſhip, and may employ therein perſons who have not been apprentices, notwithſtanding the act of 5 Eliz. and if they ſhall be proſecuted may plead the general iſſue.

Nothing in this act ſhall extend to prohibit any perſons from ſelling any printed papers, licenſed by authority, or any fiſh, fruits, or victuals, nor to hinder any perſons who are the real workers or makers of any goods, wares, or manufactures of Great Britain, or his, her, or their children, apprentices, agents, or ſervants, from carrying abroad, expoſing to ſale, and ſelling by retail or otherwiſe, any of the ſaid goods, wares, or manufactures, in any mart, market, or fair, and in every city, borough, town corporate, and market town; nor any tinkers, coopers, glaziers, plumbers, harneſs-menders, or other perſons uſually trading in mending kettles, tubs, houſehold goods, or harneſs whatſoever, from going about and carrying with him or them proper materials for mending the ſame.

No wholeſale dealer in Britiſh goods, ſelling by wholeſale only from houſe to houſe, to be deemed a hawker.

Penalties above 20l. are to be recovered with coſts in any of his Majeſty's courts of record at Weſtminſter, by action of debt, &c. one moiety to his Majeſty, and the other moiety to the perſon who ſhall inform or ſue for the ſame.

Penalties under 20l. ſhall be recoverable before a juſtice, either by confeſſion of the party, or by oath of one or more credible witneſs or witneſſes, and appropriated as above. And in caſe of non-payment, ſhall be levied by diſtreſs; and if not ſufficient diſtreſs, to be committed to priſon for any term not leſs than one and not exceeding three months.

Perſons aggrieved may appeal to the quarter-ſeſſions.

Witneſſes who ſhall neglect to appear, or refuſe to be examined on oath, ſhall forfeit 10l. Defendants may plead the general iſſue, and recover treble coſts.

HAWKINS (Sir John), was the youngeſt ſon of a man who, though deſcended from the great admiral of that name, followed the buſineſs of a carpenter, though he became afterwards a ſurveyor and builder. He was born in London, March 30, 1719, and educated for his father's profeſſion; having, however, previouſly acquired ſome knowledge of Latin at two different ſchools. He changed his plan after this, and was articled to Mr. John Scott, an eminent attorney and ſolicitor, who, it ſeems, took little pains to make him acquainted with the practice of the law. This marked neglect, however, rather ſharpened the diligence of his pupil, who, by abridging himſelf of his reſt, and devoting all his hours of leiſure to private ſtudy, not only rendered himſelf an able lawyer but acquired a knowledge of general literature, particularly of poetry and muſic, for which he had a natural taſte. More eſpecially to cultivate the latter, in the year 1741, he, with others, inſtituted a muſical club under the name of the *Madrigal Society*; and he afterwards became a member of the Academy of Ancient Muſic.

His advancement in life was greatly promoted by his marriage with the daughter of Peter Stover, eſq. of Highgate, in 1753; and his fortune was a few years afterwards conſiderably augmented by the death of that lady's brother in 1759, on which occaſion he quitted the buſineſs of an attorney. In 1761, on the recommendation of his friend Paul Whitehead, his name was inſerted in the commiſſion of the peace for Middleſex; and he did himſelf much credit, not only as an active and uſeful magiſtrate, but by framing an act of parliament, now in force, for the repair of the highways. In 1763 he aſſiſted Dr. Johnſon, and Sir Joſhua, then Mr. Reynolds, in forming a literary club at the Turk's Head in Gerard-ſtreet. In 1764 he ſtood forward as an oppoſer of the unreaſonable claims, made on the public purſe, by the city of London, on the rebuilding of Newgate. His oppoſition being ſucceſsful, he was afterwards (in 1765) appointed to the vacant ſituation of Chairman of the Quarter-ſeſſions; and in 1772 his activity, as a magiſtrate, in ſuppreſſing riots, at the time of the Middleſex elections, procured him the honour of knighthood. Dr. Johnſon, who, at the commencement of Sir John's profeſſional career as a ſolicitor, had occupied an apartment in his houſe, in Clement's-lane, Lombard-ſtreet, and who had always entertained ſentiments of kindneſs towards him, on making his will, in 1783, appointed him one of his executors. Sir John Hawkins, as a literary character, was more remarkable for induſtry than genius. Beſides contributing to an edition of Shakſpeare by Johnſon and Stevens, he wrote: 1. The Complete Angler. 2. An hiſtory of the Science and Practice of Muſic. 3. The Life and Writings of Dr. Samuel Johnſon, in 11 vols. 8vo.: and alſo many fugitive pieces. He died on the 21ſt of May, 1789, of a palſy, and was interred in the cloiſters of Weſtminſter abbey.

HAWKSHEAD, a town in Lancaſhire, with a market on Monday, 24 miles N.N.W. of Lancaſter, and 273 of London. Long. 3. 6. W. Lat. 54. 24. N.

HAWS-WATER, a lake in Weſtmoreland, S. of Penrith, three miles long, and half a mile over in ſome places. It is almoſt divided in the middle by a promontory of incloſures, ſo that it conſiſts of two ſheets of water.

HAYE, a town of France, in the department of Indre

and Loire. It is the birth-place of Des Cartes, and ſeated on the Creuſe, 25 miles S. of Tours, and 135 S.W. of Paris. Long. 0. 46. E. Lat. 46. 56. N.

HAYLSHAM, a town in Suſſex, with a market on Saturday, 12 miles E. of Lewes, and 58 S.E. of London. Long. 0. 20. E. Lat. 50. 55. N.

HAZEBROUCK, a town of France, in the department of the North, 18 miles W. of Liſle, and 19 S. of Dunkirk. Long. 2. 26. E. Lat. 50. 43. N.

HEADFORD, a town of Ireland, in the county of Galway, 12 miles N. of Galway. Long. 0. 3. W. Lat. 53. 29. N.

HEAD OF ELK, or ELKTON, a town of the United States, in Maryland, ſituate near the head of Cheſapeak Bay, on a ſmall river of its own name. It enjoys great advantages from the carrying trade between Baltimore and Philadelphia, being about 50 miles from each.

HEAN, a town of Tonquin, on the river Domea, 20 miles S. of Cachao, and 80 N. of the bay of Tonquin.

HEAT *(Encycl.)*. The following important obſervations on the uſe of ſteam as a vehicle for conveying heat from one place to another, by Count Rumford, are inſerted in the Journals of the Royal Inſtitution of Great Britain.

"More than fifty years ago," ſays Count Rumford, "Colonel William Cook, in a paper preſented by him to the Royal Society, and publiſhed in their Tranſactions, made a propoſal for warming rooms by means of metallic tubes filled with ſteam, and communicating with a boiler ſituated out of the room; which propoſal was accompanied by an engraving, which ſhewed, in a manner perfectly clear and diſtinct, how this might be effected. Since that time this ſcheme has frequently been put in practice with ſucceſs, both in this country and on the Continent*.—Many attempts have likewiſe been made, at different periods, to heat liquids by means of ſteam introduced into them; but moſt of theſe have failed: and, indeed, until it was known that fluids are non-conductors of heat, and, conſequently, that heat cannot be made to *deſcend* in them (which is a recent diſcovery), theſe attempts could hardly ſucceed; for, in order to their being ſucceſsful, it is abſolutely neceſſary that the tube which conveys the hot ſteam ſhould open into the *loweſt part* of the veſſel which contains the liquid to be heated, or on a level with its bottom; but as long as the erroneous opinion obtained, that heat could paſs in fluids *in all directions*, there did not appear to be any reaſon for placing the opening of the ſteam-tube *at the bottom of the veſſel*, while many were at hand which pointed out other places as being more convenient for it.

"But to ſucceed in heating liquids by ſteam, it is neceſſary, not only that a ſteam ſhould enter the liquid at the bottom of the veſſel which contains it, but alſo that it ſhould enter it *coming from above*. The ſteam-tube ſhould be in a vertical poſition, and the ſteam ſhould *deſcend* through it previous to its entering the veſſel, and mixing with the liquid which it is to heat; otherwiſe this liquid will be in danger of being forced back by this opening into the ſteam-boiler; for the hot ſteam being ſuddenly condenſed on coming into contact with the cold liquid, a vacuum will neceſſarily be formed in the end of the tube; into which vacuum the liquid in the veſſel—preſſed by the whole weight of the incumbent atmoſphere—will ruſh with great force, and with a loud noiſe; but if this tube be placed in a vertical poſition, and if it be made to riſe to the height of ſix or ſeven feet, the liquid which is thus forced into its lower end will not have time to riſe to that height before it will be met by ſteam, and obliged to return back into the veſſel.—There will be no difficulty in arranging the apparatus in ſuch a manner as effectually to prevent the liquid to be heated from being forced backwards into the ſteam boiler; and, when this is done, and ſome other neceſſary precautions to prevent accidents are taken, ſteam may be employed with great advantage for heating liquids; and for keeping them hot, in a variety of caſes, in which fire, applied immediately to the bottoms of the containing veſſels, is now uſed.

"In dyeing, for inſtance, and in brewing, and in the proceſſes of many other arts and manufactures, the adoption of this method of applying heat would be attended not only with a great ſaving of labour and of fuel, but alſo of a conſiderable ſaving of expence in the purchaſe and repairs of boilers, and of other expenſive machinery: for when ſteam is uſed inſtead of fire for heating their contents, boilers may be made extremely thin and light; and, as they may eaſily be ſupported and ſtrengthened by hoops and braces of iron, and other cheap materials, they will coſt but little, and ſeldom ſtand in need of repairs. To theſe advantages we may add others of ſtill greater importance: boilers intended to be heated in this manner may, without the ſmalleſt difficulty, be placed in any part of a room, at any diſtance from the fire, and in ſituations in which they may be approached freely on every ſide. They may moreover eaſily be ſo ſurrounded with wood, or with other cheap ſubſtances, which form warm covering, as moſt completely to confine the heat within them, and prevent its eſcape. The tubes by which the ſteam is brought from the principal boiler (which tubes may conveniently be ſuſpended juſt below the ceiling of the room) may, in like manner, be covered, ſo as almoſt entirely to prevent all loſs of heat by the ſurfaces of them; and this to whatever diſtances they be made to extend.

"In ſuſpending theſe ſteam-tubes, care muſt, however, be taken to lay them in a ſituation *not perfectly horizontal* under the ceiling, but to incline them at a ſmall angle, making them riſe gradually from their junction with the top of a large vertical ſteam-tube, connecting them with the ſteam-boiler, quite to their furtheſt extremities: for, when theſe tubes are ſo placed, it is evident that all the water formed in them, in conſequence of the condenſation of the ſteam in its paſſage through them, will run backwards, and fall into the boiler, inſtead of accumulating in them, and obſtructing the paſſage of the ſteam, which it would not fail to do were there any conſiderable bends or wavings, upwards and downwards, in theſe tubes; or of running forward, and deſcending with the ſteam into the veſſels containing the liquids to be heated, which would happen if theſe tubes inclined *downwards* inſtead of inclining upwards, as they recede from the boiler.

"In order that clear and diſtinct ideas may be formed of the various parts of this apparatus, even without figures, I ſhall diſtinguiſh each part by a ſpecific name: the veſſel in which water is boiled in order to generate ſteam, and which, in its conſtruction, may be made to reſemble the boiler of a ſteam-engine, I ſhall call the *ſteam-boiler*: the vertical tube, which, riſing up from the top of the boiler, conveys the ſteam into the tubes (nearly horizontal) which are ſuſpended from the ceiling of the room, I ſhall call the *prime conductor*: to the horizontal tubes I ſhall give the name of *horizontal con-*

* Although one ſhould naturally imagine that the notoriety of theſe facts would have been ſufficient to prevent all attempts in our days to claim a right to this invention, yet it is ſaid that a patent for it was taken out only a few years ago.

ductors, or ſimply *conductors of ſteam*: and to the (ſmaller) tubes, which, deſcending perpendicularly from theſe *horizontal conductors*, convey the ſteam to the liquids which are to be heated, I ſhall, excluſively, appropriate the appellation of *ſteam-tubes*.

"The veſſels in which the liquids are put that are to be heated I ſhall call the *containing veſſels*.—Theſe veſſels may be made of any form; and, in many caſes, they may, without any inconvenience, be conſtructed of wood, or of other cheap materials, inſtead of being made of coſtly metals, by which means a very heavy expence may be avoided.

"Each *ſteam tube* muſt deſcend perpendicularly from the *horizontal conductor* with which it is connected to the level of the bottom of the *containing veſſel* to which it belongs; and, moreover, muſt be furniſhed with a good braſs cock, perfectly ſteam-tight; which may be beſt placed at the height of about ſix feet above the level of the floor of the room.

"This *ſteam tube* may either deſcend *within the veſſel* to which it belongs, or *on the outſide of it*, as ſhall be found moſt convenient. If it comes down on the outſide of the veſſel, it muſt enter it at its bottom, by a ſhort horizontal bend; and its junction with the bottom of the veſſel muſt be well ſecured, to prevent leakage. If it comes down into the veſſel, on the inſide of it, it muſt deſcend to the bottom of it, or at leaſt to within a very few inches of the bottom of it; otherwiſe the liquid in the veſſel will not be uniformly and equally heated.

"When the ſteam tube is brought down on the inſide of the containing veſſel, it may either come down perpendicularly, and without touching the ſides of it, or it may come down on one ſide of the veſſel, and in contact with it.

"When ſeveral ſteam tubes, belonging to different containing veſſels, are connected with one and the ſame horizontal ſteam conductor, the upper end of each of theſe tubes, inſtead of being ſimply attached by ſoldering to the under ſide of the conductor, muſt enter at leaſt one inch within the cavity of it; otherwiſe the water reſulting from a condenſation of a part of the ſteam in the conductor, by the cold air which ſurrounds it, inſtead of finding its way back into the ſteam boiler, will deſcend through the ſteam tubes and mix with the liquids in the veſſels below; but when the open ends of theſe tubes project upwards within the ſteam conductor, though it be but to a ſmall height above the level of its under ſide, it is evident that this accident cannot happen.

"It is not neceſſary to obſerve here, that, in order that the ends of the ſteam tubes may project within the *horizontal conductor*, the diameters of the former muſt be conſiderably leſs than the diameter of the latter.

"To prevent the loſs of heat ariſing from the cooling of the different tubes through which the ſteam muſt paſs in coming from the boiler, all thoſe tubes ſhould be well defended from the cold air of the atmoſphere, by means of warm covering; but this may eaſily be done, and at a very trifling expence. The horizontal conductors may be incloſed within ſquare wooden tubes, and ſurrounded on every ſide by charcoal duſt,—fine ſaw-duſt,—or even by wool;—and the ſteam tubes, and prime conductor, may be ſurrounded, firſt by three or four coatings of ſtrong paper, firmly attached to them by paſte or glue, and covered with a coating of varniſh, and then by a covering of thick coarſe cloth. It will likewiſe be adviſable to cover the horizontal conductor with ſeveral coatings of paper; for if the paper be put on to them while it is wet with the paſte or glue, and if care be taken to put it on in long ſlips or bands, wound regularly round the tube in a ſpiral line, from one end of it to the other, this covering will be uſeful, not only by confining more effectually the heat, but alſo by adding very much to the ſtrength of the tube, and rendering it unneceſſary to employ thick and ſtrong ſheets of metal in the conſtruction of it.

"However extraordinary and incredible it may appear, I can aſſert it as a fact, which I have proved by repeated experiments, that if a hollow tube, conſtructed of ſheet copper $\frac{1}{20}$ of an inch in thickneſs, be covered by a coating only twice as thick, or $\frac{1}{10}$ of an inch in thickneſs, formed of layers of ſtrong paper, firmly attached to it by good glue, the ſtrength of the tube will be *more than doubled* by this covering. I found by experiments, the moſt unexceptionable and deciſive—of which I intend at ſome future period to give to the public a full and detailed account,—that the ſtrength of paper is ſuch, when ſeveral ſheets of it are firmly attached together with glue, that a ſolid cylinder of this ſubſtance, the tranſverſe ſection of which ſhould amount to only one ſuperficial inch, would ſuſtain a weight of 30,000 lb. avoirdupois, or above 13 tons, ſuſpended to it, without being pulled aſunder or broken. The ſtrength of hemp is ſtill much greater, when it is pulled equally, in the direction of the length of its fibres. I found, from the reſults of my experiments with this ſubſtance, that a cylinder of the ſize above mentioned, compoſed of the ſtraight fibres of hemp, glued together, would ſuſtain 92,000 lb. without being pulled aſunder.

"A cylinder, of equal dimenſions, compoſed of the ſtrongeſt iron I could ever meet with, would not ſuſtain more than 66,000 lb. weight; and the iron muſt be very good not to be pulled aſunder with a weight equal to 55,000 lb. avoirdupois.

"I ſhall not, in this place, enlarge on the many advantages that may be derived from a knowledge of theſe curious facts. I have mentioned them now in order that they may be known to the public; and that ingenious men, who have leiſure for theſe refearches, may be induced to turn their attention to a ſubject, not only very intereſting, on many accounts, but which promiſes to lead to moſt important improvements in mechanics.

"I cannot return from this digreſſion without juſt mentioning one or two reſults of my experimental inveſtigations relative to the force of coheſion, or ſtrength of bodies, which certainly are well calculated to excite the curioſity of men of ſcience.

"The ſtrength of bodies of different ſizes, *ſimilar in form*, and compoſed of the *ſame ſubſtance*,—or the forces by which they reſiſt being pulled aſunder by weights ſuſpended to them, and acting in the direction of their lengths, *are not in the ſimple ratio of the areas of their tranſverſe ſections*, or of their *fractures*;—but in a higher ratio;—and this ratio is different in different ſubſtances.

"The *form* of a body has a conſiderable influence on its ſtrength, *even when it is pulled in the direction of its length*.

"All bodies, even the moſt brittle, appear to be *torn aſunder*, or their particles ſeparated, or fibres broken, *one after the other;* and hence it is evident, that that *form* muſt be moſt favourable to the ſtrength of any given body, pulled in the direction of its length, which enables the greateſt number of its particles, or longitudinal fibres, to be ſeparated to the greateſt poſſible diſtance—ſhort of that at which the force of coheſion is overcome,—before any of them have been forced beyond that limit.

"It is more than probable that the apparent ſtrength of different ſubſtances depends much more on the number of their particles that come into action before any of them are forced beyond the limits of the attraction of coheſion, than on any ſpecific difference in the intenſity of that force in thoſe ſubſtances.

" But to return to the ſubject more immediately under conſideration.—As it is eſſential that the ſteam employed in heating liquids, in the manner before deſcribed, ſhould enter the containing veſſel at, or very near, its bottom, it is evident that this ſteam muſt be ſufficiently ſtrong, or elaſtic, to overcome, not only the preſſure of the atmoſphere, but alſo the additional preſſure of the ſuperincumbent liquid in the veſſel; the ſteam boiler muſt, therefore, be made ſtrong enough to confine the ſteam, when its elaſticity is ſo much increaſed by means of additional heat, as to enable it to overcome that reſiſtance. This increaſe of the elaſtic force of the ſteam need not, however, in any caſe, exceed a preſſure of five or ſix pounds upon a ſquare inch of the boiler, or *one third part, or one half*, of an atmoſphere.

" It is not neceſſary for me to obſerve here, that in this and alſo in all other caſes, where ſteam is uſed as a vehicle for conveying heat from one place to another, it is indiſpenſably neceſſary to provide *ſafety valves* of two kinds;—the one for letting a part of the ſteam eſcape, when, on the fire being ſuddenly increaſed, the ſteam becomes ſo ſtrong as to expoſe the boiler to the danger of being burſt by it;—the other for admitting air into the boiler, when, in conſequence of the diminution of the heat, the ſteam in the boiler is condenſed, and a vacuum is formed in it; and when, without this valve, there would be danger, either of having the ſides of the boiler cruſhed, and forced inwards by the preſſure of the atmoſphere from without; or of having the liquid in the containing veſſels forced upwards into the horizontal ſteam conductors, and from thence into the ſteam boiler. This laſt-mentioned accident, however, cannot happen, unleſs the cocks in ſome of the ſteam tubes happen to be open. The two valves effectually prevent all accidents.

" The reader will, no doubt, be more diſpoſed to pay attention to what has here been advanced, on this intereſting ſubject, when he is informed that the propoſed ſcheme has already been executed on a very large ſcale, and with complete ſucceſs; and that the above details are little more than exact deſcriptions of what actually exiſts.

" A great mercantile and manufacturing houſe at Leeds, that of Meſſrs. Gott and Company, had the courage, notwithſtanding the mortifying prediction of all their neighbours, and the ridicule with which the ſcheme was attempted to be treated, to erect a *dyeing-houſe*, on a very large ſcale indeed, on the principles here deſcribed and recommended.

" On my viſit to Leeds the laſt ſummer, I waited on Mr. Gott, who was then mayor of the town, and who received me with great politeneſs, and ſhewed me the cloth halls, and other curioſities of the place; but nothing he ſhewed me intereſted me half ſo much as his own truly noble manufactory of ſuperfine woollen cloths. I had ſeen few manufactories ſo extenſive, and none ſo complete in all its parts. It was burnt to the ground the year before I ſaw it, and had juſt been rebuilt on a larger ſcale; and with great improvements in almoſt every one of its details. The reader may eaſily conceive, that I felt no ſmall degree of ſatisfaction on going into the dyeing-houſe, to find it fitted up on principles which I had ſome ſhare in bringing into repute, and which Mr. Gott told me he had adopted in conſequence of the information he had acquired in the peruſal of my *ſeventh* eſſay. He aſſured me that the experiment had anſwered, even far beyond his moſt ſanguine expectations; and, as a ſtrong proof of the utility of the plan, he told me, that his next-door neighbour, who is a dyer by profeſſion, and who, at firſt, was ſtrongly prejudiced againſt theſe innovations, has lately adopted them, and is now convinced that they are real improvements. Mr. Gott aſſured me that he had no doubt but that they would be adopted by every dyer in Great Britain in the courſe of a very few years.

" The dyeing-houſe of Meſſrs. Gott and Company, which is ſituated on the ground-floor of the principal building of the manufactory, is very ſpacious, and contains a great number of coppers of different ſizes; and as theſe veſſels, ſome of which are very large, are diſtributed about promiſcuouſly, and apparently without any order in their arrangement, in two ſpacious rooms,—each copper appearing to be inſulated, and to have no connection whatever with the others,—all of them together form a ſingular appearance. The rooms are paved with flat ſtones, and the brims of all the coppers—great and ſmall—are placed at the ſame height—about three feet above the pavement: ſome of theſe coppers contain upwards of 1800 gallons; and they are all heated by ſteam from one ſteam boiler, which is ſituated in a corner of one of the rooms.

" The horizontal tubes which ſerve to conduct the ſteam from the boilers to the coppers are ſuſpended juſt below the ceiling of the rooms: they are made—ſome of lead—and ſome of caſt-iron; and are from four to five inches in diameter; but when I ſaw them, they were naked, or without any covering to confine the heat. On my obſerving to Mr. Gott that covering for them would be uſeful, he told me that it was intended that they ſhould be covered, and that coverings would be provided for them.

" The vertical *ſteam tubes*, by which the ſteam paſſes down from the horizontal *ſteam conductors* into the coppers, are all conſtructed of lead, and are from $\frac{3}{4}$ of an inch to $2\frac{1}{2}$ inches in diameter; being made larger or ſmaller, according to the ſizes of the coppers to which they belong. Theſe ſteam tubes all paſs down on the *outſides* of their coppers, and enter them horizontally at the level of their bottoms. Each copper is furniſhed with a braſs cock, for letting off its contents; and it is filled with water from a ciſtern at a diſtance, which is brought to it by a leaden pipe. The coppers are all ſurrounded by thin circular brick walls, which ſerve not only to ſupport the coppers, but alſo to confine the heat.

" The rapidity with which theſe coppers may be heated, by means of ſteam, is truly aſtoniſhing. Mr. Gott aſſured me that one of the largeſt of them, containing upwards of 1800 gallons, when filled with cold water from the ciſtern, requires no more than *half an hour* to heat it till it actually boils! —By the greateſt fire that could be made under ſuch a copper, with coals, it would hardly be poſſible to make it boil in leſs than an hour.

" It is eaſy to perceive, that the *ſaving of time* which will reſult from the adoption of this new mode of applying heat will be very great;—and it is likewiſe evident, that it may be increaſed, almoſt without limitation, merely by augmenting the diameter of the ſteam tube: care muſt, however, be taken that the boiler be ſufficiently large to furniſh the quantities of ſteam required.—The *ſaving of fuel* will alſo be very conſiderable: Mr. Gott informed me, that, from the beſt calculation he had been able to make, it would amount to near two-thirds of the quantity formerly expended, when each copper was heated by a ſeparate fire.

" But theſe ſavings are far from being the only advantages that will be derived from the introduction of theſe improvements in the management of heat: there is one, of great importance indeed—not yet mentioned—which alone would be ſufficient to recommend the very general adoption of them. —As the heat communicated by ſteam can never exceed the mean temperature of boiling water by more than a very few degrees, the ſubſtances expoſed to it can never be injured by it. In many arts and manufactures this circumſtance will be

productive of great advantages, but in none will its utility be more apparent than in cookery; and eſpecially in public kitchens,—where great quantities of food are prepared in large boilers; for, when the heat is conveyed in this manner, all the labour now employed in ſtirring about the contents of thoſe boilers, to prevent the victuals from being ſpoiled by the burning to the bottoms of them, will be unneceſſary; and the loſs of heat occaſioned by this ſtirring prevented; and, inſtead of expenſive coppers, or metallic boilers, which are difficult to be kept clean, and often ſtand in need of repairs—common wooden tubs may, with great advantage, be uſed as culinary veſſels; and their contents may be heated by *portable fire-places*, by means of ſteam boilers attached to them.

"As theſe portable fire-places and their ſteam boilers may, without the ſmalleſt inconvenience, be made of ſuch weight, form, and dimenſions, as to be eaſily tranſported from one place to another by two men, and be carried through a doorway of the common width—with this machinery, and the ſteam tubes belonging to it, and a few wooden tubs—a complete public kitchen, for ſupplying the poor and others with ſoups, and alſo with puddings, vegetables, meat, and all other kinds of food prepared by *boiling*, might be eſtabliſhed in half an hour, in any room, in which there is a chimney (by which the ſmoke from the portable fire-place can be carried off); and, when the room ſhould be no longer wanted as a kitchen, it might, in a few minutes, be cleared of all this culinary apparatus, and made ready to be uſed for any other purpoſe.

"This method of conveying heat is peculiarly well adapted for heating baths: it is likewiſe highly probable that it would be found uſeful in the bleaching buſineſs, and in waſhing linen. It would alſo be very uſeful in all caſes where it is required to keep any liquid at about the boiling point for a long time without making it boil; for the quantity of heat admitted may be very nicely regulated by means of the braſs cock belonging to the ſteam tube. Mr. Gott ſhewed me a boiler in which ſhreds of ſkins were digeſting in order to make glue, which was heated in this manner; and in which the heat was ſo regulated, that, although the liquid never actually boiled, it always appeared to be upon the very point of beginning to boil.

"This temperature had been found to be beſt calculated for making good glue. Had any other *lower* temperature been found to anſwer better, it might have been kept up with the ſame eaſe, and with equal preciſion, by regulating properly the quantity of ſteam admitted.

"I need not ſay how much this country is obliged to Mr. Gott, and his worthy colleagues.—To the ſpirited exertions of ſuch men—who abound in no other country—we owe one of the proudeſt diſtinctions of our national character;—that of being *an enlightened and an enterpriſing people*."

For the method of applying heat by ſteam in houſes, &c. ſee the articles HOT-HOUSE and HOT-BED in this SUPPLEMENT.

HEBRON, a town of Paleſtine, ſituated partly on a hill and partly on a plain. The Chriſtians have a church here, which they ſay contains the tombs of Abraham and Sarah, to which the Mahometans, as well as Chriſtians, come in pilgrimage. The valley or plain of Mamre is not far from Hebron; it is fertile, and planted with excellent vineyards. Conſtantine built a church here, the walls of which are yet in exiſtence: eight leagues S.W. Jeruſalem.

HECHINGEN, a town of Germany, in the circle of Swabia, which gives name to a branch of the family of Hohenzoltern, and is the reſidence of the prince; 30 miles S. Stuttgart, and 52 E.S.E. Straſburg.

HEDEMORA, a town of Sweden, in the province of Dalecarlia, and one of the principal towns of the kingdom, ſituated near a lake, well built and commercial. Here is a large manufacture of gunpowder: 53 miles N.W. Upſal. Long. 16. E. Greenwich. Lat. 60. 17. N.

HEDGE *(Encycl.)*. The late Mr. Bakewell was remarkably curious in his fences: he uſed to plant one row at the diſtance of a foot from ſet to ſet; and, after making the ditch, to lay the earth dug out of it, ſo as to form a bank on the ſide oppoſite to the quick. In other parts of England, the bank is made on the ſide of the quick above it. The advantage of Mr. B.'s method is, that the plants grow only in the *ſurface-earth*, not ſecluded from the atmoſphere; whereas, in the common practice, the beſt earth is generally loaded by a thick covering of mud taken from the ditch, and placed obliquely on the bank. There is, however, a conſiderable waſte of land in the former method: for, after the whole was thus formed, he uſually added a double poſt and rail; one on the outſide of ſuch bank, and the other on the outſide of the quick.

Hedges deſigned for ornament in gardens, are ſometimes planted with evergreens, among which the holly is preferable to any other; next in rank is the yew, but the dead colour of its leaves renders ſuch hedges leſs agreeable. The laurel is another plant that may be employed as a fence for gardens; as it is one of the moſt beautiful evergreens; but it ſhoots forth with ſuch luxuriance, that it is very difficult to confine it to any ſhape: its leaves, too, are very large, and, if cut through with the ſheers, preſent a very diſagreeable appearance: hence they ought to be pruned with a knife, and the ſhoots exactly cut down to each leaf.

In the 3d vol. of the *Tranſactions of the Society for the Encouragement of Arts*, &c. Mr. Leatham, of Barton, gives an account of his method of planting quickſet hedges on dry, gravelly, or *thin* ſoils. He conſiders the cauſes which render ſuch hedges very indifferent, to be—1. That they are ſet too low or flat on the ſurface, to allow the roots to ſtrike deeply into the ſoil. 2. That, when planted higher, they are generally too near the ſlope of the bank, and thus cannot receive the benefit of the rain. To remedy theſe inconveniences, two lines are marked out, 12 feet apart; the upper part of the ſoil is taken from three feet within each line, and thrown into the centre of the ſpace, ſo as to form a flat bed, three feet in breadth, in the midſt of which the quicks are planted; the remaining ſpace of 18 inches on each ſide is filled up with the earth, gravel, or ſand taken out of the ditches on both ſides, by which means the bed is extended to five feet, allowing ſix inches for the ſlope of the bank. Quicks, thus planted, will find ſufficient nouriſhment in the ſoil, before the tap-root reaches the barren gravelly bottom; and the earth thus placed, will retain moiſture enough to nouriſh the plants; ſo that they will in a ſhort time form an excellent fence, which, by elevating the bank on each ſide at pleaſure, may be protected at a ſmall expence from the ill effects of ſharp winds, or the air of the ſea. Mr. Leatham obſerves, that the ſpace, on ſuch low-priced ground, is but ſmall; and, as a good thriving fence is obtained, it amply compenſates the expences. A hedge, conſtructed according to the dimenſions above ſtated, coſt him fifteen pence per rod of ſeventy yards in length.

In the 1ſt vol. of the *Letters and Papers of the Bath and Weſt of England Society*, we meet with a communication, in which *elms* are recommended for fences. When elm-timber is felled in the ſpring, the chips made in trimming the trees are to be ſown on a piece of newly-ploughed land, and harrowed in, as is practiſed with corn. Every chip, that has an

eye or bud, will ſpeedily ſhoot like the cuttings of potatoes; and, as ſuch plants have no tap-roots, but ſtrike their fibres horizontally in the richeſt part of the ſoil, they will be more vigorous, and may be more eaſily tranſplanted, than if they had been raiſed from ſeeds, or in any other manner. They poſſeſs this further advantage, that five or ſix ſtems will generally riſe from the ſame chip; and, after being cut down to within three inches of the ground, they will multiply their ſide-ſhoots in proportion, and form a thicker hedge, without running to naked wood, than by any other method hitherto practiſed. Laſtly, if they be kept carefully clipped for the firſt three or four years, they are ſaid to become almoſt impenetrable.

In the ſecond volume of the ſame inſtructive work, we find another communication on the ſubject of hedges; and the great advantages that might be derived from them, by planting cyder-fruit-trees. If a judicious mixture of ſuch trees were ſet in hedges, the profit they afford would amply compenſate the expences incurred, without any loſs of ground. And, as the beſt kinds of this fruit are ſo extremely ſour at the proper ſeaſon of gathering, that even hogs will ſcarcely touch them, depredations are not to be apprehended.

Having already treated on FENCES, we ſhall only add, that thoſe of our readers who wiſh to acquire a more complete information on the ſubject, may with advantage peruſe the firſt and ſecond volumes of Dr. Anderſon's *Eſſays on Agriculture*, in which it is fully diſcuſſed, and the plants beſt calculated for making hedges are judiciouſly pointed out.

HEILIGE-LAND, an iſland of the German Ocean, between the mouths of the Eyder and the Elbe. It belongs to the king of Denmark. Long. 8. 20. E. Lat. 54. 21. N.

HEILIGENBERG, a town of Germany, in the archduchy of Auſtria: 1 mile N. Rotz.

HEILIGENSTADT, a town of Germany, capital of the territory of Etchſet, belonging to the elector of Mentz. It is ſeated at the confluence of the Geiſland and Leina, 30 miles N.W. of Eiſenach. Long. 10. 14. E. Lat. 51. 22. N.

HEILSBRUNN, a town of Franconia, in the principality of Anſpach, with a medical ſpring, 10 miles E.N.E. of Anſpach, and 16. S.W. of Nuremberg.

HEIRSHIP MOVEABLES, in Scots law, the beſt of certain kinds of moveables, which the heir of line is entitled to take, beſides the heritable eſtate.

HELL-GATE, a celebrated ſtrait near the W. end of Long Iſland Sound, eight miles E. of New York. It is remarkable for its whirlpools, which are occaſioned by the narrowneſs and crookedneſs of the paſs, and a bed of rocks extending quite acroſs; but, at proper times of the tide, a ſkilful pilot may conduct a ſhip of any burthen through this ſtrait.

HELMERSHAUSEN, a town of Germany, in the principality of Heſſe-Caſſel, 19 miles W. of Gottingen, and 22 N. of Caſſel. Long. 9. 32. E. Lat. 51. 32. N.

HELMONT, a town of Dutch Brabant, with a ſtrong caſtle, ſeated on the Aa, 17 miles S.E. of Bois-le-Duc. Long. 5. 37. E. Lat. 51. 31. N.

HELZSTADT, a town of Upper Saxony, in the county of Mansfield, 9 miles N. of Eiſleben, and 16. S.E. of Quedlinburg. Long. 12. 14. E. Lat. 51. 47. N.

HEMATH, or HAMATH (anc. geog.), the name of a city (whoſe king was David's friend, 2 Sam. ix.) to the ſouth of Lebanon; from which a territory was called *Nemath*, on the north of Canaan and ſouth of Syria, as appears by the ſpies, Numb. xiii. 1 Kings viii. Ezek. xlvii. Whether one or more cities and diſtricts of this name lay in this tract, neither interpreters nor geographers are agreed. The eaſtern part was called *Hemath-zoba*, 2 Chron. viii. unleſs we ſuppoſe that there was a city in *Zoba* of this name fortified by Solomon. In defining the boundary of Paleſtine, it is often ſaid, *from the entering of Hamath*; as a province to be entered into through a ſtrait or defile. And if there was ſuch, the next queſtion is, from what metropolis it was called *Hemath?* Antioch, capital of Syria, is ſuppoſed to be called *Hemath* or *Amatha* (Jonathan, Targum, &c.); and again *Epiphania*, (Joſephus). Both were to the north of Lebanon; conſequently not the *Hemath* of Scripture, the immediate boundary of Paleſtine to the north, and lying to the ſouth of Lebanon.

HEMMENDORF, a town of Lower Saxony, in the principality of Calenberg, ſituate on the Saale, 12 miles E. of Hamelin.

HENRY IV. emperor of Germany in 1056, ſtyled *the Great*, was memorable for his quarrels with Pope Gregory II. whom at one time he depoſed, for having preſumed to judge his ſovereign; but at another, dreading the effects of the papal anathemas, he had the weakneſs to ſubmit to the moſt humiliating perſonal ſolicitations and penances to obtain abſolution, which impolitic meaſure increaſed the power of the pope, and alienated the affections of his ſubjects: thus circumſtanced, he re-aſſumed the hero, but too late; marched with an army to Rome, expelled Gregory, depoſed him, and ſet up another pope. Gregory died ſoon after: but Urban II. and Paſcal II. ſucceſſively excited his ambitious ſons, Conrad and Henry, to rebel againſt him, and the latter was crowned emperor by the title of Henry V. in 1106; and he had the inhumanity to arreſt his father, and to deprive him, not only of all his dignities, but even of the neceſſaries of life. The unfortunate Henry IV. was reduced to ſuch extremities (after having fought 62 battles in defence of the German empire), that he ſolicited the Biſhop of Spire to grant him an under-chaunter's place in his cathedral, but was refuſed. He died the ſame year, at Liege, aged 55, a martyr to the ignorance and ſuperſtition of the age, and to his own blind confidence in favourites and miſtreſſes.

HENRY IV. king of France (in 1589) and Navarre, juſtly ſtyled *the Great*, was the ſon of Anthony de Bourbon, chief of the branch of Bourbon (ſo called from a fief of that name which fell to them by marriage with the heireſs of the eſtate). His mother was the daughter of Henry de Albert, king of Navarre; a woman of a maſculine genius; intrepid, ſimple, and ruſtic in her manners, but deeply verſed in politics, and a zealous proteſtant. Foreſeeing that her party would want ſuch a protector (for her huſband was a weak indolent prince), ſhe undertook the care of the education of the young hero: his diet was coarſe; his clothes neat, but plain; he always went bare-headed; ſhe ſent him to ſchool with the other children of the ſame age, and accuſtomed him to climb the rocks and neighbouring mountains, according to the cuſtom of the country. He was born in 1553; and in 1569, the 16th year of his age, he was declared the Defender and Chief of the Proteſtants at Rochelle. The peace of St. Germain, concluded in 1570, recalled the lords in the Proteſtant intereſt to court; and in 1572 Henry was married to Margaret de Valois, ſiſter to Charles IX. king of France. It was in the midſt of the rejoicings for theſe nuptials, that the horrid maſſacre of Paris took place. Henry was reduced, by this infernal ſtroke of falſe policy, to the alternative of changing his religion or being put to death: he choſe the former, and was detained priſoner of ſtate three years. In 1587 he made his eſcape; put himſelf at the head of the Huguenot party, expoſing himſelf to all riſks and fatigues of a religious war, and enduring all the hardſhips of the common ſoldier: but he gained a victory this year at Courtras, which eſtabliſhed his reputation in arms, and endeared him to the Proteſtants. On the death of Henry III. religion was urged as a pretext for

one half of the officers of the French army to reject him, and for the leaguers not to acknowledge him. A phantom, the Cardinal de Bourbon, was ſet up againſt him; but his moſt formidable rival was the Duke de Mayenne: however, Henry, with few friends, fewer important places, no money, and a very ſmall army, ſupplied every want by his activity and valour. He gained ſeveral victories over the duke; particularly that of Ivri in 1590, memorable for his heroic admonition to his ſoldiers: "If you love your enſigns, rally by my white plume, you will always find it in the road to honour and glory." Paris held out againſt him, notwithſtanding his ſucceſſes: he took all the ſuburbs in one day; and might have reduced the city by famine, if he had not humanely ſuffered his own army to relieve the beſieged: yet the bigotted friars and prieſts in Paris all turned ſoldiers, except four of the Mendicant order; and made daily military reviews and proceſſions, the ſword in one hand and the crucifix in the other, on which they made the citizens ſwear rather to die with famine than to admit Henry. The ſcarcity of proviſions in Paris at laſt degenerated to an univerſal famine; bread had been ſold, whilſt any remained, for a crown the pound, and at laſt it was made from the bones of the charnel-houſe of St. Innocents: human fleſh became the food of the obſtinate Pariſians, and mothers ate the dead bodies of their children. In fine, the Duke of Mayenne, ſeeing that neither Spain nor the league would ever grant him the crown, determined to aſſiſt in giving it to the lawful heir. He engaged the ſtates to hold a conference with the chiefs of both parties; which ended in Henry's abjuration of the Proteſtant religion at St. Denis, and his conſecration at Chartres in 1593. The following year Paris opened its gates to him; in 1596, the Duke of Mayenne was pardoned; and in 1598, peace was concluded with Spain. Henry now ſhewed himſelf doubly worthy of the throne, by his encouragement of commerce, the fine arts, and manufactures, and by his patronage of men of ingenuity and ſound learning of every country: but though the fermentations of Romiſh bigotry were calmed, the leaven was not deſtroyed; ſcarce a year paſſed without ſome attempt being made on this real father of his people; and at laſt the monſter Ravaillac ſtabbed him to the heart in his coach, in the ſtreets of Paris, on the 14th of May, 1610, in the 57th year of his age, and 22d of his reign.

HENRY, *of Huntingdon*, an Engliſh hiſtorian, of the 12th century, was canon of Lincoln, and afterwards archdeacon of Huntingdon. He wrote, 1. A Hiſtory of England, which ends with the year 1154. 2. A continuation of that of Bede. 3. Chronological tables of the kings of England. 4. A ſmall treatiſe on the contempt of the world. 5. Several books of epigrams and love-verſes. 6. A poem on herbs: all which are written in Latin.—His invocation of Apollo and the goddeſſes of Tempe, in the exordium of his poem on herbs, may not be unacceptable as a ſpecimen of his poetry:

Vatum magne parens, herbarum Phœbe repertor.
Voſque, quibus reſonant Tempe jocoſa Deæ!
Si mihi ſerta prius hedera florente paraſtis,
Ecce meos flores, ſerta parate fero.

HENRY, *of Suſa*, in Latin *de Segusio*, a famous civilian and canoniſt of the 13th century, acquired ſuch reputation by his learning, that he was called *the ſource and ſplendor of the law*. He was archbiſhop of Embrun about the year 1258, and cardinal biſhop of Oſtia in 1262. He wrote *A ſummary of the canon and civil law*; and *A commentary on the book of the decretals*, compoſed by order of Alexander IV.

HENRY (Matthew), an eminent diſſenting miniſter and author, was the ſon of Philip Henry, a nonconformiſt miniſter, and was born in the year 1662. He continued under his father's care till he was 18 years of age; in which time he became well ſkilled in the learned languages, eſpecially in the Hebrew, which his father had rendered familiar to him from his childhood; and from firſt to laſt the ſtudy of the ſcriptures was his moſt delightful employment. He completed his education in an academy kept at Iſlington by Mr. Doolittle, and was afterwards entered in Gray's-Inn for the ſtudy of the law; where he became well acquainted with the civil and municipal law of his own country, and from his application and great abilities it was thought he would have become very eminent in that profeſſion. But at length, reſolving to devote his life to the ſtudy of divinity, in 1686 he retired into the country, and was choſen paſtor of a congregation at Cheſter, where he lived about 25 years, greatly eſteemed and beloved by his people. He had ſeveral calls from London, which he conſtantly declined; but was at laſt prevailed upon to accept an unanimous invitation from a congregation at Hackney. He wrote, 1. Expoſitions of the Bible, in 5 vols. folio. 2. The Life of Mr. Philip Henry. 3. Directions for daily Communion with God. 4. A Method for Prayer. 5. Four Diſcourſes againſt Vice and Immorality. 6. The Communicant's Companion. 7. Family Hymns. 8. A Scriptural Catechiſm; and, 9. A Diſcourſe concerning the Nature of Schiſm. He died of an apoplexy at Nantwich, when upon a journey, in 1714; and was interred at Trinity-church, in Cheſter.

HEPPENHEIM, a town of Germany, in the electorate of Mentz, with a caſtle and an abbey; ſeated between Heidelberg and Darmſtadt, about 14 miles from each. Long. 8. 41. E. Lat. 49. 29. N.

HERAT, a town of Perſia, in the province of Koraſan, 160 miles S. E. of Mechid. Long. 61. 0. E. Lat. 34. 30. N.

HERAULT, one of the 83 departments of France, ſo named from a river which falls into the gulf of Lyons. It includes part of the late province of Languedoc: and the capital of Montpellier.

HERBEMONT, a town of the Auſtrian Netherlands, in the duchy of Luxemburg, with a caſtle ſeated on a mountain, near the river Semoy, three miles from Chiney.

HERBAL (*Encycl.*). Among the different methods adopted by botaniſts, for obtaining a HORTUS SICCUS, the following appear to be the moſt practicable:

1. Lay the plants flat between papers; then place them between two ſmooth plates of iron ſcrewed together at the corners: in this ſtate they are to be committed to a baker's oven for two hours. After being taken out, they muſt be rubbed over with a mixture conſiſting of equal parts of brandy and vinegar, then paſted down on paper with a ſolution of gum-tragacanth in water, after which they are to be laid in a book, where they will adhere, and retain their original freſhneſs.—Although this proceſs was ſuggeſted by Sir R. Southwell, in the 237th Number of the *Philoſophical Tranſactions of the Royal Society*, yet the following method is more ſimple:

2. Flatten the plant, by paſſing a common ſmoothing iron over the papers between which it is placed; and dry it ſlowly in a ſand-heat. For this purpoſe, the cold ſand ought to be ſpread evenly, the ſmoothened plant laid gently on it, and ſand ſifted over ſo as to form a thick bed; the fire is then to be kindled, and the whole proceſs carefully watched, till the plant is gradually and perfectly dried.—Thus, the colour of the tendereſt herb may be preſerved, and the moſt delicate flowers retain all their priſtine beauty.

3. Another, and far more complete method, was ſuggeſted by the ingenious Mr. Whately; and bears a ſlight reſemblance

to that laſt ſpecified. He directs thoſe who intend to follow his plan, previouſly to procure—1. A ſtrong oak-box of the ſame ſize and ſhape as thoſe employed for packing up tin plates: 2. A quantity of fine ſifted ſand, ſufficient to fill the box: 3. A conſiderable number of pieces of pliant paper, from one to four inches ſquare; and, 4. Some ſmall flat leaden weights, and a few ſmall, bound books.

He then directs the ſpecimen of the plant intended for the herbal to be gathered, when dry and in full bloom, with all its parts as perfect as poſſible, and conveyed home in a tin box, well ſecluded from the air. The plant is firſt to be cleared from the ſoil as well as the decayed leaves, and then laid on the inſide of one of the leaves of a ſheet of common cap-paper. The upper leaves and flowers are next to be covered, when expanded, by pieces of the prepared paper, and one or two of the leaden weights placed on them. The remainder of the plant is now to be treated in a ſimilar manner.

The weights ought next to be gently removed, and the other leaf of the ſheet of paper folded over the oppoſite one, ſo as to contain the looſe pieces of paper and plants between them. A book or two is now to be applied to the outſide of the paper, till the intended number of plants is thus prepared; when a box is to be filled with ſand to the depth of an inch, one of the plants put in, and covered with ſand ſufficient to prevent the form of the plant from varying. The other plants may then be placed in ſucceſſion, and likewiſe covered with a layer of ſand, one inch thick between each; after which the whole is to be gently preſſed down in a greater or leſs degree, according to the tenderneſs or firmneſs of the plants.

The box is next to be carefully placed before a fire, one ſide being occaſionally a little raiſed, as may be moſt convenient; the ſides being alternately preſented to the fire, two or three times in the day; or, the whole may be put into an oven gently heated. In the courſe of two or three days, the plants will be perfectly dry, when the ſand ought to be taken out, and put into another box: the plants ſhould likewiſe be removed to a ſheet of writing paper.

This method of preſerving plants, Mr. Whately ſtates to to be preferable to every other, as both the flowers and leaves, if kept looſely within the paper, in a dry room, without being expoſed to the air, will retain their beauty for ſeveral years. It will, however, be neceſſary to inſpect them once in the courſe of a year, for the purpoſe of deſtroying any ſmall inſects, that may accidentally breed among the plants.

HERBORN, a town of Germany, in the circle of the Upper Rhine and territory of Naſſau, with a famous univerſity and woollen manufacture; 8 miles S. W. of Dillenburg. Long. 8. 20. E. Lat. 50. 40. N.

HERETABLE RIGHTS, in Scots law, all rights affecting lands, houſes, &c. or any immoveable ſubject.

HERETAGE, in Scots law, lands, houſes, or any immoveable ſubject, in contradiction to moveables or moveable ſubjects. It alſo ſometimes ſignifies ſuch immoveable property as a perſon ſucceeds to as heir to another, in contradiſtinction to that which he himſelf purchaſes or acquires in any other manner, called *conqueſt*.

HERICOUR, a town of France, in the department of Upper Saone, 11 miles S. E. of Lure, and 23 E. of Veſoul. Long. 6. 28. E. Lat. 47. 34. N.

HERMBACH, a town of Weſtphalia, in the duchy of Juliers, 17 miles S. of Juliers. Long. 6. 20. E. Lat. 50. 42. N.

HERMUS (*Encycl.*). Erroneouſly ſpelt HERMES.

HERNHUT, a famous place in Upper Luſatia, in the territory of the elector of Saxony, between Zittaw and Loebau. Here, in 1722, ſome perſecuted Moravian brethren (deſcendants of the church of the ancient United Brethren, eſtabliſhed in Bohemia and Moravia, as early as the year 1456) ſettled in the fields of the village of Berthelſdorf, belonging to count Zinzendorf, and began to build another village. They were joined by ſome Proteſtants, who had been bred in other ſocieties. They all agreed in adopting the confeſſion of Augſburg, and lived as brethren, without quarrelling about particular ſentiments; and when, after ſome time, the number of thoſe admitted from other Proteſtant churches, became greater than the number of the Moravian brethren, they took the name of Evangelical Brethren, or the Brethren's Unity of the Augſburg Confeſſion. They conſidered Count Zinzendorf as their biſhop and father, and were, for ſome time, called Hernhutters, as this place continued their principal nurſery. There were afterward extended into many different countries; were introduced into America, in 1741, by Count Zinzendorf, and ſettled at Bethlehem in Pennſylvania. Their ſocieties, which are now numerous in that country, afford the moſt pleaſing examples of piety and virtue. See BETHLEHEM, LITIZ, and NAZARETH.

HEROD, falſly ſtyled *the Great*, king and execrable tyrant of Judæa; who, on the ſtrength of a miſinterpreted prophecy, cauſed all the male children of Bethlehem and its neighbourhood to be maſſacred by his ſoldiers at the time of the birth of Chriſt, in the vain hope of deſtroying the Saviour of mankind. He died, eaten with worms, two or three years after the birth of our Saviour, at the age of 71, after a reign of 40 years. He had ordered that all the perſons of quality, whom he kept in priſon, ſhould be maſſacred the moment the breath was out of his body, in order that every conſiderable family in the kingdom might ſhed tears at his death; but that inhuman order was not executed.

HEROLDSBERG, a town of Franconia, in the territory of Nuremberg, 7 miles N.N.E. of Nuremberg.

HERRIEDEN, a town of Franconia, in the biſhopric of Aichſtet, ſituate on the Altmuhl, 5 miles S.W. of Anſpach. Long. 10. 40. E. Lat. 49. 10. N.

HERSTAL, a town of Germany, in the biſhopric of Liege, with an ancient caſtle, ſeated on the Maeſe, 3 miles N. of Liege. Long. 5. 40. E. Lat. 50. 40. N.

HERZEGOVINA, a fortified town of Turkiſh Dalmatia, capital of a duchy of the ſame name, and the reſidence of a Turkiſh governor. It is 80 miles S.S.W. of Belgrade.

HEURNIUS, or VAN HEURN (John), a learned phyſician, was born at Utrecht, in 1543; and ſtudied at Louvain, Paris, Padua, and Pavia. At his return to his native country he became magiſtrate of Amſterdam; after which he was profeſſor of phyſic at Leyden, and rector of the univerſity of that city, where he died in 1601. He wrote, among other works, ſeveral treatiſes on the diſeaſes of different parts of the body, and ſeveral commentaries on the works of Hippocrates. *Otho Heurnius*, his ſon, was alſo profeſſor of phyſic at Leyden, and wrote ſome books.

HEYLESEM, a town of Auſtrian Brabant, 14 miles S.E. of Louvain. Long 5. 7. E. Lat. 50. 45. N.

HEYMERISEN, a town of Germany, in the electorate of Cologne, ſituate on the Erft, 30 miles E. of Aix la Chapelle. Long. 6. 37. E. Lat. 10. 46. N.

HEYTESBURY, a borough in Wilts, that ſends two members to Parliament, but has now no market. It is 20 miles N.W. of Saliſbury, and 93 W. by S. of London. Long. 2. 8. W. Lat. 51. 12. N.

HILLIGENHAVEN, a town of Lower Saxony, in the duchy of Holſtein, ſituate on the Baltic, 37 miles N. of Lubec.

HILLSBOROUGH, a town of N. Carolina, 180 miles W. by N. of Newbern.

HINDIA, a town of the Deccan of Hindooſtan, capital of a diſtrict of the ſame name, in the county of Candeiſh. It is ſituate on the Nerbudda, 90 miles N.N.E. of Burhampour. Long. 77. 10. E. Lat. 22. 35. N.

HINLOPEN, ſee HINDELOPEN.

HINTERGERSDORF, a town of Upper Saxony, in the circle of Erzgeburg, eight miles E. of Freyburg.

HIORRING, a town of Denmark, in N. Jutland, once the ſee of a biſhop, but the biſhopric was removed to Alburg, by Frederic II. It is 27 miles N.N.W. of Alburg. Long. 9. 38. E. Lat. 57. 2. N.

HIRSH-HORN, a town of Germany, in the palatinate of the Rhine, with a caſtle. It is ſeated on the ſide of a hill, on the Neckar, near Eberbach.

HIRSCHOLM, a town of Denmark, in the iſland of Zealand, 12 miles N. of Copenhagen.

HISSAR, a town of Hindooſtan Proper, capital of a diſtrict of the ſame name, in the country of Delhi. It is ſeated near the river Surſoory, 112 miles W.N.W. of Delhi. Long. 75. 40. E. Lat. 29. 5. N.

HOANG-TCHEOU, a city of China of the firſt rank, in the province of Hou quang, on the Yang-tſe: 585 miles S. of Peking. Long. 132. 12. E. Ferro. Lat. 38. 28. N.

HOANG-TCHEOU, a town of the kingdom of Corea, in the province of Hoang-hai: eighty-five miles N.N.W. King-ki-tao. Long. 143. 38. E. Ferro. Lat. 38. 42. N.

HOEING (*Encycl.*). Under HUSBANDRY we have ſpoken fully on the practice of hoeing.

In order further to facilitate this important object, we ſhall preſent to our readers three hand-hoes, much ſuperior to thoſe in common uſe, and which, from their ſimplicity, deſerve to be more generally known. See Plate 33. where fig. 1. is the *Portugueſe hoe*, lately deſcribed and recommended by Lord Somerville.

The handle of this implement is from three feet to three feet four inches in length; and, as it is both light and ſhort, it is peculiarly calculated for ſtrong lands and mountainous ſituations; becauſe the hoe, by its weight and pointed form, cuts deeply into earth, without requiring much exertion.

Fig. 2. Is the *Horſe-ſhoe hoe*, invented by Mr. Mark Ducket, of Eſher, Surrey:

This hoe is furniſhed with a ring or loop, as there repreſented, near the bottom of the handle, for holding a ſtrap, which is faſtened round the waiſt of the perſons at work, as they walk backwards. It is eminently uſeful for cleaning crops of every deſcription, whether *drilled* or *hand-ſet* in rows. Mr. Ducket has judiciouſly availed himſelf of a ſhort handle, and heavy iron-work, the exact reverſe of the common hoe, which requires great exertion to make any impreſſion on the ſoil (excepting on the lighteſt ſands), eſpecially if it has become dry and hard.

It is evident from the engraving, that Mr. Ducket's hoes, by their *convex* form, earth up as well as down; though the ſame implement may alſo be made with *ſtraight* edges; namely, for drilled or dibbled crops at ſix inches interval; for clearing peaſe, beans, &c. at 18 inches diſtance; and for dreſſing crops of any deſcription, at 12 inches interval.—Should theſe hoes, however, from their *ſtraight* edge, be unequal to cope with ſtiff land, Lord Somerville ſuggeſts the expediency of adopting the *conical* edge (or the edge oppoſite to that in the horſe-ſhoe hoe) which will remarkably increaſe their power. Laſtly, his Lordſhip obſerves, that *three* flat hoes at ſix inches; *two* flat ones at twelve inches; and *three* horſe-ſhoe hoes, form the whole number requiſite; and that they all ſcrew into the ſame frame and handle.

HOEI-TCHEOU-FOU, a commercial city of China, in the province of Quangton. Its juriſdiction contains 11 cities of the ſecond and third claſs. Long. 113. 58. E. Lat. 23. 1. N.

HOGARTH (*Encycl.*). A handſome monument to the memory of this exemplary artiſt is to be ſeen in the churchyard at Chiſwick. It conſiſts of a handſome ornamented baſe bearing an urn upon a ſmaller pedeſtal. On the north ſide is the following inſcription:

Farewel, great painter of mankind,
Who reach'd the nobleſt point of art;
Whoſe *pictur'd morals* charm the mind;
And through the eye correct the heart.

If *genius* fire thee, reader, ſtay;
If *nature* touch thee, drop a tear!
If *neither* move thee, turn away;
For HOGARTH's honour'd duſt lies here.

D. GARRICK.

On the eaſt ſide,

Here lieth the body
of WILLIAM HOGARTH, Eſq.
who died Oct. 26, 1764,
aged 67 years.

HOHENZOLLERN, a town of Suabia, capital of a county of the ſame name, with a caſtle. It is ſeated on a mountain, 28 miles S. of Stutgard. Long. 9. 6. E. Lat. 48. 24. N.

HOLBECK, a ſea-port of Denmark, in the iſland of Zealand, with a good harbour, from which great quantities of corn are annually exported. In 1290 this town was deſtroyed by a fleet from Norway. It is 30 miles W. of Copenhagen. Long. 11. 44. E. Lat. 55. 42. N.

HOLSTEBROE, a town of Denmark, in N. Jutland, ſituate on a ſhallow river which runs into the North Sea. Its principal trade is in corn, oxen, and horſes. It is 24 miles W. of Wiburg, and 68 N. of Ripen. Long. 9. 25. E. Lat. 56. 20. N.

HOLTZMUNDEN, a town of Lower Saxony, in the principality of Wolfenbuttle, 28 miles N.W. of Gottingen.

HOLZAPFEL, a town of Weſtphalia, capital of a county of the ſame name, which gives a ſeat in the diets. It is ſituate on the Lahn, at the foot of a mountain, on which is the tower of an ancient caſtle, the original ſeat of the princes of Naſſau, four miles N.E. of Naſſau. Long. 7. 44. E. Lat. 50. 22. N.

HONDTSCHOOTE, a town of France, in the department of the North, ſeven miles S.E. of Dunkirk.

HONEY (*Encycl.*). For a method of extracting ſugar from this ſubſtance, ſee SUGAR, in this SUPPLEMENT.

HORAIDAU, a town of Perſia, in the province of Farſiſtan. 76 miles N.W. of Schiras.

HORSE DEALERS. The following duty impoſed on horſe dealers by ſtat. 24 Geo. III. c. 31. is repealed, and a new duty charged inſtead thereof, viz.

By 36 Geo. III. c. 17. every perſon exerciſing the trade or buſineſs of a horſe dealer, muſt take out a licence from the Stamp Office, for which he ſhall pay annually, if within London, Weſtminſter, the bills of mortality, the pariſh of St. Pancras, or the borough of Southwark, 20l. elſewhere 10l.

The commiſſioners are to grant licences to horſe dealers for not exceeding one year; and every licence ſhall ceaſe on Sept. 29 in the year for which the ſame ſhall be iſſued, and commence from the date; and every licence taken out for any year ſubſequent to the year in which the ſame ſhall be iſſued, ſhall commence from Sept. 29 then next enſuing, and

continue till Sept. 29 following; and a freſh licence is to be taken out ten days at leaſt before the expiration of the year.

One licence is ſufficient for partners, and the licence is confined to the place mentioned therein.

But no licences to be granted to horſe dealers unleſs they declare they ſeek their living by buying and ſelling horſes, and add the name of the place where the ſaid buſineſs is carried on. 29 Geo. III. c. 49.

Horſe dealers, ſo licenſed, ſhall cauſe the words *Licenſed to deal in Horſes*, to be painted or written in large and legible characters, either on a ſign hung out, or on ſome viſible place in the front of their houſe, gateway, or ſtables; and if he ſhall ſell any horſe, without fixing ſuch token, he ſhall forfeit 10l. to be recovered by action, half to the king and half to the informer. 36 Geo. III. c. 17.

Horſe dealers (*not having a licence under the old act of* 24 Geo. III. c. 31.) who ſhall after Jan. 1, 1796, carry on the ſaid buſineſs without having obtained a licence under this act, ſhall be liable to be aſſeſſed to the duties on Riding Horſes, and ſhall deliver liſts thereof as other perſons.

HORSE-HELPER, ALEXIPPOS, or portable SLIDING-LEVER, a curious invention, for which the thanks of the Society for the encouragement of Arts, &c. were voted to Mr. John Snart, optician, of Tooley-ſtreet, London. It is deſigned to be fixed to the under ſide of a cart, for the relief of the horſe when thrown down and entangled in the thills. We earneſtly wiſh, for the ſake of humanity, to alleviate the cruelties to which horſes are ſubjected, and hope the plan here given will at leaſt afford a uſeful hint for further improvements in this line. This machinery will alſo afford ſome advantages in loading carts, where the common length of the cart is too ſhort for the articles intended to be carried.

Views of this invention are given in Plate 34.

Fig. 1. A A A, plan of a common town cart inverted. B B, ſliding bars or levers, *i. e.* the Horſe-helper. C, croſs-bar, or handle of the Horſe-helper. D D, ſpring ſwivels or hooks to receive the ends of the ropes F F. E E, ſtops, to prevent overdrawing the ropes. F F, f f, ropes and hand-rings to project them. G, a prop to prevent hanging the horſe. H H, the bearing plates of the horſe-helper, with pulleys or ſhivers attached thereto. I I, tranſverſe cavities under the axletree to admit the paſſage of B B. K, the extra bar for country carts. L L, the handſpikes for ditto. M M, the axletree or fulcrum. N N, n n, the hind and fore car breadths. O O, the extremities of the ſhafts. P, the back chain. Q, the prop.

Fig. 2. A profile view of the improved cart with the horſe-helper upon a proper angle to clear the packing hooks, &c.

Fig. 3. A ſcale of feet and $\frac{1}{4}$ parts of a foot.

Mr. Snart's account of his invention is the following: "As all librating bodies," ſays he, "act in an exact and direct ratio to their elongations from the fulcra, conſidered in connection with their proportion of weight, and *vice verſâ* (the firſt reſiſtance by the inequality of their matter being excepted), it appears, that as is the ſolidity of the part of the lever reſting on the fulcrum, to the ſolidity of its extremities, ſo is its reſiſtance to be acted upon by a weight which is leſs than its diſproportion; which inequality of power is to the weight added in an inverſe ratio, but directly as the diminution.

"It is evident that the conſtruction of carts at preſent is very unfavourable to the relief of the fallen horſe, who is intentionally placed at the longeſt arm of the lever (for the ſhafts act as a lever by ſuppoſing the axletree to be the quieſcent fulcrum), that he may the better reſiſt the weight of the load, ſhould the equilibrium be by any means deſtroyed; for any given weight upon the hind part of the cart has leſs than half the power of reſiſtance of the horſe; ſo that, if ſuch horſe falls, this advantage is prejudicial to his being raiſed." The inventor, therefore, of the horſe-helper, preſumes that a plan, the object of which is humanity, will ſufficiently apologize for his offering to the public an invention which ſo obviouſly more than counteracts the before-mentioned diſadvantages, as may be ſeen by inſpecting the plan in connection with its ſcale.

"Let A A A (fig. 1.) be a plan of a common town cart inverted, whoſe hind ear-bred, or ear-breadth, N N, projects from its fulcrum, or axletree, M M, 4 feet 7 inches, while the back chain P is 7 feet 6 inches; and the extremes of the ſhafts, O O, which preſs upon the tuggs in the horſe's collar, are 9 feet 6 inches. Now, admitting that the horſe who falls weighs 15 cwt. and that his bearing is 1 cwt. which is 16 cwt. it is very evident that it will require 3316 lb. weight groſs at the ear-breadth N N (which is but 4 feet 7 inches from the fulcrum M M) to counteract ſuch a weight; even admitting that the load had not ſlipped forward at all by the ſudden concuſſion and depreſſion of the fore parts of the cart. The eſtimate, therefore, now will be nearly as follows: 4 feet 7 inches, or 55 inches, to 9 feet 6 inches, or 114 inches, will give for the weight 3316 lb. which is more than that of twenty-two men, at 150 lb. weight each, before a diſabled horſe can be raiſed from the ground: but we know that ſix men cannot bear their weight with advantage on one of our preſent-made carts, without endangering their perſons or clothes, or both; ſo that the horſe is left to ſtruggle with three-fourths of the weight himſelf, and this in a very bad poſture, as he is embarraſſed by the ſhafts, &c. Hence many horſes, if not immediately killed, are at leaſt ruined for ever.

"The advantage of the ſliding-lever is in the proportion of 126 inches, the length of the levers at C, to 114 inches, the length of the ſhaft, viz. O O; and this without the addition of the handſpike L L, which gives a further advantage of one-fourth. Again, if 55 inches, the length of the lever, at N N, require $3316\frac{20}{35}$ lb. weight, what will 126 inches require? Anſwer, $1447\frac{58}{126}$ lb. which is leſs than the weight of ten men, at 150 lb. weight each. This, however, is not half the advantage of the lever, as it affords convenient accommodation for more than twenty men, without hazard to clothes or perſons. And, if we ſuppoſe a ſliding bar at K, one man (if men are ſcarce, as in the country), by applying the two handſpikes L L, may gain power ſufficient to raiſe his horſe himſelf, eſpecially as it fortunately happens that country luggage very frequently conſiſts of ſuch articles as might be removed from the front of the cart, and placed on the bars C and K; ſuch, for inſtance, as ſacks of corn, ſeed, potatoes, bran, flour, peas, beans, &c. &c. which, by being taken from the front, and placed behind, would have more than double the advantage of its real weight; and, in town, where the luggage is different, aſſiſtance is always to be obtained from byſtanders.

"Notwithſtanding the ſtatement of powers for relief which I have here given," ſays Mr. Snart, "it is plain, from daily obſervation, that leſs than half the power here ſtated is only uſed in general, as eight or nine men can often (though with much danger and trouble) raiſe the fallen horſe. Hence, by uſing the ſliding lever three or four men, without danger, delay, or trouble, will be ſufficient. As immediately the horſe falls the driver has only to go behind the cart, lay hold of the hand rings F F, and at one pull the whole apparatus is projected; then lay hold of C, or B B, according as the caſe requires, and the horſe will be inſtantly relieved."

Mr. Snart adds, that this apparatus is quite portable,

coſts but little, and adds not more than $\frac{1}{30}$ to the weight of the cart.

HORSENS, a ſea-port of Denmark, in Jutland, ſeated on the bottom of a bay, which opens into the Categate near the iſland of Hiarnoe, 125 miles W. by N. of Copenhagen. Long. 9. 40. E. Lat. 55. 57. N.

HORSES. The following is the duty impoſed on horſes by 38 Geo. III. c. 41. ſ. 2. There ſhall be paid for all horſes kept for riding, or drawing any carriage chargeable with duty:

	£.	s.	d.
For one ſuch horſe, mare, or gelding, and no more	1	4	0
Two	1	16	0
Three	2	2	0
Four	2	5	0
Five	2	6	0
Six	2	10	0
Seven, and not more than eight	2	11	0
Nine	2	11	6
Ten, and not more than twelve	2	12	0
Thirteen, and not more than ſixteen	2	12	6
Seventeen	2	13	0
Eighteen	2	13	6
Nineteen	2	14	0
Twenty or upwards	2	15	0

And by 41 Geo. III. c. 9. there ſhall be charged, from and after April 5, 1801, upon every perſon keeping one horſe and no more, for which the duty of 1l. 4s. is now chargeable, an additional duty of 10s.

And upon every perſon keeping or uſing two or more horſes, upon which a progreſſive duty is now chargeable, an *additional duty* of 20s. for each horſe.

But the additional duties impoſed by 41 Geo. III. c. 9. are not to extend to horſes uſed ſolely in ſtages or carriages for conveying paſſengers for hire, nor to hackney coaches.

The ſaid rates and duties to be paid by the perſon keeping and uſing the ſaid horſes, mares, or geldings, and to be ſubject to all the exemptions contained in any act in force. 38 Geo. III. c. 41. and 41 Geo. III. c. 9.

The act allows the following exemptions. By 24 Geo. III. c. 31., 29 Geo. III. c. 49., and 36 Geo. III. c. 16., it is provided that nothing therein ſhall charge any horſe belonging to any non-commiſſioned officer, or private ſoldier, of any regiment of cavalry in the King's ſervice; or any regiment of yeomanry cavalry; nor any horſe belonging to, and kept for ſale and not for hire, in the ſtable of a licenſed dealer, nor let to hire for travelling poſt by the mile, or from ſtage to ſtage, or let to hire for a day or leſs period of time, by any poſt-maſter, inn-keeper, or perſon licenſed by the commiſſioners of the ſtamp duties.

Alſo no perſon who ſhall ſerve in any volunteer corps, and ſhall provide a horſe, or who ſhall furniſh a horſe for any perſon ſerving in ſuch corps, ſhall be charged for ſuch horſe, with any of the duties impoſed by 38 Geo. III. c.

Alſo every rector, vicar, or curate, doing duty in his church or chapel, who ſhall not be aſſeſſed to any duties on income, granted by any act relative to the duties on income, and who ſhall not keep more than one horſe for the purpoſe of riding, is exempted from the duty by 41 Geo. III. c. 40.

But not to extend to perſons occaſionally performing the duty of rector, &c. unleſs regular officiating miniſters of the place.

The duties are to be paid by all perſons uſing or hiring horſes or carriages by the year, month, or any other period, *not* the perſon who lets them out; 29 Geo. III. c. 49.

Horſe dealers are to give in a liſt of ſuch as they keep for riding or drawing, and pay the duty; 29 Geo. III. c. 49.

No perſon keeping a horſe, &c. uſed really for huſbandry, or drawing any carriage (except ſuch as was heretofore liable to an exciſe duty), or carrying burthens in the courſe of the trade of the perſon to whom ſuch horſe, &c. ſhall belong, ſhall be chargeable with theſe duties, in caſe ſuch horſe, &c. ſhall not be uſed for any other purpoſe of riding, except when returning from any place to which any load or burthen ſhall by ſuch horſe, &c. have been carried, or going to any place from whence a burthen is to be carried, or being rid to procure medical aſſiſtance, or to or from market, or place of public worſhip, or election of members to ſerve in parliament, or to or from any court of juſtice, or to or from any meeting of commiſſioners of taxes. 26 Geo. III. c. 79.

Perſons excuſed from church and poor, are alſo exempted for one horſe.

Alſo no perſon occupying a farm of leſs than 70l. a-year, and making a livelihood ſolely thereby, ſhall be chargeable with the duty for any horſe occaſionally uſed in riding, if ſuch horſe be *bona fide* kept for the purpoſes of huſbandry. 24 Geo. III. c. 31., 36 Geo. III. c. 16.

Likewiſe no perſon occupying his own eſtate ſolely, or his own eſtate together with a farm, the value of which in the whole ſhall be leſs than an equivalent to a farm of the rent of 70l. a-year (reckoning the value of the eſtate as equivalent to double the like amount of the rent of any rented farm) and making a livelihood ſolely by ſuch eſtate, or by ſuch eſtate and farm jointly, ſhall be chargeable for any horſe occaſionally uſed in riding, if it be *bona fide* kept and uſually employed for the purpoſes of huſbandry. 36 Geo. III. c. 16. ſ. 6.

Alſo ſtage-coach horſes are exempted from the whole of the duties, by 37 Geo. III. c. 134. ſ. 8.

TABLE of the DUTIES on HORSES.

No. of Horſes.	Duties for each. £.	s.	d.	Total Amount. £.	s.	d.
1	1	14	0	1	14	0
2	2	16	0	5	12	0
3	3	2	0	9	6	0
4	3	5	0	13	0	0
5	3	6	0	16	10	0
6	3	10	0	21	0	0
7	3	11	0	24	17	0
8				28	8	0
9	3	11	6	32	3	6
10	3	12	0	36	0	0
11				39	12	0
12				43	4	0
13	3	12	6	47	2	6
14				50	15	0
15				54	7	6
16				58	0	0
17	3	13	0	62	1	0
18	3	13	6	66	3	0
19	3	14	0	70	6	0
20	3	15	0	75	0	0

And ſo on at the rate of 3l. 15s. for every horſe exceeding the number of 20.

By 38 Geo. III. c. 41. ſ. 2. there ſhall be paid the following duties for horſes, mares, and geldings, not charged with any other duty, and alſo on mules.

	£.	s.	d.
For each horſe, mare, gelding, or mule, kept by any perſon, on which is now charged the duty of	0	6	0
By 41 Geo. III. c. 9, an additional duty of	0	4	0

The ſaid rate or duty to be paid by the perſon keeping ſuch horſes, mares, geldings, or mules, and to be ſubject to all

the exemptions contained in any act in force, and not to be charged for any mule which ſhall not have been uſed. 38 Geo. III. c. 41., and 41 Geo. III. c. 9.

The *exemptions* are theſe: This tax does not extend to poſt horſes, nor to any horſe, mare, or gelding, under the height of thirteen hands, of four inches to each hand, nor to any horſe, mare, or gelding, which ſhall not at any time preceding the aſſeſſment have been ridden, or uſed as a draught horſe, or for the purpoſe of carrying any burthen, 36 Geo. III. c. 15.

But the horſes for whom ſuch exemption is claimed muſt be included in the liſt delivered to the aſſeſſors under the title of *Horſes exempted from Duty*, and on demand muſt be produced for examination; and if not produced, or if found not to be exempted, the owner is to be ſurcharged double the duty.—*Ibid.*

Alſo, perſons ſerving in any volunteer corps, or who ſhall furniſh a horſe for ſuch ſervice, ſhall not be chargeable with the duty. 37 Geo. III. c. 106., 38 Geo. III. c. 41.

Likewiſe by 41 Geo. III. c. 9. no perſon occupying a farm, the rack rent of which ſhall be leſs than 20l. a-year, and making a livelihood ſolely thereby, or occupying any other eſtate on any tenure otherwiſe than as tenant at rack rent, or ſuch other eſtate together with a farm at rack rent, the value of which in the whole ſhall be leſs than equivalent to a farm at the rack rent of 20l. a-year, reckoning the value of every eſtate occupied by the owner thereof on any tenure, except at rack rent, as equivalent to double the like amount of any farm at rack rent, and making a livelihood ſolely by ſuch occupation, and keeping not more than two horſes or mules, ſhall be chargeable with any of the duties impoſed either by the former or this act. So as the perſons claiming ſuch exemption return in their liſts the number of horſes kept, and the value of their farms.

TABLE of DUTIES on HORSES and MULES.

Numb.	Duty for each	Total Amount.	Numb.	Duty for each	Total Amount.
	£. s. d.	£. s. d.		£. s. d.	£. s. d.
1	0 10 0	0 10 0	11	0 10 0	5 10 0
2	———	1 0 0	12	———	6 0 0
3	———	1 10 0	13	———	6 10 0
4	———	2 0 0	14	———	7 0 0
5	———	2 10 0	15	———	7 10 0
6	———	3 0 0	16	———	8 0 0
7	———	3 10 0	17	———	8 10 0
8	———	4 0 0	18	———	9 0 0
9	———	4 10 0	19	———	9 10 0
10	———	5 0 0	20	———	10 0 0

HORSE-SHOE. See the articles *Horſe*-Shoe and Frog; *Suppl.*

Horse-shoe nail. See Nail; *Suppl.*

HORTSMAR, a town of Weſtphalia, in the biſhopric of Munſter, 15 miles N.W. of Munſter. Long. 7. 2 E. Lat. 52. 9. N.

HOT-BEDS (*Encycl.*). Theſe are of ſuch general uſe in the modern art of gardening, that any method of improving them deſerves the notice of every gardener.

Mr. Richard Weſton, of Leiceſter, has deſcribed a *water-flue* in the thirteenth volume of the Repertory of Arts, &c. p. 238, which is capable of being employed in a double manner; that is, it may convey heat into a hot-bed, either by the ſteam of water, or of dung. In places where hot water cannot ſo conveniently be procured, and where there is plenty of dung, this will be found very uſeful.

Thoſe perſons who already have a water-flue, may alter it for the expence of two or three ſhillings, to anſwer both purpoſes.

The alteration neceſſary conſiſts in changing the pipe of one inch diameter (which is to draw off the water when cold), into a larger one of three inches, and to have the head of a watering-pot of ſix inches diameter made of tin, with a pipe of one foot long to put on it, with holes of a quarter of an inch wide to admit the ſteam, both in the pipe and roſe.

When you chooſe to heat a hot-bed with ſteam, the bed muſt be made in the uſual manner, except that in the front, or at one end, with oblong pipes, the dung ſhould be laid about a yard ſquare, to form a ſtrong body of ſteam, to paſs into the flues, and convey the heat to the earth, and the roots of the plants; but three good corks muſt be firſt put into the two upright ſteam-pipes within the bed *e e*, and the one on the outſide *c*, by which the flue is filled with water to prevent the ſteam from paſſing off through them.

To examine the heat of the bed at any time, draw out the cork, and the heat of the ſteam will inform you of the condition of the bed. If declining too much, the dung muſt be ſtirred up, and freſh added.

If at any time dung cannot be readily procured, it may inſtantly be converted into a water-flue.

On applying to a plumber, who had made ſeveral, it ſeems that inſtead of their being made oval, if two pipes of eleven feet long each (for a nine-feet frame), turned up a foot at one end, to fill them with water, and one or more upright pipes to each in the middle, to convey the ſteam of the hot water into the bed, be laid lengthways in the bed, about three feet aſunder, there will be a ſaving of ſix or ſeven ſhillings on account of leſs ſolder, and trouble in making, and will be found rather more convenient, as appeared from one made which is at work.

The uſe of ſteam from hot water was alſo proved by a gentleman, who obſerved his cucumber-plants declining in vigour, and not having a water-flue, placed four jugs in the bed, and filled them with hot water for three nights, till the freſh lining took effect, which inſtantly recovered his plants, and he afterwards had a flue.

Indeed, the introduction of ſteam from hot water, in increaſing the growth of cucumbers is very ſtrongly proved from the experiments of Mr. Wakefield, publiſhed in the ſame work.

"In a frame conſiſting of three lights," ſays Mr. Weſton, "I would propoſe four, or even ſix ſteam-pipes, and if the top of each be enlarged to four inches in diameter, in the ſhape of the bottom of a trumpet, it will convey more ſteam into the bed. In pl. 33. this is repreſented. *a*, ſhews the pipes to fill them. *b*, ſteam-pipes. *c*, to draw off the water, or put on the roſe when converted into dung ſteam-pipes.

"From the proofs alſo of ſteam being ſo advantageous to cucumbers, I would recommend a pan, made of copper, braſs, or lead (ſix inches wide and three deep, with a pipe, one foot long, to come through the end of the frame, to draw off the water when cold), to be placed at the back of the hot-bed frame, to be filled with hot water at night, and if neceſſary again in the morning.

"If a hole be bored aſlant through the back of the hot-bed-frame, the pan may be filled with hot water, without the glaſs being taken off; and I would rather recommend the flues to be four inches diameter within, than three, becauſe of containing more water or ſteam."

HOT-HOUSE, a building calculated to produce fruit or flowers from plants before the arrival of the natural ſeaſon; or elſe to preſerve alive ſuch as are natives of warmer climates.

The following is the ſpecification of a patent granted to Dr. Anderſon, of Aberdeen, for a method of economiſing fuel in the heating of houſes, and for improving the conſtruction of hot-houſes by a new application of known principles. It is dated Feb. 10, 1801.

" Let the heated ſmoke, as it iſſues from the fire, be conducted into a chamber that will be moſt commodiouſly ſituated beneath the floor of the houſe or apartment intended to be heated; extending the whole of its length and width, if it can conveniently be done, leaving only a vacuity between the inner ſide of the wall of the houſe and the wall of the ſmoke-chamber, all round, of two feet or thereabouts; no preciſe nicety as to its dimenſions being requiſite; the chamber for the ſmoke may be of any form or dimenſions ſo as to ſuit the ſituation, and from two to ſix feet or more in depth, as circumſtances will admit (the deeper always the better); and the roof of it ought to be below the level of the floor of the houſe or apartment intended to be heated, ſo as to leave a vacuity there of one foot, at leaſt, in depth, and if two feet or more, ſo much the better. The roof and ſides of this ſmoke-chamber ſhould be made air-tight, and may be conſtructed of plates of metal, or any other matter that is capable of bearing heat, and of eaſily tranſmitting it, and of being made air-tight. The grate where the fuel is to be conſumed ought to be placed lower than the floor of this chamber, if it can conveniently be done, (but this is not indiſpenſably neceſſary), and the chimney leading from the fire ought to riſe upwards within the ſmoke-chamber till it reach within about one foot of its roof, where it ſhould be diſcontinued and left open, having a ſpark-ſtone or cover laid over it to ſpread the heat. The chimney for carrying the ſmoke from this chamber, and for making the fire burn, ſhould communicate with the chamber near the floor or bottom of that chamber, and in no other place, unleſs occaſionally for particular purpoſes, by an opening formed into it immediately below the roof of the ſmoke-chamber, which is ſhut, in general, by means of a valve that can be opened at pleaſure. This chimney may either riſe directly to the height of the building, without interruption, or it may be made to open into a ſucceſſion of chambers of a ſimilar conſtruction to the ſmoke-chamber juſt deſcribed, as far as reſpects the tranſmiſſion of the ſmoke, though they may be varied in all other reſpects to ſuit the circumſtances of the caſe *ad infinitum*: that is to ſay; theſe chambers may vary in ſize, ſhape, and proportions; in poſition, being either above or below, or upon the ſame level with the original chamber, and ſo on. But although the beſt poſition for the ſmoke-chamber be directly beneath the building to be heated, yet, ſhould obſtructions prevent this, it may be placed without it, or under ſome other building, as near the building that is to be heated as may be.

" Connected with the original ſmoke-chamber, there may be formed another of an auxiliary ſort, which ſhould alſo be air-tight in the roof and ſides. This auxiliary ſmoke-chamber ſhould communicate with the firſt by means of two pipes, that can be cloſed or opened at pleaſure; one placed immediately above the floor, and the other next the roof of the principal ſmoke-chamber; and it ſhould alſo communicate with the open air by another opening or pipe iſſuing from the bottom of that auxiliary chamber. This laſt pipe ought to have a valve to ſtop or open at pleaſure, and ſhould always be cloſed when the fire is burning, and opened whenever it is extinguiſhed, the lower opening into the principal ſmoke-chamber being cloſed at the ſame inſtant that the other is opened; and if there be no auxiliary ſmoke-chamber, an opening of this ſort muſt be made into the principal ſmoke-chamber. Either at the top, or in any other convenient part of the chimney, ſhould be fitted a valve or ſtopper, which admits of being opened, or perfectly cloſed, at pleaſure. When cloſed, it will ſtop circulation, and ſoon extinguiſh the fire. Whenever it is cloſed, the air-hole of the furnace (if the heat be not required for another chamber) ought alſo to be cloſed, and the fire will then be inſtantly extinguiſhed; and the chamber being full of heated ſmoke will gradually tranſmit that heat through its cover and ſides to the air-chamber which furrounds it: the hotteſt part of the air thus heated will riſe to the top. As the heat in the ſmoke-chamber gradually abates, it will, of courſe, contract in bulk; and, by thus forming a kind of vacuum, muſt then draw in a ſupply of air from the auxiliary ſmoke-chamber to ſupply that want. As the higher opening into that chamber alone is now open, it muſt draw in now only the hotteſt part of the air, while the air from without is drawn into the bottom part of the auxiliary chamber; and as it will continue to occupy the loweſt place, no cool air can be drawn in, until the whole of the heated air ſhall be exhauſted.

" The vacuity immediately above and around the principal ſmoke-chamber is intended for an air-chamber: the floor above which, and its ſides all over, muſt be impervious to air or water, and may be formed of flooring tiles or ſtone, or any other material proper for ſuch caſes that can be got cheapeſt at the place. From this air-chamber let a pipe or pipes paſs into the apartment intended to be heated, that can be opened or cloſed at pleaſure, and that can admit at pleaſure alſo of being opened either immediately below the floor, or at any greater depth, ſo as to allow air, more or leſs heated, as ſhall beſt ſuit the purpoſe, to paſs into the apartment intended to be heated. This heated air may (when thus admitted) be either allowed to ſpread in the apartment immediately above the floor, ſo as to heat the whole of the apartment; or it may be conveyed nearly to the roof before it is let looſe, ſo that the upper part of the apartment may be heated to a great degree without affecting the lower part of it, if it ſhould be ſo required.

" Connected with the air-chamber may alſo be an auxiliary air-chamber, capable of retaining the heated air; between which two chambers, there ſhould likewiſe be a communication by means of a pipe; and this auxiliary air-chamber ſhould alſo communicate with the common air by an opening juſt above the floor of it in the loweſt place, and no-where elſe. The pipe that communicates between the air-chamber and its auxiliary, ſhould be ſo made as that the end of it which enters into the principal chamber, ſhould be placed juſt above the floor, and the other end of it ſhould open into the auxiliary chamber high up, very near the upper part of it, and ſhould never be cloſed. In conſequence of this arrangement, when the air in the principal chamber, or heated air, comes to be heated, if the pipe communicating with the apartment above be kept ſhut, then as the air expands in conſequence of the heat acting on it from the ſmoke-chamber below, the coldeſt part of the air in that air-chamber will be forced to paſs into the auxiliary air-chamber, which, in its turn, will force ſome from thence into the open air. In this way, after the cold air is all diſcharged from the principal air-chamber, ſome part of the heated air will be driven into the auxiliary air-chamber, in which, aſſuming the higheſt place, it will there be retained, forcing the colder air below to paſs out into the atmoſphere. The proceſs muſt be continued as long as the air in the internal air-chamber continues to augment in heat, but when a portion of that heated air is let off into the apartment above, or when the fire is ſlackened ſo as to communicate no more heat to it, then in that caſe a ſuction will be made from the inner chamber ſo as to draw in air from the auxiliary air-chamber; but as the pipe opens into

the higher part of the chamber, it will draw back only the hotteſt part of the air in it, and ſo on it will continue to draw back the ſuperfluous air ſo as to derive the whole benefit of it without any waſte whatever. But although this auxiliary air-chamber will be of great utility, it may, nevertheleſs, be diſpenſed with if the owner ſo chooſes: but the opening into the air-chamber below is indiſpenſable.

" If the apartment placed above, and communicating with the principal chamber of heated air, be intended to be employed as a hot-houſe, its walls ought to be made of glaſs all round, if circumſtances will admit of it, on the north as well as towards all other points of the compaſs; thus to obtain not only the benefit of the ſun's heat to the fulleſt extent, but alſo to obtain as much light as poſſible, which is of the utmoſt utility to plants of all kinds, as, without it, they cannot be preſerved in good health. The whole ſhould be made air-tight. The under part of each of the front glaſſes ſhould be ſo formed as to admit of being opened, or to ſhut quite cloſe at pleaſure.

" A row of windows, or air-holes, that admit of being opened at pleaſure, ſhould be placed along the north, or other ſides, towards the top, with this ſingle variation, that they ſhould be made to open alternately from below, riſing upwards, or from above falling downward, but ſo as always to admit of being ſhut ſo cloſe as to be air-tight. Theſe openings are to ſerve the purpoſe of emitting the air at pleaſure, and aſſiſting in ventilating the houſe. The edges of the door ſhould be alſo ſo made as to ſhut quite cloſe.

" For the purpoſe of a *pinery*, or *vinery*, or peach-houſe, and moſt other uſes to which a hot-houſe is uſually applied, the roof of the apartment (in other words the hot-houſe) ſhould be placed in a horizontal poſition, or nearly ſo, ſomething like the ceiling of an ordinary apartment, only that that ceiling ſhould be made of glaſs inſtead of plaſter, and ſhould be fixed to the joiſts above, and made altogether air-tight. The vines or other fruits intended to be forced may be extended cloſe under the glaſs. The bed in the ſtove ſhould be raiſed ſo high as to be as near the roof-glaſſes as the leaves of the plants in it will permit. Pipes of different lengths, which may be opened or ſhut at pleaſure, ought to be paſſed through the upper-part of the hot-houſe for the purpoſe of letting off the heated air to that degree which ſhall be deemed eligible at the time, and ſhould reach to that depth in the houſe that ſhall be thought proper, for the purpoſe of regulating the heat of the ſtove, and keeping up an equality of temperature at all times without any attendance from the gardener. The ſtove being firſt made air-tight everywhere, let a pipe be placed in the floor, communicating directly with the chamber of heated air below; and let the top of that pipe be cloſed by means of a light valve that opens upwards. Let another pipe be placed above, that may communicate with the open air, if judged proper, having a light valve upon its upper end opening upwards alſo. Let an opening be then made into the ſtove near the floor, ſo as to admit a free communication by that means with the open air; lift up then the valve of the bottom pipe, the heated air will riſe upwards through it into the ſtove, gradually filling it; while the cool air that was in the chamber is imperceptibly driven off through the opening below into the atmoſphere.

" When the ſtove has gradually acquired the degree of heat required (ſay ninety degrees of Fahrenheit's thermometer), ſhut the opening below, and all others, quite cloſe. The hot-houſe being now air-tight, it muſt follow, that if more heated air ariſes from below, it will tend to expand the air already in the hot-houſe; in other words, to raiſe the temperature above ninety degrees. But in conſequence of that expanſive effort from within, an effort will be felt to cloſe the lower valve (as is felt in a bellows when the two handles are preſſed together), ſo that no more heated air can find acceſs by that means. The ſame expanſive effort will have a neceſſary tendency to open the upper valve, and thus heated air will be allowed to eſcape until the air in the chamber has come into an equilibrium with that of the atmoſphere; or, in other words, till it be at ninety degrees, at which temperature alone it ever can, as thus regulated, attain that equilibrium.

" If, however, from the coldneſs of the night air, or from any other cauſe, the heat of the ſtove ſhould be diminiſhed, ſo as to fall below ninety degrees, the bulk of the air in it will be at the ſame time contracted, and a kind of vacuum be experienced. In that caſe, in conſequence of the ſuction inwards, the upper valve would be firmly cloſed, ſo that no cold air can be there admitted; and, from the ſame cauſe, the lower valve will be opened ſo as to admit heated air again from below. In this way, as ſoon as the temperature ſhall attain the ninetieth degree, or ſuch other regulated degree of heat as ſhall have been fixed upon, the lower valve would be cloſed, and thus an equal temperature would be kept up within the houſe at all times, whatever variations might take place in the atmoſphere, without the attendance of any perſon whatever. If care be taken to keep up the heat in the air-chamber above ninety, or the regulated degrees, and provided the apartment above it (the ſtove) be perfectly air-tight, the variation of heat that could prove hurtful to the tendereſt plant could never be experienced.

" In the vinery, peach-houſe, and others that require nearly a ſimilar temperature, where the ſun becomes the principal, if not the ſole, ſource of heat, an auxiliary chamber ought alſo to be provided for receiving the heated air when there is an exceſs of it, and reſtoring it back again during the night-time, when the cold or other circumſtances render the contraction within ſenſible. This auxiliary chamber ſhould be conſtructed exactly in the ſame manner with thoſe already deſcribed. In this caſe alſo, as in the former, though the pipe of communication opens alſo into the auxiliary chamber near its roof, it ought to be made to iſſue from the hot-houſe itſelf, either higher or lower at pleaſure, which may be effected by fitting upon its orifice pipes of different lengths. As it may be convenient to rear vines entirely on the outſide of the houſe, proper openings ought to be provided for introducing the vines from without, and for withdrawing them at pleaſure. Theſe openings may be made either immediately under the roof of glaſs, or occaſionally juſt above the floor of the hot-houſe, as ſhall ſuit the inclination of the owner. They ſhould conſiſt of horizontal ſlits of a length and depth ſufficient to admit of the ſhoots being paſſed through them with eaſe, and admit of being cloſed either with a caſe with glaſs in it, or a wooden frame, the openings between the ſhoots being cloſed up with ſoft moſs, cloſe rammed, ſo as to be air-tight, or with a plaſter of grafting loam, or any other ſoft material that is fit to prevent the paſſage of the air without too much cramping the ſhoot.

" Peaches and cherries, which require the influence of the open air in the winter, may be raiſed in large tubs or boxes that admit of being removed; and if the ſtems be trained perpendicularly, nearly as high as the horizontal roof glaſs, and then bended over and trained horizontally, they may be admitted into the houſe, or withdrawn from it through horizontal ſlits, ſimilar to thoſe above deſcribed, which admit of being cloſed in the ſame manner.

" For the purpoſe of forwarding lettuce, or other low-growing plants in winter, or ſtrawberries early in the ſpring, let a ſet of frames be provided, conſiſting of open ſpars ſtrong enough to ſupport the weight that is to be put upon

them; each of theſe frames ſhould be of ſuch dimenſions as to hold three rows of pots of the uſual ſize for that purpoſe, and of a length the whole width of the houſe, wanting two feet or thereabouts A ſet of pans or boxes, made of any light material that can hold water, and having edges turned up one inch, ſhould be provided to be laid on theſe frames, and into theſe pans or boxes the pots ſhould be placed. Theſe frames may be ſuſpended from the ceiling or roof of the chamber by means of cords paſſed over pulleys, ſo as to admit of being raiſed or lowered into a warmer or cooler region of the chamber at pleaſure. The plants may be ſupplied with moiſture by pouring water into the pans without lowering them, and the fruit may be ſeen, without moving them, through the glaſs above.

"Hitherto it has been the practice to have no hot-houſes of more than one ſtage or ſtory in height, but upon the preſent plan, in ſituations where they can be ſecured from effects of wind, nothing is to prevent them from being of two or more ſtages or ſtories; and where this can be ſafely done, it will prove a conſiderable ſaving on account of the roof. In that caſe, all the difference that will occur between the firſt and higher ſtages is, that the floor of theſe laſt, as well as the roof, will be of glaſs. A foot-path of wood or grating for the gardener ſhould be always, in that caſe, formed along the inſide of the north wall, having a ſlight rail on the inſide, of about three feet high, like the rough tree of a ſhip, or otherwiſe, to guard againſt accidents; and a looſe deal ought alſo to be provided to be ſhoved along to the top of the joiſts, when wanted, as a platform for the neceſſary purpoſes. Over the higheſt ſtage or ſtory muſt be thrown a roof, the ſouth ſide of which, and the eaſt and weſt ends, may be made of glaſs, and the north ſide either of glaſs or proper opaque materials. This may be ſo conſtructed as to be employed for the purpoſe of a vinery, and at the ſame time of a reſervoir-chamber for heated air, which may be freed from its ſuperfluous heat, when that becomes too great, by means of a tube from the top, which admits of being opened or cloſed at pleaſure.

"With a view to obviate the bad effects that might occaſionally reſult from too great a degree of heat in the higher regions of the hot-houſe, continued too long through accidental inadvertence in the gardener, the following apparatus may be uſed. Take a bladder, or other flexible bag, that is impervious to air, turn the mouth of it, while it is open, upwards, and heat it then to a conſiderable degree before a fire, or otherwiſe; when it has been made to attain a degree of heat higher than that of the hot-houſe, tie the neck cloſe while it is not yet fully diſtended, though nearly ſo, taking care previouſly to fix a ſtring to the bottom of it, by tying in a part of it, or otherwiſe. Then attach it to ſome fixed object; afterwards bring the houſe to a proper degree of temperature, and while it is in that ſtate faſten the ſtring that proceeds from the bag tight to ſome other object, the conſequence muſt be, that when the heat augments the bag will become more diſtended, and, conſequently, will augment in diameter, and contract in length, ſo as to tighten the cords, and when the heat abates it will become more flaccid, and of courſe ſlacken the cords, ſo that this may be employed as a moving power to open or cloſe a valve as it contracts or dilates; and it will neceſſarily regulate the heat of the houſe by its ſpontaneous movements, without requiring attention from any one.

"For the purpoſe of agitating the air in the houſe at pleaſure, without the neceſſity of introducing air from without, and for many other indiſpenſable purpoſes, the following apparatus has been contrived:—Make a cylindrical box of a conſtruction ſimilar to that of a drum; paſs through it length-wiſe an axle, carrying arms of thin wood, or other light and firm material, to act, when put in motion, as a fan. This axle is to be properly ſupported at each end, and in ſuch manner as to leave an opening at one or both of the ends for the purpoſe of admitting air to the fan. The fan may be moved by means of a ſimple handle, or, if greater velocity is wiſhed, by a large wheel at one end, acting upon a pinion upon the end of the axle, or by a large ſheeve acting upon a ſmall one, connected together by a band, belt, or chain. On one ſide of the cylindrical part of the drum leave an opening for the paſſage of the air when the fan is in motion, to which can be fitted at pleaſure a pipe that admits of movements, and of being occaſionally lengthened or ſhortened: it may be flexible or otherwiſe, as ſhall ſuit the circumſtances of the caſe, terminating in a ſmall nozzle to admit of its being directed to any point where it may be wanted. Let the mouth of another pipe, ſimilar to the above, be ſo formed as to cover the end, opening, or openings of the drum, for the ſupply of air, ſo that all the air that can paſs into the drum muſt firſt paſs through this pipe: by means of this apparatus, the air can be ſucked up by the machine from any part, either within or without the houſe, and ſpouted out into any other part of it, with a greater or leſs degree of violence, as circumſtances ſhall render eligible. The machine itſelf may be driven either by the hand, like a common winnowing machine, or it may be driven by means of a vane, moveable by the wind, placed on ſome convenient part of the building: or by water, or ſteam, or horſes, or any other moving power, which circumſtances may render eligible. Or this kind of ventilator may be produced by means of a bellows, having pipes of the ſort above deſcribed, adapted to the nozzle and the under valve of the bellows.

"With a view further to economize fuel when that becomes neceſſary for the production of heat, care ſhould be taken to have the whole of the ſmoke that ariſes from the burning fuel conſumed, To effect this, let a fire-place be conſtructed in the following manner:—Let this fire-place have two grates, ſo connected as to admit of communicating alternately with each other: each grate ſhould have two air-holes opening into the cavity below the grate, being cloſe every-where elſe: one of theſe air-holes ſhould communicate with the atmoſphere directly in front of the grate, and the other with a paſſage below, that goes directly from the one grate to the other. Theſe two air-holes ſhould admit of being opened or cloſed at pleaſure, but ſo as they can never be both open at the ſame time unto the ſame grate; this may be conveniently effected by a ſhifting door, or valve, which, when it cloſes the one hole, muſt neceſſarily open the other. For the ſake of diſtinctneſs, let one of theſe grates be called No. 1, and the other No. 2. When the fire is to be lighted, let the air-hole in front of the grate No. 1 be opened, and the other air-hole to that grate will of courſe be cloſed. The coals in No. 1 being then kindled, the ſmoke, as it iſſues from the fire, ſhould be conducted at firſt right upwards for a ſmall diſtance, and it ſhould then bend in the ſame plane with the wall, ſo as to aſſume a horizontal poſition, and in a direction pointing towards the other grate No. 2. It ſhould then bend downward, ſtill in the ſame plane, and proceed in that direction until it comes into the paſſage that leads from the one grate to the other beneath the level of the grates reſpectively. As the opening from this paſſage into the grate No. 1 is at this time cloſed, the air-hole in front being open, the ſmoke muſt paſs on towards the other grate, No. 2, whoſe air-hole in front being now cloſed, it can receive no air to keep alive the burning fuel but that which comes through that paſſage;

and as this air conveys along with it the whole of the ſmoke that came from the burning fuel in the grate No. 1, that ſmoke, in paſſing through the fire No. 2, will be inflamed and entirely conſumed, thus tending greatly to augment the heat. It being always underſtood that the fuel in the grate No. 2, is at this time in the ſtate of charred coal, having been kindled previouſly to that in No. 1. After paſſing through the grate No. 2, the heated air riſes at firſt through the chimney of No. 2, in a perpendicular direction, to the ſame height as that of No. 1. It then bends in a horizontal direction towards No. 1, in the ſame plane with the wall; from thence it bends backwards in a horizontal direction for a ſmall ſpace, and may be then carried off through a chimney in any other direction that convenience can ſuggeſt. But when the fuel, that had been put upon the grate No. 1, ſhall be ſo far conſumed as to emit little ſmoke, let the front air-hole of No. 2 be opened, and freſh fuel be put upon it, the other air-hole of that grate being neceſſarily cloſed when the front air-hole is opened. The ſmoke ariſing from thence, will now paſs upwards as before, but, inſtead of going back into the chimney as before, a moveable door or valve there being ſhifted, that opening is then cloſed, and another opening made into the ſame chimney to receive the vapour ariſing from the fire No. 1. The ſmoke will then be obliged to paſs downwards, and ſhould be conducted in the ſame manner as that before deſcribed of No. 1, into the paſſage that communicates between the two grates, and thus be forced to go under the grate No. 1 (the air-hole leading from that paſſage to No. 1, having been previouſly opened by ſhutting the air-hole in front), where it muſt paſs through the fire and be inflamed, from whence it riſes up, and paſſes off through the chimney, as that from No. 2 did before

"Obſerve that at the place where the ſmoke enters from above into the paſſage that leads between the two grates, there is a moveable valve, which is opened at the ſame time that the ſaid air-hole into the chimney on that ſide is ſhut; the ſaid valve, when it opens, thus cloſing the ſimilar opening belonging to the other grate. Thus may the two fires have freſh fuel put upon them alternately, and be interchangeably ſhifted as often as can be wanted ſo as always to conſume the whole of the ſmoke. The form and ſituation of theſe chimneys, grates, and valves, may be varied at pleaſure, preſerving the principle of cauſing the unconſumed ſmoke to paſs through the fire that has ceaſed to ſmoke.

"For the purpoſe of obtaining *ſteam* when wanted, let the upper part of the chimney above deſcribed, where it runs in a horizontal poſition between the two grates, be made of ſuch a width as ſhall be deemed convenient, and that upper ſurface ſhould conſiſt of the flat bottom of a pan; or a flat pan may be placed above any kind of grate. Let a chamber be made above that, whoſe tops and ſides are formed by a veſſel containing water flat above, but projecting downward all round to the depth of ſeveral feet, ſo that water ſhall ſurround the chamber on all ſides, except at the bottom part, which is the pan. The edges of the water-chamber ſhould go an inch or two lower than the pan, being wider than it; and an opening ſhould be left below the edges of the water chamber. Within this chamber, and immediately over the pan, let there be placed another veſſel containing water. The pan is to be uſed for boiling and evaporating water. It is to be ſupplied with water from this inner veſſel, in proportion as it is evaporated by means of a ball cock or float, and that veſſel, in its turn, is to be in like manner ſupplied with water, as it is drawn off from the outer veſſel that ſurrounds the chamber; ſo that it will be always heated before it reaches the evaporating pan. The ſteam that is firſt raiſed, will fill the chamber above deſcribed, where it will accumulate until that chamber be wholly filled, ſo as to make its eſcape below the bottom of the ſides, from whence it may be conveyed, by a proper conduit, into a houſe, when it is there wanted. A pipe ſhould alſo be taken through one of the ſides, cloſe below the upper part of what may be called the ceiling of the water-chamber, that admits of being opened at pleaſure, by means of which the whole of the ſteam can be let off when it ſhall be judged proper. But as it may often happen that ſteam will be wanted only in moderate quantities, and at particular times, ſo as to render it unneceſſary to continue the evaporation of water during the whole time that the fire burns; in that caſe, the following apparatus may be reſorted to. By means of a bellows formed for that purpoſe, or a forcing pump, throw in a ſmall ſhower of water from time to time, into the dry bottom of the pan, properly guarded by tiles laid above the bottom, ſo as to cover it when fully heated, which will be inſtantly converted into ſteam: and, after a ſhort interval, another and another, until as much ſteam ſhall be generated as ſhall be wanted at that time, when the evaporation may be diſcontinued.

"For the purpoſe of obtaining a moderate degree of heat occaſionally, without being under the neceſſity of lighting a fire in the houſe, the following apparatus may be adopted.—Make a hollow cylinder of metal, or other matter that is capable of retaining ſmoke and tranſmitting heat, open at bottom, but cloſe at top. This cylinder ought to be of conſiderable proportional depth, and of a ſize proportioned to the uſe intended by it. The ſides of this cylinder may do for ſome purpoſes if only ſingle; but, in general, it ought to be double, leaving an opening between the two cylinders all round of about an inch or more in the clear. Theſe two cylinders ſhould be joined cloſe together at the bottom, and the outer cylinder ſhould riſe ſomewhat higher than the part that cloſes the inner cylinder above; round the top of the outer cylinder ſhould be formed a horizontal rim, of ſuch a breadth as to admit of being depreſſed into a circular groove all around it, for the purpoſe of receiving a perpendicular rim running round the lower part of the cover, like that of the lid of a tea-pot. The cover itſelf may be made of ſuch ſhape and dimenſions as ſhall beſt ſuit the purpoſes intended at the time. Let the cylinder thus prepared, be heated to the degree wanted, by an Argand's lamp placed within it, which, inſtead of a glaſs tube to receive the flame, has one made of metal fitted to it, which is of ſuch a length as to reach from the lower edges of the cylinder till within half an inch of the top of the inner cylinder; or it may be heated by ſuſpending it over a good fire, upon a crow or otherwiſe, until it be ſufficiently warmed, when it may be carried into the place where it is wanted, and there ſuffered to ſtand till it communicates heat to the ſurrounding bodies. If water be put into the upper cavity above the top of the inner cylinder, the cover being at the ſame time taken off, ſteam in ſmall quantities may be raiſed in the houſe where a greater degree of heat is wanted; and, for long continuance, this apparatus may be made of very large dimenſions, and of any form that may beſt ſuit, and fixed in its place. The ſides may be made of bricks, or other ſolid ſubſtances, and a culinary fire adopted inſtead of the lamp, ſo that its power may be thus augmented to ſuch a degree as to anſwer many important purpoſes."

HOUAT, an iſland of France, between that of Belleiſle and the Continent. It is 10 miles in circumference.

HOUDAIN, a town of France, in the department of the Straits of Calais, ſix miles S. of Bethune. Long. 2. 34. E. Lat. 50. 39 N.

HOUDAN, a town of France, in the department of Eure

and Loire. It has a manufacture of woollen ſtockings, and is ſeated on the Vegre, 32 miles S.W. of Paris. Long. 1. 41 E. Lat. 48. 47. N.

HOULSTON (Thomas), an eminent phyſician and active philanthropiſt, was born at Liverpool, on the 26th of November, 1746. After a good claſſical education, being deſigned for the medical profeſſion, he made himſelf acquainted with pharmacy, and ſpent a conſiderable time in medical attendances in London, where his extraordinary diligence and eager deſire of information attracted the notice and partiality of Dr. George Fordyce, to whom he afterwards dedicated his Inaugural Theſis. To demonſtrate the ſufficiency of his acquirements, even before the uſual courſe of ſtudy in that *then* moſt celebrated Univerſity, he took the degree of Doctor of Phyſic, at Leyden, where his abilities obtained him diſtinguiſhed marks of approbation from the profeſſors Albinus and Gaubius, &c. As he was yet only of the age of twenty-one, and his natural thirſt after knowledge was by no means ſatisfied, he travelled through the Continent for further improvement, and viſited moſt of the foreign univerſities. This tour, in which he was much diſtinguiſhed and employed by Engliſh travellers of rank, occupied him upwards of ſeven years, his ſtay being conſiderably prolonged in thoſe parts of the Continent where the ſalutary practice of inoculating for the ſmall-pox had either not been introduced, or had declined under the prejudices of the people. In this purſuit he laboured with a degree of zeal and perſevcrance that obtained him great celebrity; and at Vienna, where he continued about two years, he moſt effectually eſtabliſhed the practice, and was honoured by the late Emperor Joſeph II. with a long converſation on that ſubject. But—"envy will merit, like its ſhade, purſue"—ſuch diſtinguiſhed patronage could not but ſubject the doctor to oppoſition even where before he had experienced ſupport. The celebrated Van Swieten, ſacrificing candour and the good of his fellow creatures to the artful inſinuations of Brambillo, an Italian ſurgeon employed by the court, became the diſcourager of inoculation; and the latter, who neceſſarily took a part in the inoculation of the then King of Poland's nephew and niece, exulted in (if he did not infamouſly promote) the unfortunate event of the loſs of an eye to the princeſs. This, though a mere conſequence of ſcrofulous inflammation, and much more likely to have happened under the natural ſmall-pox, checked the progreſs of inoculation among the higher ranks, and had, no doubt, a correſponding effect on the ſtronger prejudices of the multitude. This obſtacle, however, produced only temporary effects; and Dr. Houlſton had the ſatisfaction of witneſſing the preſervation of thouſands by inoculation, before he returned to his native country, which he did in 1771 or 2, preferring his native place, where he might enjoy the ſociety of his family for the reſt of his life, to the more ſplendid proſpects of medical practice in the metropolis.

In this more limited ſcene, where there exiſted fewer incitements to profeſſional exertion, he nevertheleſs enjoyed an abundant ſhare of celebrity; but here the predominant feature of the doctor's character, which was philanthrophy, rather ſuperſeded the uſual anxiety for medical pre-eminence. This propenſity alſo acquired ſtrength with the decline of his health, a fixed diſreliſh of life and its purſuits, and a growing confidence in the promiſes of Chriſtianity, of which he was a firm believer. At this period, the ſhades which mark the human character, it is ſaid, were not unobſerved by the moſt partial of his friends; yet his errors were of that venial ſort which unfortunately diſguſt without injuring mankind. His continual charities to the poor muſt protect his memory from the inſinuations of thoſe who accuſe him of an undignified partiality to the means of affording them; and the ſum of his good deeds muſt be balanced againſt thoſe failings, which too uniformly deteriorate the character of man.

He wrote, 1. Diſſertatio inauguralis de Inflammatione. 2. A Method of treating the Small-pox (a tranſlation). 3. An Eſſay on Poiſons, in which the means of counteracting thoſe of the mineral claſs was firſt ſuggeſted; (ſee POISONS, *Supp.*) 4. A paper on the preſervation of thoſe who are in danger from having drank largely of ſpirituous liquors. Several other of his productions, particularly thoſe calculated to extend the means of recovering drowned perſons, are to be found in fugitive publications.

Doctor Houlſton died in 1787, after labouring a long time under the effects of an incurable fiſtula. He was, from the firſt of his ſettling there, phyſician to the hoſpital at Liverpool; a member of ſome of the learned ſocieties; and, what is not generally known, he was the great grandſon, by the mother's ſide, of Preſident Bradſhaw.

HOUSE OF CORRECTION, a place where crimes are puniſhed by confinement, diſcipline, and extraordinary labour; (ſee BRIDEWELL). The mode of remedying the defects and abuſes exiſting in theſe eſtabliſhments, will appear from the following account of the jail and houſe of correction at Dorcheſter, by William Morton Pitt, eſq. M. P.

The building of the new jail, at Dorcheſter, and the reform in the management of the old one, began in 1790. The old houſe of correction at Sherborne was ſold in 1794, and its priſoners were transferred to one of the wings of the new priſon, which was then appointed the houſe of correction for the county. From that period, both eſtabliſhments have been under the direction of the ſame keeper, and under the inſpection of the ſame magiſtrates; and have had but one chaplain, ſurgeon, &c. The preſent priſon, built on a plan approved by Mr. Howard, coſt £. 16,179. 10*s*. 6*d*. and was firſt occupied in December, 1793. It contains eighty-eight ſleeping cells, beſides thoſe for the condemned, the reception cells, and working cells, which are all *ſingle*—the infirmaries, two large dormitories for male debtors, in addition to the cells in the debtors' wing, and two for female debtors and female fines, and alſo dark *ſingle* cells for the refractory. Each dormitory contains four beds, but is capable of containing more in caſe of neceſſity.

In 1791, manufactures were introduced, for the employment of all ſuch priſoners as either were compelled by law, or could be induced by encouragement, to work. Convicts, and all perſons ſentenced to impriſonment and hard labour (to whom the law has not already allotted any certain portion of their earnings), are allowed one-ſixth part thereof, beſides broth in addition to their bread; and, if they earn to the amount of five ſhillings per week, they are alſo allowed meat*.

* In many of our houſes of correction, the priſoners, even to this day, are fed chiefly, and *without diſtinction*, on bread and water; a diet that has been found to have a tendency to dropſical complaints; and that has as little good effect on the health of the culprit, as the indiſcriminate ſyſtem of treatment, devoid of inducement or encouragement, can produce on his morality and induſtry. The perſons confined might be very comfortably fed, at the ſame expence as they now are on bread and water; eſpecially if a difference was made in the diet of the induſtrious and well behaved, and of the idle and vicious, as has been done with great effect at Dorcheſter. That, and the ſecuring to them a fixed and liberal intereſt in their labour, to be paid them on their diſcharge, would produce an immediate change in our priſons and houſes of correction; and make them really the in-

Debtors, and perſons committed for trial, not being compellable to work, enjoy the whole of their earnings, if they purchaſe their own raw materials and ſell the produce on their own account; but, if they are ſupplied with the materials, and the county has the riſk of the ſale of the goods, they have then only the half of ſuch earnings.

In all caſes, except where debtors and others voluntarily working, provide themſelves with materials, the jailer is allowed one-ſixth of the earnings, as a gratuity for his extra trouble, and as an incitement to further exertions; and the remainder (after deducting the jailer's and priſoners' ſhares) is placed to the credit of the county. The full amount, however, of the ſhares of the earnings, except thoſe of debtors, are not paid to the priſoners until their diſcharge, but are carried to their reſpective accounts; and two-pence per week only is allowed them for the purpoſe of procuring for themſelves any little indulgences, conſiſtent with the police of the priſon; even the ſums placed to their accounts being liable, in the whole or in part, to forfeiture, in caſe of miſbehaviour. There are inſtances of men who have received eight or ten pounds, or more, on quitting the priſon; and the money has for the moſt part been laid out by them in clothes, tools, furniture, a ſtock of bacon, or other proviſions, &c. for their future comfort and advantage *.

The produce of the work, the expence of maintenance, &c. are ſtated in the table, No. I. In No. II. is added an account of the manner in which the donations left the priſon, and other charitable contributions, have been applied, in liberating and aſſiſting debtors, in aid and relief to other priſoners diſcharged at the aſſizes or ſeſſions, and in rewards to perſons who have heretofore been in confinement, and who have obtained certificates, properly authenticated, of their induſtry, honeſty, and good behaviour, in the ſervices in which they have been ſince they have left the jail.

TABLE. No. I.

Number of priſoners, account of earnings and ſalaries.

	1791.	1792.	1793.	1794.	1795.	1796.
Average number of priſoners in the ſeveral years	40	47	50	50	51	49
General amount of earnings in the ſeveral years	£. s. d. †51 6 11	£. s. d. 275 6 0	£. s. d. 287 2 0	£. s. d. 366 11 5	£. s. d. 382 5 11	£. s. d. 462 12 0
Annual average of each priſoner's individual earnings	1 7	5 17 0	5 14 10	7 6 7	7 9 11	9 8 8
General amount of priſoner's *ſhares* of earnings	8 15 6	75 5 1	60 16 11	64 0 5	72 3 5	99 4 3
Annual average of each priſoner's individual *ſhare* of earnings	0 4 10	1 12 0	1 4 4	1 5 7	1 8 3	2 0 5
Amount of ſalaries, a permanent expence attached to the eſtabliſhment	270 0 0	270 0 0	270 0 0	293 10 0	298 0 0	298 0 0

ſtruments of correcting, inſtead of their being as at preſent the means of increaſing, habits of vice, deſpondency, and idleneſs. The wild beaſt may be ſtarved into ſubmiſſion, or compelled to ſubjection; but beings endowed with reaſon, and deſtined by their Creator for ſocial intercourſe, are not to be reformed *merely* by ſolitary confinement, by depreſſion of condition, or privation of food: there muſt be added—encouragement to thoſe who do well—diſtinction between them and the ill-behaved; the objects of labour muſt be made eaſily attainable, and its conſequences and advantages deſirable.

* It were much to be wiſhed that the example of the reform of Dorcheſter jail and houſe of correction were followed in every priſon and houſe of correction in the kingdom. The reader will perceive that it has been produced, by ſecuring to the priſoner, not only a preference in diet and accommodation, but a *certain* and *liberal ſhare* of the earnings of his induſtry, and by huſbanding that produce for him againſt the time of his quitting the houſe; ſo that he may go out, not only with habits of application and with character, but with the means of ſubſiſtence, and of carrying his induſtry to the moſt advantageous market. To expect, from the general maſs of mankind, *a willing continuance in labour from day to day*, without the ſpur of intereſt, without an object of expectation, and without the engagement of the inclination by a ſhare, at leaſt, of the profits, —or to hope for ſucceſs in the attempts daily made, in our houſes of correction, to *compel* priſoners to work, not as the means of increaſed comfort and advantage to them, but as a *puniſhment* of their offences, is abſurd and ridiculous.—Compare the difference between that which perſons may be *induced*, and what they may be *compelled* to do.—In the ſpinning-ſchool at Epping, a little child, of 9 years old, will, with cheerfulneſs and pleaſure, and without abridging its hours of play and recreation, earn four pence a-day; and will dine plentifully and comfortably, for a penny; while a ſtout active man, in the prime of life, in one of our houſes of correction, with an allowance of *nine pence* a-day for his food, is (in a ſtate of mortification and ſuffering) earning *one penny a day* in picking oakum.

† N. B. The working ſyſtem did not commence till late in the year 1791.

TABLE. No. II.

Application of donations and charitable contributions.

	1792.			1793.			1794.			1795.			1796.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
Paid for the liberation of debtors - -	0	0	0	21	7	1	25	4	5	0	0	0	5	0	0
Paid to priſoners on their diſcharge -	1	17	9	1	1	6	11	1	0	3	9	3	2	10	6
Paid gratuities to debtors by order -	2	0	0	3	3	0	4	1	0	0	0	0	0	0	0
Paid for coals for debtors - - - -	0	0	0	0	0	0	2	9	9	9	16	7	0	0	0
Paid for clothes for a diſtreſſed convict on his diſcharge - - - - -	0	0	0	0	0	0	1	14	10	0	0	0	0	0	0
Paid rewards to perſons who had been diſcharged, and afterwards obtained certificates of good behaviour - -	0	0	0	0	0	0	4	4	0	4	4	0	5	5	0

In this inſtitution, the object has been to combine the two principles of induſtry * and reflection, and, by the judicious application of ſolitude in a greater or leſſer degree as the ſpecific caſes may require, to reform the offenders, ſo as to reſtore them to ſociety in an improved ſtate, and encourage them to perſevere in a courſe of induſtry and virtue.—The attempt has in a great meaſure ſucceeded.

In the laſt ſix years there have been but as many inſtances of offenders having been a ſecond time committed to priſon; viz. one for felony, two for petty larceny, one for an aſſault, one for leaving his family chargeable, and one for returning unlawfully to her pariſh after an order of removal. Of thoſe who have been diſcharged, twenty-ſeven have entered into the ſea ſervice, nine into the land ſervice; and thirty-five are known to be, at this time, maintaining themſelves and their families by honeſt induſtry. This would probably be found to have been the caſe with many more, who are ſtrangers to the county, if information were obtained of their preſent reſidence and ſituations in life.

HOUSE OF INDUSTRY, a houſe of reception for paupers, who either from advanced age, or the want of talents, health, ſtrength, or even of inclination, are unable to procure a livelihood by their exertions elſewhere. The following extract from an account of an incorporated houſe of induſtry, for two united hundreds, in the county of Norfolk, by Edward Parry, eſq. appears in the Reports of the Society for bettering the Condition of the Poor.

"The houſe of induſtry, for the hundreds of Mitford and Launditch, in the county of Norfolk, was eſtabliſhed and incorporated by act of parliament in the year 1775. Theſe hundreds contain 32 pariſhes; two of them large market-towns, but without manufactories. This houſe of induſtry certainly has the merit of being managed with great attention to the health, comfort, and (in ſome degree) to the morals of the poor. I ſpeak of it (ſays Mr. Parry) from experience, having been an active director of it for 13 years, during my reſidence in the county of Norfolk. The following is the plan on which it is conducted.—There is a large building which contains on an average about 500 perſons of all ages; and there is an hoſpital, about a quarter of a mile from the houſe,

* Upon examining the general produce of labour, in a workhouſe or houſe of correction, it ſhould ſeem that there is ſomething in the name, the air, the ſituation, or in the *ſyſtem* of them, that palſies the power of human induſtry, and reduces the energy of a ſtrong vigorous man to a level with that of an helpleſs child. Mr. Bernard, however, ſtates an exception, equally honourable to the individual, to the magiſtrates, and to Mr. Ayres, the governor of the Middleſex houſe of correction, in Cold-Bath Fields.—In February, 1797, a perſon was committed to that houſe for a twelvemonth, on account of his concern in a fraudulent tranſaction, which he had been drawn into by a combination of artful Jews; and, in the progreſs of which, he had been ſtripped of nearly all his own property. He was a ſmith, and a very excellent workman. With permiſſion of the magiſtrates, Mr. Ayres, the governor, fitted him up a forge, and employed him to repair the locks of the houſe, which are 800 in number, and were got into bad condition. The locks are, of neceſſity, large, and of an expenſive conſtruction. In the courſe of eleven months, ending on the 8th of February, 1798, he cleaned and put in order all the locks in the priſon, ſo completely, that they are now better than when they were firſt put on. During thoſe eleven months, he has, by his own wiſh, extended his working hours beyond thoſe of the other priſoners. He had ſometimes the aſſiſtance of a perſon to blow his bellows; but he has compenſated for this by doing a good deal of other work in the houſe, beſides repairing locks. The whole, therefore, of that work may be fairly placed to his own account. Eſtimating what he has done, at a lower rate than the county ſmith has ever charged to the houſe, his eleven months' work amounts to the ſum of 169l. 12s. On the time of his confinement being expired, the magiſtrates ordered him a donation of 30l. out of the produce of his work. He then ſaid, that he had received ſuch ill treatment in the world, and had experienced ſuch kindneſs and real friendſhip in that place, from the governor of the houſe, that, if he could maintain his wife and two children decently by his labour, he would paſs the remainder of his days there. An apartment has, in conſequence, been fitted up for him and his wife; his two children being placed in a charity-ſchool: he is appointed the county ſmith, and ſhe the inſpectreſs of the female priſoners, with a ſalary perfectly ſatisfactory to them both.——I am favoured with this account by the Rev. Dr. Glaſſe.

in which the ſick are kept ſeparate, according to their different diſorders. They have a governor and matron, to which appointments, by preference, a man and wife are elected; and they have apartments in the houſe, where they muſt conſtantly reſide. The former has £.60. a-year, the latter £.25; and they have coals, candles, and waſhing. There is a chaplain, who is generally a neighbouring clergyman, and has a ſalary of 30l. a-year; his duty is to read prayers once every day, and preach on Sundays. There is alſo a ſurgeon, who has 60l. a-year; he is a reſident of one of the neighbouring market-towns; but muſt attend every day, and has an apothecary's ſhop in the houſe, the medicines being found by the corporation.

"There are alſo four ſurgeons for the out diſtricts of the hundreds; who for attendance and medicines are allowed 45l. a-year each, and attend all caſualties, and report the ſtate and condition of the patient and his family to the next committee. The director's clerk, who is always an attorney, has 50l. a-year; he attends all committees and meetings. There muſt, by the act of parliament, be 36 directors, and 24 guardians. Every perſon, having a freehold eſtate of 300l. a-year, and being reſident in the diſtrict, is compelled to be a director, and to act as ſuch; and, in caſe there are not enough of that deſcription, the deficiency to be made good out of reſident freeholders of 150l. a-year (in which all rectors of livings of that value are included), until the whole number of directors is completed.

"The guardians are choſen by ballot, annually, out of the farmers who rent 100l a-year and upwards, or perſons having eſtates of that value. There is an annual meeting, and three quarterly meetings, of the directors and guardians, at one of the inns at the town of Dereham. At the annual meeting, which muſt be in the month of June, the directors and guardians are formed into twelve committees by ballot; three directors and two guardians being to attend, every month, at the houſe of induſtry, on each Tueſday, from ten o'clock in the forenoon, till three, four, and ſometimes five o'clock in the afternoon; for the purpoſe of viſiting, and inſpecting the ſtate of the houſe and the governor's accounts; of receiving reports from the overſeers of the pariſhes, ſigned by the ſurgeons of the diſtrict, as to the ſtate and condition of the ſick poor in the ſeveral pariſhes—and of granting them temporary relief—and alſo of directing that employment may be found for ſuch as apply for it.

"There is a farm of about 150 acres of land, belonging to the houſe, and kept in hand and managed by the governor; this provides a dairy, and occaſionally fats a few oxen and ſheep: there is likewiſe a garden of ſix or ſeven acres; which is cultivated by the old men of the houſe, and produces an abundant ſupply of vegetables. The governor purchaſes the wheat, at market, from harveſt till March or April, for the whole year: it is ground into meal by a mill belonging to the houſe; and is made into bread, unſifted even from the bran, a kind of bread commonly eaten in all farmers', and moſt gentlemen's houſes, in Norfolk.

"All the meat is purchaſed in the animal, and killed in the houſe. There are ſeveral manufactories eſtabliſhed in the houſe; and all articles of their wearing apparel are made by the poor themſelves; the whole eſtabliſhment being managed with economy, but with ſufficient plenty.

"From this account it may be ſuppoſed that the poor of thoſe hundreds are upon the whole well taken care of, and made comfortable in their old age; at the period when their labour is over.

"And it is certainly true that thoſe in the houſe are, generally ſpeaking, well lodged, fed, and clothed: but, when it is conſidered that theſe five hundred people are, or are preſumed to be, merely paupers, it will appear that there muſt remain a large claſs of induſtrious poor, who only want aſſiſtance occaſionally, being generally employed. As to thoſe with large families, the mode is to relieve them, by taking ſome of their children into the houſe: but I have known many parents, who, rather than conſent to this, have half ſtarved themſelves and their children; and ſometimes carried it ſo far, that, by reducing themſelves too low, they have been at length obliged to leave their cottage, and to be carried altogether to the houſe of induſtry; the man's ſpirit broken, and he himſelf (if he has ſtamina left to recover) becoming a burthen all his life; as he ſeldom returns out of the houſe, capable of the ſame induſtry and exertion that he poſſeſſed before he went in.

"It is further to be obſerved, that as the farmers pay a certain and limited rate to the corporation, which cannot be raiſed, they care very little about the poor; and they frequently ſend whole families into the houſe, who might with a little aſſiſtance ſupport themſelves out of it. Beſides this, the ſeparating of their children from them, deſtroys all natural affection, and often occaſions a wiſh that it would pleaſe God to take the child, inſtead of their being compelled to ſend it into the houſe of induſtry.

"Of the 500 perſons in the houſe, about half are children under 14 years of age. At that age, the children are ballotted on the farmers or tradeſmen (keeping ſervants) * for one year; who are compelled by the act of parliament to take them, or pay 10l.; but at the end of that year it happens that many return to the houſe of induſtry, unable to get another place; being found too delicate to perform that ſervice, which the farmer gets from thoſe whom he hires out of cottages; and in conſequence, many of them become fixed to the houſe for life.

"The other half conſiſts of profligate men, who, through idleneſs and debauchery, have reduced their families to depend on the eſtabliſhment for their ſupport;—diſſolute wenches, who come to lie-in of baſtard children, or to be cured of bad diſeaſes;—and (with theſe) the honeſt induſtrious poor, who, after many years of hard labour or long ſervice, can no longer provide for themſelves; and are then of neceſſity driven from their peaceful cottages to a ſociety, which muſt diſguſt and diſtreſs them the remainder of a life, the preceding part of which has been uſefully employed in the ſervice of the community

"The above are part of the many objections to inſtitutions

* The benefit of pariſhes placing out young perſons in ſervice, though only for a year, is, that it ſoon makes them fit for ſervice in other pariſhes, and relieves their own pariſh from any further burthen. The *compulſory* binding of poor children under the ſtatute law, till the age of twenty-one, is liable to this objection; that the maſter is not likely to uſe his apprentice ſo well, or the apprentice to ſerve his maſter ſo diligently, as if the contract was of ſhorter duration, and by mutual conſent. Mr. Adam Smith is of opinion, that even in trades, or what he terms *ſkilled labour*, long apprenticeſhips are unneceſſary and prejudicial to induſtry; and he gives powerful reaſons for his opinion (vol. i. p. 184—192): but whatever may be the caſe as to trades, ſurely to bind a young lad, from fourteen years of age to twenty-one, to huſbandry, or ſervice, merely becauſe he is out of work at the time, is a harſh and violent meaſure, and muſt have a tendency to check induſtry and exertion. In the houſe of induſtry, which is the ſubject of Mr. Parry's paper, children cannot be bound to huſbandry for a longer term than three years.

of this ſort: and I confeſs that, after having attentively conſidered the ſubject ſome years, I think if workhouſes of any kind ſhall be deemed uſeful (which I do not hold to be the caſe, except perhaps in cities and large towns), the beſt plan is to unite three or four, or at moſt ſix pariſhes; which ſhall have a ſmall new-built houſe, planned on purpoſe, merely as an aſylum for the aged and infirm; to be ſuperintended by the gentlemen and farmers who reſide in the pariſhes; and to be ſubject to the inſpection and control of the magiſtrates acting for the diviſion in which they are ſituated. That all the poor capable of work, though requiring occaſional relief, either on account of bodily infirmity, or of large families, ſhould receive it at their own houſes; and in general in clothes, or other neceſſaries in preference to money. It is well known that the preſent wages do not enable a labourer to ſupport ſeveral ſmall children during the period that they are incapable of labour. I therefore think he ſhould be allowed one ſhilling per week with every child above three, who ſhall be under the age of twelve years; and that when theſe children are to enter upon a ſervice, they ſhould always be clothed by the pariſh. This latter article is almoſt univerſally followed at the houſe of induſtry, which I have before mentioned. It was adopted, about eight years ago, on my recommendation: at firſt it met with many opponents; but is, I believe, now conſidered by all the directors and guardians as a very great ſtimulus to the parents to get them ſervices, and thereby to preclude them from afterwards being any burthen to the pariſh.

"In general, workhouſes are very improperly ſo called; being moſtly filled with aged and infirm poor, who are conſidered as paſt work; or with idle profligate wretches, whom the overſeers ſuffer to live in filth and inactivity, rather than complain to a magiſtrate to have them compelled to labour, or than to offer them any employment, whereby a part of their maintenance might be obtained. This ſtate of the workhouſe being known throughout the pariſh, the honeſt and induſtrious labourer, who has brought up a large family with credit, and who from misfortune is poor, and from age paſt his labour, will rather ſubmit to be half ſtarved, than take up his abode amidſt ſuch wretchedneſs and profligacy; although he knows the overſeer will give him no relief out of the houſe. This, I am ſorry to ſay, I have found to be the caſe; and in one inſtance, upon hearing ſuch a declaration from a poor man, a gentleman, who acted in the ſame diviſion as myſelf, went with me unexpectedly to viſit a pariſh workhouſe; where we found men, women, and children, of different families, crowded together, nineteen perſons in two rooms of twelve feet ſquare, and little more than ſix feet high.

"Children ſhould on no account be put into workhouſes *, if they have parents or relations who will take care of them; although it be requiſite to give ſome allowance, and even to the full of what they would coſt in the workhouſe. Experience proves that children brought up in cottages, half naked, and indifferently fed, make hardier and better labourers, than thoſe in pariſh workhouſes. This I have ſeen demonſtrated in houſes of induſtry, where though the children are taken early from their parents, well clothed and well fed during their continuance in the houſe, and though they generally look healthy, yet they become ſo delicate, as to be unfit for huſbandry labour, in a farmer's ſervice; and are frequently a heavy expence to their employer, from diſorders they contract, when taken from warm work-rooms, and expoſed to field employments in winter.

"It is however to be obſerved, that one general ſyſtem cannot be adopted in all caſes; and that, in large manufacturing towns, houſes of induſtry, well managed, may ſtill be deſirable; becauſe the children, being brought up to ſedentary employments, will be thereby accuſtomed to the habits of life which they will in all probability be induced to follow.

"One great advantage Norfolk has long derived from the cuſtom of putting out all work by the piece, thraſhing by the quarter, &c. (and which is making its way to other counties), is, that the father takes his ſons to the field as ſoon as they can handle a hook, or raiſe a mattock; and they ſoon earn their living, beſides being at an early age inured to induſtry and weather.

"I think every thing ſhould be done to give the labouring man an idea, that he has *an intereſt in the proſperity of the pariſh he lives in;* and that his children will be taken care of, if death, or misfortune, prevent his ability to do it. The two great points are, firſt, to provide employment for all the poor, while able to work: ſecondly, to encourage, by every unexceptionable mode, friendly ſocieties, or purſe clubs; that, when their labour is over, they may look forward to a comfortable ſupport, without the dreary proſpect through life, of a workhouſe, to end their days neglected by their relations, perhaps at a diſtance from them; and where every morſel of victuals is often grudged them by an abuſive overſeer, or by a man who has farmed them at ſo much per head."

Houſes of induſtry are too frequently undeſerving of the name, from a want of ſuperintendency; and hence they have acquired the quaint names of *poor*-houſe, or *work*-houſe, denoting rather what is expected than what is performed. It may be ſeen, however, under the article DUBLIN *(Supp.)*, that theſe inſtitutions are capable of conſiderable amelioration; and this will be ſtill more evident on peruſing the following extract from a further account of the improvements in the houſe of induſtry in Dublin, by the Right Hon. Thomas Pelham.

The acting governors of the houſe of induſtry in Dublin, have made a ſecond report of their proceedings, by which it appears that (notwithſtanding the confuſion which muſt neceſſarily have attended the rebellion in Ireland, during great part of the ſummer) the zeal, the activity, and the diligence of the governors of this inſtitution have not abated; but that improvements, which they had commenced and ſuggeſted in the preceding year, have been confirmed and realized in the laſt. They have ſtated to the parliament of Ireland, the means by which they have encouraged the induſtry, and increaſed the comfort, of thoſe who have been conſigned to their care.

They have augmented the former allowance of 2d. in the ſhilling earned by the poor in the houſe, to 8d.; and the payment of this quota is in a coin, current only in the houſe; which has effectually prevented the purchaſe of ſpirituous

* The defect of ſeveral workhouſes is, that many perſons are kept there, who could do better for themſelves, and with leſs expence to the pariſh, out of it. In one, that I have attended to, I found, on viſiting it, 53 perſons: of theſe, 13 were above the age of 50; 3 helpleſs men and women under that age; and 11 children, too young to be placed out in the world: 15 of the remaining 26 were placed out by me in ſervice, or otherwiſe, in the courſe of a month; and the other 11 were only kept till places could be found for them.—In this inſtance it is to be obſerved that 26 of theſe 53 perſons would have been better out of the workhouſe; but the houſe *had been farmed;* and on that account it had not been the man's intereſt to put them out, as that would have occaſioned ſome immediate expence; and it might probably have been the cauſe of his allowance from the pariſh being reduced at the end of the year, or of his loſing his contract by the competition of a lower offer.

liquors, and is laid out in extra provifions and clothes, at a fhop eſtabliſhed within the houſe, upon the plan of the village ſhops recommended in a former report of this ſociety. The adult poor have no clothing, but ſuch as they procure by their *induſtry:* and they are better clad than formerly.—A work-ſhop with twelve ſtocking frames has been erected, in which a number of females have been employed; and it is well obſerved by the governors, "that the employing females in this manufacture, and in others of a like kind, where an expert hand is more requiſite than maſculine ſtrength, ſhould be encouraged."

The children of both ſexes are apprenticed for ſeven years, to thoſe who ſuperintend their inſtruction, with a reſervation to the Board, of the power of aſſigning over their indentures at the end of the two firſt years, to ſuch manufacturers as ſhall propoſe to take them for the remaining five. The perſons who inſtruct the children, have at preſent a fixed ſalary. It is intended to give them one-third of the earnings; to lay out one-third in clothing the children, and the remainder to be expended in premiums.—The hoſpital is open to all the poor of Dublin; and it appears, that, in the year 1798, out of 1,659 patients admitted, 1,443 were reſtored to health, and to their families; and that of 66 lunatics, 47 have been cured. —The walls of the ſick wards are waſhed every month with lime, and it is purpoſed to have a detached houſe excluſively for fevers.

"With a view to better the condition of the poor of Dublin in general, and to prevent the funds of the houſe of induſtry from being incumbered by unneceſſary claims, the board of governors determined to open a public kitchen, or ſoup ſhop, detached from the houſe of induſtry." Their addreſſes to the public, and their proceedings reſpecting their public kitchen, are worthy of applauſe and imitation. The ſucceſs is proved by the numbers that have been benefited by it: 6,431 perſons were ſupplied with food from this kitchen*, between the 4th day of February, the day of opening, and the 28th of February, the date of their report.

It is to be obſerved, that this inſtitution differs very materially from any poor-houſe, or other inſtitution, in Great Britain, both in its object, its government, and its reſources. In Ireland there are no poor laws, or local taxes, for the ſupport of the poor. This inſtitution was intended for the purpoſe of providing employment, and for the maintenance of the poor of Dublin, and for the puniſhment of the vagrants and beggars who infeſted the ſtreets of that city. The government was veſted by act of parliament in a certain number of public officers; the mayor and aldermen of Dublin, and many other individuals; ſome of whom were named in the act, and others elected: and conſiderable grants have been annually made by parliament for its ſupport. The inſtitution certainly did not at firſt anſwer the expectation of the public, but fell into diſcredit.

The ſtatement of theſe circumſtances will render the report of the acting governors more intelligible, and, by explaining their ſituation, enhance the merit of their exertions.

HOUSE OF RECOVERY, an inſtitution of a very recent deſcription, but of infinite conſequence to the preſervation of the poor, as will appear from the following account of the Houſe of Recovery, eſtabliſhed by the Board of Health a Mancheſter, by Thomas Bernard, Eſq.

In May, 1796, an houſe for *the prevention of infectious fevers*, was opened upon private ſubſcription, at Mancheſter, by the Board of Health there; and placed under the inſpection of a medical committee, conſiſting of the medical gentlemen of the Infirmary. The following REGULATIONS were adopted reſpecting it:

1ſt. That the phyſicians of the Infirmary ſhall be authorized to give one or two ſhillings from the funds of this inſtitution (by a ticket to the ſecretary of the Board of Health) to the perſon who ſhall furniſh the earlieſt information of the appearance of fever in any poor family, within the limits of their reſpective diſtricts.

2d. That as ſoon as the ſecretary has received this ticket, he ſhall apply, or take care that application be made, to ſome truſtee of the Board of Health, living within the diſtrict, and who is a ſubſcriber to the infirmary, for an immediate recommendation of the ſick perſon as a home patient.

3d. That ſuch patients as the phyſicians ſhall deem peculiar objects of recommendation, either on account of their extreme poverty, or of the cloſe and crowded ſtate of their habitations, ſhall be conveyed in a ſedan chair (provided with a moveable waſhing lining, and kept for the ſole purpoſe, and diſtinguiſhed by proper marks) to the Houſe of Recovery.

4th. That the phyſicians ſhall be requeſted to form the neceſſary regulations for the domeſtic government of the families of the home patients, afflicted with fever.

5th. That a reward to the amount of ſhall be given to the heads of the family, after the ceſſation of the fever, on condition that they have faithfully obſerved the rules preſcribed for cleanlineſs, ventilation, and the prevention of infection, amongſt their neighbours. This reward ſhall be doubled in caſes of extraordinary danger, and when the attentions have been adequate and ſucceſsful.

6th. That, after the viſitation of fever has ceaſed in any poor dwelling-houſe, the ſum of or a ſufficient ſum, ſhall be allowed (to be expended under the direction of an inſpector) for white-waſhing and cleanſing the premiſes, and for the purchaſe of new bed-clothes, or apparel, in lieu of ſuch as it may be deemed neceſſary to deſtroy, to obviate the continuance or propagation of fever.

7th. That an inſpector ſhall be appointed in each diſtrict of the Infirmary, to aid the execution, and to enforce the obſervance of the foregoing regulations. And that the gentlemen of the Stranger's Friend Society ſhall be requeſted to undertake this office.

The following are the *Internal Regulations* for the Houſe of Recovery:

1ſt. Every patient, on admiſſion, ſhall change his infectious for clean linen; the face and hands are to be waſhed clean with lukewarm water, and the lower extremities fomented.

2d. The clothes brought into the houſe by patients, ſhall be properly purified and aired.

3d. All linen and bed-clothes, immediately on being removed from the bodies of the patients, ſhall be immerſed in cold water before they are carried down ſtairs.

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* A public kitchen had been previouſly tried with ſucceſs at Cork; (ſee CORK, *Supp.*). The diſtribution made at Dublin, amounted to 12 ounces of bread and a quart of ſoup; which was given *gratis* to any poor perſon who applied, and who was not in receipt of relief from the Houſe of Induſtry. Inconveniences, however, had attended the mere donation; and in truth, that which is indiſcriminately given is never duly valued. It was thought better that the ſoup and bread ſhould be ſold at a reduced price; ſo that the poor might receive it by tickets given them by their more opulent neighbours, and that the working mechanic might be ſupplied at a very moderate rate; that of two pence for half a pound of bread and a quart of ſoup. This has been accordingly done.

4th. All diſcharges from the patients ſhall be removed from the wards without delay.

5th. The floors of the wards ſhall be carefully waſhed twice a-week, and near the beds every day.

6th. Quick-lime ſhall be ſlaked in large open veſſels, in every ward, and renewed whenever it ceaſes to bubble on the affuſion of water. The walls and roofs ſhall be frequently waſhed with this mixture.

7th. No relation or acquaintance ſhall be permitted to viſit the wards, without particular orders from one of the phyſicians.

8th. No ſtrangers ſhall be admitted into the wards; and the nurſes ſhall be ſtrictly enjoined not to receive unneceſſary viſits.

9th. No linen or clothes ſhall be removed from the Houſe of Recovery, till they have been waſhed, aired, and freed from infection.

10th. No convaleſcents ſhall be diſcharged from the houſe, without a conſultation of the phyſicians.

11th. The nurſes and ſervants of the houſe ſhall have no direct communication with the Infirmary; but ſhall receive the medicines in the room already appropriated to meſſengers from the home patients.

12th. The committee of the Stranger's Friend Society ſhall be requeſted to undertake the office of inſpecting the Houſe of Recovery.

13th. A weekly report of the patients, admitted and diſcharged, ſhall be publiſhed in the Mancheſter newſpapers.

14th. When a patient dies in the wards, the body ſhall be removed as ſoon as poſſible, into a room appropriated to that uſe; it ſhall then be wrapped in a pitched cloth; and the friends ſhall be deſired to proceed to the interment as early as is conſiſtent with propriety.

15th. All proviſions and attendance, for the patients in this Houſe of Recovery, ſhall be provided from the funds of this inſtitution, without any communication with the Infirmary.

The circumſtances of the firſt patients, removed to the Houſe of Recovery, all tended to prove the truth of the poſition, that the moſt contagious and deſtructive fevers, by which manufacturing and other crowded towns have been afflicted, had procceded from *individual infection;* and that if, upon the appearance of the fever, the poor patient had been removed to a clean well ventilated room, and diſmiſſed after recovery with clothes properly purified, much diſeaſe and miſery would have been prevented, and many lives ſaved.

As the ſtatement of the circumſtances of the firſt patients that were admitted into the Houſe of Recovery, may tend to ſhew the ſufferings of the poor, where no houſe of recovery is prepared for them, we here ſtate them from the phyſician's reports inſerted in the Minutes of the Board of Health.

"Mary Parkinſon, aged 20, the ſecond daughter of Ann Parkinſon, lodging with her mother and ſiſter, at James Ruſhton's (who rents a garret, No. 50, Great Turner-ſtreet), was ſeized on the 17th inſtant with a ſpotted fever, and viſited in a day or two after, as a home patient of the Infirmary.

"She was found almoſt deſtitute of covering, lying upon a collection of rags ſpread upon the floor of a cloſe, dirty, and noiſome garret. In this wretched ſubſtitute for a bed, the mother and another grown-up daughter (juſt recovering of fever) likewiſe ſlept. In an oppoſite corner of the room, James Ruſhton, his wife, and three children, ſlept upon a bed, ſimilar to that above deſcribed. Under ſuch circumſtances, I was fully convinced, that it would be impracticable to prevent the fever from ſpreading, unleſs the infected perſon could be removed. But, as the Houſe of Recovery was not then opened, the removal of the patient could not be effected. In a day or two, as I expected, the daughter of James Ruſhton ſickened, and became dangerouſly ill of the fever. As the wife (who was far advanced in her pregnancy), and the reſt of the inhabitants of the room, might be ſuppoſed to be in hourly danger of infection; I propoſed, therefore (the Houſe of Recovery being now ready), as the moſt likely method of ſaving the lives of the two women ſo dangerouſly affected, and of preventing the reſt from receiving the infection, that the ſick perſons ſhould be inſtantly removed into the Houſe of Recovery. With every expreſſion of joy and gratitude, the parents of both the patients accepted the offer, and they were accordingly removed without ſuffering any injury, or apparent inconvenience, by the removal.

"Mary Weſt, the wife of a ſoldier belonging to the Manks Fencibles, was infected with fever from attending her huſband, who had recovered, and was ordered to join the regiment.—She had been driven out of doors upon the ſymptoms of fever appearing, and was refuſed admittance wherever ſhe applied. In conſequence of expoſure to cold, and diſtreſs of mind, her complaint rapidly increaſed, and ſhe got a recommendation as in-patient to the Infirmary. But the rules of this charity forbad her admittance. She was, therefore, received into the Houſe of Recovery, as an object peculiarly claimed by the nature of the inſtitution.

"Jeremiah Bowcock was removed, on the firſt appearance of fever, from a family living at No. 74, Newton-lane; and, beſides himſelf, conſiſting of ſeven men, four women, and three children. On the ſame floor with, and adjoining to the chamber (at No. 78, Newton-ſtreet) in which he and three others ſlept, a man, his wife, and three children, conſtantly reſide. The ground floor is occupied by two men, one woman, and three children; and the cellars are let for work-rooms. The diſeaſe was introduced into his houſe by Bowcock's brother, who had been turned into the ſtreets, when labouring under *typhus*, by the perſons with whom he lodged.—Immediately after the removal of this patient, the room in which he had been confined was duly waſhed and ventilated; and means were taken to dis-infect the clothes and bedding, by a free expoſure of them in the open air.

"Margaret Billington, wife of a private in the York Fencibles, was removed on the 10th day of her diſeaſe, from a ſmall room, at No. 8, Pump-ſtreet, which has been for ſome time the nightly abode of four grown perſons, and three children. On her removal, the bedding was expoſed to the air, in an open ſpace, for ſeveral hours; the floor of the apartment was ſcoured; the walls were white-waſhed; fumigations with nitrous gas were employed, according to the practice of his majeſty's naval hoſpitals; and a reward was promiſed to the heads of the family, provided their endeavours to extinguiſh contagion were attended with ſucceſs.

"John Owen, Robert Williams, and William Williams, from a houſe in Salford, where ſix perſons lay ill of a fever at the ſame time, in two very ſmall rooms. One patient only remains in that houſe, who is now recovering.

"William Lomax, a child from a houſe in Longworth-ſtreet, where a family of five perſons had only one bed-room for their accommodation. The eldeſt daughter was firſt taken ill; after ſhe recovered, the father, mother, and this boy, were all ſeized with the fever together. The father died. The mother miſcarried, from grief and fatigue, the day after his death. A younger daughter has ſince been taken ill, and will be admitted as ſoon as poſſible.

"Samuel Gould, from a large family with whom he lodged. His fever is of a very dangerous nature, and it is hoped that, by his removal, the infection of the whole family will be prevented."

The beneficial effects of the Houſe of Recovery, even after a year and a half, are almoſt beyond belief. The facts are, how-

ever, eſtabliſhed by authentic documents.—The number of fever patients (as entered in the phyſician's book at the Infirmary) in Portland-ſtreet, Silver-ſtreet, and the other ſtreets in that pile of buildings, in the neighbourhood of the Houſe of Recovery, for the two preceding years and eight months, were 1,256, ſomething more than the average of 400 a-year: —thoſe in the ſame diſtrict from July, 1796 (a period commencing two months after the eſtabliſhment of the Houſe of Recovery), to July, 1797 (being twelve months), were only twenty-ſix;—of theſe, there were, in July, 1796, only five ſuch patients; in Auguſt, but one; in September, 1796, none; and in the four laſt months, from March to July, 1797, only one fever patient.

In the report of the weekly board of the Infirmary at Mancheſter, notice is taken of the extraordinary effects of the Houſe of Recovery, in diminiſhing the proportion of the fever patients in the Infirmary. It appears from the phyſician's books of the Infirmary, that in January, 1796 (before the eſtabliſhment of the Houſe of Recovery), the whole number of the home patients at the Mancheſter Infirmary was 296, of which 226 were caſes of fever: and that in January, 1797, the number of their home patients was 161; and, of theſe, only 57 were caſes of fever.

From the opening of the Houſe of Recovery, on the 19th of May, 1796, to the 2d of November, 1797, 542 fever patients have been admitted. Of theſe, 465 have been cured and ſent home; 48 (and theſe were ſome very bad caſes) have died; and 29 were, on the 2d inſtant, remaining in the houſe. The account, therefore, up to the 2d inſtant, ſtands thus:

Cured and diſcharged - -	465
Dead - - - - -	48
Remaining in the houſe - -	29
Total admitted -	542

But the proportional number of cures in the laſt half-year (a benefit that will probably increaſe) is greater than that of the preceding period; becauſe the poor are now induced to apply in the earlier ſtages of the fever, when medicine can be applied with more effect. The account from the 8th of May, 1797, to the 2d inſtant, being near ſix months, is as follows:

Cured and diſcharged - -	141
Dead - - - - -	8
Remain in the houſe - -	29
Total -	178

Many of the opponents of the Houſe of Recovery in Mancheſter * are become its active friends; and that, which was at firſt an act of philanthropy in a few individuals, is now ſupported by the good wiſhes and contribution of the greater part of the reſpectable inhabitants at Mancheſter. Other conſequences have attended the extraordinary ſucceſs of this inſtitution:—viz. firſt, that the Board of Health does *now* receive fever patients into the houſe from places beyond the diſtricts for which it was firſt eſtabliſhed; by which means the environs of the town will be cleared of the epidemic fever: ſecondly, that the Infirmary alſo receives a variety of patients, which they were obliged to refuſe, when the Infirmary and town were oppreſſed by the enormous crowd of fever patients, whoſe claims ſeemed to ſuperſede thoſe of perſons not afflicted with contagious diſeaſes: and thirdly, that in the year 1796, there was a decreaſe of near 400 in the bills of mortality at Mancheſter.

It may be obſerved, in concluſion, that a Board of Health and a Houſe of Recovery, upon the plan of that at Mancheſter, would be uſeful in all towns; but particularly where the poor, employed in manufactures, are incapable of receiving proper medical relief, in their own confined habitations; and where they are peculiarly liable to communicate contagion, not only to their own family, and to thoſe who dwell under the ſame roof, but to the neighbourhood. A Board of Health, to prevent the ſpreading of contagious diſeaſes among the poor, is peculiarly applicable to a populous town: but it is not excluſively ſo. It would be very uſeful in country villages and country neighbourhoods, to aſſiſt and ſtimulate the overſeers in that part of their duty which relates to the health of the poor, and to prevent the progreſs of infectious diſorders. It is peculiarly in the prevention of diſeaſe and contagion, that the benefit returns with increaſe upon the benefactor, and that the merciful receive mercy.

A ſubſequent report from the Society for bettering the Condition of the Poor, acquaints us, that in Auguſt, 1798, there were 19 patients in the houſe. Their apartments appeared to be as airy, as clean, and as comfortable as could be wiſhed. The upper floors are laid together, ſo as to form four large wards; and each of the front rooms below will contain two beds, ſo as to accommodate in the whole 28 patients conveniently. The rooms on the ground floor are appropriated to the convaleſcents; and to the uſe of the ſervants, who conſiſt of a head nurſe and three other nurſes; occaſional aſſiſtance being hired, when neceſſary. The wards are furniſhed with iron bedſteads, without curtains, and with ticks filled with ſtraw, which is changed at proper periods. The mode of removing the ſick into the houſe is in a ſedan-chair, kept in an out-building for that purpoſe.

When patients are admitted into the houſe, a flannel dreſs is provided for them, and their own clothes are carried into the yard, to be waſhed, ſcoured, and ventilated. During their convaleſcence they wear the dreſs of the houſe; which conſiſts of a jacket and trowſers for the men, and of a wrapping gown and petticoat for the women. Part of a vacant piece of ground, adjoining to the houſes, is incloſed with a wall for the purpoſe of waſhing and airing the clothes of the patients. At the time of diſcharging them their own clothes are returned to them perfectly clean, and they rejoin their families, and reſume their occupations, without the hazard of communicating infection to others.

To ſo great a degree have contagious fevers been reduced †, ſince the eſtabliſhment of the Houſe of Recovery, that the limits

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* Similar eſtabliſhments have been ſucceſsfully made in London, Cheſter, Stockport, Liverpool, and ſome other places in England, and at Waterford, in Ireland. For a detail of the principles and rules to be adopted in country towns, to check the progreſs of diſeaſe and infection, the reader is referred to a very excellent pamphlet by the Rev. Sir William Clerke, bart. rector of Bury in Lancaſhire, publiſhed by Johnſon, St. Paul's Church-yard; and alſo to a tract on the ſame ſubject by the late Dr. Murray, who has recently fallen a ſacrifice to his zeal and activity, in promoting the views of the Society for bettering the Condition of the Poor, in this reſpect.

† In the former report it was ſtated the extraordinary diminution that had taken place in the bills of mortality at Mancheſter, ſince the opening of the Houſe of Recovery. An additional proof, of a ſingular nature, appears in the laſt year's accounts of the overſeers of the poor; in which the charge for deceaſed paupers' coffins is 100l. 16s. It uſed to be *half as much again*.

of the houſe are now extended to the whole of Mancheſter and its extenſive ſuburbs, and to every part of the vicinage, for two miles round, from whence a fever patient can be ſafely removed. The number of home patients of the infirmary at Mancheſter has alſo, in conſequence, been gradually diminiſhed. There were admitted on the phyſicians' books during the year, ending 1ſt June, 1796 - - 2880
Ditto in the year ending June, 1797, being the firſt year of the houſe of recovery being opened - 1759
Ditto in the year ending June, 1798, - - 1564

During the ſpring and ſummer of the preceding year, contagious fevers of an alarming nature had appeared in different parts of the town and neighbourhood. By removing, however, the patient into the Houſe of Recovery, the extenſion of the fever was in every inſtance prevented. The account of the houſe for one year, ending the 31ſt of May, 1798, at which time 710 patients had been admitted, is as follows:

Cured and diſcharged - - -	300
Dead - - - - -	16
Remained then in the houſe - - -	23
	339

Account for another Year, to 31ſt May, 1799.

Cured and diſcharged - - -	364
Dead - - - - -	24
Remained in the houſe, 31ſt May, 1799 -	11

To a poor creature who has been languiſhing in a cold, damp cellar, or in a garret expoſed to the injuries of the weather, amidſt the neglect and confuſion of a wretched family, —to ſuch a patient a clean bed, a quiet ward, an attentive nurſe, and the frequent viſits of the phyſician, are of moſt potent efficacy. To theſe cauſes it muſt be imputed that, upon a return of the epidemic fever of 1797, of 149 dangerous caſes received from the beginning of May to the beginning of October, only four patients died.

Of the benefits of the Houſe of Recovery, it is one of no ſmall conſequence, that the owners of cotton mills are now induced to pay a more ſcrupulous attention to the health of their work-people; and that their buildings are, in general, kept cleaner and better ventilated. A ſalutary impreſſion has alſo been made on the minds of the poor, reſpecting the utility of cleanlineſs in their houſes. The idea of fever comprehends, among them, that of ruin to their circumſtances, and deſertion by their neighbours. It may therefore be expected, that they will catch at every means within their reach to avoid ſo dreadful an evil: and when they find that a public charity extends its care to them ſo far, as to whitewaſh their houſes, when the phyſicians report it to be neceſſary, they muſt feel the propriety of attending more to this object.

HOYER, a town of Denmark, in the duchy of Sleſwick, celebrated for its oyſter-fiſhery, four miles W. of Tonderen.

HUBERTSBERG, a town of Upper Saxony, with a magnificent hunting-ſeat, built by Auguſtus III. then electoral prince. A peace was concluded here between the kings of Pruſſia and Poland and the empreſs queen. It is 22 miles E. of Leipſic.

HUDDERSFIELD, a town in the W. riding of Yorkſhire, with a market on Tueſday. It is ſituate near the Calder, amid barren moors, and is the mart for narrow cloths, called plains. It is 42 miles S.W. of York, and 189 N.N.W. of London. Long. 1. 40. W. Lat. 53. 40. N.

HUDICKSWALL, a ſea-port of Sweden, in the province of Helſingland, with a good harbour. The inhabitants carry on an advantageous trade in the timber, flax, linen, butter, fiſh, &c. It is 130 miles N. of Upſal. Long. 18. 36. E. Lat. 61. 48. N.

HUDSON, a city of the United States, in New York, ſeated on eminence, on the E. ſide of Hudſon's River, 30 miles S. of Albany, and 130 N. of New York. Long. 75. 20. W. Lat. 42. 23. N.

HUESSEN, a town of Dutch Guelderland, ſeated on the Rhine, three miles S. of Arnheim.

HUETINBERG, a town of Germany, in Carinthia, eight miles S.W. of Reichenfels.

HUETTA, a town of Spain, in New Caſtile, 67 miles E. of Madrid. Long. 1. 55. W. Lat. 40. 22. N.

HUFFINGEN, a town of Suabia, in the principality of Furſtenburg, four miles N.N.W. of Furſtenburg.

HULHEN, a town of Auſtrian Brabant, nine miles S.E. of Bruſſels. Long. 4. 37. E. Lat. 51. 44. N.

HUNDSFELD, a town of Sileſia, ſeated on the Wide, eight miles N E. of Breſlaw. Long. 17. 18. E. Lat. 51. 9. N.

HUNDSRUCH, a diſtrict of Germany, in the circle of Upper Rhine, ſituate between the Rhine, the Moſelle, and the Nahe; belonging partly to the elector of Treves, the elector palatine, and the prince of Heſſe.

HUNGEN, a town of Germany, in the circle of Upper Rhine, and county of Solms Braunfels, 14 miles S.E. of Wetzlar.

HUNMANBY, a town in the E. riding of Yorkſhire, with a market on Tueſday, 34 miles N.E. of York, and 209 N. of London. Long. 0. 12. W. Lat. 54. 12. N.

HUNTER (John), a celebrated phyſiologiſt, was the youngeſt child of John Hunter, of Kilbride, in the county of Lanark. He was born on the 14th of July, 1728, at Long Caldewood, a ſmall eſtate belonging to the family. His father dying when he was about ten years of age, though he attended the grammar-ſchool he made no progreſs in learning; and may be ſaid to have been almoſt totally illiterate when, in September 1748, he arrived in London. His brother, Dr. William Hunter, was then celebrated as a teacher of anatomy, and John had expreſſed a deſire to aſſiſt him in his reſearches. Accordingly, he had here every opportunity of improvement, as all the diſſections at this time carried on in London were confined to that ſchool.

In the ſummer 1749, Mr. Cheſelden, at the requeſt of Dr. Hunter, permitted him to attend at Chelſea Hoſpital; and he there learned the firſt rudiments of ſurgery. The following winter he was ſo far advanced in the knowledge of human anatomy, as to inſtruct the pupils in diſſection, to whom Dr. Hunter had very little time to pay attention. This office, therefore, fell almoſt entirely upon him, and was his conſtant employment during the winter ſeaſon. In the ſummer months of 1750, Mr. Hunter attended the hoſpital at Chelſea; in 1751, he became a pupil at St. Bartholomew's, and in the winter was preſent at operations occaſionally, whenever any thing extraordinary occurred. The following ſummer he went to Scotland; and in 1753 entered, it is difficult to conceive for what reaſon, as a gentleman commoner at St. Mary-hall, Oxford. In 1754 he became a ſurgeon's pupil at St. George's Hoſpital, where he continued during the ſummer months; and in 1756 was appointed houſe-ſurgeon. In the winter 1755, Dr. Hunter admitted him to a partnerſhip in his lectures, and a certain portion of the courſe was allotted to him; beſides which, he gave lectures when the doctor was called away to attend his patients.

Anatomy and phyſiology ſeem to have been purſuits for which Mr. Hunter's mind was peculiarly fitted, and he applied to them with an ardour and perſeverance of which there is hardly any example. His labours were ſo uſeful to his brother's collection, and ſo gratifying to his diſpoſition, that although in many other reſpects they did not agree, this ſimple tie kept them together for many years.

Mr. Hunter employed himſelf for ten years on human anatomy, during which period he made ſome addition to that knowledge. He traced the ramifications of the olfactory nerves upon the membranes of the noſe, and diſcovered the courſe of ſome of the branches of the fifth pair of nerves. In the gravid uterus, he traced the arteries of the uterus to their termination in the placenta. He was alſo the firſt who diſcovered the exiſtence of the lymphatic veſſels in birds.

Many parts of the human body being ſo complex, that their ſtructure could not be underſtood, nor their uſes aſcertained, Mr. Hunter was led to examine ſimilar parts in other animals, in which the ſtructure was more ſimple, and more within the reach of inveſtigation; this carried him into a wide field, and laid the foundation of his great collection in comparative anatomy. This active enquirer began with the more common animals, and preſerved ſuch parts as appeared by their analogy, or in ſome other way, to elucidate the human economy.

In 1760 his health was ſo much impaired by exceſſive attention to theſe purſuits, that he was adviſed to go abroad, having complaints in his breaſt, which threatened a conſumption. Mr. Adair, inſpector-general of hoſpitals, appointed him ſurgeon on the ſtaff; and in the following ſpring he went with the army to Belleiſle, leaving Mr. Hewſon to aſſiſt his brother during his abſence.

Mr. Hunter ſerved, while the war continued, as ſenior ſurgeon on the ſtaff, both in Belleiſle and Portugal, till the year 1763; and in that period acquired his knowledge of gun-ſhot wounds. On his return to England he ſettled in London; where, not finding the emoluments from his half-pay and private practice ſufficient to ſupport him, he taught practical anatomy and operative ſurgery for ſeveral winters. He returned alſo, with unabated ardour, to comparative anatomy; and as his experiments could not be carried on in a large town, he purchaſed for that purpoſe, above two miles from London, a piece of ground near Brompton, at a place called Earl's Court, on which he built a houſe. In the courſe of his enquiries, this excellent anatomiſt aſcertained the changes which animal and vegetable ſubſtances undergo in the ſtomach when acted on by the gaſtric juice; he diſcovered, by means of feeding young animals with madder (which tinges growing bones red), the mode in which a bone retains its ſhape during its growth; and explained the proceſs of exfoliation, by which a dead piece of bone is ſeparated from the living.

On the 5th of February, 1767, he was choſen a fellow of the Royal Society. His deſire for improvement in thoſe branches of knowledge which might aſſiſt in his reſearches, led him at this time to propoſe to Dr. George Fordyce, and Mr. Cumming, an eminent mechanic, that they ſhould adjourn from the meetings of the Royal Society to ſome coffee-houſe, and diſcuſs ſuch ſubjects as were connected with ſcience. This plan was no ſooner eſtabliſhed, than they found their numbers increaſed; they were joined by Sir Joſeph Banks, Dr. Solander, Dr. Maſkelyne, Sir George Shuckburgh, Sir Harry Englefield, Sir Charles Blagden, Dr. Noothe, Mr. Ramſden, Mr. Watt of Birmingham, and many others. At theſe meetings diſcoveries and improvements in different branches of philoſophy were the objects of their conſideration; and the works of the members were read over and criticiſed before they were given to the public. It was in this year that, by an exertion in dancing, after the muſcles of the leg were fatigued, he broke his tendo Achillis. This accident, and the confinement in conſequence of it, led him to pay attention to the ſubject of broken tendons, and to make a ſeries of experiments to aſcertain the mode of their union.

In the year 1768, Mr. Hunter became a member of the corporation of ſurgeons; and in the year following, through his brother's intereſt, he was elected one of the ſurgeons of St. George's Hoſpital. In May 1771, his Treatiſe on the Natural Hiſtory of the Teeth was publiſhed; and in July he married Miſs Home, a daughter of the ſurgeon to Burgoyne's regiment of light horſe. After his marriage, his private practice and profeſſional character advanced rapidly, and though his family began to increaſe, he ſtill devoted much of his time to the forming of his collection, which, as it daily became larger, was alſo attended with greater expence. The whole ſuit of the beſt rooms in his houſe were occupied by his preparations; and he dedicated his mornings, from ſunriſe to eight o'clock (the hour for breakfaſt), entirely to his purſuits. To theſe he added ſuch parts of the day as were not engaged in attending his patients.

The knowledge he derived from his favourite ſtudies, he conſtantly applied to the improvement of the art of ſurgery, and omitted no opportunity of examining morbid bodies; from which he made a collection of facts which are invaluable, as they tend to explain the real cauſes of ſymptoms, which during life could not be exactly aſcertained, the judgment of the practitioner being too frequently miſled by theoretical opinions, and deluſive ſenſations of the patients.

In the practice of ſurgery, where caſes occurred in which the operations proved inadequate to their intention, he always inveſtigated, with uncommon care, the cauſes of that want of ſucceſs; and in this way detected many fallacies, as well as made ſome important diſcoveries, in the healing art. He detected the cauſe of failure, common to all the operations in uſe for the radical cure of the hydrocele, and was enabled to propoſe a mode of operating, in which that event can with certainty be avoided. He aſcertained, by experiments and obſervations, that expoſure to atmoſpherical air ſimply, can neither produce nor increaſe inflammation. He diſcovered in the blood ſo many phenomena connected with life, and not to be referred to any other cauſe, that he conſidered it as alive in its fluid ſtate. He improved the operation for the fiſtula lachrymalis, by removing a circular portion of the os unguis inſtead of breaking it down with the point of a trochar. He alſo diſcovered that the gaſtric juice had a power, when the ſtomach was dead, of diſſolving it; and gave to the Royal Society a paper on this ſubject, which is publiſhed in the Philoſophical Tranſactions.

In the winter 1773, he formed a plan of giving a courſe of lectures on the theory and principles of ſurgery, with a view of laying before the public his own opinions upon that ſubject. For two winters he read his lectures *gratis* to the pupils of St. George's Hoſpital; and in 1775, gave a courſe for money upon the ſame terms as the other teachers in the different branches of medicine and ſurgery. But giving lectures was always particularly unpleaſant to him; ſo that the deſire of ſubmitting his opinions to the world, and learning their general eſtimation, were ſcarcely ſufficient to overcome his natural diſlike to ſpeaking in public. He never gave the firſt lecture of his courſe without taking 30 drops of laudanum to take off the effects of his uneaſineſs.

Comparative anatomy may be conſidered as the purſuit in which Mr. Hunter was conſtantly employed. No opportunity eſcaped him, as is evident from the various accounts of the peculiar ſtructure of different animals publiſhed in the Philoſophical Tranſactions.

In January 1776, Mr. Hunter was appointed ſurgeon-extraordinary to his Majeſty; and in the ſpring he gave to the Royal Society a paper on the beſt mode of recovering drowned perſons.

In the autumn he was taken extremely ill, and the nature

of his complaints made his friends as well as himſelf, conſider his life to be in danger. When he reflected upon his own ſituation, that all his fortune had been expended in his purſuits, and that his family had no proviſion but what ſhould ariſe from the ſale of his collection, he became very ſolicitous to give it its full value, by leaving it in a ſtate of arrangement. This he accompliſhed with the aſſiſtance of Mr. Bell, an ingenious draughtſman who reſided in his houſe, and his brother-in-law, Mr. Home.

In 1781 he was elected a fellow of the Royal Society of Sciences and Belles Lettres at Gottenburg. And in 1782 he gave the Royal Society a paper on the Organ of Hearing in Fiſh. Beſides the papers which he preſented to that learned body, he read ſix Croonian lectures upon the ſubject of Muſcular Action, for the years 1776, 1778, 1779, 1780, 1781, and 1782. In theſe lectures he collected all his obſervations upon muſcles, reſpecting their powers and effects, and the ſtimuli by which they are affected; and to theſe he added Comparative Obſervations upon the moving Powers of Plants. Theſe lectures were not publiſhed in the Philoſophical Tranſactions, for they were withdrawn as ſoon as read, not being conſidered by the author as complete diſſertations, but rather as materials for ſome future publication.

In 1783 he was choſen into the Royal Society of Medicine and the Royal Academy of Surgery in Paris; and the ſame year the leaſe of the houſe which he occupied in Jermyn-ſtreet having expired, he purchaſed the leaſe of a large houſe on the eaſt-ſide of Leiceſter-ſquare, and the whole lot of ground adjoining to Caſtle-ſtreet, on which there was another houſe. In the middle ſpace between the two houſes, he erected, at the expence of 3000l. a building for his collection; though, unfortunately for his family, the leaſe did not extend beyond 24 years.

In the building formed for the collection there was a room fifty-two feet long, by twenty-eight feet wide, lighted from the top, and having a gallery all round, for containing his preparations. Under this were two apartments; one for his lectures, and the other, with no particular deſtination at firſt, but afterwards made uſe of for weekly meetings of medical friends during the winter. To this building the houſe in Caſtle-ſtreet was entirely ſubſervient; and the rooms in it were uſed for the different branches of human and comparative anatomy.

About this period Mr. Hunter may be conſidered as at the height of his chirurgical career; his mind and body were both in their full vigour. His hands were capable of performing whatever was ſuggeſted by his mind; and his judgment was matured by former experience. Inſtances of his extraordinary ſkill are numerous and well known.

Among other important diſcoveries, was a new mode of performing the operation for the popliteal aneuriſm, by taking up the femoral artery on the anterior part of the thigh, without doing any thing to the tumor in the ham. The ſafety and efficacy of this mode have been confirmed by many ſubſequent trials; and it muſt be allowed to ſtand very high among the modern improvements in ſurgery.

If we conſider Mr. Hunter at this period of his life, it will afford us a ſtrong picture of the turn of his mind, of his deſire to acquire knowledge, and his unremitting aſſiduity in proſecuting whatever was the object of his attention.

He was engaged in a very extenſive private practice; he was ſurgeon to St. George's Hoſpital; he was giving a very long courſe of lectures in the winter; he was carrying on his enquiries in comparative anatomy; had a ſchool of practical human anatomy in his houſe; and was always employed in ſome experiments reſpecting the animal economy.

He was always ſolicitous for ſome improvement in medical education; and, with the aſſiſtance of Dr. Fordyce, inſtituted a medical ſociety, which he allowed to meet in his lecture-rooms, and of which he was choſen one of the patrons. This ſociety, called the *Lyceum Medicum Londinenſe*, under his auſpices and thoſe of Dr. Fordyce, has acquired conſiderable reputation, both from the numbers and merits of its members.

In the year 1786, in conſequence of the death of Mr. Middleton, Mr. Hunter was appointed deputy ſurgeon-general to the army. He now publiſhed his work upon the Venereal Diſeaſe; and his Obſervations on certain parts of the Animal Economy.

In the year 1787, his collection, which had been the great object of his life, both as a purſuit and an amuſement, was brought into a ſtate of arrangement; and he had then the ſatisfaction of ſhewing to the public a ſeries of anatomical facts formed into a ſyſtem, by which the economy of animal life was illuſtrated.

Upon the death of Mr. Adair, which happened in the year 1792, Mr. Hunter was appointed inſpector-general of hoſpitals, and ſurgeon-general to the army. He was alſo elected a member of the Royal College of Surgeons in Ireland. In the year 1791, he was ſo much engaged in the duties of his office, as ſurgeon-general to the army, and his private practice, that he had little time to beſtow upon ſcientific objects; but his leiſure time, ſmall as it was, he wholly devoted to them, as his various publications, at that period, evince.

Earl's Court to Mr. Hunter was a retirement from the fatigues of his profeſſion; but in no reſpect a retreat from his labours; there, on the contrary, they were carried on with leſs interruption, and with an unwearied perſeverance. From the year 1772, till his death, he made it his cuſtom to ſleep there during the autumn months, coming to town only during the hours of buſineſs in the forenoon, and returning to dinner.

It was there he carried on his experiments on digeſtion, on exfoliation, on the tranſplanting of teeth into the combs of cocks, and all his other inveſtigations on the animal economy, as well in health as in diſeaſe. The common bee was not alone the ſubject of his obſervation, but the waſp, hornet, and the leſs known kinds of bees, were alſo objects of his attention. It was there he made the ſeries of preparations of the external and internal changes of the ſilk-worm; alſo a ſeries of the incubation of the egg, with a very valuable ſet of drawings of the whole ſeries. The growth of vegetables was alſo a favourite ſubject of enquiry, and one on which he was always engaged in making experiments.

The collection of comparative anatomy which Mr. Hunter has left, and which may be conſidered as the great object of his life, muſt be allowed to be a proof of talents, aſſiduity, and labour, which cannot be contemplated without ſurpriſe and admiration. It remains an unequivocal teſt of his perſeverance and abilities, and an honour to the country in whoſe ſchools he was educated, and by the patronage of which he was enabled on ſo extenſive a ſcale to carry on his purſuits. In this collection (now poſſeſſed by the Royal College of Surgeons in London) we find an attempt to expoſe to view the gradations of Nature, from the moſt ſimple ſtate in which life is found to exiſt, up to the moſt perfect and moſt complex of the animal creation—man himſelf.

By the powers of his art, this collector has been enabled ſo to expoſe, and preſerve in ſpirits, or in a dried ſtate, the different parts of animal bodies intended for ſimilar uſes, that the various links of the chain of perfection are readily followed and may be clearly underſtood.

This collection of anatomical facts is arranged according to

the ſubjects they are intended to illuſtrate, which are placed in the following order: *Firſt*, Parts conſtructed for motion. *Secondly*, Parts eſſential to animals reſpecting their own internal economy. *Thirdly*, Parts ſuperadded for purpoſes connected with external objects. *Fourthly*, Parts for the propagation of the ſpecies and maintenance or ſupport of the young.

Mr. Hunter was a very healthy man for the firſt forty years of his life; and, if we except an inflammation of his lungs in the year 1759, occaſioned moſt probably by his attention to anatomical purſuits, he had no complaint of any conſequence during that period. In the ſpring of 1769, in his forty-firſt year, he had a regular fit of the gout, which returned the three following ſprings, but not the fourth; and in the ſpring of 1773, having met with ſomething which very forcibly affected his mind, he was attacked at ten o'clock in the forenoon with a pain in the ſtomach, attended with all the ſymptoms of *angina pectoris*. In the life of him prefixed to his *Treatiſe on the Blood, Inflammation, and Gun-Shot Wounds*, the reader will find one of the moſt complete hiſtories of that diſeaſe upon record. Suffice it, in this place, to ſay, that for twenty years he was ſubject to frequent and ſevere attacks of it, which however did not, till a ſhort time before his death, either impair his judgment or render him incapable of performing operations in ſurgery. "In autumn 1790 (ſays Mr. Home), and in the ſpring and autumn 1791, he had more ſevere attacks than during the other periods of the year, but of not more than a few hours' duration: in the beginning of October 1792, one, at which I was preſent, was ſo violent that I thought he would have died. On October the 16th, 1793, when in his uſual ſtate of health, he went to St. George's Hoſpital, and meeting with ſome things which irritated his mind, and not being perfectly maſter of the circumſtances, he withheld his ſentiments; in which ſtate of reſtraint he went into the next room, and turning round to Dr. Robertſon, one of the phyſicians of the hoſpital, he gave a deep groan and dropt down dead; being then in his ſixty-fifth year, the ſame age at which his brother, Dr. Hunter, had died."

It is a curious circumſtance, that the firſt attack of theſe complaints was produced by an affection of the mind, and every future return of any conſequence aroſe from the ſame cauſe; and although bodily exerciſe, or diſtention of the ſtomach, brought on ſlighter affections, it ſtill required the mind to be affected to render them ſevere; and as his mind was irritated by trifles, theſe produced the moſt violent effects on the diſeaſe. His coachman being beyond his time, or a ſervant not attending to his directions, brought on the ſpaſms, while a real misfortune produced no effect.

Mr. Hunter was of a ſhort ſtature, uncommonly ſtrong and active, very compactly made, and capable of great bodily exertion. His countenance was animated, open, and in the latter part of his life deeply impreſſed with thoughtfulneſs. When his print was ſhewn to Lavater, he ſaid, "That man thinks for himſelf." In his youth he was cheerful in his diſpoſition, and entered into youthful follies like others of the ſame age; but wine never agreed with his ſtomach; ſo that after ſome time he left it off altogether, and for the laſt twenty years drank nothing but water.

His temper was very warm and impatient, readily provoked, and, when irritated, not eaſily ſoothed. His diſpoſition was candid, and free from reſerve, even to a fault. He hated deceit; and as he was above every kind of artifice, he deteſted it in others, and too openly avowed his ſentiments. His mind was uncommonly active; it was naturally formed for inveſtigation, and that turn diſplayed itſelf on the moſt trivial occaſions, and always with mathematical exactneſs. What is curious, it fatigued him to be long in a mixed company which did not admit of connected converſation; more particularly during the laſt ten years of his life.

He required leſs relaxation than moſt other men; ſeldom ſleeping more than four hours in the night, but almoſt always nearly an hour after dinner; this, probably, aroſe from the natural turn of his mind being ſo much adapted to his own occupations, that they were in reality his amuſement, and therefore did not fatigue.

Though he ſpoke too freely, and often harſhly, of other practitioners; in private practice he was liberal, ſcrupulouſly honeſt in ſaying what was really his opinion of the caſe, and ready upon all occaſions to acknowledge his ignorance, whenever any thing preſented itſelf which he could not comprehend.

HUS, or Hussu, a town of Turkey in Europe, in Moldavia, the ſee of a Greek biſhop. Here Peter the Great made peace with the Turks. It is ſituate on the Pruth, 70 miles S.W. of Bender. Long. 28. 34. E. Lat. 46. 35. N.

HUSBANDRY (*Encycl.*). An improvement in the culture of turnips, by the uſe of the drill lately invented by Mr. Jackſon, is ſpoken of under the article Turnip in this Supplement.

HUSSINGABAD, a town of Hindooſtan, in the province of Malwa, but on the S ſide of the Nerbudda, and the frontiers of Nagpour, the eaſtern diviſion of the Mahratta empire. It is 140 miles N.W. of Nagpour. Long. 77. 54. E. Lat. 22. 42. N.

HUTTANY, a town of the Deccan of Hindooſtan, in the country of Viſiapour, 30 miles S.S.W. of Viſiapour. Long. 75. 6. E. Lat. 17. 5. N.

HUTTWIEL, a town of Swiſſerland, in the canton of Bern, 16 miles N.E. of Bern, and 22. N.W. of Lucern.

HYDRABAD, the capital of Golconda, in the Deccan of Hindooſtan, ſeated on a river that falls into the Kiſtna, 352 miles N. by E. of Madras. Long. 78. 51. E. Lat. 17. 12. N.

Hydrabad, a fort of Hindooſtan Proper, in the province of Sindy, and the reſidence of a Mahometan prince, who is tributary to the king of Candahar. It is ſituate on the Indus, not far above the head of the Delta, and in the neighbourhood of Nuſſerpour. Long. 69. 30. E. Lat. 25. 29. N.

HYDROPHANÆ, in natural hiſtory: a genus of ſemipellucid gems, compoſed of cryſtal and earth; the latter ingredient being in large proportion, and mixed imperfectly, as in the chalcedony; and giving a general cloudineſs or miſtineſs to the ſtone; but of ſuch an imperfect and irregular admixture, as not to be capable of a poliſh like the chalcedony; and appearing of a duſky and foul ſurface till thrown into water, in which they become lucid and in ſome degree tranſparent, either in part or totally; alſo changing their colour, which returns to them on their being taken out of the water. To this genus belongs the oculus beli of authors, or whitiſh grey hydrophanes variegated with yellow, and with a black central nucleus; and the oculus mundi, or lapis mutabilis, which is likewiſe a whitiſh grey kind without veins.

HYKES, a ſpecies of blankets, commonly uſed by the inhabitants of Barbary. They conſiſt of a light woollen cloth, woven by women, who conduct every thread with their fingers, and without the aid of a ſhuttle. This manufacture appears to be a coarſe kind of ſhawl, and is the more remarkable, as each of ſuch hykes is from five to ſix yards in length, and breadth: it forms the whole apparel of the wretched natives, and ſerves them as a covering for their beds during the night.

I. J.

JAFFIERABAD, a town of the Deccan of Hindooſtan, in the country of Berar, 40 miles N.N.E. of Aurungabad, and 60. S. of Burhampour. Long. 76. 25. E. Lat. 20. 22. N.

JAGRSBURG, a town of Germany, in the principality of Heſſe Darmſtadt, 13 miles S.S.W. of Darmſtadt.

JALALABAD, a town of Hindooſtan Proper, in the country of Cabul, ſituate on the Kameh, 60 miles E.S.E. of Cabul.

JALLINDAR, a town of Hindooſtan Proper, capital of a diſtrict of the ſame name, in the country of Lahore. It is 30 miles E. of Lahore. Long. 74. 10. E. Lat. 30. 50. N.

JALONITZA, a town of Turkey in Europe, in Walachia, on a river of the ſame name, 95 miles S.W. of Iſmail.

JALOUR, a town of Hindooſtan Proper, in the county of Agimere, 65 miles W.N.W. of Cheitore. Long. 73. 40. E. Lat. 25. 15. N.

JAMES'S POWDER (*Encycl.*). To the receipts already given for making this valuable preparation, we have to add that of Mr. Chenevix, for preparing it by precipitation, by which it may be had at a cheaper rate. In his paper read at the Royal Society, this ingenious chemiſt gives the following account of his diſcovery:

"After the obſervations and experiments made by Dr. Pearſon, to inveſtigate the nature of Dr. James's Powder, and preſented by him to this Society, very little remained to be effected or deſired, towards a further knowledge of the ſubject. But thoſe very experiments ſerved to ſuggeſt, that the mode of preparation was far from being the beſt that the preſent improved ſtate of chemical knowledge might afford; and that, in all probability, a leſs defective compoſition might reſult from a proceſs more conformable to ſome improvements, which of late have been advantageouſly applied to pharmaceutic chemiſtry.

"It may be laid down as a general principle, that, in delicate experiments, whether analytical or ſynthetical, fire (that potent and once believed to be univerſal agent) is too precarious in its means, and too uncertain in its application, to be employed with full and conſtant ſucceſs. And, if it is ſtill recurred to, the advantage of promptneſs, and a remnant of ancient cuſtom, are the principal reaſons. But, where other methods can be deviſed to effect the ſame combinations (and the humid way offers many), every perſon converſant in chemical knowledge will allow the benefit of adopting them. The recent improvement in the mode of preparing calomel, is a ſtriking example of ſuch ſalutary corrections being ſucceſsfully introduced.

"A few obſervations upon the formula according to which Dr. James's Powder, or the *Pulvis Antimonialis*, is prepared, and upon ſome properties of antimony, will place this aſſertion in a more prominent point of view.

"In order to prepare this powder, we are told to take equal weights of bone or hartſhorn ſhavings and crude antimony, and calcine them together, at a high temperature: in other words, to take phoſphate of lime, which already contains a great exceſs of lime, and add to it an oxide of antimony. In this proceſs, it has been ſuppoſed, that the phoſphoric acid of the bone or hartſhorn will ſaturate, not only the lime with which it was originally combined, but, in addition to it, a new portion of metallic oxide, and a new portion of lime. For, what little ſulphuric acid might, during the proceſs, have been formed by the combuſtion of the ſulphur of the crude antimony, is diſſipated, at a much lower temperature than that to which the powder is expoſed.

"Every oxide of antimony with which we are acquainted, is volatile at a high degree of heat; it would therefore be hazardous to aſſert, that it is poſſible to preſerve always the ſame proportion of antimony, whatever care may be employed in directing the operation; and a diſſimilarity in the chemical reſult muſt neceſſarily be attended with uncertainty in the medical application.

"To this property may be added another, no leſs conducive to error. That portion of oxide of antimony which is not volatilized, becomes, in a great meaſure, inſoluble in all the acids. What the effect of the gaſtric juice may be, upon a ſubſtance which reſiſts the action even of nitro-muriatic acid, it is not my purpoſe to determine. It is ſufficient for me to ſay, that, as the quantity of inſoluble matter, in a given quantity of Dr. James's Powder, prepared at different times, may vary, the effect of any doſe alſo may differ, according to the proportions of ſoluble and inſoluble matter.

"I look upon it as a fortunate circumſtance, that thoſe experiments and obſervations which I mentioned in the beginning of this paper, exiſted as a ſtandard to which I might refer my own attempts, and by which I might eſtimate their validity. Dr. Pearſon has proved (as by my own experiments I have found), that in Dr. James's Powder about 28 per cent. reſiſted the action of every acid. In examining ſome of the *Pulvis Antimonialis* of the London Pharmacopœia, I found the average quantity of inſoluble matter to be about 44 per cent. This proportion, however, was liable to conſiderable variation *.

"The powder here treated of is denominated, by Dr. Pearſon, a triple ſalt, or real ternary combination of a double baſis (lime and antimony), with phoſphoric acid. What I have mentioned, with regard to the quantity of acid contained in bone or hartſhorn, as being too ſmall to ſaturate a new portion of theſe baſes, may throw ſome doubts upon the poſſibility of any ſuch combination in the preſent caſe. But I have made ſome more direct experiments, which tend to prove, that no ſuch combination does exiſt.

"I took ſome white oxide of antimony (formerly called Algaroth Powder), precipitated by water from muriate of antimony, and heated it for a long time with phoſphoric acid.

"* I find, from the information of ſeveral medical gentlemen, that the *Pulvis Antimonialis* is generally conſidered as ſtronger than Dr. James's Powder. This ſeems rather extraordinary, when we conſider that the quantity of inſoluble matter is greater in the former than in the latter; and would almoſt lead us to ſuſpect it to be the active part of the medicine."

I decanted the liquor, and washed the powder that remained. No antimony could be found in the liquor; nor could any traces of phosphoric acid be detected in the residuary oxide of antimony. I then took a solution of muriate of antimony, and divided it into two equal parts: into one, I poured distilled water; and, into the other, a solution of phosphate of soda. In each liquor, a copious precipitate was formed; which precipitates, after being well washed, were dried. The weight of both was the same; whereas it is evident that, had any phosphoric acid been combined with the oxide, there would have been an augmentation of weight in that which was precipitated by the solution of phosphate of soda. This precipitate likewise, upon examination, gave no traces of phosphoric acid. From these experiments it appears, that there exists no combination, which can be denominated a phosphate of antimony.

"To attempt an explanation of the real nature of the powder here spoken of, I had recourse to some experiments of Mons. Berthollet. By detonating sulphuret of antimony and nitrate of potash in a crucible, he obtained a mass, which he reduced to powder, and washed The liquor gave, upon evaporation, a crystalized salt, which M Berthollet terms an *antimoniate of potash*. I never could succeed in any attempt to form a similar combination between the above white oxide of antimony and potash, owing, I believe, to the small quantity of oxygen contained therein, compared with that which is combined with the oxide obtained by detonation. I cannot therefore say, that the powder in question is, in any degree, what M. Berthollet would call an *antimoniate of lime*.

"But be the state, whether of mixture or of combination, what it may, my purpose is to endeavour to produce a substance, which, from its more certain mode of preparation, may be more equal and constant in its effects.

"Dissolve, together or separately, in the least possible portion of muriatic acid, equal parts of the fore-mentioned white oxide of antimony and of phosphate of lime *. Pour this solution gradually into distilled water, previously alkalizated by a sufficient quantity of ammonia. A white and abundant precipitate will take place, which, well washed and dried, is the substitute I propose for Dr. James's Powder.

"The theory of this precipitation is so clear and simple, that it does not require any comment. It may be useful, however, to those who wish to make this preparation, to remark, that it is absolutely necessary that the solution of phosphate of lime and of oxide of antimony, in muriatic acid, should, after being well mixed, be poured *into the alkaline liquor*, in order to obtain a precipitate homogeneous throughout the operation. For, should the alkaline liquor be poured *into the acid solution*, the water of the former would act upon the entire mass of oxide of antimony, while the alkali would precipitate the phosphate of lime only as it saturated the acid which held that salt in solution: thus, the precipitate would contain more antimony in the beginning; and, towards the end, the phosphate of lime would be predominant. For the same reason too, a pure alkali is preferable to its carbonate; for the carbonic acid disengaged, would retain in solution a portion of phosphate of lime.

"Whether this composition be a chemical combination or a mixture, I will not take upon me to determine; but, for the reasons above mentioned, in speaking of Dr. James's Powder, I believe it to be merely a very intimate mixture. At all events, it must be more homogeneous than any that can be prepared in the dry way. It is entirely soluble in every acid that can dissolve either phosphate of lime or oxide of antimony separately; and to have it constantly and uniformly the same, no further address is in preparing it is required, than to avoid the errors I have mentioned.

"As, after some medical trials of the powder, it was suggested to me, that it might be more advantageous to render it somewhat stronger, I prepared another portion, by taking two parts of oxide of antimony and but one of phosphate of lime, and precipitating as above described. The medicinal power was then considerably increased.

"Dr. James's Powder is a medicine which has been so long in use, and is so deservedly ranked among the most valuable we possess, that every attempt to render the process for preparing it more simple and more certain, must be allowed to be of some importance. But, whatever reason there was to think, by arguing upon its chemical properties, that I had really succeeded in improving its medicinal virtues, it still remained to be proved, by actual experiment, that the hoped-for success was not merely conjectural. To ascertain this, I gave some of my powder to Dr. Crichton, Dr. Babington, and Mr. Abernethy; gentlemen whose extensive practice and acknowledged skill sufficiently enabled them to judge of its medical properties. They all concur in opinion, that, in its general effects, it agrees with Dr. James's Powder and the *Pulvis Antimonialis;* but, that it is more mild, and consequently may be given in larger quantities, seldom producing nausea or vomiting, in doses of less than eight or ten grains."

JAMSIO, a town of Sweden, in the province of Blekingen, 32 miles W. of Carlscrona.

JANVILLE, a town of France, in the department of Eure and Loire, 20 miles S.E. of Chartres. Long. 1. 47. E. Lat. 48. 12. N.

JAO-TCHEOU-FOU, a city of China, in the province of Kiang-si, seated on the river Po, which, at a small distance, enters the lake Po-yang. It commands seven cities of the third class.

JAPARA, a sea-port on the N. coast of the island of Java, with a good harbour. It was the capital of a considerable kingdom, till the Dutch made themselves masters of it; and now they have a colony here, and a considerable trade. It is 253 miles E. by S. of Batavia. Long. 110. 45. E. Lat. 6. 20. S.

JARISBERG, a town of Norway, capital of a district abounding in mines, in the diocese of Aggerhuys, five miles N. of Tonsburg. Long. 10. 19. E. Lat. 58. 55. N.

JAULNAIS, a town of France, in the department of Vienne, six miles N. of Poitiers. Long. 0. 23. E. Lat. 46. 41. N.

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* In order to procure the phosphate of lime, I dissolved in muriatic acid a quantity of calcined bone, and precipitated by ammonia in its state of greatest causticity. By this means, the excess of muriatic acid, which held in solution the phosphate of lime, is saturated, and the phosphate is precipitated; but no muriate of lime is decomposed, if the ammonia is quite free from carbonic acid. This is the most direct method of obtaining phosphate of lime pure. This salt is not decomposed, as some have asserted, by muriatic acid, but merely dissolved by it. I have been induced to state fully these particulars, because, from the beneficial effects of this salt in the treatment of rachitis, as proposed by M. Bonhomme (*Annales de Chimie*, vol. xviii. p. 113), it may become of general use. The oxide of antimony I obtained by precipitating, by water, the common butter of antimony of the shops.

ICE-BOAT. See *Ice*-BOAT, *Supp.*

ICHTERHAUSEN, a town of Upper Saxony, in the principality of Gotha, 12 miles E.S.E. of Gotha. Long. 11. 1. E. Lat. 51. 48. N.

ICKWORTH, a town in Suffolk, with a market on Friday. Here are the ruins of an ancient priory, and ſeveral Roman coins have been dug up. It is 23 miles N.W. of Ipſwich, and 74. N.N.E. of London. Long. 1. 0. E. Lat. 52. 22. N.

IDA, MOUNT. See CANDIA.

IDA, a mountain of Turkey in Aſia, in Natolia Proper, famous, in ancient fable, for the judgment of Paris, and for being the reſort of the gods during the Trojan war.

IDANHA-LA-NUEVA, a town of Portugal, in the province of Beira, 3 miles S. W. of Old Idanha. Long. 6. 16. W. Lat. 39. 37. N.

IDANHA-LA-VELLA, a town of Portugal, in the province of Beira. The French took it by aſſault in 1704. It is ſeated on the river Ponſul, 25 miles N.E. of Caſtel Branco, and 20 N.W. of Alcantara. Long. 6. 14. W. Lat. 39. 39. N.

IDRIA, a town of Italy, in Friuli, and in the county of Goritz, with a caſtle. It belongs to the houſe of Auſtria, and there are rich quickſilver mines in the town itſelf. It is 17 miles N.E. of Goritz, and 25 N. of Trieſt. Long. 13. 52. E. Lat. 46. 20. N.

IDSTEIN, a town of Germany, in Wetearvia, which is the reſidence of a branch of the houſe of Naſſau, to whom it belongs. It is 12 miles N.E. of Mentz. Long. 8. 23. E. Lat. 50. 2. N.

JEAN, ST. a town of France, in the department of Moſelle and late province of Lorrain. It is ſeated on the river Sare, 12 miles W. of Deux-Ponts, and 8 N.W. of Sarguemine. Long. 7. 12. E. Lat. 49. 16. N.

JEAN-D'ANGELY, a town of France, in the department of Lower Charente and late province of Saintonge, with a late fine Benedictine abbey. It was taken from the Huguenots, in 1621, by Lewis XIII. who demoliſhed the fortifications. It is famous for its brandy, and is ſeated on the river Boutonne, on which are two powder-mills; 15 miles N E. of Saintes, and 32 S.E. of Rochelle. Long. 0. 20. W. Lat. 45. 59. N.

JEAN-DE-LONE, ST. a town of France, in the department of Côte d'Or, and late province of Burgundy, ſeated on the river Saone, 15 miles S.E. of Dijon, and 155 S.E. of Paris. Long. 5. 19. E. Lat. 47. 8. N.

JEAN-DE-LUZ, ST. a town of France, in the department of the Lower Pyrenées, and late province of Baſques, the laſt next Spain, with a harbour. This little town owes its opulence to the cod and whale fiſhery. It is ſeated on a ſmall river, near the ſea, 10 miles N.E. of Fontarabia, 12 miles S.W. of Bayonne, and 315 S. by W. of Paris. Long. 1. 40. E. Lat. 43. 23. N.

JEAN-DE-MAURIENNE, a town of Savoy, capital of the county of Maurienne, in a valley of the ſame name, with a biſhop's ſee. It is ſeated on the river Arc, 15 miles S. by W. of Montier, and 25 N.E. of Grenoble. Long. 6. 20. E. Lat. 45. 17. N.

JEAN-PIED-DE-PORT, ST. a conſiderable town of France, in the department of the Lower Pyrenées, and late province of Lower Navarre. It is ſeated on the river Nive, and defended by a good citadel, upon an eminence, at the entrance of thoſe paſſages, or defiles, in the Pyrenées, which, in this country, are called *Ports*. It is 20 miles S.E. of Bayonne, and 30 N.E. of Pampeluna. Long. 1. 33. E. Lat. 43. 12. N.

JED, a river of Roxburghſhire, in Scotland, which joins the Teviot, a little below Jedburgh, at a place where the Marquis of Lothian has an elegant ſeat, called Mount Teviot; and near this, on the W. ſide of the river, are the beautiful ruins of an abbey, founded by King David; a part of which ancient pile ſtill ſerves for a pariſh church. On the banks of this river, are alſo ſeveral large caverns, which were the ſtrong-holds, or hiding places, of ancient border warriors.

JEGUN, a town of France, in the department of Gers, eight miles N.N.W. of Auch, and 13 S. of Condom. Long. 0. 21. E. Lat. 43. 45. N.

JENA, a ſtrong town of Upper Saxony, in Thuringia, with a univerſity. It is ſeated on the Sala, 10 miles S.E. of Weimar, and 25 S.E. of Erfurt. Long. 12. 4. E. Lat. 51. 2. N.

JENITZ, a town of Upper Saxony, in the principality of Anhalt Deſſau, ſituate on the Muldau, two miles N.E. of Deſſau.

JENITZA, a town of Turkey in Europe, in Macedonia, ſituate on a lake which communicates with the gulf of Salonichi, by a canal 12 miles long. It is 24 miles W.N.W. of Salonichi.

JENO, a town of Upper Hungary, 20 miles S. of Great Waradin, and 48 N.E. of Segedin. Long. 21. 5. E. Lat. 46. 40. N.

JEREMIE, a town, juriſdiction, and cape, on the ſouthern peninſula of the iſland of St. Domingo. The town is ſituate on an eminence, in a fertile ſoil, particularly excellent for the culture of coffee, five miles W. of St. Domingo. Long. 70. 14. W. Lat. 18. 18. N.

JERICHO, an ancient and famous town of Paleſtine, built by the Jebuſites. It is now called Herubi by the Arabs, and contains only a few wretched huts, where ſome beggarly Arabs reſide. It is five miles W. of the river Jordan, and 20 E. by N. of Jeruſalem. Long. 35. 50. E. Lat. 31. 58. N.

JERICHO, a town of Lower Saxony, which gives name to a circle or diviſion of the duchy of Magdeburg. It is ſituate on the Elbe, 32 miles N.N.E. of Magdeburg.

JERMAH, a town of the kingdom of Fezzan. It is diſtinguiſhed by the numerous herds of ſheep and goats, that are ſeen around it; by the various and abundant produce of the adjacent fields; and by the numerous and majeſtic ruins, that exhibit to the inhabitants of its clay-built cottages, inſcriptions of which they know not the meaning, and veſtiges of greatneſs to which they are perfectly indifferent. Jermah is 60 miles S.E. of Mourzook. Long. 17. 17. E. Lat. 27. 5. N.

JLAK, or JALAK, a town of Nubia, on the Nile, ſuppoſed by ſome to be the ancient Meroe. Long. 34. 30. E. Lat. 18. 48. N.

ILLE, a town of France, in the department of the Eaſtern Pyrenées, 10 miles S.E. of Perpignan. Long. 3. 5. E. Lat. 42. 35. N.

ILLER, a river of Germany, which riſes in Tirol, runs N. through Suabia, paſſing by Kempten, Memmingen, and Kirchberg, and falls into the Danube, at Ulm.

ILLESCAS, a town of Spain, in New Caſtile, 15 miles S.S.W. of Madrid, and 15 N.N.E. of Toledo.

ILLOCK, a ſtrong town of Sclavonia, ſeated on the Danube, 15 miles from Peterwaradin, and 55 N.W. of Belgrade. Long. 20. 6. E. Lat. 45. 36. N.

ILM, or STADT-ILM, a town of Upper Saxony, in the county of Schwartzburg-Rudolſtadt, 14 miles S. of Erfurt.

ILMEN, a lake of Ruſſia, in the government of Novogorod, about forty-eight miles long, and twelve to eighteen wide; Novogorod is ſituated near it. Long. 34. 0. E. Lat. 58. 0. N.

ILMINSTER, a town in Somerſetſhire, with a market on Saturday; ſeated in a dirty bottom, among hills, 26 miles S.W. of Wells, and 137 W. by S. of London. Long. 2 54. W. Lat. 50. 55. N.

ILSLEY, or EAST ILSLEY, a town of England, in the county of Berks, with a weekly market on Wedneſday: 14 miles N.W. of Reading, and 53 W. of London. Long 1. 12. W. Lat. 51. 32. N.

ILST, or YLST, a town in the ſtate of Frieſland, defended by a ditch filled with the waters of the river Weymer: 12 miles N.E. Staveren, and five S.E. Bolſwaert.

ILSTROP, a town of Sweden, in the province of Weſt Gothland: 27 miles S.S.E. of Gotheborg. Long. 11. 51. E. Lat. 57. 23. N.

ILTEN, a town of Germany, in the circle of Lower Saxony, and principality of Lunenburg: ſixteen miles S.S.W. of Zell.

ILTZHOFEN, a town of Germany, in the circle of Swabia, in the territory of Halle: eight miles N.E. of Halle.

IMBRO, an iſland in the Grecian Archipelago, mountainous and woody, with plenty of game: it is about 20 miles in circumference, and contains five villages, two of which are defended by caſtles. Long. 25. 44. E. Ferro. Lat. 40. 10. N.

IMENSTADT, a town of Suabia, 20 miles E. of Lindau. Long. 10. 20. E. Lat. 47. 35. N.

IMMENHAUSEN, a town of Germany, in the principality of Heſſe Caſſel, eight miles N.N.W. of Caſſel, and 16 N.E. of Naumburg.

IMMENSTADT, a town of Suabia, in the county of Konigſegg, ſituate on a ſmall river, which ſoon after falls into the Iller, 12 miles S. of Kempten, and 14 S.E. of Iſny.

INDAPOUR, a ſea-port on the S.W. coaſt of the iſland of Sumatra. Long. 100. 50. E. Lat. 1. 30. S.

INDEN HOTUN, a town of Chineſe Tartary, the capital of the Mantcheou Tartars, where they began to eſtabliſh their empire over China. It is 420 miles E.N.E. of Pekin. Long. 124. 36. E. Lat. 41. 46. N.

INDIGO (*Encycl.*). The following is an extract of a Memoir on the Cultivation of the Indigo-plant, and the preparation of Indigo, read by Citizen Brulley, at a public meeting of the Lyceum of Arts, in Paris.

"Indigo," ſays he, "is known to be a precipitated fecula, dried and reduced into a ſolid maſs, light, brittle, and of a very deep azure colour. This ſubſtance is of great utility in the arts. A great conſumption is made of it in dyeing, painting, bleaching, and other proceſſes of different manufactures.

"The vegetable which produces this colouring fecula is termed the indigo-plant, *indigo-fera*. It is of the genus of the polypetal plants, of the family of the leguminous, and has much reſemblance with the *Galegas*.

"There are twenty-ſeven ſpecies of indigo-plants. To enumerate their differences and deſcribe their botanical characters would be ſuperfluous. It will be ſufficient to direct our attention to the moſt intereſting ſpecies, namely, that which yields the beſt indigo. It is termed *indigo-franc*, *indigo-fero anil*. It is indigenous in America; and is cultivated with ſucceſs in the Southern parts of this country, and in the Antilles. In theſe iſlands is found a variety of the beſt ſpecies of indigo, which grows to twice the height of the indigo-franc. It is termed the wild indigo-plant or maron.

"It is to be remarked, that in the French colonies in the Antilles, where fine indigo is prepared, the ſeed of the indigo-franc is purpoſely mixed with that of the indigo-maron, in order to obtain a more conſiderable and better product. The purpoſes for which this mixture is made, as well as all the operations belonging to the cultivation of the indigo-plant, are related in a detailed memoir that has been laid before the Lyceum of Arts. For the preſent we ſhall confine ourſelves to giving an account of an eſſential improvement in the preparation of indigo.

"It will undoubtedly be heard with aſtoniſhment, that though indigo has been manufactured during the ſpace of nearly a century, its preparation ſtill conſiſts in ſuch imperfect approximations, that, even with the beſt manufacturer, generally ten, fifteen, and even to the number of twenty-five tubs fail, out of a hundred which he undertakes. Sometimes even, either owing to want of experience or the contrarieties of temperature, a much larger number of tubs fail, and ruin the proprietor, who reckons upon large profits: hence in part ariſes the high price of indigo.

"But ſhould the proprietor of indigo-plants be ſecured, by means of a certain proceſs, againſt the danger of loſing the fruits of his expence and labour, he would then be able to ſell his indigo at a cheaper rate. This would be a great advantage to the arts and manufactures, and conſequently to the commerce of France.

"This great advantage France will at ſome future period be able to enjoy, and ſhe will owe it to the labours and intelligence of one of the colonial proprietors of St. Domingo, who is at preſent in France, and one of the free aſſociates of the Lyceum of Arts, I mean Citizen Nazon. Judicious obſervations and a long courſe of experience have convinced him that it is poſſible to enſure the ſucceſs of all the tubs of indigo.

"In order to obtain this colouring ſubſtance, the indigo-plant is cut when it has arrived at its maturity. The whole is put to macerate in a baſin of brick-work, which is termed the tub (*cuve*). Its dimenſions are generally twelve feet.

"To bring the maceration to its ultimate point, requires from fifteen to thirty and even thirty-ſix hours, more or leſs, according to the temperature of the atmoſphere at the time when the operation is performed; it is alſo neceſſary to take into conſideration the quality of the indigo-plant, the nature of the ſoil that has produced it, and that of the water in which it is immerſed.

"The firſt indication from which it is judged that the maceration begins to approach its ultimate point, is the ſinking of the ſcum, which elevates itſelf in the ſpace of about half a foot, which has been left empty in the tub, including the plants. When this ſcum has become a kind of cruſt of a copper-blue colour, the moment is concluded to be near at hand, at which the plants will be ſufficiently macerated. However this indication is inſufficient and often even fallacious. There is another upon which greater reliance is placed: it conſiſts in drawing off a ſmall quantity of the water by means of a cock placed at the lower part of the tub. It is received into a ſilver cup, and it is obſerved whether the fecula tends to precipitate itſelf to the bottom of the cup: when this is the caſe, it is concluded that the plants have attained that degree of maceration which is requiſite for obtaining the indigo from them.

"Such was the proceſs moſt generally practiſed; but it too often gave riſe to error. To avoid this we have a ſure means, which conſiſts in accurately obſerving the water contained in the cup: five or ſix minutes after it has been poured into it, it forms round the ſides of the cup a ring or edge of fecula, which at firſt is of a green colour and afterwards becomes blue. As long as the maceration has not yet been carried to the proper pitch, this ring detaches itſelf with difficulty from the ſides of the cup. But at laſt it is ſeen to precipitate and concentrate itſelf at the bottom of the veſſel, always towards the centre, under the water, which has become limpid, though with a yelloviſh tinge.

" When theſe appearances are obſerved, they infallibly indicate the ſucceſs of this firſt operation. The water is then drawn off into a ſecond baſin or tub, placed beneath the firſt. This ſecond tub is termed *batterie*, as its uſe is for beating the water ſtill charged with the fecula. In order that it may ſeparate quickly, it is agitated. This operation is performed either by the labour of the hands, or by means of a mill. It is of eſſential conſequence not to agitate it for too great a length of time: exceſſive agitation mixes anew the fecula with the water, from which it does not ſeparate any more, and the tub fails. Inſtead of indigo, we obtain nothing but muddy water.

" This latter inconvenience may eaſily be obviated by a little attention. When we have diſcovered that the fecula is ſufficiently united, we draw off the water from the *batterie* into a third and ſmaller baſin, which is termed the *diablotin*. We then find the bottom of the *batterie* covered with a very liquid blue paſte; this is received into bags of coarſe linen cloth, of the form of inverted cones, which ſuffer the watery part to run off. Theſe bags are afterwards emptied of their contents upon tables in the drying rooms, where this blue paſte is kneaded, and after it has acquired a denſer conſiſtence, it is ſpread out and cut into ſmall ſquares, in order that it may dry the ſooner. The manufacture of the indigo is now completed, and it is ſoon after ſufficiently dry to be introduced into commerce.

" I omit the details contained in a longer memoir, of which I confine myſelf to giving an extract. What was of importance to be made known, is that there exiſts a certain proceſs, by following which one may be ſecure againſt failure in the manufacture of indigo.

" Experience has ſhewn that this proceſs has never failed of complete ſucceſs; of this, more than 1500 tubs of indigo manufactured in different parts of St. Domingo, have furniſhed the proofs."

INDUSTRY. The following extract from an account of a SOCIETY, *for the promotion of induſtry*, in the county of Eſſex, by John Conyers, eſq. appears in the Reports of the Society for bettering the Condition of the Poor, &c.

In November, 1794, a meeting was held at Epping in Eſſex, to take into conſideration a propoſal for the promotion of induſtry in that neighbourhood*. An aſſociation was formed of fourteen pariſhes, the parochial ſubſcription being agreed to be one per cent on their rates, and that of individuals not more than five ſhillings each. This, with a few benefactions, produced in 1795, the ſum of 154l. which was purpoſed to be ſet apart as a fund† for giving annual preſents of clothing to thoſe children who ſhould produce the beſt ſpecimens of induſtry; and ſums of money, not exceeding 10l. each, for any ſuch young perſon on their going to apprenticeſhip, or ſervice, or being married, according to the number of annual prizes ſuch young perſons ſhould have obtained; and alſo rewards in money to poor perſons who had brought up four or more children to the age of fourteen years without pariſh relief, and to overſeers who ſhould diſtinguiſh themſelves in the execution of their office, and in the employment of the poor. The ſociety at the ſame time took meaſures for having work-rooms and teachers provided in the different pariſhes, and ſpinning wheels and a ſupply of work for the poor at their own houſes; and alſo for enſuring to them that they ſhould be paid by their pariſhes the *full price*‡ of their work; which, though making a difference of only three pence or four pence in the pound, and being a very trifling expence to the pariſh, was, nevertheleſs, to the individual who received it, a very powerful reward and encouragement.

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* The plan alluded to " was founded on one of the wiſeſt and moſt humane laws, which this country has to boaſt of; and which was paſſed in the forty-third year of Queen Elizabeth's reign, for the maintenance and employment of the poor. The object of this act was, not merely to relieve the *indigent*, but to prevent *indigence* itſelf. It was calculated not only to guard againſt poverty and diſtreſs, but againſt vice and immorality alſo. It regarded the mental, as well as the corporeal welfare of thoſe whom it profeſſed to protect. He could not avoid obſerving the ſuperiority of the act juſt mentioned, over ſome of the acts which have been ſince paſſed for the regulation of the poor; acts which permitted pariſhes *to farm their poor to governors of workhouſes* (whoſe *intereſt* it was to make as great a profit of them as poſſible), and to *affix badges* to the clothes of beggars. Theſe regulations had indeed made it painful to indigent perſons of any ſenſibility to apply for relief, which the infirmities and calamities, incident to human nature, rendered neceſſary for them; but neither of theſe meaſures had reduced, or was likely to reduce, the number of the poor, or to correct the profligacy of their manners."

† The reader is referred for further particulars, to a printed account of the inſtitution, publiſhed for the benefit of the Society, and ſold by Cadell and Davies in the Strand.

‡ The poor, who might otherwiſe be inclined to ſpin yarn, labour under great diſcouragement, ariſing from the manner in which they are paid for their work when finiſhed. The ſhop-keeper of whom they get their yarn, profeſſes to pay them at the rate of a penny per hank; but, when the work is returned to him, he deducts three pence or four pence (or in caſes when the trade has been ſlack, five pence) from every pound of wool ſpun. This is conſidered as the woolſtapler's profit. Thus an indifferent ſpinner, who makes but twelve or perhaps ten hanks of a pound of yarn, gets but eight pence or ſix pence for her work. But this is not the only diſcouragement. The ſhop-keeper makes a favour of ſupplying her with yarn, and will not ſupply her with any, unleſs ſhe will conſent, not only to take out in ſhop goods the amount of what ſhe earns by ſpinning, but will engage to purchaſe of *him alone* ſuch neceſſaries for her family as his ſhop will furniſh. By theſe means ſhe is precluded from laying out her money at any other ſhop, where ſhe thinks ſhe could get articles of a better quality, or at a cheaper rate; and is obliged to ſubmit to any impoſition, which a griping ſhop-keeper may lay upon her.—The committee of induſtry in Eſſex, conſidering their fund as inſufficient for the purpoſe of relieving the poor from this oppreſſion, by paying them the full price of their work, has recommended the plan to pariſhes. In that of Chipping Ongar, by the attention of the Rev. Mr. Herringham and ſome of the principal inhabitants of the pariſh, this plan has been carried into execution, and has produced a very good effect. The pariſh procures a ſtock of wool from a worſted maker: this is depoſited at the workhouſe; and the poor, upon application to the perſon who has the management of this buſineſs, obtain from him a ticket; which being taken to the miſtreſs of the workhouſe, ſhe delivers the wool, and files the ticket. The work, when finiſhed, is carried to the perſon who gave the ticket, and he immediately makes a payment in money, deducting (for the preſent) four pence for every pound of work. This is done merely to prevent careleſsneſs in ſpinning, or frauds in reeling; and the groats ſo deducted are withheld, till the whole ſtock of wool is returned to the manufacturer, where every ſpinner's

At a meeting of the ſociety on the 31ſt of December, 1795, there were 52 children candidates for prizes, as ſpinners and knitters; and 21 parents, who had brought up four or more children in lawful wedlock without pariſh relief. The parents received donations, not exceeding two guineas each, varied according to the number of their children, and other circumſtances: and 31 of the children received preſents in clothing, not exceeding twenty ſhillings each, according to their different merits. They alſo received, with the premiums, certificates of good behaviour, which they conſider as marks of diſtinction, and of which they will feel the benefit through life.—In the enſuing year, an equal number of parents received donations, on account of the families they had brought up; and clothing, to the amount of 36l. 15s. was given to 37 children, who had then produced the ſpecimens of induſtry, in ſpinning, knitting, and plain needle-work.—In the preſent year (Jan. 1798), donations of clothing have been made to 61 induſtrious children to the amount of 51l. 13s.; and to parents, the ſum of 23l. 12s. 6d. on account of the families which they have brought up.

This eſtabliſhment, formed on the ſame plan as that of the Rev. Mr. Bowyer in Lincolnſhire, and rendered ſucceſsful by the great attention given to it by the truſtees of the different diſtricts, requires very little comment. It is obvious that its operation, by the moſt pleaſing and acceptable means, thoſe of *encouragement* and *attention*, muſt be to increaſe the induſtry and good habits of the poor in the neighbourhood, and greatly to improve the riſing generation. The donations may appear ſmall to thoſe who have not ſufficiently attended to the circumſtances of the labouring poor, to learn that the very trifling rewards, given with *kindneſs*, in a *diſintereſted* and *honourable* way, and unincumbered with any *humiliating condition*, will do wonders in exciting the induſtry and economy of the cottager; and in attaching him, by every tie of gratitude and affection, to thoſe who feel ſufficiently the obligation of *their own duty*, to become the friends and benefactors of the poor.—We cannot omit taking this opportunity to obſerve, that every meaſure of this kind ſhould be ſo framed and conducted, that the motives may not merely eſcape the *guilt* of *being intereſted*, but be exempt from the *diſcredit* of *being ſuſpected*.

In April, 1796, a meeting of the inhabitants of Lewiſham was called, for the purpoſe of ſetting up a ſchool of induſtry, for the children of that pariſh. The ſubſcribers came to a reſolution to prepare accommodations for the reception of 60 children, and the houſe was opened on the 30th of May, 1796.

The children are admitted on the recommendation of ſubſcribers, and by order of the committee. In ſummer the ſchool is open from ſix o'clock in the morning to ſix at night, and in winter during the hours of daylight; but the children have uſually finiſhed their taſk by two o'clock; they then go away, unleſs, which is the caſe with ſome of them, they *prefer* to work additional hours *on their own account*. They receive two meals a-day, a breakfaſt and a dinner; one hour being allowed at dinner, and half an hour at breakfaſt. They are employed in ſpinning, winding, and knitting; and one boy in weaving. The preſent weaver is an active boy, not ten years of age: his predeceſſor had been employed but a very little time, before he had an offer of a permanent engagement at a cotton mill. In rotation they all receive leſſons in reading. The children's weekly maintenance is eſtimated at 1s. 6d. per head; and where they earn more in any week (as ſome do 6d. a-week, and ſome 1s.) they are paid, and carry home the overplus. One little boy (who came from the work-houſe with but a bad character, but who now poſſeſſes a very good one) earns not leſs than an extra ſhilling a-week; he has during the laſt month, put into the maſter's hands, in truſt for him, the ſum of 5s. In the caſe of the pariſh children, who are entirely maintained at the pariſh expence, there is, as yet, no certain allowance; but they are rewarded according to their induſtry and good behaviour. It is however in contemplation to make them a certain allowance; probably a ſixth of their weekly earnings.

Spinning wheels are lent, and materials are furniſhed at home, for any of the adult inhabitants of the pariſh, who wiſh employment; and they are paid for their work upon delivery. A ſuit of clothes, made of the cloth and camblet of their own manufacture, is yearly given to each of the children, who attend the ſchool, as a reward for their good behaviour, and to enable them to appear decently and regularly at church on Sundays.

In the infancy of a manufacture, there is neceſſarily a loſs from the waſte of raw materials. In the preſent inſtance it muſt be admitted, that very little profit accrued from the labour of the children, during the firſt ſix months: but for the next half-year, the profit was gradually increaſing; and it advanced ſo much, that at the end of the year, on the 30th of May, 1797, the net profit of the manufactory had amounted to 55l.—That profit may be fairly ſtated at 100l. a-year in future. The ſchool of induſtry now ſupplies the pariſh work-houſe with moſt of their articles of clothing: beſides which, a ſtock of knitted ſtockings, and of camblets and worſted, is kept in the warehouſe, to be ſold by wholeſale and retail. The demand for them has been gradually increaſing; and the inhabitants have found their advantage in the purchaſe of them.

The weekly expence of the family, upon an average, is 3d. a-head per day; including the * 20 pariſh children, and the maſter and miſtreſs and their two children, who have their three meals a-day, and lodge in the houſe. For each of the pariſh children the eſtabliſhment is allowed the ſum of 3s. a-week; which is near 50l. a-year leſs than the expence of merely feeding them in the work-houſe, during the preceding year.

The following is a pretty correct eſtimate of the expences and receipts of the eſtabliſhment.

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work is ticketed with her name.—Upon receiving the approbation of the manufacturer as to the work, the ſpinners are paid their groats; and far from complaining of their being withheld in the firſt inſtance, they expreſs a ſatisfaction at having "a lump of money" as they call it, to lay out in clothing. The account is kept as follows:

Names.	Work iſſued.	When iſſued.	When returned.	No. of hanks.	Money paid.	Groats due.
M. Weſtwood.	3 lb.	Mar. 15, 1798.	Mar. 19.	30	2s. 0d.	3
Ann Smith.	4 lb.	Mar. 16, 1798.	Mar. 21.	48	2s. 8d.	4

* This number occaſionally varies; there have been 23 in the ſchool at a time: but the number will probably be much leſs.

PAYMENTS.	£.	s.
Maintenance of the family, clothing, &c. -	250	0
Wages of maſter and miſtreſs; 10s. per week. *He is extremely well acquainted with every proceſs in the woollen manufacture* - -	26	0
School miſtreſs; who teaches the children to read	3	0
Rent of the houſe, and the wooden building behind. *It was a blackſmith's ſhop, but is now the ſchool and work-room* - - -	13	10
Inſurance - - -	1	0
Mr. Hall, the manager, who does not live in the houſe, but attends occaſionally. *He purchaſes the proviſions and materials for the work, and provides a ſale for the articles of manufacture* -	30	0
Incidents, gratuity to the ſecretary, &c. -	26	10
	350	0

RECEIPTS.		
Pariſh rents appropriated to the inſtitution -	60	0
Allowance for 20 pariſh children, at 3s. a-week each	156	0
Profits of manufactory per annum; ſuppoſed	100	0
	316	0
Deficiency in the infancy of the eſtabliſhment, to be made good by ſubſcription - -	34	0
	£. 350	0

There are 48 perſons, including the maſter and miſtreſs and their two children, who breakfaſt and dine regularly in the houſe. The table of diet, and quantities allowed for them, which are quite as much as they wiſh, are as follows:

Monday. Breakfaſt. Rice milk; made of 4 lb. of rice, 1 lb. of flour, 1 lb. of ſugar, and 4 quarts of milk.
——— Dinner. 20lb. of beef, and a peck of potatoes, with 17 lb. of bread.
Tueſday. Breakfaſt. Broth and 13 lb. of bread.
——— Dinner. Boiled rice; conſiſting of 15 lb. of rice, 1½ lb. of ſugar, and 3 quarts of milk.
Wedneſday. Same as Monday.
Thurſday. Same as Tueſday.
Friday. Breakfaſt. Gruel, made of 2 quarts of oatmeal, with the allowance of 1 lb. of butter, 11 lb. of bread, and ¼ lb. of ſalt.
——— Dinner. Beef-ſtew; conſiſting of 22 lb. of ſhins of beef, and a peck of potatoes, with 17 lb. of bread.
Saturday. Same as Tueſday and Thurſday.

The workhouſe children and the maſter's family (in all 24) have, for their Sunday breakfaſt, gruel, made of one quart of oatmeal, with the allowance of half a pound of butter 8 lb. 10 oz. of bread, and 4 oz. of ſalt; for dinner, 12 lb. of beef, half a peck of potatoes, 5 lb. 5 oz. of bread, 8 oz. of ſalt, and 3 quarts of beer; for ſupper on Sunday, 6 lb. 8 oz. of bread, ½ lb. of cheeſe, and 2 quarts of beer, and the ſame ſupper on the other days of the week, with a little additional allowance of bread, of which they ſeem to require more on week-days than on Sunday. The price of the beef is 3s. a ſtone, or 4½d. per pound; of the 2 ſhins of beef (weight per average, including bone, 22 lb.) 2s. 6d.; of potatoes 20d. a buſhel; of their bread, which is good ſeconds, 7½d. the quartern loaf, or rather more than 1½d. a pound.

By the preceding bill of fare it will appear, that the cheap article of rice now forms a very conſiderable proportion of the children's diet. The uſe of it has been gradually increaſed, partly in conſequence of their having acquired a greater fondneſs for it than for other food, and partly from the obſervation of its nutritive and wholeſome qualities. Its average increaſe, on boiling in mere water, has been found to be fourfold: with the addition of milk, it is much more.—The good health which the children have uniformly enjoyed has been remarkable: ſeveral of them who were weak and ſickly at their admiſſion, have ſince become healthy and vigorous; to which their new habits of cleanlineſs and regularity, and the exerciſe of ſpinning by hand-wheels in an airy apartment, as well as their diet, which is nutritious and plentiful, may probably have conduced. The improvement in their morals and behaviour has been equally ſatisfactory to the wiſhes of the promoters of the inſtitution. It is found that, in proportion as the children become ſkilful and uſeful, their parents and friends, learning their value, become deſirous of withdrawing them, becauſe they can employ them to more advantage. This has already been the caſe of many, and generally has happened in the courſe of ſix months after they have been received into the ſchool; as the habits of order and induſtry, which the children acquire there, render them ſo deſirable as apprentices, that, though there has been a difficulty heretofore in finding ſituations in private families for any pariſh children, becauſe *they came out of a workhouſe*, yet they are now ſought for, and the pariſh is relieved from the expence of their maintenance at a much earlier age, than if they had been kept in the workhouſe.

One other very great advantage reſulting from this eſtabliſhment, and from its neceſſary connection with the poor of the pariſh, is, that the gentlemen who have intereſted themſelves in its ſucceſs, have thereby been induced to take a very active part in the management of the poor; and one of them, Robert Saunders, eſq. is now ſerving the office of overſeer for his ſecond year. It will be obvious that a greater benefit to the poor, and a conſiderable ſaving to the pariſh, muſt be the conſequences of ſuch an inſtitution. The poor are more happy, and better taken care of, than they were before; and the ſaving, from the new ſyſtem, will hardly be leſs than 500l. a-year.

By the preceding account it will appear, how much may, at a very ſmall expence, be effected by a judicious and ſpirited adoption of one of the meaſures directed by the ſtatute 43d Elizabeth. It is needleſs to obſerve upon the effects which this eſtabliſhment has neceſſarily produced on the morals, the cleanlineſs, and the health of the children; who, being now habituated to induſtry, inſtructed in reading, and accuſtomed to a regular attendance on divine ſervice, are bred up in the knowledge and practice of obedience and reverence to their Creator, and of that utility, which he has enjoined as a duty to their fellow-creatures.

Beſides the advantage of ſeparating the pariſh children from the contagion of thoſe diſſolute and profligate characters, which are to be found in all workhouſes, the maintaining of them at a leſs expence, and the educating of them in the habits of induſtry and virtue (circumſtances which apply to the pariſh children removed from the workhouſe to the ſchool of induſtry), it ſhould be obſerved, that a very great relief is alſo given to the other poor of the pariſh, by eaſing the parents of the burthen of maintaining ſo many of their children, and by giving the mothers profitable employment at home; a relief that, by improving the circumſtances of the cottager, has a juſt and honourable tendency to reduce the poor's-rates.—Eſtabliſhments, like that at Lewiſham, have alſo the merit of correcting the little pilfering habits of the infant poor, the ſource of ſo many vices and crimes in ſociety; and of preſerving them from idleneſs and bad example, and training them in virtuous and induſtrious habits, ſo as to make them bleſſings to their parents, and uſeful and valuable members of ſociety."

For the benefit of the adult poor, a ſociety was inſtituted at Wendover, by the Rev. Joſeph Smith, who, in the ac-

count of the ſteps taken to eſtabliſh it, ſays, "I confined my endeavours at the commencement, to inducing, in all my poorer neighbours, a habit of ſaving ſome part of their earnings, during that period of the year when they could beſt ſpare it, againſt a time when they would moſt want it. To the poor, therefore, both male and female, and of all ages, I propoſed that part of the plan only; as the means of laying up, from the exceſs of the moſt productive part of the year, that which might procure them comfort and relief at the ſeaſon the leaſt productive, and the moſt expenſive; and, in order to make it generally known, I employed the ſchoolboys at the writing ſchool in the pariſh, to copy out *propoſals, for a weekly contribution of money during the ſummer months*, to be repaid them with a conſiderable increaſe, the addition of one-third at leaſt, at the end of the year. Certain gentlemen were named to "receive at their houſes *weekly ſums*, of *2d. 3d. 6d.* or more, and depoſit the ſame in a box provided for that purpoſe, and keep an exact account of the ſame in a book. It is propoſed that Sunday morning be the time of making the payments; becauſe, among the other duties of that day, the labourer can then beſt ſpare time to look forward for the future comfort of his family; and becauſe they who have attended their duty at church, after having paid in their weekly ſix-pence to accumulate for their families, will feel the leſs inclination to ſpend another ſix-pence idly at the ale-houſe. At Chriſtmas the diſtribution will be made; that is to ſay, for every three ſhillings paid in, not leſs than four ſhillings ſhall be returned; and ſo in proportion. Further attention and conſideration will be paid to thoſe who have made their payments regularly, and who have been regular in their duties at church. Any perſon may receive back his or her own money at any time before Chriſtmas; but without any addition thereto. It is not intended that this act of prudence in the poor ſhould preclude them from pariſh relief, in caſe of ſickneſs, or in caſe of want of work, during ſevere weather; but it is meant to enable them to purchaſe a warm garment, half a load of wood, or any other domeſtic comfort they may want at the moſt inclement ſeaſon. The donations and friendly communications of any of the pariſhioners to this undertaking, are thankfully received."

Copies of this paper were placed on the church doors, and diſtributed in the pariſh. The boys alſo, who had received a trifling gratuity for making the copies, contributed very much to make the terms known to their parents and connections. "We gave notice of receiving contributions," ſays Mr. Smith, "on the firſt Sunday in May.—The labourers have embraced the offer held out to them, in a manner extremely gratifying; the ſociety already conſiſting of near *ſixty* ſubſcribing labourers, who bring their ſubſcriptions very regularly after morning ſervice; none leſs than ſix pence, very many of them a ſhilling.

The above may be deſerving of attention in thoſe country pariſhes, which, like Wendover, are not capable of receiving the entire benefit of the plan adopted in the biſhopric of Durham. It is certainly of great importance, to induce habits of frugality and foreſight, among the poor. Theſe good qualities are rarely unaccompanied by the other virtues; and when they are wanting, there can be little hope of ſtrict moral or religious character among men, who are to ſubſiſt on the produce of their daily labour.

There is a peculiar advantage in the Wendover ſociety, that neither time, nor money, is expended in ale-houſe meetings. There are no incidental charges to exhauſt the common purſe. There is a ſure and certain benefit to the members; and there exiſts no expence to diminiſh the amount of it. Friendly ſocieties, though very deſerving of encouragement, are not always equal and certain in their effects. *If not conducted properly, they may degenerate into drunken meetings; they may be diſgraced by fraud, be directed by a party, and become the inſtruments of ſedition.* From theſe inconveniences the ſociety at Wendover is exempt. Their one entertainment will be only an annual addition given to their family dinner at home, on Chriſtmas-day.

A great advantage of this and of ſome other ſimilar eſtabliſhments (beſides that important one of uniting perſons together for a common and uſeful purpoſe) is, that they contribute to make the rich and the poor more known to, and more connected with, each other; and to give thoſe who are deſirous of making a proper uſe of their property, an opportunity of appreciating correctly the character and ſituation of moſt of the cottagers in their neighbourhood.

The eſtabliſhment of this ſociety will, it is to be hoped, prove of much greater advantage to the members, than the mere amount of the addition to their own ſavings; and will be the cauſe of their beginning the new year not only *happily*, but *wiſely*. We underſtand they derive permanent good effects already from their frugality and prudence; Mr. Smith having eſtabliſhed the ſociety on a more durable footing, and with additional improvement and benefit to the members.

INFECTION (*Encycl.*). Under the article CONTAGION, we have ſpoken fully on this ſubject; and have under FEVER in this SUPPLEMENT, inſerted ſome uſeful cautions for the ſecurity of thoſe who are neceſſarily expoſed to danger from this cauſe. The following paper on the means of purifying infectious air, &c. is extracted from a work of Citizen Guyton de Morveau, by Citizen Deyeux, and publiſhed in the Annales de Chimie.

"Amongſt the important diſcoveries, which we owe to chemiſtry (ſays the latter writer), thoſe chiefly deſerve our attention, which, at the ſame time that they preſent us with facts valuable in a ſcientific point of view, afford alſo reſults from which great advantages may accrue to ſociety in general. It is then, chiefly, that the utility of chemiſtry ceaſes to be a problem, and that we are compelled to acknowledge the juſt title, which this ſcience has to be ranked amongſt thoſe, the ſtudy of which ought moſt aſſiduouſly to be cultivated.

"The work, of which I am about to give an extract, we owe to a diſtinguiſhed man of learning, a profound chemiſt, who, having meditated for a long time upon various important phenomena, that had preſented themſelves to him under a multitude of circumſtances, conceived that he might make uſe of the knowledge which he had acquired, in order to combat one of thoſe ſcourges which deſolate the human race, and againſt which all the art of medicine has hitherto proved inſufficient.

"Having once conceived this idea, he had a difficult taſk to accompliſh. Citizen Guyton, however, has ſurmounted all the obſtacles that ſtood in his way, and, by his courage, his patience, and perſeverance, has obtained ſuch ſatisfactory reſults, that he thought he ought no longer to withhold from the public the fruits of his labours.

"His work is divided into ſix parts. In the firſt, the author gives an hiſtorical ſketch of the experiments which he made in the year 1773, with the muriatic acid employed in fumigations.

"Already, at this period, he ſays, attempts had been made to diſinfect the air tainted by putrid miaſmata; but, as all the ſubſtances that had been employed for this purpoſe had not produced the effects that were expected from them, I imagined, after long reflection upon the ſubject, that I ought to turn my attention to the muriatic acid; as the great expanſibility of its vapours led me to ſuſpect, that they might be proper for ſeizing upon the ammoniac, which I then ſuppoſed to accompany all the odorous putrid miaſmata, and for

compelling it to quit them, and leave them to ſubſide by their own gravity.

" It was neceſſary to aſcertain the powers of the remedy, which theory ſeemed to point out, by the teſt of experiment: Citizen Guyton, therefore, availed himſelf of a circumſtance, which he thought it the more neceſſary for him to make uſe of, as it afforded him an opportunity of making an experiment upon a large ſcale, and ſuch as he ſtood in need of, in order to obtain reſults concerning the nature of which no doubt could remain.

" In the courſe of the winter of 1773, the burying-vaults of the principal church at Dijon being found to be entirely full, it was ordered that they ſhould be cleared. Some precautions that had been taken, with a view to prevent the exhalation of the putrid vapours, which, it was preſumed, muſt ariſe during this operation, having proved unſucceſsful, the infection ſoon became ſo inſupportable, that it was neceſſary to abandon the church. In the mean time, the putrid effluvia diffuſed themſelves among the neighbouring houſes, and then gave riſe to a contagious fever.

" It was then that it was thought proper to conſult Citizen Guyton, who, after having informed himſelf of all the precautions that had been uſed, propoſed fumigations with muriatic acid.

" His advice was adopted; and the effects were ſo ſpeedy and decided, that, four days after, the church was re-opened, and all the eccleſiaſtical offices were re-eſtabliſhed in it, without danger, and even without apprehenſion.

" Similar fumigations were afterwards practiſed in the dungeons of the priſons of Dijon, in which a contagious fever had produced ſuch terrible effects, that the greater part of the priſoners periſhed.

" Though the infection was of the moſt virulent nature, it was at laſt ſo completely deſtroyed, that a ſtudent of ſurgery requeſted leave to ſleep in one of the dungeons that had been diſinfected.

" Succeſs ſo decided, naturally produced a great deal of confidence in the remedy. We find, therefore, that when the *Conſeil de Sante* & Vicq d'Azyr were conſulted upon the means of ſtopping the progreſs of a contagion that had appeared in the military hoſpitals, and in the ſtables where a great number of cattle were kept, they did not heſitate to preſcribe fumigations with muriatic acid, as the moſt certain remedy to which they could have recourſe.

" A circumſtance, which certainly ought to excite ſurpriſe, is, that the perſons, to whom the care of executing theſe fumigations was intruſted, neglected to give ſufficient publicity to reſults ſo ſatisfactory as thoſe which it is known they obtained.

" This neglect, as Citizen Guyton very juſtly remarks, is the more unpardonable, as it has tended to retard the adoption of a proceſs, which, in many caſes, would have proved invaluable, as, by means of it, many thouſands of perſons might have eſcaped the effects of contagions, to which they have fallen ſacrifices, on account of the inſufficiency of the means that were employed againſt them.

" The muriatic is not, it appears, the only acid which has been conſidered capable of depriving the air of its contagious quality. This we find from the account which the author gives, in the ſecond part of his treatiſe, of experiments made in foreign countries with fumigations of different mineral acids.

" One of the oldeſt works relative to this ſubject, which fell into the hands of Citizen Guyton, is entitled *Rapport des Experiences faits en Angleterre, par Ordre de l'Admirauté, à bord du Vaiſſeau d'Hôpital, l'Union.*

" The Lords of the Admiralty having requeſted Dr. Smith to direct means for putting a ſtop to the contagion that had appeared on board the Union, he adviſed Mr. Menzies, ſurgeon to the navy, to try fumigations with nitric acid. Theſe fumigations were made with great care, and were attended with ſuch ſucceſs, that, from the day on which they were begun to be employed, the mortality ceaſed, and the greater part of the accidents occaſioned by the contagion diſappeared.

" Some time after, the ſame means were employed for deſtroying the contagion on board of the Ratveſan, and the Revel frigate, in which a malignant fever had alſo broke out.

" The ſucceſs which Mr. Menzies obtained in theſe three inſtances left no doubt in his mind of the utility of the proceſs which he had employed, and of the neceſſity of having recourſe to it, whenever it ſhould be neceſſary to purify the air of putrid miaſmata.

" The ſame opinion was alſo adopted by Dr. Smith; for he concludes the report, in which the above-mentioned facts are related, with ſaying, That the experiments of Mr. Menzies, clearly eſtabliſh two facts; in the firſt place, that the nitric acid has the power of deſtroying contagion; ſecondly, that it may be employed without producing troubleſome effects upon the perſons who reſpire it. He conſiders this diſcovery as being applicable to every kind of contagion, and even to that of the plague. Conſidered in this laſt point of view, he thinks it ought to intereſt every nation, &c.

" Thus the beneficial effects of the nitric acid, ſeem to be as decidedly eſtabliſhed as thoſe of the muriatic; however, as Mr. Menzies very properly obſerves, the uſe of the nitric acid is only exempt from inconvenience, as long as we are able to reduce it into vapour, without its being converted into nitrous acid; for, otherwiſe, it would occaſion accidents, which it would be difficult to remedy.

" Mr. Cruikſhanks appears alſo to have employed acid fumigations; however, it is evident that he has given the preference to the oxygenated muriatic acid gas.

" The proceſs which he employs for obtaining it is very ſimple: it conſiſts in mixing accurately two parts of common ſalt, and one part of the black oxyd of manganeſe. After having diluted this mixture with a ſmall quantity of water, concentrated ſulphuric acid is gradually added to it. Immediately a large extrication of vapours takes place, which unite with the putrid effluvia in ſuch a manner, that the air, in the place where the experiment is made, is ſoon found to be purified.

" In Spain, the fumigations with ſimple muriatic acid, reduced to the ſtate of vapour, are generally adopted; and they are there conſidered to be ſo little capable of producing accidents, that they are performed even in chambers actually inhabited.

" Finally, it appears, that ſimilar fumigations have frequently been practiſed in France, and that whenever they have been properly conducted, they have been attended with ſucceſs.

" In the third part of his treatiſe, the author makes ſome reflections on the effects of acid fumigations, and examines the different opinions that have been advanced, in order to explain their mode of operation.

" The principal problem to be reſolved in ſeeking the means of purifying a maſs of infected air, was to find out agents that poſſeſſed the power of deſtroying the contagious miaſmata, and particularly the putrid ſmell that always indicates their preſence. It has been ſhewn, in the two firſt parts of this work, that ſome of the mineral acids had produced this two-fold effect; but it was uſeful to enquire, whether theſe acids acted in the ſame manner, and whether the reſults

which they preſented were equally ſatisfactory. It was neceſſary alſo to aſcertain, whether their operation ought to be attributed to oxygen; whether ammoniac formed an eſſential part of the putrid effluvia; whether they were always accompanied with carbonic acid gas; and, finally, whether the vegetable acids might not be employed with advantage.

" The ſolution of all theſe queſtions could not fail to throw a great deal of light upon the cauſes and immediate effects of contagion; the author, therefore, thought it an object that particularly demanded his attention. For this purpoſe, he inſtituted a courſe of experiments, both with a view to inveſtigate the nature of the putrid miaſmata, and to aſcertain the mode of operation of the agents with which they are brought into contact.

" The infected air upon which he performed his experiments, was obtained from ſlices of raw beef, which he had expreſsly placed in a ſituation to putrify. This air, which poſſeſſed all the properties that were required, had ſcarcely been mixed with lime-water, when it immediately appeared that this was decompoſed. The ſame circumſtance took place with the ſolutions of the nitrates of ſilver and mercury; but, notwithſtanding this decompoſition, the fetid ſmell continued to be perceived as before.

" Slips of paper, ſtained with fernambourg, the petals of mallows, curcuma, and a ſolution of copper, were ſuſpended in veſſels filled with the putrid air. After having remained there for the ſpace of twenty-four hours, the colours appeared ſomewhat fainter, but they had undergone no change that indicated the preſence of ammoniac.

" Several metallic oxyds, ſuch as that of zinc, the black oxyd of manganeſe, the brown oxyd of lead, &c. having been left for ſeveral days in contact with the ſame putrid gas, exhibited no change of colour, and had produced no diſengagement of ammoniac.

" From the reſults of theſe, and ſeveral other ſimilar experiments, the author draws the following inferences: 1. That air impregnated with putrid effluvia contains more carbonic acid than the ordinary air of the atmoſphere. 2. That the effects of putrid air are entirely independent of the preſence of carbonic acid; ſince, after the ſeparation of this acid, the air ſtill retains its putrid ſmell. 3. That putrid air does not contain ammoniac in a free ſtate, as it does not change the colours of ſtained paper that is placed in it.

" Theſe points being aſcertained, Citizen Guyton ſubjected a certain quantity of putrid air to the teſt of the eudiometer; not ſo much with a view to determine its degree of ſalubrity, as to aſcertain in what proportion oxygen gas was contained in it.

" The reſult of this ſecond ſet of experiments ſoon proved, that the putrid air contained very nearly as much oxygen gas as the ordinary air of the atmoſphere; and that, conſequently, the deleterious effects of the putrid air ought not to be attributed to the deficiency of oxygen gas.

" The nature of the effluvia that rendered the air fetid, ſtill remained to be inveſtigated. In order to obtain a perfect knowledge of their nature, one muſt have been able to analyſe theſe effluvia; but, unfortunately, the chemical means were found inadequate to the purpoſe.

" All that could be preſumed was, that theſe putrid effluvia, being compound ſubſtances, muſt, like all other compound bodies, be ſuſceptible of decompoſition, whenever we preſent to them agents poſſeſſing greater affinity with one or more of their elements than theſe elements have with each other.

" Here alſo experiments were neceſſary, in order to aſcertain in how far this idea might be founded. We ſhall ſoon ſee how uſeful the reſults of thoſe which Citizen Guyton has inſtituted for this purpoſe have been to him, and what advantages he has derived from them, in order to fix once for all the opinions that ought to be adopted, with reſpect to the choice of the means to be employed for diſinfecting air vitiated by putrid miaſmata.

" Convinced that the atmoſpherical air ought to be conſidered as ſerving merely as a vehicle to the putrid effluvia, the author brought fetid air into contact with various odorous vapours, ſuch as are extricated during the combuſtion of benzoin, aromatic plants, &c. He afterwards ſtrongly agitated another quantity of theſe putrid effluvia with the ſolutions of myrrh, benzoin, and balſam of Peru in alcohol. The reſult of all theſe trials was not ſatisfactory, for the putrid ſmell ſtill continued to be perceptible.

" The ſame happened alſo with the pyro-lignous acid. Neither was the reſult more favourable, when he tried the detonation of gunpowder, at ſeveral times, in large veſſels filled with putrid air; he only remarked, in this caſe, that a diſplacement of the maſs of infected air was produced, but its qualities were not corrected.

" The reſult was not the ſame with the *acetic* acid; its action was ſpeedy; for the putrid ſmell very ſoon ceaſed to be perceptible. He alſo tried the *ſulphuric* and ſulphureous acid. The firſt produced no change; the ſecond was obſerved to have diminiſhed the ſmell, but not to have removed it entirely.

" Beſides the experiments which I have quoted, the author has attempted a great many more, which I ſhall paſs over, as they proved altogether abortive; but there are ſome upon which I ſhall dwell, on account of their importance; I mean thoſe that were made with the nitric, the ſimple muriatic, and the oxygenated muriatic acids.

" The greateſt difficulty which Citizen Guyton had at firſt to ſurmount in this new kind of experiments, was to obtain the vapours of nitric acid free from nitrous gas; however, having at length, after a number of trials, obtained them ſuch as he wanted, he immediately brought them into contact with the infected air. Upon afterwards examining this air, it did not appear to retain the ſmalleſt trace of a fetid odour.

" In order to eſtabliſh the inference by a compariſon of the reſults in circumſtances perfectly ſimilar, he afterwards ſubjected the muriatic acid to preciſely the ſame experiments. In this caſe alſo the fetid ſmell was completely deſtroyed.

" Finally, the oxygenated muriatic acid acted in ſo decided a manner upon the putrid air, that from the moment when it was mixed with it, the putrid ſmell ceaſed to be perceptible.

" When we reflect upon the experiments that have been recorded, it is eaſy to ſee, that, if their reſults have not all been equally ſatisfactory, they may at leaſt ſerve to point out the agents in which we may place ſome confidence, and enable us to chooſe thoſe whoſe power of deſtroying putridity appears the moſt decided.

" The only means of determining our choice of ſuch agents would, undoubtedly, be to compare the effects produced by the different agents that were employed in the above-mentioned experiments.

" Thoſe produced by the uſe of perfumes, vinegar, the detonation of gunpowder, the pyro-lignous acid, the ſulphurous and ſulphuric acids, &c. were, as has been ſeen, either none at all, or tardy, or of little efficacy. The acetic and nitric acids have appeared to act in a very decided manner; but the difficulty of obtaining them in that ſtate, in which it is

neceſſary they ſhould be, in order to produce ſuch favourable effects, is a conſiderable objection againſt their uſe.

" The ſame is not the caſe with the ſimple muriatic acid; the facility with which it is reduced into vapour, the great expanſibility of this gas, and above all, the promptitude of its operation upon the putrid miaſmata, ſhew of how great importance it is not to neglect its uſe.

" However, adds the author, I have the ſatisfaction of announcing, that this is not yet the moſt powerful means with which the progreſs of chemiſtry has furniſhed us for reſiſting contagion. The oxygenated muriatic acid is, beyond all contradiction, the moſt certain ſpecific, and the moſt ready preſervative which we can employ againſt it.

" It ſeems that, after having entered into the diſcuſſion of all the ſubjects in queſtion, Citizen Guyton might have preſented the public with the general concluſion of his treatiſe: however, he thought it ſtill incumbent upon him to examine the influence which oxygen might exert of itſelf in the proceſs of diſinfection, and to enquire whether all kinds of contagious miaſmata were equally ſubject to the operation of the ſame agents.

" Since chemiſtry has made us acquainted with the particular nature and properties of oxygen, it was ſoon found that it poſſeſſes a great diſpoſition to combine with various ſubſtances, and particularly animal matter. The conſtant obſervations that have been made upon this ſubject have led to the ſuppoſition, that oxygen might be employed as a medicine.

" In fact, it is certain that medicines act only by inducing changes in the body, that tend to attenuate the morbid matter, and re-eſtabliſh the order and regularity of the animal functions; it muſt alſo be allowed, that oxygen, as it poſſeſſes ſuch properties, muſt be a real medicinal ſubſtance, and that, in order that it may act with efficacy, it is only neceſſary to employ it in a ſtate of appropriation that may enſure its ſucceſs.

" This fact is at preſent ſo well demonſtrated, that ſeveral phyſicians of the higheſt reputation are inclined to admit of only two ſpecies of medicines, namely, the *ſuperoxygenating* and the *diſoxygenating*; the action of which they explain by ſaying, that they *burn* or *unburn* (*brûlent* ou *debrûlent*) the bodies with which they are brought into contact; meaning, that they furniſh them with the oxygen which they want, or deprive them of that which they poſſeſs in too large a proportion.

" The expreſſion of *burning*, employed in order to account for the manner in which medicines operate, as forced as it may appear, will be acknowledged to be ſtrictly juſt, when we conſider that, beſides the combuſtions that take place with rapidity and an extrication of heat, there are alſo others which go on ſlowly, but the effects of which are perfectly ſimilar to thoſe of the former.

" Both in the one and the other, it is always the oxygen which tends to combine itſelf, and which, according to its greater or leſs degree of affinity with the body with which it unites, entirely changes the form of this body, its weight, its taſte, and its colour, and at laſt imparts to it properties which it did not poſſeſs before.

" According to this explanation, it is eaſy to ſee that the alterations which animal ſubſtances inceſſantly undergo are, in fact, the effects of combuſtions, ſlow indeed, but which may, in ſome degree, be accelerated by preſenting theſe ſame ſubſtances with a large quantity of oxygen at once, or placing them in contact with bodies, which, containing a large quantity of this principle, may eaſily yield to them a portion of it.

" It was a ſimilar theory, which led, almoſt naturally, to the medicinal uſe of oxygenated ſats, nitric acid, oxygenated muriatic acid, the ſuper-oxygenated muriate of pot-aſh, and various other oxygenated ſubſtances, the ſure effects of which afford the means of combating a variety of maladies, to the progreſs of which medicine had before no remedy to oppoſe, or could only cure with a great deal of difficulty.

" Since, therefore, it is impoſſible to deny the power which oxygen inceſſantly exerciſes upon animal ſubſtances, it muſt alſo be admitted, that the putrid effluvia that exhale from theſe ſame ſubſtances muſt alſo be ſubject to the action of this agent, and that, by combining with it, they muſt neceſſarily acquire new properties.

" In order to explain more at large his ideas with reſpect to this ſubject, the author has thought proper to treat of the oxygenating ſubſtances, and particularly the oxygenated muriatic acid, conſidered only as preſervatives againſt contagion.

" It is a fact univerſally admitted, that among perſons the moſt expoſed to the influence of contagious maladies, there are ſome upon whom they produce no bad effects. Great pains have been taken, and always in vain, to explain the cauſe of ſo ſingular a circumſtance. But, ſays Citizen Guyton, what need is there to have recourſe to abſtract theories, or even to enquire at all into the cauſes of a change of properties that does not exiſt, when the reſiſtance, which ſome perſons ſhew towards the morbific matter, may be explained in a ſimple and purely chemical manner, from its analogy with one of thoſe general phænomena which are daily exemplified before our eyes in an infinite variety of operations?

" Let us take an example, he adds. We know with what facility the ſulphuric acid attacks aluminous earth. This earth, however, is ſuſceptible of a ſtate of aggregation, in which it reſiſts all combination, without there being the ſmalleſt ground to ſuſpect that it has undergone any alteration in its nature. Might it not alſo be the ſame with the human body? and might we not aſſert that a certain ſtate of health is connected with a ſtate of aggregation, that reſiſts that combination of the contagious miaſmata with the body, which would take place if the force of aggregation were different?

" Moreover, this explanation ſeems to accord with facts, which various obſervations that are conſtantly made have enabled us to collect. It is known that the beſt means of guarding one's ſelf againſt the impreſſion of contagious miaſmata, when we cannot remove ourſelves out of the infectious atmoſphere, is to ſupport, and even augment, the vital powers: now, as the oxygenating ſubſtances poſſeſs this property in the higheſt degree, it is evident what great advantage may reſult from their uſe, and how much thoſe eſpecially deſerve the preference, which, like the oxygenated muriatic acid, may eaſily be reduced into the ſtate of gas.

" Carried thus, by reſpiration, into the naſal and pulmonary cavities, diſſeminated in the ambient atmoſphere, or introduced, by reſpiration, into the ſtomach, acting finally upon the whole ſurface of the body, they operate as a ſtimulant, which augments the activity of the organs, excites their ſenſibility, and ſoon puts a ſtop to the effects of the miaſmata, which, in general, act only by debilitating.

" Under this point of view, Citizen Guyton has conſidered the mode of operation of the oxygenating ſubſtances. This efficacy appeared to him to be ſo well demonſtrated by theory and experience, that he preſumes that thoſe who reflect upon the ſubject will no longer fear the appearance of contagion, as they will be ſure of having the means of guarding themſelves againſt it.

" One grand queſtion, however, ſtill remained to be decided. It was neceſſary to aſcertain, whether the anti-con-

tagious agents that were propoſed as capable of producing ſuch ſalutary effects, were applicable to all the different kinds of contagion.

" The author admits, without heſitation, that it would be contradictory to all evidence to ſuppoſe that all the maladies which a ſick perſon can communicate to a healthy one, have the ſame matter for their cauſe.

" However, admitting the diſtinction that has been juſtly eſtabliſhed between the maladies that proceed from certain effluvia ſuſpended in the atmoſphere, and thoſe which are only contracted from the immediate contact of a matter ſometimes alſo inviſible, but more fixed; it muſt alſo be allowed, upon the authority of unequivocal obſervations, that the firſt are thoſe which prevail the moſt frequently, againſt which it is the moſt difficult to guard one's ſelf, and againſt which, conſequently, the neceſſity of preſervatives and anti-contagious remedies is the moſt urgent. To this claſs belong the fevers of hoſpitals, jails, and ſhips, and that which occurs in the vicinity of marſhes; in a word, all thoſe malignant fevers which owe their origin to putrid exhalations.

" As to the maladies of the ſecond claſs, that can only be contracted by immediate contact; it is alſo admitted that they originate from the preſence of ſome virus, which aſſuredly is not a ſimple ſubſtance, but rather a compound body, which muſt be ſubject to the condition which obtains in all its products, namely, that of undergoing combuſtion, whenever it is brought into contact with oxygen. Hence it appears, that we have already reaſon to preſume that the virus of diſeaſes muſt experience great changes from the action of the oxygenating ſubſtances, and that conſequently their properties muſt neceſſarily be altered.

" To ſubſtantiate this concluſion, the author adduces the following facts. The variolous virus is certainly one of thoſe, the ſpecific contagion of which is the moſt diſtinctly characteriſed; however, it is certain, according to the experiments of Mr. Cruikſhank, that a portion of this virus, mixed with oxygenated muriatic acid, produced no effect, when it was attempted to inoculate with it; whilſt another portion, with which none of the acid had been mixed, communicated the variolous contagion.

" It is alſo known, from practical obſervations, that the ſyphilitic virus is deſtroyed by oxygenated mercurial remedies, and that it produces no infection; whilſt the matter taken from the ſame ulcer, without ſuch admixture, produces a chancre, and other venereal ſymptoms.

" The hydrophobia, which has hitherto been conſidered as incurable when the malady makes a rapid progreſs, may, however, be attacked with ſucceſs, by touching the wound that has been made by the rabid animal, with powerful oxygenating ſubſtances, before the local nervous irritation has produced the rabific fever.

" Finally, the pſoric virus may alſo be deſtroyed by the oxygenating remedies; the effects of which, in theſe caſes, are ſo well known, as to have no manner of doubt reſpecting the ſubject.

" It cannot indeed be denied, that it has not been demonſtrated with the ſame degree of evidence, that the oxygenating remedies are capable of acting with equal efficacy upon the virus of the plague, as experiments have not yet been made upon this ſubject; but, if it be permitted us to draw concluſions from mere probabilities, we may aſſert, that this virus, being undoubtedly a compound ſubſtance, muſt undergo, by the action of oxygen, a combuſtion which, whilſt it changes its nature, muſt alſo change its deleterious properties.

" From what has preceded it will be ſeen, that the author has done all in his power to make known thoſe means of diſinfection which appeared to him capable of producing ſuch important effects; but, in order to enable his readers to judge for themſelves of the utility of thoſe proceſſes, which, before thoſe which he has pointed out, were in ſome degree of reputation, he has compared them together, and aſſigned to each that rank in the ſcale of utility to which it is entitled.

" From this compariſon, which is compriſed in the third part of the work, it appears:

1. " That cold water, lime, reſinous ſubſtances, the kindling of fires, the burning of ſimple and aromatic vinegar by throwing it upon red-hot coals, the detonation of gunpowder, &c. ought not to be conſidered as real preſervatives and anti-contagious remedies, as they do not poſſeſs the power of decompoſing the putrid miaſmata.

2. " That ordinary vinegar poſſeſſes, indeed, the power of decompoſing the miaſmata; but that this power does not exert itſelf in a perceptible manner, unleſs the infected ſubſtances are immerſed in this acid, or are capable of being waſhed with large quantities of it.

3. " That radical vinegar, or acetic acid, produces effects ſufficiently rapid; but that the difficulty of obtaining it in large quantities, at a moderate expence, will frequently be an objection againſt its uſe.

4. " That the ſulphuric acid, on account of its great fixity, is not capable of contributing to the diſinfection of the air.

5. " That the nitric acid is very capable of deſtroying the putrid miaſmata, but that the uſe of this remedy is ſtill attended with ſome inconvenience, owing to the impracticability of entirely depriving it of nitrous gas, the action of which is always prejudicial to the health of thoſe who reſpire it.

6. " That the muriatic acid, on account of the prodigious expanſibility of its vapours, which enables them to reach every part of the ſubſtance upon which we wiſh to operate, affords us very great advantages.

7. " Finally, that the oxygenated muriatic acid juſtly deſerves the preference over all the other remedies, not only on account of the promptitude and facility with which it is everywhere diffuſed, but alſo becauſe its action is always certain, and it immediately deſtroys all the putrid miaſmata, that are either floating in the atmoſphere, or fixed upon bodies.

" I think I have ſaid ſufficient to enable the reader to form an idea of the work which Citizen Guyton has preſented to the public. I ſhall only add, that it would be difficult to treat a ſubject, like that which forms the argument of this work, in a more methodical, perſpicuous, and, above all, in a more intereſting manner.

" All the facts which the author has adduced, are ſubſtantiated by vouchers that cannot leave the ſmalleſt doubt of their authenticity; all the experiments which he has recorded have been performed with care and accuracy; and the inferences which he has drawn from their reſults are juſt, and little ſubject to objection; finally, it appears to me, from all theſe reaſons, that the work of Citizen Guyton ought to be gratefully welcomed by all thoſe who, alarmed at the ravages unfortunately too frequently produced by contagious diſeaſes, have ardently wiſhed that means might be diſcovered for putting an end to the devaſtations occaſioned by theſe ſcourges of the human race.

" What is ſtill to be wiſhed is, that the work of Citizen Guyton may obtain all that publicity which it merits; and that particularly phyſicians, and in general all whoſe profeſſional duty it is to watch over the health of their fellow-citizens, may receive ſuch a conviction of the efficacy of the means here propoſed, as no longer to heſitate in recommending them to be put in practice. The ſucceſs with which

they would be attended would ſoon afford ſufficient motives of encouragement; and, convinced then of the utility of Citizen Guyton's method, they would unite with all the friends to humanity in paying him that tribute of gratitude which his labours have deſerved."

INGELMUNSTER, or ENGELMUNSTER, a village of Flanders, where is a caſtle, which was often made a garriſon in the religious wars of the ſixteenth century. It is ſituate near the river Mandel, five miles N. of Courtray.

INGLING, a town of France, in the department of Moſelle, ſix miles E. of Thionville. Long. 6. 22. E. Lat. 46. 22. N.

INGRANDE, a town of France, in the department of Mayne and Loire, ſituate on the Loire, 15 miles W.S.W. of Angers. Long. 0. 25. W. Lat. 47. 23. N.

INK *(Encycl.)*. M. Ribaucourt, in the "*Annales de Chimie*," directs eight ounces of Aleppo galls, and four ounces of logwood, to be boiled in twelve pounds of water, till the quantity is reduced to one half; when the liquor ſhould be ſtrained through a linen or hair ſieve into a proper veſſel. Four ounces of ſulphate of iron (green vitriol), three ounces of gum-arabic, one ounce of ſulphate of copper (blue vitriol), and a ſimilar quantity of ſugar-candy, are now to be added: the liquid ſhould be frequently ſhaken, to facilitate the ſolution of the ſalts. As ſoon as theſe ingredients are perfectly diſſolved, the compoſition is ſuffered to ſubſide for twenty-four hours; when the ink may be decanted from the groſs ſediment, and preſerved for uſe in glaſs or ſtone bottles, well ſtopped.

This ink exhibits a purpliſh-black colour in the bottles; but the writing performed with it, is ſaid to be of a beautiful black caſt, which it retains, unaltered, for a conſiderable length of time. Each quart of the preparation contains:

	oz.	*drs.*	*grs.*
Of Galls	2	5	20
Green vitriol	1	2	40
Logwood	1	2	40
Gum	1	0	0
Blue vitriol	0	2	40
Sugar-candy	0	2	40

M. Ribaucourt is of opinion, that ink thus prepared, may be preſerved ſeveral years in a ſtate of perfection, without depoſiting either galls or iron.

INOCULATION (*Encycl.*). See COW-POX, *Supp.*

INNICHEN, a town of Germany, in the Tyrol, ſituate on the Drave, 29 miles E. of Brixen. Long. 12. 17. E. Lat. 46. 48. N.

INSECTS (*Encycl.*). Dr. Darwin is of opinion, that the moſt ingenious, as well as the moſt effectual, method of preventing the depredations of inſects, conſiſts in artificially propagating the larvæ of the aphidivorous fly, of which we have given a repreſentation in pl. 33, and which has been obſerved by naturaliſts to depoſit its eggs where the aphis abounds.

As ſoon as the larvæ are produced, they devour the aphides around them, ſeizing the latter in their mouth, as delineated in the plate, and extracting their juices. We have not been able to aſcertain their exact duration in a caterpillar ſtate, but believe that in about a fortnight they contract, and attach themſelves to ſome ſolid matter, by means of a little gluten which is diſcharged from their mouth; and are thus converted into *chryſales* or *nymphæ*, as above repreſented. In this ſtate, the inſect continues 10 or 11 days, when it burſts its cell, and emerges a perfect fly, of which likewiſe a delineation is given at *a*.

If theſe inſects could be collected, carefully preſerved during the winter ſeaſon, and properly diſpoſed on nectarine and peach-trees, early in the ſpring, Dr. Darwin thinks it is probable that the depredations of the blite might be counteracted, "by the natural means of devouring one inſect by another; as the ſerpent of Moſes devoured thoſe of the magicians."

A kind of bellows has been invented by Mr. Green, of her majeſty's flower-garden, Kew, for the purpoſe of deſtroying the red ſpider, and other noxious inſects in hot-houſes and pineries, with the fumes of burning tobacco. The ſame noxious vermin may likewiſe be exterminated by burning (when the hot-houſe is ſhut) matches moiſtened with a ſpiritnous tincture of aſa-fœtida, and rolled in a powder conſiſting of equal parts of ſulphur and Scotch ſnuff. It will alſo be of ſervice to waſh the frames of hot-houſes, &c. with four ounces of ſublimate, diſſolved in two gallons of water; but this operation ſhould be performed with the utmoſt caution, on account of the corroſive properties of the mercury.

In the *Annales de Chimie*, M. Tatin gives an account of a compound which he has ſucceſsfully uſed for exterminating inſects. He directs $1\frac{3}{4}$ of a lb. of the beſt black ſoap, a ſimilar quantity of flowers of ſulphur, 2 lbs. of any kind of muſhrooms, and 15 gallons of rain or river water, to be employed. The fluid is to be divided into two equal parts, one of which is put into a barrel, together with the ſoap and muſhrooms, after the latter have been ſomewhat bruiſed. The other half is to be boiled in a kettle with the ſulphur incloſed in a bag, and fixed to the bottom of the veſſel, by means of a ſtone or other weight.

Theſe ingredients are to be boiled 20 minutes, during which the ſulphur ſhould be well agitated with a ſtick, that the water may be the better impregnated. When the liquid is taken from the fire, it is to be poured into the barrel, and ſtirred daily, till the mixture become in a high degree fetid: for, the older and ſtronger the compoſition is, the more ſpeedy and powerful will be its effects. The liquor is to be ſprinkled on the plants infeſted with inſects; great numbers of which it deſtroys on the firſt application: it will, however, be neceſſary to repeat the aſperſion, in order to exterminate ants, or other vermin that breed beneath the ſoil; and, for this purpoſe, from two to eight pints are required, according to the depth and extent of their neſts.

Although inſects are very injurious to vegetation, yet Dr. Darwin is of opinion that they may be rendered extenſively uſeful as a *manure*. Hence, in the ſummer months, he recommends heaps of dung to be ſupplied with water, for promoting the propagation and nouriſhment of myriads of vermin; which, when ſuffered to decay on the ſoil, would greatly contribute to its fertility.

In a recent publication, entitled, "*Illuſtratio Iconographica Inſectorum*," &c. Mr. Fabricius has deſcribed ſeveral new inſects, which he ſaw in the different collections at Paris. His deſcriptions, however, being not always ſufficient for determining the ſpecies he had in view, the great difficulties hence ariſing can only be removed by good figures of the originals, ſigned by his hand; by which means theſe objects will, as it were, be multiplied and perpetuated, and which, if once deſtroyed, may perhaps not be found again. It is therefore incumbent upon us to do proper juſtice to the zeal and merit of Cit. Coquebert, author of the work we are here announcing, which conſiſts in repreſenting by figures, coloured after his own drawings, the inſects obſerved in the Paris cabinets, and deſcribed by Mr. Fabricius; in adding the deſcription and ſynonimous terms of that naturaliſt; and in publiſhing other new ſpecies, or thoſe that are leſs known. The celebrated artiſts, Cit. Maleuvre for engraving, and Didot the elder for the typographical part, have aſſiſted in this intereſting work, and ſeconded the pencil of a man, who knows how neceſſary it is to obſerve and ſtudy nature, before he at-

tempts to copy her. The 10 firſt plates contain about 120 figures, a great number of which preſent the inſects in detail. He begins with thoſe that are particularly ſubject to be deſtroyed, belonging at the ſame time to leſs numerous claſſes than others, viz. the *Symitotes, Peezotes,* and *Ryngotes* of Fabricius. North America, Cayenne, the Barbary ſtates, and the ſouth of France, are the principal countries from which the ſpecies he has figured are brought. The new genera of Delphax, Oryſſus, and Pſocus, are there figured, with an accurate repreſentation of their organs of manducation, in which he has been much aſſiſted by Cit. Latraille, to whom the plate is entirely owing of the little known genus Pſocus, which on account of their minuteneſs and fugacity, had hitherto eſcaped the obſervation of naturaliſts. Some anatomical obſervations, new ſynonimous terms, and other remarks, give an additional value to this work; and we are convinced that it will meet with the moſt favourable reception by every naturaliſt and amateur.

INSTERBURG, a town of Pruſſian Lithuania, containing about 3000 inhabitants. Corn and beer are the principal articles of trade. It is 44 miles E. of Konigſburg. Long. 21. 40. E. Lat. 54. 40. N.

INSTITUTE, the French name for a national *ſchool* or *academy* in Paris, having, if we may credit its own reports, and thoſe of its founders, high claims to ſuperiority and diſtinction. When royalty was aboliſhed in France, it would have been inconſiſtent to continue the titles *Royal* Academy of Sciences, *Royal* Academy of Inſcriptions, &c.; but inſtead of merely aboliſhing the word *royal*, and ſubſtituting *national* in its ſtead, it was thought a prudent meaſure to aboliſh the ſeven academies themſelves, or rather to melt them all down into one great academy; to which was given the appellation of the *National Inſtitute*. This academy, founded on a decree of the new conſtitution, was opened on the 7th of December, 1795, when Benezech, the then miniſter for the home department, attended, and the following decree of foundation was read:

"The Academy of Arts and Sciences belongs to the whole republic, and Paris is its place of reſidence. Its employment is to aim at bringing all arts and ſciences to the utmoſt perfection of which they are capable. It is to notice every new attempt, and all new diſcoveries, and to keep up a correſpondence with all foreign literary ſocieties. And by the particular orders of the Executive Directory, its firſt ſtudies are to be directed to thoſe ſubjects which more immediately tend to the reputation and advantage of the French republic."

The academy, which is not yet completely formed, is to conſiſt of 288 members, half of whom are to reſide in Paris, the other half in the departments; and to them is to be added a certain number of foreigners, as honorary members, confined at preſent to twenty-four.

The academy is divided into three claſſes, each claſs into ſections, each ſection to contain twelve members; viz. *1ſt claſs.* Mathematics and natural philoſophy. This claſs is divided into ten ſections. 1. Mathematics. 2. Mechanical arts. 3. Aſtronomy. 4. Experimental philoſophy. 5. Chemiſtry. 6. Natural hiſtory. 7. Botany. 8. Anatomy and animal hiſtory. 9. Medicine and ſurgery. 10. Animal economy, and the veterinary ſcience. *2d claſs.* Morality and politics. This claſs conſiſts of ſix ſections. 1. Analyſis of ſenſations and ideas. 2. Morals. 3. Legiſlature. 4. Political economy. 5. Hiſtory. 6. Geography. *3d claſs.* Literature and the fine arts. This claſs conſiſts of eight ſections. 1. Univerſal grammar. 2. Ancient languages. 3. Poetry. 4. Antiquities. 5. Painting. 6. Sculpture. 7. Architecture. 8. Muſic.

For each claſs a particular room in the Louvre is appropriated. No one can be a member of two claſſes at the ſame time, but a member of one claſs may be preſent at the meetings of any other. Each claſs is to give to the public, yearly, an account of its tranſactions.

Four times a-year there are public meetings. On theſe occaſions, the three claſſes meet together. At the end of each year, they give a circumſtantial account to the legiſlative body of the progreſs made in that year in the arts and ſciences. The prizes given yearly by each claſs are publicly notified at certain times. The ſums requiſite for the ſupport of the inſtitution are decreed yearly by the legiſlative body, upon a requiſition made by the government.

The firſt forty-eight members were choſen by the Executive Directory, to whom the choice of the remaining members was confined. To the members, reſident in Paris, is reſerved the choice both of the department and foreign members. On a vacancy in any claſs, three candidates are named by the claſs for the choice of the body at large.

Each claſs is to have, at its place of meeting, a collection of the products, both of nature and art, and a library, according to its particular wants. The regulations of the inſtitution, with reſpect to the times of meeting, and its employments, are to be drawn up by the body at large, and laid before the legiſlative aſſembly. The hall in which the body at large holds its meeting, forms part of the weſt wing of the Old Louvre, at preſent called the Muſeum. It formerly went by the appellation of the Hall of Antiques (*Salle des Antiques*); and as long as the kings of France inhabited this part of the palace, was occupied by their guards, from which circumſtance it obtained the name of the Hall *des Cent Suiſſes*. It was likewiſe appropriated to banquets and entertainments, given by the court on gala days; and it was to this place that Henry IV. was conveyed, on his aſſaſſination by Ravaillac. It was built at the ſame time with the reſt of this part of the Louvre, about the year 1528, after the deſigns of Pierre Leſcot, abbot of Clagny. It is 144 feet in length, and 40 in breadth, and holds from 1000 to 1200 perſons. In order to adapt it to its new deſtination, the floor has been ſunk, which gives a greater air of lightneſs to the roof. In the centre ſtands a double table, in the form of a horſe-ſhoe, ſupported by ſphinxes, at which the members of the Inſtitute take their ſeats. This table is ſurrounded by two tiers of benches, which are raiſed for the accommodation of ſpectators, who have likewiſe ſeats provided for them in the vaſt embraſures of the windows, and at each extremity of the hall.

Whether ſcience will be eſſentially advanced by this innovation, time muſt determine; but candour compels us to acknowledge, that thus far the proceedings of the National Inſtitute have been abundantly intereſting.

INSTRUCTION, National, a novel eſtabliſhment of the French republicans, propoſed with a view of making the riſing generation in France *all* that its founders *can wiſh*, in politics, in morals, and with regard to religion; and thus give permanency to the new order of things. When Chriſtianity was aboliſhed in France, it was impoſſible to continue the univerſities and other ſeminaries which were founded by Chriſtians, and obliged by their conſtitution to teach, whether pure or not, the doctrines of Chriſtianity. They were accordingly all ſwept away, and a new ſyſtem of education planned, which was to be carried on in what they call

The Primary Schools.
The Central Schools.
The School of Health.
The School of Oriental Languages.
The Polytechnic School.
The National Inſtitute.
The Jury of Public Inſtruction.
The Commiſſion of Public Inſtruction.
The Legiſlative Committee of Inſtruction. And various

other national eſtabliſhments for the improvement of particular ſciences.

The firſt degree of public inſtruction is to be met with in the *Ecoles Primarées*, eſtabliſhed by a decree of the convention of the ſecond *Pluvioſe*, in the ſecond year of the republic. Every diſtrict is furniſhed with one of theſe ſchools; the profeſſors or maſters in which are paid from the national treaſury; and to which every head of a family, without exception, is compelled by law to ſend its children for inſtruction. The ſubjects taught in theſe primary or elementary ſchools are divided into nine claſſes:

1ſt, Inſtructions connected with the phyſical and moral ſituation of children, prior to their entering into theſe ſchools. *2d*, Similar inſtructions as a guide to teachers in the national ſchools. *3d*, The arts of reading and writing. *4th*, The elements of French grammar. *5th*, Elements of arithmetic and geometry, with the theory of the new menſuration. *6th*, The elements of geography. *7th*, Explanations of the principal phenomena and productions of nature. *8th*, Elements of agriculture. *9th*, Elements of republican morals.

Next to the primary ſchools in rank and conſequence are the *Ecoles Centrales*, which were eſtabliſhed by a decree of the Convention of the ſeventh *Ventoſe* in the third year. They are ſituated in the capital of every department, bearing the proportion of one central ſchool to 300,000 inhabitants. In theſe ſchools the republican youths are taught the ſciences, and their application in real life. In each of them are profeſſors for the following branches: 1. For mathematics. 2. Experimental philoſophy and chemiſtry. 3. Natural hiſtory. 4. Agriculture and commerce. 5. Logic and metaphyſics. 6. Political economy and legiſlation. 7. The philoſophical hiſtory of nations. 8. The art of healing. 9. Arts and manufactures. 10. Univerſal grammar. 11. The belles lettres. 12. The ancient languages. 13. The modern languages. 14. The fine arts.

Each central ſchool is furniſhed with an extenſive public library—a botanic garden—a cabinet of natural hiſtory—an apparatus for experimental philoſophy—and a collection of machines and models connected with the arts and manufactures.

The profeſſors of each ſchool hold, every month, a public ſitting, in which conferences are held relative to ſubjects connected with the improvement of letters, the ſciences, and the arts, which are the moſt beneficial to ſociety.

The object in the eſtabliſhment of the primary and central ſchools was, the general inſtruction of all claſſes of the citizens; and it being incompatible with the perfect completion of that important purpoſe, to expect from them the propagation of particular branches of ſcience, it became neceſſary to eſtabliſh other literary and ſcientific academies. Accordingly, the French government have founded,

1ſt, Schools of health (*les ecoles de ſante*), in Paris, Straſburgh, and Montpellier, where medicine and ſurgery are ſtudied; which ſchools are affirmed, by thoſe who find nothing wrong in France, to be the moſt perfect of their kind, as well as new and unparalleled models for ſuch inſtitutions.

2d, Two ſchools for *Oriental languages*, in the national library, and in the college of France.

3d, The *Polytechnic* ſchool in Paris, or central ſchool for the direction of public works. This eſtabliſhment is very generally admired, and conſidered as a model for imitation. It contains more than 400 young perſons, previouſly educated in the mathematics, and the majority of them intended for engineers in various lines; and they labour under the immediate direction of their tutors nine hours every day. It occupies the principal part of the *Palais de Bourbon* in Paris, and is furniſhed with a large collection of inſtruments and models. The journal of the Polytechnic ſchool, which is publiſhed by the bookſellers Regent and Bertrand at Paris, is a perfectly original work, and admirably calculated to convey uſeful information.

Of the National Inſtitute a ſufficient account has been given in the preceding article. We proceed therefore to the jury of public inſtruction (*Le Jury Central d'Inſtruction*), of which the principal buſineſs is to ſuperintend the primary and central ſchools. It appoints the profeſſors in the ſchools, and examines into their conduct. Like the legiſlative body, it is renewed by at hird every half-year. When they have choſen a profeſſor for a central ſchool, they ſubmit their choice to the department; and, in caſe of diſapprobation, they make another appointment. To this jury of public inſtruction the profeſſors in the central ſchools are amenable for all miſconduct connected with their offices; it may expel them, but all its deciſions muſt be ſubmitted for confirmation to the tribunal of the department.

There is alſo eſtabliſhed at Paris a ſupreme council, called *The Commiſſion of Public Inſtruction*, to which is entruſted the whole executive department. The preſervation of the national monuments, of public libraries, muſeums, cabinets, and valuable collections; the ſuperintendance of all the ſchools and the modes of inſtruction; all new inventions and ſcientific diſcoveries; the regulation of weights and meaſures, national ſtatiſtics, and political economy; are all placed under the authority of this ſupreme commiſſion. For the commodious and regular execution of ſo many complicated branches of buſineſs, there is a large office, called *Le Secretariat*, which is divided into three departments. 1. For the regulation of the different kinds of inſtruction; of the modes of education in the ſchools; and for the choice of elementary books. 2. For weights and meaſures; inventions and diſcoveries; libraries and bibliography; muſeums, works of art, and literary rewards and encouragements. 3. For theatres, national feaſts, republican inſtitutions, and the erection of monuments.

As all public eſtabliſhments require the ſuperintendance and occaſional correction of the legiſlature, in addition to that of their own immediate executive authority, it has been deemed neceſſary to appoint a permanent committee of inſtruction in the legiſlative body, to provide ſuch ſums as may be neceſſary for the preſervation and improvement of this ſyſtem of inſtruction. This legiſlative committee are inveſted with due authority for theſe purpoſes. Their objects are preciſely the ſame as thoſe of the commiſſion of public inſtruction above deſcribed, only with this difference, that the latter ſuperintends the execution of exiſting laws, whilſt the former receives and improves them, or propoſes new ones. This committee is divided into three departments, as is the commiſſion, with exactly the ſame arrangement of their reſpective labours. The committee being charged with the enaction of all new laws, its members, with a view to obtain accurately all the requiſite information relative to the numerous branches of the arts, have procured from the legiſlative body the appointment of a *commiſſion temporaire des arts* to be annexed to them, and to meet in the ſame houſe with them; which temporary commiſſion is divided into ſixteen claſſes: viz. 1. For Zoology; 2. Botany; 3. Mineralogy; 4. Phyſics; 5. Chemiſtry, 6. Anatomy; 7. Machinery; 8. Geography; 9. Artillery and Fortification; 10. Medals and antiquities; 11. Bibliography; 12. Painting; 13. Architecture; 14. Sculpture; 15. Bridges and cauſeways; and, 16. Muſical Inſtruments.

The improvements of the national literary and ſcientific eſtabliſhments are numerous and important.

1ſt, By a decree of the convention of the 11th *Prairial*, in

the ſecond year, it was enacted, that means ſhould be adopted by which every poſſible advantage might be derived from the botanic gardens of the republic, in Turkey and other foreign countries. This politic decree clearly tended to render France, in the language of the reporter, *L'abregé de tous les climats, et l'entrepot de l'Europe*—"The epitome of every climate, and the magazine of Europe." Thoſe plants which thrive between the tropics may be cultivated in the ſouth of France; and thoſe which are the produce of northern climates, may be cultivated in the northern departments; by which means, France will be in poſſeſſion of all foreign plants and drugs, without the exportation of ſpecie.

2*d*, The National Bibliography was decreed in the ſitting of 22d *Germinal*, in the ſecond year. It conſiſts of a complete catalogue of books of all deſcriptions, the property of the nation; it was then aſcertained, that the republic poſſeſſed more than ten millions of books. The titles of them were to be adjuſted by actual compariſons; the manuſcripts to be regiſtered ſeparately; anonymous productions were to be arranged according to their ſubjects; and thoſe of known authors in the alphabetical order of the names. The ſeveral editions to be claſſed according to their dates: and what may be deemed more important, this French National Bibliography will contain a dictionary of anonymous books, as well as thoſe publiſhed under fictitious names, a deſideratum in the republic of letters.

3*d*, The annihilation of all *patois*, or dialects, decreed in the 16th *Prairial*, in the ſecond year. Notwithſtanding the univerſality of the French language, and that it was excluſively ſpoken in the majority of the inland departments, yet there exiſted thirty various dialects in France. It is more aſtoniſhing that Rozier had remarked, that between one neighbouring village and another, there was ſo conſiderable a difference in the dialect, that the inhabitants could not underſtand each other; and the vineſtock had thirty different names. The naturaliſt, Villars, has ſtated, that in the nomenclature of vegetables, in the departments, he had only met with an hundred which had a common appellation.

4*th*, The eſtabliſhment of the *Conſervatoire des Arts et Métiers*, was decreed in the ſitting of the 8th of *Vendemiaire*, in the third year. This conſiſts of a ſpacious hall, in the form of an amphitheatre, and contains the inſtruments and the models of machinery connected with the arts, and a deſcription of their uſes, with every book relating to them. Annexed to this eſtabliſhment are three expoſitors and a draughtſman, who explain to the ſtudents the uſe of each inſtrument, and who regiſter every new diſcovery, which is preſented to the *Bureau de Conſultation*, to the Lyceum of Arts, the *ci-devant* Academy of Sciences, or to the Board of Commerce.

5*th*, The eſtabliſhment of the Board of Longitude was decreed in the ſitting of the 7th of *Meſſidor*, third year. It was certainly a diſgrace under the monarchy, that an aſtronomical and nautical eſtabliſhment, which had already proved ſo beneficial to Great Britain, ſhould not have been adopted in France. In conſequence of this decree, the French board is now as complete as the Engliſh. It conſiſts of ten members, and has under its juriſdiction the national obſervatory at Paris, and all the aſtronomical inſtruments belonging to the republic. It correſponds with foreign aſtronomers, delivers public lectures on aſtronomy and navigation; and its proceedings are annually recited in a public ſitting.

6*th*, The general ſchool of the Oriental languages was eſtabliſhed by a decree of the 10th of *Germinal*, in the fourth year. This ſchool adjoins to the national library, and all the books and manuſcripts relative to Oriental literature are depoſited in it.

7*th*, The National Muſeum of Antiquities was decreed in the ſitting of 20th of *Prairial*, fourth year. A ſchool of this deſcription was ſucceſsfully eſtabliſhed at Vienna, by Eckel; at Gottingen, by Heyne; at Leipſick, by Erneſt; and even at Straſburgh, by the celebrated Obelin: Paris was, however, without one. This national archeology, or ſcience of antiquity, is divided into nine different claſſes: inſcriptions, characters, ſtatues, *bas-reliefs*, ſculptures, paintings, moſaics, medals, civil, religious, and military inſtruments. This extenſive eſtabliſhment is under the direction of two principal profeſſors; *le Conſervateur Profeſſeur*, and *le Conſervateur Bibliothecaire*. The province of the former is to deliver public lectures on the ſeveral branches of antiquities, to teach the theory of medals and engravings, the hiſtory of the arts among the ancients, &c. The duties of the latter are merely of a bibliographical nature.

8*th*, The new modelling of the Grand National Library, was decreed in the ſitting of the 25th *Vendemiaire*, in the fourth year. By virtue of this decree, the place of librarian in chief was ſuppreſſed, and the whole eſtabliſhment placed under a *conſervatoire* of eight members; of whom two were appointed for the ſuperintendance of printed books; two for manuſcripts; two for antiquities; and two for engravings. From theſe a temporary director is annually choſen, who ſuperintends the whole, acts occaſionally as preſident of this aſſembly, and maintains a regular correſpondence with the conſtituted authorities relative to the concerns of the library.

9*th*, The augmentation of the Muſeum of Natural Hiſtory, formerly called *Le Jardin Royal des Plantes*. This eſtabliſhment was decreed the 15th *Brumaire*, third year, upon a report of Thibadeau, in the name of the committee of Public Inſtruction. Beſides the addition of large rooms, and various other buildings, there are new collections of natural curioſities and productions; and the library is much increaſed. It is open to the public three times a-week. At ſtated periods all the naturaliſts in Paris deliver courſes of lectures in the various branches of natural hiſtory. The muſeum is ſaid to have received greater improvements from this augmentation than from all the labours of Buffon, or from its foundation, ſince the time of Tournefort.

10*th*, The *Ecole des Mines*, was eſtabliſhed in the *Hotel des Monnaies*, and has for its direction the naturaliſt Le Sage. This inſtitution is unrivalled in Europe; and the collection of mineralogical curioſities ſurpaſſes whatever can be conceived.

11*th*, The Society of Natural Hiſtory in Paris, deſervedly claſſes among thoſe which have rendered the greateſt ſervices to the cauſe of ſcience ſince the revolution. A lecture of public inſtruction is held every ten days, which is generally given by one of the members, and which is open to all the lovers of natural hiſtory. Premiums are propoſed for diſſertations; one of which, by the late C. Herman, jun. (whoſe early deceaſe was a great loſs to the republic of letters), on the *apterous* claſs of inſects, may be ſaid to conſtitute an epocha in the annals of natural hiſtory. The ſociety has publiſhed a volume of memoirs, in folio, entitled, "*Tranſactions of the Society of Natural Hiſtory.*" It has likewiſe erected a ſtatue to the great Linnæus, in the national garden of plants; and, at the period when every public inſtruction was ſuſpended, gave lectures on the different branches of ſcience belonging to its department. Several intelligent and ſkilful navigators, among others thoſe ſent in ſearch of the unfortunate La Pérouſe, as well as thoſe which accompanied Buonaparte on his expedition to Egypt, were members of this ſociety.

This account of the preſent ſtate of public inſtruction, the ſciences, the arts, and the progreſs of national literature, in

France, has been taken from a miſcellany, the principal writers of which call it a *ſublime* ſyſtem; and ſeem to conſider the increaſe of the national library, the improvement of the botanic gardens, and the diſcoveries that have been made by the different ſchools or inſtitutes, as furniſhing a demonſtration that the republican government is more favourable to the advancement of ſcience, than the monarchical, whether abſolute or limited. But it ſhould not be forgotten, that this ſyſtem is yet in its infancy; and that in proſecuting new ſchemes, all men, and more eſpecially Frenchmen, are actuated by an enthuſiaſm which gradually cools as their purſuits become familiar. We therefore rather wiſh than expect that the progreſs of ſcience in that country will be more rapid than it was under the monarchy.

That ſomething may be learned from this ſyſtem to improve the modes of education in other countries it would be illiberal and uncandid to doubt; but its almoſt total neglect of what is moſt valuable in education, *the culture of the heart*, and, above all, the ſilence obſerved with regard to RELIGION, which is the only BASIS of *private happineſs* and *public welfare*, are defects too glaring to paſs unobſerved by the moſt inconſiderate reader.

INSTITUTION, ROYAL, a new eſtabliſhment in London, ſet on foot for the diſtinct purpoſe of applying ſcience to the common purpoſes of life.

In January, 1799, a committee was appointed by the Society for bettering the Condition of the Poor, &c. to confer with Count Rumford on the formation of an inſtitution; which, beſides having a general view to the benefit of arts and manufactures, and to the advancement of taſte and ſcience, in this country, ſhould ſpecifically direct itſelf to the improvement of the *means of induſtry and of domeſtic comfort among the poor*. Though the ſociety has had reaſon to flatter itſelf that conſiderable benefit had been diffuſed among the general maſs of the people by its labours, yet difficulties have impeded the progreſs of any conſiderable melioration in the *diet* and *domeſtic habits* of the poor; and there appeared very little proſpect of thoſe difficulties being removed, until *a centre of action* could be fixed, to which perſons might apply for examples,—for models,—and for engravings, accompanied by printed inſtructions; without being any longer compelled implicitly to rely on the talents, the docility, and the conſcientious moderation, of the different tradeſmen, who might be employed to make and ſell them.

It appeared very evident that an eſtabliſhment of this nature, if on a ſcale calculated to be extenſively uſeful, muſt embrace too great a variety of objects, and be far too intereſting and too important, to be annexed to the ſociety for the poor, or to any other exiſting ſociety. The committee therefore was of opinion that, after they obtained from Count Rumford the original ſketch or outline of the plan, and had engaged him to take an active and leading part in the conduct and execution of it (their own members giving their individual ſupport to the meaſure), nothing further remained to be done on the part of the ſociety.

The models and inventions, in which the poor are moſt immediately concerned, will be thoſe which may promote economy in food and fuel, and tend to correct and purify the air in cottages, and alſo in workhouſes, hoſpitals, manufactories, and in all public buildings; and which may furniſh means and inſtruments of induſtry, on a cheap and ſimple conſtruction; ſo as to afford the cottager and his family thriving and healthful occupation at home during bad weather, or at times when proper employment is not to be obtained abroad. The ſupply of ſuch means and inſtruments of induſtry has been long, and anxiouſly, deſired by the friends of the poor. Many heavy and ſolitary hours might then be occupied with pleaſing employment; and the cottager would thereby be enabled to educate his children in thoſe *regular and even habits of induſtry and attention*, which, when ſecurely and permanently acquired, will afford them ſupport and ſatisfaction through life.

The diſſemination of theſe improvements and inventions is extremely wanted by the poor. Nothing can be more comfortleſs than their preſent ſyſtem of diet in many parts of England: nothing more waſteful than their application of fuel for warming and tempering the air in their cottages; that being an article, the too general want of which is the ſource of thoſe petty pilfering habits among the poor, which often lead to atrocious crimes. The aſſiſting and encouraging the domeſtic economy and management of the cottager, and the promotion of his comfort ſo as to give him more benefit and enjoyment from the means of life which his ſituation in ſociety affords him, and the improvement of the general ſyſtem of thoſe public buildings with which the poor are concerned, will be among the moſt uſeful and important objects of the models to be exhibited at the inſtitution. Theſe will conſiſt of improved fire-places and kitchens, and of flues and *louvres* for ſupplying rooms either with tepid or freſh air; ſo as to produce a conſiderable ſaving in the quantity of food and fuel conſumed, either in cottages, or in public eſtabliſhments; and materially to increaſe the health and well-being of thoſe of our fellow-ſubjects, whoſe employment or ſituation obliges or induces them to continue the greater part of their time in cloſe and crowded rooms.

But we ſhall better ſucceed in conveying an adequate idea of the plan of this admirable undertaking, by the following extracts from the *Proſpectus*, and from a ſubſequent *Report* of its progreſs, publiſhed by order of the managers, dated May 25, 1801. The former of theſe will ſhew its beginning, the latter its progreſs, and the eagerneſs of the public to embrace a propoſal ſo manifeſtly calculated for the benefit and the proſperity of the country at large.

"The pre-eminence of any people in civilization ought ever to be eſtimated by the ſtate of induſtry and mechanical improvement among them. This is proved by an immediate reference to the experience of all ages and countries, where ſucceſsful exertions having given courage to the ſpirit of invention, the ſciences have flouriſhed; and, according to the increaſe of the moral and phyſical powers of man, improvements have been made, which, in an earlier ſtate of ſociety, would have been deemed altogether viſionary. Printing, navigation, and the uſeful and extended powers of the ſteam-engine—inventions, the practical excellence of which we all know and acknowledge, and the future effects of which can ſcarcely yet be conjectured—offer irreſiſtible proofs of this; and it is to remove thoſe cauſes which yet impede the progreſs towards perfection of thoſe and other arts material to the accommodation of man, that the Royal Inſtitution is ſet on foot.

"The ſlowneſs with which improvements of every kind are adopted, eſpecially ſuch as are calculated to be of general utility, is very remarkable. Beſides the prejudices of individuals, and the power of habit, which attaches them to what has the ſanction of univerſal practice, the ſupporters of this undertaking have to contend with many other circumſtances equally unfavourable to the introduction of improvements. Some perſons overlook them through mere indolence; ſome are diſguſted with the very propoſal of any thing new, and are aſhamed and mortified that they ſhould be deemed ignorant of what they long had ſuppoſed themſelves perfect maſters; ſome, who even ſubmit to be inſtructed, work too awkwardly with tools to which they have been unaccuſtomed, not to tire of their buſineſs, their teacher, and his doctrines,

before they arrive at the object of their purſuit. But another cauſe, which occaſions little attention to be paid to thoſe who propoſe improvements, is a ſuſpicion of intereſted motives, which, indeed, is often but too well founded. Thus the moſt meritorious exertions to promote the public proſperity are either received with indifference, or viewed with ſuſpicion: and many, even of thoſe who are convinced of the excellence of what is propoſed, are deterred by motives of jealouſy, or envy, from promoting its ſucceſs.

"Theſe are the chief cauſes which prevent the reception of valuable inventions already known, and of ſuch as the ingenious might otherwiſe bring forward to public notice. But another ſerious obſtacle ariſes from that ſub-diviſion of labour which naturally takes place where active induſtry and the ſecurity of property are eſtabliſhed; and from which it happens, that almoſt every man becomes confined to ſome appropriate occupation, ſeldom knowing, or caring, what may be the proceſſes to which the material of his trade may be ſubjected, before or after his art has been exerciſed on it; and ſtill leſs aware of what is done in other trades or manufactures. The attention of theſe individuals is wholly engaged in the acquiſition of wealth; and hence it is, and from a natural fear of pecuniary riſk, that the generality of manufacturers poſſeſs neither the knowledge, the inclination, nor the ſpirit, to make improvements.

"Among the various claſſes of civil ſociety, one which performs a great and very eſſential part of the general work is the claſs of philoſophers, who have devoted themſelves to the labour of obſerving, comparing, and inventing, and who engage in the developement of truth by thoſe remote analogies which eſcape the vulgar mind. But though invention and diſcovery are peculiarly their province, it may juſtly be doubted whether their moral and intellectual habits are calculated to produce uſeful practicable improvements. This kind of knowledge, indeed, no leſs than the ſtimulus of intereſt, and the capital of the manufacturer, are with them altogether wanting; while the latter, on his part, ſtands no leſs in need of the general information and accurate reaſoning of the man of ſcience. The great object, therefore, is to benefit the community by bringing to a ſalutary point of union the talents and means of both theſe deſcriptions of men.

"Three direct methods ſuggeſt themſelves for the removal, or diminution, of the difficulties ſtated above: 1ſt, To give premiums to inventors, which is already done by the ſociety for the encouragement of arts, &c. 2dly, To grant temporary monopolies, which is done by the grant of patents. 3dly, To diffuſe the knowledge, and facilitate the introduction of uſeful mechanical inventions and improvements, which is propoſed to be done by the Royal Inſtitution.

"In the houſe [purchaſed in 1799, in Albemarle-ſtreet, London, by the managers] it is intended to exhibit to the public the completeſt working models, or conſtructions of the full ſize, of all ſuch new and valuable inventions as are capable of being applied to the common purpoſes of life. By this arrangement, thoſe who adopt them may readily determine, if any failure happen in their experiments, whether the miſtakes of workmen, the management of ſervants, or the principle of the invention, have been the cauſe. Such a repoſitory muſt alſo be of infinite uſe to artificers in furniſhing models, and muſt enable every enquirer to obtain a thorough acquaintance with the nature and principles of what he wiſhes to imitate. Whatever is viſible and tangible addreſſes itſelf more forcibly to the underſtanding than can be conveyed by any graphic or written deſcription: it is not, however, intended to neglect the aid of the latter; and, accordingly, detailed accounts or deſcriptions, accompanied with ſuitable drawings, will alſo be exhibited by way of illuſtration.

"Arrangements will alſo be made, and correſpondences eſtabliſhed, for obtaining a knowledge of new inventions, both at home and abroad. Viſitations of manufactories, and examinations of various proceſſes in the arts, are likewiſe intended; and to the growing maſs of inſtruction, which may ariſe from theſe ſources, the managers will add a library of all the beſt publications on the ſubjects for which this inſtitution is eſtabliſhed.

"For teaching *the application of ſcience to the uſeful purpoſes of life*, a temporary lecture-room is fitted up for philoſophical lectures and experiments; a complete laboratory and philoſophical apparatus, with the neceſſary inſtruments, will be provided; and men of the firſt eminence in ſcience engaged to officiate in this eſſential department. The machines and models will afford a perpetual ſource of inſtruction; and the lectures will be particularly uſeful to elucidate and apply thoſe general principles which are only in part diſcernible in particular ſtructures. The firſt principles of mechanics will be exhibited and explained in the ſimple engines, called the mechanical powers; and, as connected with theſe, the practical operations of various arts will be regarded, and the mutual connection between the theory of mechanics, and the experimental knowledge of the materials. Under general mechanics will be ſhewn the advantages we derive from thoſe happy expedients by which the labour of man is abridged in huſbandry, and the various operations of art.

"Chemiſtry, with the aid of a laboratory and complete apparatus for the ſeveral proceſſes, will be taught in the ſame ſimple and perſpicuous manner; and this elementary knowledge, ſo indiſpenſable to the intelligent manufacturer, will be connected with the great operations of the arts and of trade.

"From the vaſt field of individual operations or ſeparate manufactories, the enquirer will be led to other works of more general conſideration, which include not only the objects of mechanics and chemiſtry ſtrictly taken, but likewiſe thoſe of commercial operation and political economy. Under this claſs of objects will be found the ſtructure of roads and forms of vehicles; the eſtabliſhment of canals; the improvement of rivers, harbours, and coaſts; the art of war, and various objects connected with it. In the courſe of theſe enquiries, the exhibition of working models will particularly diſplay the powers of hydraulic machines, and that ſtriking uſeful apparatus the ſteam-engine.

"But, above all, we ſhall find our contemplations urged to *the phenomena of light and heat*, thoſe great powers which give life and energy to the univerſe! powers which, by the wonderful proceſs of *combuſtion*, are placed under our command indeed, but of the advantages of which we do not half avail ourſelves."

Having thus given, as much at large as our limits will allow, an account of the *riſe* of this truly grand public undertaking, we ſhall here add a few particulars from the laſt report, with a view of ſhewing its *preſent ſtate*.

"The Inſtitution," ſays the report, "is now placed on a moſt reſpectable foundation; and although none of the details of this great and extenſive eſtabliſhment are quite completed, yet enough has already been done to ſhew that it muſt ſoon become extremely intereſting, and very uſeful; and that it will long remain,—an ornament to the metropolis,—and a proud monument of the energy—wealth—and liberality—of the private individuals of the Britiſh nation.

"In the infancy of the eſtabliſhment, before the Inſtitution had acquired a viſible form, and adequate ſupport, it was natural to expect that ſome doubts would be entertained, even by the moſt ſanguine, of the poſſibility of completing ſo great a public undertaking, by the mere voluntary exer-

tions of individuals; but all grounds for such doubts are now happily removed. The permanent existence of the Institution,—and even as a *body politic* and *corporate*,—has been secured by the authority of a *Royal Charter*; and the establishment has been taken under the immediate patronage of *his Majesty*.

"The lists of the proprietors and subscribers to the institution contain the names of many of the most illustrious characters in this country; and the money subscribed to carry the proposed plans into execution amounts already to a sum almost incredibly great—to 23,200l.; and this, exclusive of 7000l. generously offered by a small number of the proprietors (but which will not be wanted), for enabling the managers to defray the expences of erecting the new buildings.

"Upon settling the accounts, and calling in, and paying off, all debts outstanding against the Institution, up to the first day of the present month, it was found, that a sum amounting to above 10,800l. then remained at the disposal of the managers; which sum will, no doubt, be quite sufficient, not only to defray all the expences of finishing and furnishing the buildings of the Institution, in all their numerous and extensive details, but also for fitting up all the workshops; and providing them with tools, and a stock of materials for work.

"The house and premises, which have been purchased for the Institution, are extensive; the ground covered by the principal edifice having originally been allotted for building four houses for private families; and no situation could have been found, in this metropolis, more convenient, or better adapted to all the purposes of this public establishment.

"Professors and lecturers in natural philosophy, chemistry, and mechanics, have been engaged; and lectures are now given, daily, in two spacious lecture rooms; the one capable of containing 300, the other 900, persons.

"A spacious and most complete chemical laboratory has been built, and is now furnishing with all the implements and apparatus necessary for carrying on, upon a large scale, all the various processes of practical chemistry; and chemical analysis; and for making new and interesting experiments. A director of the laboratory has been appointed, and also a chemical operator; and the managers are now in treaty with a very ingenious German chemist, whom they hope to engage, as an assistant in the laboratory, and who will devote his whole time to the business of it.

"The workshops of the Institution, where models, &c. of new and useful inventions will be constructed, and sold at reasonable prices to such proprietors and subscribers as may apply for them, are quite finished; and are now furnishing with the most complete sets of tools that can be procured.

"A master of the workshops has been engaged, who is himself a working mathematical instrument maker and model maker; and will have the care of all the philosophical apparatus belonging to the Institution, and keep it constantly in repair and ready for use. He will reside in the house,—and superintend and direct all the workmen who are employed in the workshops:—he will likewise superintend and instruct all such ingenious and well-behaved young men as may, at the recommendation of proprietors, be admitted into the workshops of the Institution, to receive instruction, and to complete their education in any one or more of the mechanic arts.

"The following workmen are already engaged for the workshops of the Institution, viz. A mathematical instrument maker,—A model maker.—A cabinet maker.—A carpenter.—A worker in brass and copper.—A tin-plate worker; and an iron-plate worker. To these will soon be added bricklayers and stone-masons; who will be instructed, and enabled to instruct others, in setting new-invented fire-grates, roasters, ovens, boilers, &c.

"A complete kitchen, for a small family,—with a small roaster, on the most simple construction—a cottage fire-place grate—and a small boiler with steamers,—has been put up in the housekeeper's room; and may be examined by all those who frequent the house of the Institution.

"The principal kitchen will contain roasters, ovens, boilers, steamers, &c. on the newest and most approved construction; and, in order that the proper method of managing them may be seen, they will be kept in daily use, and persons will attend to shew them.

"In order that the proprietors and subscribers may be enabled to judge, from actual experiment, of the merit of any new method of cooking, or of any new dish that may be proposed, a *dining-room* has been built, and will soon be ready for use, at the house of the Institution, in which the managers will, occasionally, order *experimental dinners*, to which the proprietors and subscribers will be invited, in as far as the accommodations will admit; the expence of such dinners to be defrayed by those who partake of them."

To render the house of the Institution more pleasant, an additional room has been set apart for their private and exclusive use:—This has been called the *conversation room;* and to render it still more useful and agreeable, it will be furnished with a collection of good maps; and, as soon as some necessary previous arrangements (which are now actually making) shall be finished, those who frequent this room will be furnished, at the most reasonable prices, from the housekeeper's room below, with soups of various kinds—tea, coffee, chocolate, and other refreshments. Besides these, other accommodations for the proprietors and subscribers are provided, as the opportunity of writing letters; and a general and twopenny post for their conveyance.

"A complete Printing Office, with a press, types, and every other instrument and implement necessary in printing, has been established at the house of the Institution; and a Printer is engaged, and has for some time past been constantly employed in printing for the Institution. It is expected that the printing of the journals of the Institution, which in a few months will begin to appear at regular intervals, probably once a-week, will give full employment to this press: for as these journals will contain not only an account of all that is doing at the Royal Institution, and in the country at large, to introduce new and useful inventions and improvements, but will also contain selections from all the newest foreign scientific journals, and other scientific publications, which will all be regularly taken in at the Royal Institution, there is no doubt but that the Journals of the Royal Institution of Great Britain will become one of the most interesting and most useful periodical works that has ever appeared in any country; and, consequently, that they will be much sought after, and much read.

"The reports of the various committees, for specific scientific investigations (which will soon be appointed by the managers), will, no doubt, furnish much interesting matter for the Journals of the Institution."

All the principal scientific periodical publications, foreign and domestic, the transactions of learned societies, &c. are regularly taken in, and laid on the table in the reading-room the moment they arrive.—All the daily English newspapers are taken in, in like manner, and perused, in a separate apartment, by the subscribers.

In a second reading-room, which is spacious and airy, are elegant book-cases, and library tables; and, as it is furnished

with double windows, and thin white window blinds, it is uncommonly quiet and pleaſant as a reading-room, though it is ſituated on the ground floor, and near the ſtreet. The carriages which paſs are ſcarcely heard through the double windows; and as the blinds prevent its being overlooked from without, it has an air of ſtillneſs and retirement which is very ſtriking, and very pleaſant to thoſe who frequent it.

Many valuable books have been preſented to the library of the Inſtitution, and it was not till all the book-caſes in the room were filled by theſe generous contributions, that new book-caſes were provided. All books proper to appear in a public library, thoſe only excepted which are profeſſedly on political queſtions, are received by the managers, and their thanks are returned for them.

As the Royal Inſtitution was ſpecially deſigned for promoting *mechanical* improvement, and exciting and encouraging *practical* ingenuity and *uſeful induſtry*, the inveſtigation of all ſubjects lying within the provinces of either of the *three learned profeſſions* are juſtly avoided; conſequently, all diſcuſſion relative to *religion*, *law*, and *medicine*, is declined.

One of the moſt intereſting details of the Inſtitution ſtill remains to be mentioned:—It is the *repoſitory*. The meaſures neceſſary for forming it have not been neglected, but; from its nature, it cannot be finiſhed, nor indeed can it be begun, till the eſtabliſhment is quite complete in all its other eſſential parts. Models of mechanical inventions and contrivances, in order to their being really uſeful, muſt be ſo made as to ſerve for imitation, conſequently they muſt be conſtructed with the greateſt care; and they cannot be made in the Royal Inſtitution till thoſe ſhops are fitted up, and furniſhed with the beſt tools, and the beſt workmen. Theſe workſhops will ſoon be completed, and properly manned; in the mean time, a ſpacious and elegant room, 44 feet long, and 32 feet wide, with the ceiling ſupported by two rows of columns, has been built for the repoſitory, and in leſs than one month will be perfectly finiſhed, and ready for the reception of the machines and inſtruments which it may be judged proper to exhibit to public inſpection.

As ſoon as ſome addition to the buildings ſhall be completed, it is intended to accommodate a certain number of young men, of different mechanical profeſſions, who, at the recommendation of proprietors, will be taken into the houſe to be inſtructed. Theſe will be boarded and lodged in the houſe, and be employed in the workſhops;—and for their improvement in drawing—practical geometry—and mathematics,—an evening ſchool, under the direction of the clerk of the works, will be eſtabliſhed in the houſe.

"As moſt of the young men who will be admitted into this ſeminary will probably come from diſtant parts of the country, and will return home, after a reſidence of three or four months at the Inſtitution, carrying with them a perfect knowledge of ſuch new and uſeful inventions, applicable to the common purpoſes of life, as may be deſerving of being generally known and adopted, it is eaſy to foreſee that this arrangement will be of great and extenſive public utility. It is, perhaps, that part of the eſtabliſhment preciſely which will be the moſt intereſting, and which will contribute the moſt powerfully to the attainment of the principal object of the Inſtitution; "*The diffuſing the knowledge, and facilitating "the general introduction of uſeful mechanical inventions and "improvements.*"

The funds of the Inſtitution ariſe, 1ſt, from 60 guineas paid by each *hereditary ſubſcriber*, who is named a *proprietor*; 2d, from 15 guineas paid by each life-ſubſcriber; 3d, from three guineas paid by each annual ſubſcriber; 4th, from particular donations and legacies.

A proprietor has an hereditary *transferable ſhare* in the houſe and all the property belonging to it, has a vote in the election of managers and viſitors, and two transferable tickets of admiſſion to the eſtabliſhment and lectures. A life-ſubſcriber has a ticket of admiſſion for life, not transferable. An annual ſubſcriber is entitled to a ſimilar ticket during the continuance of his ſubſcription. The three claſſes are alike open to ladies and gentlemen, and every claſs of ſubſcribers has the privilege in common of having copies of models or drawings made (at their own expence) from thoſe belonging to the Inſtitution.

The *lectures* are, 1ſt, a courſe of *experimental* philoſophy, comprehending the principles of aſtronomy, electricity, magnetiſm, mechanics, hydroſtatics, pneumatics, and optics. In this courſe all abſtract and mathematical reaſoning are avoided, and the whole calculated at once to inſtruct and amuſe. 2d, A courſe of *chemiſtry*, in which the principles of the ſcience and the modern diſcoveries are illuſtrated by experiments, and its application to the arts and manufactures, &c. ſhewn. 3d, An evening courſe, calculated for perſons mechanically and ſcientifically engaged, in which the foregoing ſubjects are minutely and *technically* treated.

"The number of the proprietors of the Inſtitution (1802) amounts to 325;—the life-ſubſcribers to 268;—and the annual ſubſcribers to 527;—making in the whole 1120 perſons, who have already come forward in ſupport of this great public undertaking.—This number is undoubtedly very great, but the liſts of the members of the Royal Inſtitution will appear doubly reſpectable when the many diſtinguiſhed names which dignify them are taken into conſideration. But if ſo many perſons of great abilities,—high rank,—and moſt reſpectable character,—could be found to come forward and ſupport an undertaking, not only unfiniſhed, but new in its kind, and of the ſucceſs of which doubts might well be entertained, we may ſafely look forward with confidence to a period, not far diſtant, when the Royal Inſtitution of Great Britain, completed in all its details, and in full activity, will become ſo intereſting, that every perſon of liberality and diſcernment, who takes pleaſure in contemplating the progreſs of human improvement, will be deſirous of belonging to it, and willing to aſſiſt in promoting its permanent proſperity."

INTERLACHEN, a town of Switzerland, capital of a bailiwic of the ſame name, in the canton of Bern. It is ſeated between the lakes of Brientz and Thun, 28 miles S.S.W. of Lucern, and 32 S.E. of Bern.

INTERFERING, in farriery, a local diſeaſe incident to horſes. It ariſes from various cauſes; and though this malady is ſometimes conſtitutional in the animal, yet it is more frequently occaſioned by an improper method of ſhoeing; in conſequence of which the horſe moves his hind feet ſo cloſely together, that hard ſcabs are gradually formed by their continual friction, and the diſorder at length is attended with halting or lameneſs.

According to Profeſſor Bradley, *interfering* may be cured by a compound made of three parts of freſh ſheeps' dung, and one part of rye or wheaten flour, well dried.—Theſe ingredients ſhould be formed into a cake, then baked in an oven, and applied warm to the part affected, which will thus ſpeedily heal; or, it may be anointed with a mixture of turpentine, and verdigreaſe finely pulverized, by the uſe of which the ſcabs in general ſhortly diſappear.

INVERESK, a village in Edinburghſhire, ſituate on the E. ſide of the mouth of the Eſk, on the Frith of Forth. In 1783, the ſubterraneous remains of a Roman hot bath were diſcovered here.

INVERBURY, a borough in Aberdeenſhire, ſituate on the fertile banks of the Don, juſt above its confluence with the river called Urie Water. It is 15 miles N.W. of Aberdeen.

JOACHIMSTHAL, a town of Bohemia, celebrated for its ſilver mines, which are the beſt in the kingdom. It is 52 miles S.S.E. of Dreſden.

JOCKGRIM, a town of France, in the department of Lower Rhine, ſituated on an eminence, near the Rhine, nine miles S.E. of Landau. Long. 8. 16. E. Lat. 49. 13. N.

JOHANNESBURG, a town of Eaſtern Pruſſia, with a citadel, ſeated on the river Pych, near the lake Spirding, 95 miles S.E. of Koningſberg. Long. 22. 39. E. Lat. 53. 16. N.

JOHN, St. one of the Philippine iſlands, E. of Mindanao. Long. 126. 32. E. Lat. 9. 30. N.

John, St. a river of New Brunſwick, which, running from N. to S. enters the bay of Fundy, at the city of St. John's.

John, St. a city of New Brunſwick, ſituate at the mouth of the river St. John, in the bay of Fundy. Long. 65. 15. W. Lat. 45. 12. N.

John, St. a town on the E. ſide of the iſland of Newfoundland. It has a good harbour, entirely landlocked, and defended by ſeveral forts, in one of which the governor of the iſland reſides. Long. 52. 21. W. Lat. 47. 32. N.

John, St. the capital of Antigua. It is one of the moſt regular towns in the Weſt Indies, and has the moſt commodious harbour in the Leeward Iſlands. Long. 62. 4. W. Lat. 17. 4. N.

JOHNQUERA, a town of Spain, in Catalonia, ſeated at the foot of the Pyrenées, 20 miles S. of Perpignan.

JOHORE, Jor, or Ihor, a town of the kingdom of Malacca. It was deſtroyed by the Portugueſe in 1603, but has been rebuilt, and is in the poſſeſſion of the Dutch. Long. 93. 55. E. Lat. 1. 15. N.

JONESBOROUGH, a town of Tennaſſe, capital of the diſtrict of Waſhington, ſeated near the foot of the Iron mountains, 80 miles E. by N. of Knoxville. Long. 82. 46. W. Lat. 36. 8. N.

JONKIOPING, a town of Sweden, capital of the province of Smoland, and ſeat of the parliament, or ſuperior court of juſtice for Gothland. The houſes are chiefly of wood, covered with turf or moſs; no thatching being uſed, as both too dear and too dangerous in caſe of fire. In order to keep out the rain, large layers of birch bark are ſpread over the timber-work of the roof, under the covering of turf or moſs. Theſe turf roofs make a ſingular appearance, many of them producing herbage, which is occaſionally cut for the uſe of the cattle; and a few are ornamented with flowers. The town is ſeated on the S. end of the lake Wetter, with a ſtrong citadel, 50 miles N.W. of Calmar. Long. 14. 46. E. Lat. 57. 12. N.

JORDAN, a river of Paleſtine, which riſes in Mount Libanus, and runs from N. to S. forming two lakes, the one formerly called the Sea of Galilee, or the lake of Tiberias, and the other, the Dead Sea.

JOSEPH (II.) Emperor of Germany. The genius of this emperor was active and prompt, but vehement and impetuous, and embracing too many objects at the ſame time. He was ſuperficial in all his acquirements, and though anxious to learn every thing, he maſtered nothing. He poſſeſſed magnanimity, and, in deſpite of detraction, his heart was open to the impreſſions of ſenſibility; and if he often refuſed to aſſiſt the ſuffering individual, it was becauſe he wiſhed to reſerve the means of exerciſing his beneficence in favour of the unfortunate in general. Never was he really inexorable but towards thoſe who tranſgreſſed the laws, and even then the public good was the motive of his ſeverity; his actions were rather the reſult of principle than inclination. He has been reproached with aggravating puniſhments, and modifying deciſions to the caprice of his own arbitrary will. Without meaning to juſtify him in this particular, we may allege the uprightneſs of his intentions, which deſigned to intimidate by example, and to prevent lenient or corrupt judges from ſecuring the guilty from puniſhment; and, above all, his profound ignorance in points of juriſprudence, which continually led him to miſtake the bounds of his own power. To the ſame cauſe we muſt attribute his enterprifes againſt the property and the privileges of the citizens; of which there cannot be a ſtronger proof than the ſurpriſe he teſtified on many occaſions, when the clamours of the public, and the oppoſition he met with, convinced him of the diſcontent of his ſubjects.

Few princes have been inflamed by a ſtronger paſſion for the good of their people, and none have been occupied with more activity and zeal about the means which he eſteemed proper to promote it. This purſuit was ſo predominant, that it abſorbed all others; and he was ſo devoted to the weighty cares of government, that every inſtant of his life he was the monarch, and had ſcarcely time to know that he was a man; thence it was, that he had none of the weakneſſes which ſo often diſhonour princes, and oppreſs their ſubjects. He was a prey to no ruinous whim, to no miſtreſſes who exhauſt the ſtate, and conſign its employments to unworthy hands. Simple in his manners, and inimical to luxury of any kind, he erected no palaces whoſe foundation reſted upon the ſhattered fabric of the poor man's cottage. How then, it may be aſked, did it happen, that though poſſeſſed of theſe rare virtues and qualities, his reign ſhould be marked with a ſeries of calamities? The fact, it will be ſaid, is not aſtoniſhing when we recollect that he was generally ſuperficial, was curſory in all his obſervations, drew falſe conſequences from every thing he ſaw, and built upon them a plan of reformation which was as defective as the principles upon which it was founded. This is, indeed, the opinion of many of his judges, but cannot be adopted by ſuch as will take the trouble of diſcriminating between what he did, and what he wiſhed to do. It is true that the education of the emperor left his natural genius deſtitute of cultivation, and that wandering at hazard, and deſtitute of principles to guide it, he muſt have been often deceived; but theſe defects, it muſt be acknowledged, were, to a certain point, corrected by nature, in beſtowing on him an accuracy of judgment, and a facility of conception: he readily diſcovered the abuſes which were conſecrated by the preſcription of cuſtom; he knew the abilities and the neceſſities of the ſtate, and the means to be employed to raiſe it to the degree of proſperity and power of which it was capable. If he failed in his endeavours, we ſhould be wrong to conclude that his views were ill directed, or that his theory was incorrect; but a variety of prejudices, fatal to his happineſs and to our own, led him aſtray in the execution. The moſt exceſſive partiality cannot refuſe to his deſigns the tribute of admiration which they juſtly merit.—They were ſuch as required a man of ſuperior powers to form, and to dare to accompliſh them. They were intended to unite in the ſame political form of government the various provinces of the monarchy; to incorporate, into one people, twenty nations, differing in their laws, cuſtoms, and languages; to purify their morality and religion, by determining invariably the principles on which both were to be practiſed and preached; to increaſe uſeful knowledge, by multiplying and improving the public ſchools; to encourage commerce, by exciting and protecting the national induſtry; to enſure the progreſs of agriculture, by ameliorating the lot of the huſbandman; to unite to the ſtate, by means of toleration, citizens who had been alienated from it by their religious opinions; in a word, to make of the monarchy one conſiſtent whole, the parts of

which being well connected, ſhould render it powerful and happy at home, reſpected and formidable abroad.

Such was his deſign, which certainly was in itſelf at once great and judicious. The obſtacles which might offer themſelves in the execution were not of a nature to reſiſt the effort of a dextrous hand to prevent, or at leaſt to remove them: and it is not to be doubted that an abſolute prince, who had united to the power of rendering himſelf formidable, the talent of making himſelf beloved; who had aſſociated to his enterpriſes men whoſe capacity and probity might have fixed the public eſteem; would have ſucceeded in ſurmounting them, with the aid of time and the wiſdom of his meaſures. Unfortunately no monarch was ever leſs capable of employing thoſe means. Vehement by conſtitution, he was ſtill more ſo by his mode of reaſoning; perſuaded that if he did not precipitate the reforms which he projected, he would not have time to complete them, the moſt violent meaſures were ever thoſe which he preferred. In vain was it repreſented to him, that this was the moſt improper method to produce the effect which he promiſed himſelf; his ſelf-confidence confirmed him in his obſtinacy, and made him deſpiſe theſe prudent counſels. To this fault was joined his extreme miſtruſt, which induced him to diſcover in thoſe whoſe rank attached them to his perſon, or whoſe office deſtined them to ſhare with him the charge of the government, ſo many ſecret enemies of the good cauſe which he eſpouſed; who were ſeeking their own fortunes, and diſpoſed to ſacrifice the intereſts of the public to their private emolument. This ſuppoſition, as falſe in its principle as dangerous in its conſequences, alienated the affections of his ſubjects, and raiſed a barrier between the prince and thoſe whoſe abilities might have corrected his own ideas. We cannot then wonder at the invincible perſeverance with which he purſued any ruinous or chimerical project, notwithſtanding it might be oppoſed by the united voice of the whole kingdom. Convinced that the more he ſought to promote the general good, the more obſtacles private intereſt would raiſe againſt him; he almoſt always judged of the excellence of his deſigns, by the degree of reſiſtance which he experienced to their execution. Another conſequence of this principle was, that not being able to confide, without danger, to any one the care of fulfilling his wiſhes, he was forced to undertake it himſelf; and by being at once the proprietor and the agent, he muſt do every thing in order to its being well done. From this complicated deluſion it followed, that he deprived himſelf of the means of concluding any thing; and that, by continually deſtroying what he began, he could never raiſe the fabric which was to ſupply the place of that he had overthrown. His mind, oppreſſed by the weight and multiplicity of buſineſs, was loſt in the labyrinth he had created; and forgetting to-day the decrees which had been yeſterday publiſhed, he was perpetually contradicting himſelf. The number of oppoſite edicts of his reign prove the fact, and added contempt and ridicule to the diſcontent which his adminiſtration inſpired, in deſpite of the beſt intentions. In the deſign of correcting abuſes, he ſucceſſively directed his endeavours againſt all the orders of his ſubjects: beginning with the clergy, whom he rendered contemptible without amending, he paſſed to the commercial claſs, whom he cruſhed under the weight of prohibitory laws; and from them to the nobility, whom he completely ruined, under pretence of relieving the huſbandman, who found no redreſs, from his changing, miſplacing, and perverting every thing. He affected to deſpiſe what he called prejudice, and violated without ſcruple the moſt ſacred contracts which ſubſiſted between prince and people. So many violent acts, whoſe motive may render them excuſable in the eyes of God, but not in thoſe of men, and eſpecially of thoſe who were the victims of them, drew upon him ſo general a hatred, that it would be difficult to aſcertain the extremities which might have followed, if that power who watches over the preſervation of the monarchy, had not terminated its evils, by removing its author. The emperor died, but his expiring regrets could not reconcile him to a people oppreſſed by vexations of every kind, by a ruinous war, and by the loſs of the fineſt province of the monarchy. May this inſtructive example of Joſeph II. bring conviction to the minds of princes, of the difficulty of governing with propriety, though with the advantage of the moſt brilliant qualities of the heart and underſtanding; of the eſſential neceſſity of repreſſing their pride, and gaining the affections of their ſubjects; and if there ſhould ariſe any of his ſucceſſors who might be tempted to tread in his ſteps, let him recal to mind *his* wretched fate, and, by avoiding raſh innovations, permit the ſtate to experience that repoſe which is ſo neceſſary to its well-being.

JOSSELIN, a town of France, in the department of Morbihan, 25 miles N.E. of Vannes. Long. 2. 23. W. Lat. 48. 0. N.

JOUARE, a town of France, in the department of Seine and Marne, with a late magnificent Benedictine abbey, 10 miles S.E. of Meux, and 35 E. of Paris.

JOYEUSE, a town of France, in the department of Ardeche, ſeated on the Baune, 27 miles S.W. of Privas.

IPHOFEN, a town of Germany, in the biſhopric of Wurtzburg, 15 miles E.S.E. of Wurtzburg.

IPS, a town of Germany, in the archduchy of Auſtria, ſituate near the confluence of the Ips and Danube, 48 miles W. of Vienna. Long. 15. 11. E. Lat. 48. 13. N.

IPSALA, a town of Turkey in Europe, with a Greek archbiſhop's ſee. Near it are mines of alum. It is ſeated on the Lariſſa, 20 miles S.W. of Trajonopoli, and 118 W. of Conſtantinople. Long. 26. 10. E. Lat. 40. 57. N.

IPSERA, a ſmall iſland in the Archipelago, in the form of a heart, 15 miles N.W. of the iſland of Scio. To the W. is another ſmall iſland, called Anti-Ipſera.

IPSHEIM, a town of Germany, in the principality of Culmbach, 17 miles N.N.W. of Anſpach.

IRAC-ARABIA, or BABYLONIAN-IRAC (the ancient Chaldea), a province of Turkey in Aſia; bounded on the W. by the deſert of Arabia, on the N. by Curdiſtan and Diarbeck, on the E. by Irac-Agemi and Kuſiſtan, and on the S. by the gulph of Perſia. It is watered by the Euphrates and Tigris; and is almoſt all under the dominion of the Turks. Bagdad is the capital.

IRAC-AGEMI, or PERSIAN-IRAC, a province of Perſia; bounded on the Weſt by Irac-Arabia and Kuſiſtan, on the North by Aderbeitzan and Ghilan, on the Eaſt by Couheſtan, and on the South by Farſiſtan. Iſpahan is the capital.

IREBY, a town in Cumberland, with a market on Thurſday. Many Roman antiquities have been dug up here. It is ſeated in a valley, at the ſource of the river Ellan, 10 miles N.E. of Cockermouth, and 299 N.N.W. of London. Long. 3. 18. W. Lat. 54. 50. N.

IREKEN, JERKIN, or YARKAN, a rich and populous town of Tartary, the capital of Bocharia, with a caſtle. It is the ſtaple town of all the trade carried on between India and the North part of Aſia. The Kalmucks are maſters of it; and never diſturb any one on account of their religion. It is eight miles N. of Caſhgur. Long. 73. 25. E. Lat. 41. 40. N.

IRJAH, a town of Hindooſtan Proper, in the country of Cabul, 46 miles S.E. of Cabul. Long. 69. 8. E. Lat. 33. 50. N.

IRKUTZK, the largeſt and leaſt populous government of

Ruſſia, compriſing all the E. part of Siberia, from the Northern Ocean to the frontiers of Chineſe Tartary, and from the boundaries of the government of Tobolſk to the Eaſtern Ocean. This large territory was gradually conquered and appropriated by the Ruſſians in their deſultory excurſions from Tobolſk. It is divided into the four provinces of Irkutzk, Nertſhiuſk, Yakutſk, and Okatſk.

Irkutsk, a town of Ruſſia, capital of a government of the ſame name, and the ſee of a Greek biſhop. It is ſituate on the lake Baikal, and is a place of conſiderable commerce, the caravans which trade to China paſſing through it. Long. 104. 58. E. Lat. 52. 4. N.

IRON-ACTON, a village in Glouceſterſhire, at the conflux of the Staure and Laden, which form the river Frome, three miles from Briſtol. Much iron has formerly been dug up, and many iron works and great heaps of cinders are to be ſeen here.

IRRIGATION (*Encycl.*). The principal object in irrigating the ſoil, is a proper ſupply of water; and, if that fluid abound with mud, the land will be more permanently improved, than by conducting a clear ſpring over its ſurface: hence it is certain, that if the liquor collected in farm-yards, the waſhings of different ſinks, ditches, and the drains of the contiguous fields, could be conveyed into the common ſtream, the water would acquire a more fertilizing property.

But, in order to manage this important branch of rural economy with ſucceſs, it will be requiſite previouſly to aſcertain, whether the ſtream will admit of a temporary weir or dam being conſtructed acroſs it; whether the water can be raiſed to ſuch a height as to overflow a particular ſpot, without injuring the contiguous land; and whether it can be drawn off with the ſame facility as it is conducted on the ſoil. If theſe objects can be attained, the proceſs of irrigation may be undertaken in the following manner:

When the deſcent cannot be determined with tolerable preciſion by the eye, an accurate level of the ground muſt be taken, and the moſt elevated part compared with the height of the ſtream to be employed. The inſtrument uſed for this purpoſe, is called a *water-level;* and, as the common machines are but imperfectly adapted to the purpoſe, we have given in Pl. 33, the repreſentation of a ſimple implement for taking levels, contrived by Dr. James Anderſon; as it has been recommended to the notice of the public, by the Board of Agriculture.

It conſiſts of two legs of common deal, A and B, about twelve feet in length, which are joined together at the top, and connected below by a croſs bar, as delineated in the plate. From the angle at the top, a plummet, C, is ſuſpended by a ſmall cord; which, when a mark is made in the middle of the connecting bar, and the two legs are perfectly ſtraight, will ſtrike ſuch mark, ſo that the level may be eaſily aſcertained.

In the practical uſe of this inſtrument, Dr. Anderſon directs a wooden pin, on which one of the legs of the frame may reſt, to be driven into the ground at the level of the water, where the irrigation is intended to commence. The other leg is then to be brought round, till it touch the ground, on a level with the top of ſuch pin, when another is to be driven in. After the level has in this manner been perfectly adjuſted, the laſt-mentioned pin is to be employed as a reſt for one foot, and the other turned about, till the level is found in the ſame manner. Thus, the preciſe direction which the ſtream ſhould take will at once be diſcovered, without any trouble, or incurring any additional expence by digging through heights or filling up cavities.

The level being taken as directed, a wide ditch is to be cut as near to the dam as poſſible, that the water may be conveyed to the higheſt part of the meadow; the ſides and banks of the ditch being uniformly kept at an equal height, and elevated about three inches above the ſurface. Where the meadow is extenſive, and the ſoil uneven, it will be neceſſary to have three works or dams in different directions, each of which ſhould be five feet in width, if the meadow contain fifteen acres; and the higheſt part be the moſt diſtant from the ſtream. A ditch, ten feet wide, and three in depth, will, in general, be fully adequate to overflow ten acres of land; and if there be three works or dams in a meadow, and *flood-hatches*, or flood-gates, be placed at the mouth of each, when the water is not ſufficient to irrigate the whole ſoil at once, it may be performed at three different periods; by taking out one of the hatches or gates for the ſpace of ten days, at the expiration of which it is to be let down, and the other two taken up alternately for a ſimilar period: thus each diviſion will receive a proper ſhare of water in its turn, and derive from it equal benefit.

Where the fall of the meadow renders it practicable, the bottom of the firſt work ſhould be made as deep as the bed of the river; becauſe the water, in proportion to its depth, will carry a larger or ſmaller quantity of mud with it, and conſequently fertilize the ſoil in a more or leſs effectual manner. Small ditches, or troughs, ought likewiſe to be cut from the works at right angles, about 12 yards apart from each other; and their breadth ſhould be adequate to the diſtance to which the water is to be conveyed: thus a trough two feet in width, and one foot deep, will irrigate a ſurface twelve yards wide, and forty feet in length.

It will, however, be requiſite to provide the ditches with occaſional flood-gates or ſluices, eſpecially when the water is rapid, in order to keep it ſufficiently high to flow through the perforations in the gates, or over the ſides. Between every ſecond trough, a drain is to be cut at equal diſtances in a parallel direction, and of a proper depth for receiving all the water which overflows the adjacent lands, and conducting it to the principal drain with ſuch rapidity, as to keep the whole ſtream in conſtant motion. For, if it be ſuffered to ſtagnate, it will be productive of the worſt conſequences; as the turf would become rotten, the ſoil be ſoaked without being ameliorated, and the land produce only coarſe graſs, ruſhes, or other aquatic weeds.

Where the meadows are cold, flat, and ſwampy, the width of the bed, that is, of the intermediate ſpace between the trough and drain, ought never to exceed ſix yards. In ſuch caſes, the land cannot be too much interſected, eſpecially when there is an abundant ſupply of water. The fall of the bed in every meadow ought to be in the proportion of one inch to each foot; for a rapid current always contributes to produce fine and ſweet herbage; but the water ought never to flow more than two inches, nor leſs than one inch deep, except during the ſummer months.

Such is the method of irrigation practiſed in Glouceſterſhire, and likewiſe, with very few variations, in the counties of Wilts, Dorſet, Cambridge, Hants, &c. Its advantages, indeed, are ſo important that, we truſt, no rational agriculturiſt will heſitate to adopt the practice of floating land, throughout Britain, in every ſituation where a command of water can be obtained.—Common meadows are not only enriched, but thoſe of a ſwampy nature are conſolidated by means of the mud conveyed on them. They are alſo protected from the effects of froſt by the flowing water, or by the ice when it is frozen; hence the roots of graſs remain unaffected by the cold, and excellent crops are thus produced ſo early, as to be of intimate ſervice for ſpring food, before the natural graſs appears.

By irrigation, good paſturage may be procured in the be-

ginning of March; and, if the ſeaſon be mild, much earlier. This crop is particularly excellent for feeding ſuch cattle as have been *hardly* wintered, and ſo great are the benefits attending the flooding of lands, that the farmers of Glouceſterſhire are enabled to commence the making of cheeſe, at leaſt *one month* earlier than thoſe who do not poſſeſs the ſame opportunity. The utility of watering land is ſtill further evinced by this circumſtance, that from the great forwardneſs of graſs, the feeding between the months of March and May, is worth one guinea per acre; in June one acre will yield two tons of hay; and the *after-graſs* may always be eſtimated at twenty ſhillings, whether the ſummer be wet or dry.—The expence of irrigation is computed at from 3l. to 6l. per acre.

Land may be floated at any period of the year. In the months of December and January, the chief care conſiſts in keeping the ſoil ſheltered by the water from the ſeverity of froſty nights. It will, however, be neceſſary to expoſe the ſurface to the air every ten days, or fortnight, during the winter, by laying it as dry as poſſible for a few days; and to diſcontinue the flooding, whenever the land is covered with a ſheet of ice.

In February, greater attention is required; for, if the water be ſuffered to flow over the meadow for ſeveral days in ſucceſſion, a white ſcum will be generated, which is very pernicious to the graſs; and, if the water be drawn off, and the land expoſed to a ſevere froſty night, without being previouſly dried for a whole day, the greater part of the tender plants will be totally deſtroyed.

In the beginning of March, the graſs on well-flooded meadows will, in general, be ſo forward as to furniſh abundant paſturage; when the water ſhould be drained for the ſpace of a week, that the ſoil may become firm, before heavy cattle be allowed to graze on ſuch land: theſe, however, if the ſeaſon be cold, ought to be ſupplied with a little hay every night, during the firſt week.

In the month of April, the graſs may be eaten down cloſely; but no cattle ſhould be turned in later; as otherwiſe the crop of hay will be much impaired, the graſs become ſoft or woolly, and conſequently its value be conſiderably diminiſhed.

In the beginning of May, the water is again thrown over the ſoil for a few days, in order to moiſten it; but the practice ought on no account to be continued during the ſummer; for it has an unfavourable effect on the *after-math*; and produces in ſheep fed on it, the diſorder called the *rot*.

Many other advantages ariſe from irrigation, which have been ſtated in our original article; and thoſe readers who are deſirous to acquire further information relative to this intereſting branch of rural economy, may alſo conſult Mr. G. Boſwell's *Treatiſe on Watering Meadows*, &c. in which the neceſſary implements, and terms employed in irrigation, are explained and illuſtrated with engravings; as likewiſe Mr. Wright's *Art of Floating Land*, &c. where the ſubject is perſpicuouſly treated, and objections are ably anſwered.

IRRITABILITY (*Encycl.*). We have already ſtated this term to denote that eſſential property of animals, in conſequence of which their fibres, on being touched, contract or become ſhort, in a greater or leſs degree.

Chemiſts have lately endeavoured to ſhew, that not only animal, but *vegetable irritability* originates from the *oxygen* which is inhaled by the lungs, or reſpired by the leaves, or abſorbed by the roots. And as reſpiration is every minute requiſite to the ſupport of animal life, Dr. Darwin conjectures that ſomething immediately neceſſary to their exiſtence, is acquired by the lungs of animals from the atmoſphere, rather than from the food they digeſt; and that this nameleſs ſomething, perhaps oxygen, is mixed with the blood, and again ſeparated from it by the ſpinal marrow, after having undergone certain changes in the courſe of its circulation, or ſecretion. In a ſimilar manner, he conſiders it as probable that the ſpirit of vegetation may be derived from that ſource, namely, the uncombined oxygen of the air, which is reſpired by the upper ſurfaces of the leaves, and not from that which is abſorbed by roots, in a more combined ſtate: further, that this oxygen is again ſeparated from the juices by the *ſenſorium*, or brain, of each individual bud, after having undergone ſome change in its paſſage through the ſecretory veſſels.

A long-continued, unuſual, or unnatural ſtimulation of vegetable fibres, by an increaſe of heat, exhauſts the ſpirit of vegetation: hence a ſlighter degree of cold, will deſtroy ſuch fibres; becauſe, after having been excited for a conſiderable time by a more powerful ſtimulus, they will ceaſe to act on the application of one that is weaker, ſo that in conſequence of hot days, tender plants are more liable to periſh from the coldneſs of the night. For this reaſon, gardeners in the more northern climates, ſhelter both the flowers of apricots and the tender vegetables, during the ſpring-froſts, from the meridian ſun, as well as from the deſtructive cold of the night, which is generally the moſt intenſe about one hour before ſun-riſe.

In the hot days of the month of June, 1798, Dr. Darwin twice obſerved ſeveral rows of garden-beans to become quite ſickly; and ſome of them even died, in conſequence of being irrigated for one or two hours with water from an adjoining canal. This circumſtance he attributes to the ſudden application of cold, after the plants had been greatly enfeebled, and deprived of their irritability by the exceſſive heat of the ſeaſon, rather than to the too copious watering of the dry ſoil. Some vegetables, however, ſuch as ſtrawberries, onions, &c. which were equally exhauſted, are leſs liable to be thus injured, and even receive benefit from occaſional irrigation in dry and ſultry weather.

On the contrary, the ſpirit of vegetation acquires additional vigour, if plants have been expoſed for a conſiderable time to a leſs than uſual degree of heat; but, if they be ſuddenly removed from a cold to a warm place, they will experience a ſimilar fate with thoſe hapleſs perſons, to whoſe frozen limbs ſudden heat was imprudently applied: thus, too great increaſe of action occaſions inflammation, which is generally ſucceeded by mortification and death. This fact has been aſcertained and confirmed by the experiments of M. Van Uſlar, who kept two ſpecies of the ſpurge, or wartwort, namely, the *Euphorbia Peplus*, and *Eſula*, L. ſecluded from the light and heat, with a view to render them more irritable: on expoſing theſe plants afterwards to a meridian ſun, they became gangrenous, and in a ſhort time decayed.

The increaſed, or diminiſhed, degree of irritability in plants, is by Dr. Darwin attributed to their previous habits, with reſpect to the ſtimulus of greater or leſs heat. Thus, the periods at which vegetables thrive in the ſpring, appear to be greatly influenced by their acquired habits, as well as by their preſent ſenſibility to heat: hence potatoes will germinate in a much cooler temperature during the ſpring than in autumn; hence alſo, the vernal months are the moſt favourable to the proceſs of making good malt; becauſe the barley will then ſprout with a leſs degree of heat than at any other ſeaſon.

The irritability of plants has been diſcovered to be greater in the morning than at noon, and leſs in the evening than at mid-day; though it is conſiderably augmented during cool and rainy weather. In a ſimilar manner, the limbs of animals acquire a greater ſenſibility of heat, after having been expoſed to the cold; thus, the hands, after immerſing

them for a ſhort time in ſnow, glow with warmth on entering the houſe;—and the late celebrated Spallanzani obſerved ſeveral animals and inſects, that conceal themſelves under ground in a torpid ſtate during the winter, and enjoy the genial warmth of the ſpring, again to diſappear at a ſeaſon when the heat of the atmoſphere was much higher than on their firſt emerging from their ſubterraneous abode.

From theſe conſiderations, Dr. Darwin infers, that ſuch plants as are ſheltered in a warm room, during the winter, ought to be occaſionally expoſed to a cooler atmoſphere, in order to increaſe their irritability; otherwiſe their growth in the ſucceeding ſpring will be much retarded. For the ſame reaſon, the continual viciſſitudes of the air and weather are eſſentially neceſſary to mankind; as the frequent changes of heat and cold have an obvious tendency to preſerve or reſtore their irritability, and conſequently the activity of the ſyſtem. Hence not only the health and energy of men are more conſpicuous in our variable climate, but their longevity is comparatively greater than on thoſe tropical continents, which experience both a more conſiderable degree of heat, and a more ſteady atmoſphere.

ISERLOHN, or LOHN, a town of Weſtphalia, with conſiderable manufactures in iron and tin, and of ribbands, velvets, ſilks, and ſtuffs. It is 32 miles N.E. of Cologn. Long. 7. 19. E. Lat. 51. 2. N.

ISMANING, a town of Bavaria, which gives name to a county, now united by purchaſe to the biſhoprie of Freiſingen. It is ſituate on the Iſer, eight miles N.N.E. of Munich, and 9 S.S.W. of Freiſingen.

ISMID, or Is-NIKMID, a town of Turkey in Aſia, ſuppoſed to have been the ancient Nicomedia, the capital of Bithynia. It is ſituate on a gulf or bay of the ſea of Marmora, 45 miles E.S.E. of Conſtantinople. Long. 29. 47. E. Lat. 40. 37. N.

ISMID, a town of Turkey in Aſia, in Caramania, 24 miles E.S.E. of Cogni.

ISPERLICK, a town of Turkey, in Europe, in Servia, 24 miles N.N.E. of Niſſa. Long. 22. 40. E. Lat. 43. 32. N.

ISSELBURG, a town of Weſtphalia, in the duchy of Cleves, 14 miles E.N.E. of Cleves.

ISSELSTEIN, a town of the United Provinces in Utrecht, capital of a ſmall territory, which formerly belonged to William III. king of England. It is ſituate on the Iſſel, 5 miles S. of Utrecht, and 21 S. of Amſterdam.

ISSIGEAC, a town of France, in the department of Puy de Dome, ſituate on the Couze, near the Allier, 15 miles S.S.W. of Clermont.

IS-SUR-TILLE, a town of France, in the department of Cote d'Or. In its vicinity are quarries of a white ſtone, which is not affected by the froſt. It is ſeated on the Ignon, near the Tille, 12 miles N. of Dijon.

ITCHEN, or ALRE, a river in Hants, which riſes near Alreſford, in the centre of the county, and watering Winchester, enters the bay of Southampton, at the town of that name.

JUAN DE FUCA, STRAITS OF, a large bay or gulf of the N. Pacific Ocean, on the W. coaſt of N. America. The entrance is in Long. 124. 55. W. Lat. 48. 25. N.

IVANITZ, a town of Croatia, on the river Lonia, 42 miles N.E. of Carlſtadt. Long. 16. 14. E. Lat. 46. 5. N.

JUBO, a kingdom of Africa, on the coaſt of Ajan, with a capital of the ſame name, ſubject to the Portugueſe. Long. 43. 20. E. Lat. 0. 50. N.

IVINGHO, a town in Buckinghamſhire, with a market on Friday, 6 miles S.W. of Dunſtable, and 32 N.W. of London. Long. 0. 35. W. Lat. 51. 54. N.

JULFAR, a town of Arabia, in the province of Oman, ſituate on a bay of the Perſian Gulf, 100 miles N.W. of Oman. Long. 56. 14. E. Lat. 25. 55. N.

JUMELLA, a town of Spain, in the province of Murcia, 22 miles S.W. of Murcia.

JUNAGUR, a town of Hindooſtan Proper, in the country of Guzerat, 170 miles S.W. of Amedabad. Long. 69. 58. E. Lat. 21. 45. N.

JUNGNAU, a town of Suabia, capital of a lordſhip of the ſame name, belonging to the princes of Furſtenberg. It is 40 miles S. of Stutgard. Long. 9. 12. E. Lat. 46. 40. N.

JUNKSEILAN, a fertile iſland in the India Ocean, near the S.W. coaſt of Siam, 63 miles long, and from 10 to 20 broad. The principal town, of the ſame name, is ſituate on the N. part of the iſland, and has a harbour capable of receiving veſſels of a moderate ſize. Long. 98. 30. E. Lat. 8. 40. N.

JUSSEY, a town of France, in the department of Upper Saone, ſituate on the Amance, 15 miles N.W. of Veſoul, and 22 E. of Langres. Long. 5. 48. E. Lat. 47. 49. N.

JUSTINGEN, a town of Suabia, the capital of a lordſhip purchaſed in 1751, by the Duke of Wirtemberg. It gives a ſeat and voice in the diets of the empire. It is 32 miles S.E. of Stutgard.

JUTERBOCK, a town of Upper Saxony, ſituate on the Angerbach, 18 miles N.E. of Wittemberg, and 24 S. of Potſdam. Long. 12. 52. E. Lat. 52. 1. N.

K.

KAFFUNGEN, a town and monaſtery of Germany, in Heſſe, near Caſſel. Long. 9. 30. E. Lat. 51. 15. N.

KAIRVAN, a city of Tunis, capital of a government of the ſame name. It is the ſecond city in the kingdom for trade and population; is celebrated for the moſt magnificent moſque in Barbary; and is 20 miles W. of Sufa. Long 10. 25. E. Lat. 35. 40. N.

KAISARICH, or KAISARIJAH, a town of Turkey in Aſia, in Caramania, the capital of a ſangiacat. It was the ancient Cæſarea of Cappadocia. It is ſituate at the foot of a mountain always covered with ſnow; and is five miles in circumference, ſurrounded with walls, and defended by a caſtle. It is populous, and divided into 180 quarters, in each of which there is a moſque or chapel. The principal trade is in Morocco leather. It is 150 miles NE. of Cogni, and 250 E.S.E. of Conſtantinople.

KALAAR, a town of Perſia, in Chilan, with a conſiderable manufacture of ſilk. Long. 58. 45. E. Lat. 36. 23. N.

KALIMBURG, a town of Denmark, in the iſle of Zealand, the capital of a conſiderable bailiwic. Long. 11. 11. E. Lat. 55. 47. N.

KALIR, a town of Suabia, in the duchy of Wirtemberg, with a caſtle. Long. 9. 45. E. Lat. 48. 38. N.

KALKAS, a tribe of the Mogul Tartars, in Chineſe Tartary. They inhabit the country N. of the Mogul Tartars, properly ſo called, which ſtretches as far as the kingdom of the Eleuthes; and is near 300 leagues in extent from E. to W. They live in tents, on the banks of their numerous rivers. They adore a lama of the ſecond order, who is held in ſuch veneration, that bonzes from China, Hindooſtan, Pegu, &c. come to pay their devotions at his reſidence in Iben Pira.

KALMUNZ, a town of Bavaria, in the principality of Neuberg, ſituate at the confluence of the Vilz and Nab, 12 miles N.N.W. of Ratiſbon.

KALTENBRUNN, a town of Weſtphalia, in the principality of Sulzbach, 12 miles N.E. of Sulzbach.

KAMNITZ, a town of Bohemia, in the circle of Leitmeritz, with a manufacture of ſtockings, which forms its principal trade. It is 21 miles N.N.E. of Leitmeritz, and 30 S.E. of Dreſden.

KANDEGHERE, a town of the peninſula of Hindooſtan, in the Carnatic. In 1599 it was the capital of a kingdom, called Narſinga, the reſidence of a Hindoo king, whoſe dominions extended over Tanjore and Madura; and in 1640, a deſcendant of that prince, who reigned here, permitted the Engliſh to form a ſettlement at Madras. It is 70 miles N.W. of Madras. Long. 79. 24. E. Lat. 13. 46. N.

KANG-HY, Emperor of China, and of both the Tartaries. He was ſon of Chun-Tchi, founder of the preſent reigning dynaſty, called Tai Tſing. He aſcended the throne in the year of our Lord 1662, and reigned ſixty-one years. His will, which is tranſlated and enriched with notes by Joſeph de Grammont, miſſionary at Pekin, preſents many curious facts and obſervations relative to the hiſtory, religion, laws, and manners of China. It runs in theſe words:

"From the foundation of the empire to the preſent time, every ſovereign has paid religious reſpect to Heaven, and imitated the examples of his anceſtors.

"According to this law, which is the baſis of every good government, the principal duty of an emperor is to maintain order, peace, and plenty in his dominions; to watch, without intermiſſion, for the purpoſe of averting from his ſubjects every thing which can tend to diſturb their tranquillity and eaſe; to treat foreigners with kindneſs; to maintain a reciprocal commerce with other nations; and to enjoy with them the riches contained within the four ſeas*. Happy the prince whoſe conduct is regulated by this ſacred duty.

"For me, I have attained the ninetieth year of my age, and the ſixty-firſt of my reign; I do not attribute my long life and reign to my feeble virtue, I owe this double bleſſing ſolely to the protection of Heaven and Earth †, to the benignity of that Spirit who governs all generations ‡, and to the ſingular merits of my anceſtors §.

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* As this ſmall tract contains many things not well known to the majority of readers, it has been thought proper to elucidate it with notes. Chineſe geographers repreſent the earth ſquare, and ſurrounded on every ſide with water. The ſquare continent is the empire of China only, which they call the middle kingdom *Tchou Kao*, becauſe they ſuppoſe the other kingdoms to be nothing more than ſmall iſlands diſperſed among the four ſeas, which anſwer to the four ſides of their land. They are now a little more enlightened on this ſubject, but their maps are unaltered.

† According to the Chineſe, the heavens and earth joined together, *Tien-ty*, deſignate the Ruler of the univerſe.

‡ The Chineſe ſuperſtition places genii and ſpirits every-where; fire, thunder, mountains, rivers, roads, houſes, all places, and almoſt all beings, have their tutelary ſpirits; the ſpirit here alluded to is that of the earth.

§ The Chineſe of diſtinguiſhed birth, or dignity, are of opinion, that the *Chang-ty*, or ſupreme Lord of heaven, confides to their anceſtors the care of their whole family. Following this vain and preſumptuous idea, when a Chineſe is deſirous of obtaining ſome ſignal bleſſing, he addreſſes his prayer to one of his anceſtors; and the greater the merits of the anceſtor, the more his deſcendant thinks himſelf ſecure of proſperity.

"I have perused, with attention, the history of the monarchy, from the reign of its founder, Hoang-ty *, to this time; four thousand three hundred and fifty-one years are elapsed. Of the three hundred and one emperors who have filled the throne, during these forty-three centuries, not one has had so long a reign as myself: I did not expect so long a career; when I attained my twentieth year, I did not expect to live till thirty, but never dared to flatter myself that I should reach forty. How distinguished, then, how favoured am I by Heaven, in being permitted to live to the age of ninety!

"We read in the *Chu King* †, that long life, riches, and strength of body, joined with peace of mind, love of virtue, and an easy death in an extreme old age, are the principal sources of human happiness. From this it may be inferred, that very few men are perfectly happy, for the last source of happiness is rarely conjoined with all the preceding ‡. I know not, nor can I foresee, when the end of my days will arrive; but, at my present advanced age, I consider myself as having attained the summit of happiness. Lord of a mighty empire, I possess all that is environed by the four seas encircling China; at the head of a family, my sons and grandsons, who amount to fifty in number, give me assurance of long and brilliant posterity: moreover, wars and commotions have utterly ceased throughout my states; from one end of my empire to the other, my subjects, submissive and faithful, enjoy the most profound peace.

"When I reflect on the events of my reign, I see no probability that my tranquillity should be interrupted; and if this day were appointed to be my last, I think my mind would maintain the most perfect composure. Every one knows the cabals, the factions, and intrigues, and the system of plunder which preyed on the state when Heaven chose me as governor. I do not presume to arrogate to myself the merit of those singular events which have so happily changed the face of affairs, and which fixed me on a tottering throne; but it affords me the purest consolation to see order, peace, plenty, and subordination now generally prevalent throughout the whole of my extensive empire.

"This glorious revolution, I own cost me immense labour and pains; imitating the emperors of the three first dynasties §, I keep a vigilant eye on all quarters of the empire. The parties and revolts which arose on all sides, at every moment rent my heart, engaged all my attention, kept me in perpetual uneasiness, and permitted me to take no repose night or day. What oppositions have I not submitted to! What griefs have I not concealed, and what obstacles have I not surmounted!

"When I reflect on the embarrassments and corporeal labours I have endured, I cease to wonder that the emperors of preceding dynasties did not reign longer. No, it was not intemperance and voluptuousness, as some inconsiderate historians, whose pleasure consists in censuring even the most irreproachable sovereigns, have pretended; it is not, I say, intemperance and voluptuousness which have abridged their days; but the immense weight of public affairs, the uninterrupted series of cares and solitudes, the short periods of their domination must be imputed: they have sunk under the weight of empire, like *Tchu-ke Leang* ||, who terminated his career of glory exhausted with fatigues and labours. Oh, how few ministers of state endeavour to imitate this great man!

"A minister who assumes the management of affairs, can renounce it when he will; the engagement by which he is attached to his prince, only retains him while his zeal for the service continues; as soon as he is disgusted he dismisses himself from his employ, retires from court, and returns to his family; where, liberated from all cares and inquietudes,

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* It is certain that Tou-hy and Chin-noug are looked upon by the Chinese as the first emperors who governed China, but they do not know the era and duration of their reign. Hoang-ty afterwards restored the peace of the empire, established ministers, and regulated the form of government. It is not surprising that he should be considered the founder of the empire.

† The *Chu King* is one of the six sacred books of the Chinese; it includes the foundation of their ancient history, the principles of government of their first emperors, and their precepts of morality.

‡ To the sources of happiness here enumerated, the *Chu King* opposes six sources of misery: 1st, a short and vicious life; 2d, poverty; 3d, disease; 4th, grief; 5th, weakness; 6th, cruelty. The gospel alone shews the real sources of happiness and misery; the most sublime systems of pagan philosophy contain only feeble conjectures on this important subject.

§ The three first dynasties, or families, who governed the empire were distinguished by the appellatives of Hia, Chang, and Tcheou.

The first, Hia, founded by Yu the Great, began 2200 years before the christian era, and in the space of 441 years, produced seventeen emperors.

The second, Chang, acknowledges Tching-tang for its founder; it began 1765 years before the christian era, and produced twenty-eight emperors, who reigned 644 years.

The third, Tcheou, founded by Vu Vang 1121 years before Christ, reigned 875 years, and gave birth to thirty-five emperors. The reader is not to imagine that all these princes were models worthy to be followed: several in each dynasty were known only by their debauchery, cruelty, injustice, and impiety. The most celebrated in history are Ty-Kié, of the first, and Chen Sin, of the second dynasty, who deserve to be considered as the Neros of China: but Yu the Great, Chao Kang, Tchu, of the first; Ven-Vang, Tching-Tang, Tai-Kia, Vai-Jiu, &c. of the second; and Vu-Vang, Thing-Thang, &c. of the third dynasties, were emperors so distinguished for their wisdom, equity, moderation, love of their people, and zeal for the public good, that all wise emperors make a merit and glory of imitating their actions and virtues.

|| Tchu-Ke Leang rendered himself famous under the two last emperors of the dynasty of Han, about the year of Christ 220. His inviolable fidelity to his sovereigns, his constant application to business, his superior talents for government, raised him to the first dignities of the empire; but that which principally distinguished him in those times of trouble and disorder was his great bravery and ability in the conducting of armies. The greatest generals were afraid even of his shadow. He died in arms in the cause of his sovereign. The fall of the dynasty of Han speedily followed the death of this great man, who was its only support.

he finds consolation in the embraces of his offspring, and after spending an easy, mild, and agreeable life, he sinks quietly into the grave.

" How different the lot of an emperor! When once he has assumed the helm of affairs, whatever difficulties may attend the conduct of them, he is forbid to delegate his trust into other hands; the rest of his life is then only a web of troubles, uneasiness, and labour.

" Those who read the histories of Chun and Yu, will see with admiration that those two emperors * never for an instant abandoned the reins of empire, that they themselves entered into all the affairs of all their subjects, for them alone they lived and both died exhausted with labour and fatigue, and far distant from their court and their families; the one at Tchan-ow, the other at Hoei-Ki-Kien. Let any one consult the Y-King, that sacred book, where good and evil, virtue and vice, are exhibited without disguise, and painted in appropriate colours; he will find no trait of reproach on the imperial character. In fact, to be without a place of rest, to exert, and even exhaust his strength, is the lot of an emperor. But among all those who have governed the empire prudently, I dare pronounce that no one will be found whose reign has been so replete with troubles as my own

" Neither jealousy, love of glory, nor ambition, placed my family on the throne of China. In consequence of the misunderstanding which prevailed between the Ming † family and mine, my father justly declared war against him; and the troubles ‡ which then desolated China, rendered it an easy conquest. My father was even advised by his ministers and generals not to let pass so favourable an opportunity of making himself feared and respected by his neighbours: but, considering it contrary to the decrees of Heaven to dispossess a family who had been legally in possession of the throne for near 300 years, he resisted every solicitation, and could never resolve to adopt so violent a measure. Meanwhile the troubles of the empire daily increased. The Y-Tching was master of Pekin; the emperor Tsong-Tching hung himself through despair. All the empire in alarm and consternation then turned their eyes towards my father, and implored his aid against the tyranny of the usurper. Touched with the woes of the nation

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* Yao-Chun and Yu have always been considered by the Chinese as the most perfect models for sovereigns; fathers of their people, their only aim was to render them happy and virtuous. Their reign may, with reason, be regarded as the reign of clemency, justice, prudence, and all the social virtues. The emperor Chun ascended the throne 2277 years before the christian era. After a reign of fifty years, he died at Ishan-ou, in the province of Kuang si, aged 110 years.

Before he attained the throne and acquired the love and esteem of his people by those virtues which make great kings, the emperor Yu had already entitled himself to their eternal gratitude by the important services he had rendered the state. The renewal and amelioration of agriculture, the liberty and facility of trade in all the provinces, but especially the draining of the waters with which all the low lands of the empire were overflowed, a work worthy of ancient Rome, were the immortal fruits of the indefatigable application and superior genius of this great prince. He began his reign in the year 2217 before Christ, and, after ten years, terminated his illustrious career at Hoei-Ki-Kien, a city of the third order, dependent on Chus-hiu-tu, in the province of Tche Kiang.

† The dynasty of Ming was that immediately preceding the reigning family, called Tai-Tsing. It was founded by Ming tait-son, in the year of Christ 1384. It produced sixteen emperors in the space of 276 years. The misunderstanding between the two families originated solely in the haughtiness and contempt manifested by the last emperors of the Ming family, or rather by their eunuchs and mandarins, towards the Tartar princes. These misunderstandings occasioned frequent wars.

‡ China was then in a most critical situation. The Se-Schum, the Hu-Kuang, the Kiang-Si, the Ho-Nan, the Chen-Si, all these fine provinces were a prey to different parties of rebels, every chief of whom pretended to the empire; violence, murder, and plunder, were generally prevalent. Of all the chiefs of parties, Li-Tse-Tsching was the most powerful and most to be dreaded: while the others by fire and sword destroyed cities and countries, and sought only to enrich themselves by the spoils of the great and of the poor, he, less ferocious and more cunning, still retained some vestiges of humanity; and if he despoiled individuals in high stations, he employed the booty in relieving the miseries of the people. By this artful conduct, he increased his party to such a degree, that his troops were equal to those of the emperor, not only in courage and discipline, but in numbers. Seeing himself at the head of such a fine army, after making himself master of the Ho-Nan and the Chen-Si, he did not hesitate to assume the title of emperor, and advance towards the capital. He knew that place, defended by a garrison of 60,000 men, to be impregnable; but informed of the misunderstanding which prevailed between the eunuchs and the military officers, and of the disposition of a great party which had been formed in his favour by means of his emissaries, he was secure that the gates would be opened to him. In fact, in three days after his arrival, he entered the city at the head of 300,000 men. The emperor Tsong Tching, who had bestowed all his confidence on the eunuchs, was entirely ignorant of all that was passing without. He thought his enemies were still at a great distance, when two eunuchs came to him from Li-Tse Tching, announcing his arrival, and demanding the crown. By this distressing proposition, Tsong-Tching perceived he was betrayed. He wished to leave his palace without delay, accompanied by his guards, but no one had the courage to follow him. The unhappy prince, thus deserted, and feeling that he was now without resource, put his family affairs in the best order he could, and yielding implicitly to the dictates of his despair, retired into his garden, where he hung himself on the branch of a tree by his girdle. A few hours afterwards the rebel entered the palace, and caused himself to be again proclaimed emperor.

While this revolution took place in the capital, prince V-Geer was commanding the Chinese troops in the Leao-Tong. Hardly had he learned the state of things, when, resolved to avenge his sovereign, he immediately made peace with the Tartars, and called in their aid to expel the rebel, and give peace to the empire. Li-Tse-Tching could not long hold out against the valour of the Chinese and Tartar troops united. After a few battles, in which he constantly had the disadvantage, he at length took to flight, and retired to the Chen-Si, with the wrecks of his army, where, after a time, he fell in a battle with the prince V-San-Quei.

which were already at their greateſt height, my father yielded to the wiſhes of the people. He entered China, exterminated the rebel and all his party, and by the acclamations of the grandees and people was ſaluted and acknowledged emperor.

" His firſt care was to diſplay his eſteem for the emperor Tſong-Tching, by decreeing that all due funeral obſequies ſhould be performed, according to the cuſtoms of the empire.

" If we aſcend further, to the preceding dynaſties, we ſhall perceive that Han-Kao-Tſou *, founder of the dynaſty of Han, was only a ſimple commiſſary of a diſtrict: that Ming-Tai-Tſu, founder of the dynaſty of Ming, once ſerved as footman in a monaſtery of bonzes †: that towards the end of the dynaſty of Yuen ‡, general Tching-Yen-Leang, at the head of a conſiderable army, obtained the imperial dignity, which was ſoon ſnatched from him by the founder of the Ming family.

" My race is deſcended from the kings of Eaſtern Tartary; they took poſſeſſion of the empire by virtue of a particular diſpenſation of Heaven, and the conſent of the nation.

" In times of diſorder and anarchy, when every department of a ſtate is in confuſion, he who by his prudence, his authority, or his ſuperior talents, ſucceeds in reſtoring order and peace, always becomes maſter, and legitimate poſſeſſor of the ſupreme authority: this fact is proved by hiſtory. No man by his own ſingle exertions can raiſe himſelf to ſovereignty, for ſceptres and crowns are given by Heaven. He on whom the choice falls has nothing to fear from man; if Heaven deſtines him to a long and peaceful reign, the united efforts of all mankind cannot impede or abridge its courſe.

" From my earlieſt youth I have ſtudied the writings of the ancients and moderns; and I am not unacquainted with their uſeful, curious, and inſtructive ſentiments on every ſubject. In the vigour of my days, I could bend a bow of one hundred and fifty pounds weight, and ſhoot an arrow of thirteen handfuls long §. The leading of armies and conduct of battles and ſieges are arts in which I am perfectly verſed.

" Yet, although I am a great man of war, bred in the tumult and din of arms, no man can reproach me with having at any time violated the laws of juſtice and humanity. I never in my life put an individual to death unjuſtly: if I ordered the deſtruction of the three kings ||. and the extermination of the family of Mo-pe ¶, theſe ſacrifices were required for the intereſt and welfare of the ſtate.

" As to the imperial treaſure, I have always conſidered it as the blood and ſweat of the people; and accordingly I have never uſed it but for the ſupport of my armies in the time of war, and the ſubſiſtence of the poor in times of dearth: I never made a ſuperfluous or uſeleſs expenditure of it.

" Let any one enter the different palaces ** in which I reſide during my progreſſes, he will find nothing rich or curious in the furniture or the ornaments. Ten or twenty thouſand taels a year ſuffice for the expenditure incident to each palace. The repairs of the dykes coſt the nation annually upwards of three millions of taels; thus for the maintenance of all my palaces, not a hundredth part of the money is expended which it coſts to repair the dykes.

" Have I not reaſon, then, to feel perfectly at eaſe reſpecting the judgment of poſterity?

" Formerly, Leang-Vu-Ty by his valour obtained the diadem. At the age of fourſcore he was dethroned by his vaſſal Heu-King, who cauſed him to be ſhut up between

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* Han-Kao-Tſou, before he attained the empire, was known by the name of Lien Pang. At firſt, he was a mere adventurer, who, from being a ſimple commiſſary of a diſtrict, put himſelf at the head of a troop of abandoned characters. His natural and perſuaſive eloquence, his moderation, his courage, and ſkill, by degrees formed for him a conſiderable faction, by which he was enabled to declare war againſt his ſovereign, and to deprive him of the empire. He aſcended the throne 205 years before the chriſtian era. The hiſtory of China ſpeaks in high terms of praiſe of his reign, which laſted twelve years. The dynaſty of Han, founded by him, produced, in 426 years, twenty-five emperors.

† Ming-Tai-Tſu, before he was emperor, was known by the name of Tchu, afterwards Hung-Vu: while he was yet a ſervant in a monaſtery of bonzes, he enrolled himſelf in a numerous troop of outlaws, and ſoon became their chief. By his valour and intrepidity, he ſucceeded in wreſting the crown from the Mongol race, and in expelling them from the empire.

‡ The dynaſty of Yuen, or of Eaſtern Tartars, known by the name of Mongols, was founded by Chit-Su, in the year after Chriſt 1280. In the ſpace of 89 years it gave nine emperors. In the reign of the laſt, named Chun-Sy, a prince entirely taken up with trifles and frivolities, among the rebels who contended for the empire, Tching-Yeu-Leang was the moſt powerful. He had already cauſed himſelf to be proclaimed emperor, but ſoon afterwards loſt his crown and his life in a ſea-fight with Tchu, or Ming-Tai-Tſu.

§ By a handful muſt be underſtood the breadth of four fingers. Thus, an arrow of thirteen handfuls long, is equal to thirteen times the breadth of four fingers. The Tartars, who are all extremely expert at archery, aſſert that to ſhoot an arrow of that length from a bow of 150 pounds weight, requires an extraordinary degree of force.

|| Theſe three kings were the kings of Yun-Nan, Kung-Tong, and Fou-Kien. The paſt conduct of theſe three monarchs, their power, both in itſelf and in relation to that of Canton, its good underſtanding and trade with the Dutch, gave umbrage to the Manchou Tartars, then recently eſtabliſhed in China.

¶ The text is ſuppoſed to refer to ſome Weſt Tartar families.

** The emperors never leave the capital, unleſs it be to go to Cheu-Si-Chantong, Kiang-Nau, Leaotong, or Ge-Ho (a palace of pleaſure, ſeven days' journey from Pekin). On all the roads leading to theſe different places there are imperial palaces, called King-Kung, at the diſtance of about five or ſix leagues from each other. Theſe King-Kung are in number about 80 or 90. It is very remarkable, that they are all built in places ſo remote from habitation, that the emperor and his family can alone find accommodation; his ſuite, amounting often to 50,000 men, are obliged to lodge under tents.

four walls and ſtarved to death *. The emperor Soui-Ven-Ty† alſo got poſſeſſion of the crown without reſiſtance, owing to a ſingular trait of feebleneſs in Tchong-Tching-Kung; yet he did not perceive that his ſon Yang-Ty would wreſt from him his throne and life.

"Theſe two emperors ſhould, by timely precautions, have guarded againſt the ambition and the wickedneſs of theſe miſcreants. An attentive obſerver ſpeedily diſcerns plots, however ſtudiouſly concealed.

"As for me, I know my ſubjects, and that they are all well affected towards me. Among the princes, the grandees, the miniſters, and mandarins; among the ſoldiers and the lower order of people; even among the Mongol princes, there is not an individual who does not wiſh me well, and ſincerely pray for a prolongation of my life and reign.

"Old as I am, and approaching the utmoſt limit of life, I feel, nevertheleſs, that my mind and my heart are perfectly at reſt; I even experience a delicious pleaſure when I reflect that the ſons and grandſons of the princes Y-Tſing-Vang and Jao-Yu-Vang, my uncles, are ſtill in full life and health.

"Oh, all you who compoſe my family, do not grieve at my return ‡! So you live long in happineſs and unanimity, I am content, and die with pleaſure.

"Yong-Tſing-Vang §, my fourth ſon, reſembles me in many reſpects. He has all the talents requiſite for government: I command him, after my death, to take poſſeſſion of the empire; let a mourning of ſeven-and-twenty days, according to the preſcribed forms be obſerved ‖; and let my will be publiſhed at court and in the provinces."

KANT (Immanuel), regius profeſſor of logic, metaphyſics, and moral philoſophy, in the univerſity of Königſberg, in Pruſſia. This diſtinguiſhed philoſopher was born on the 22d of April, 1722, of reputable parents, but who were unable to afford him a claſſical education, at their own expence: he was, therefore, at an early age placed in an excellent public ſeminary; which is ſupported partly by voluntary contributions, and partly by the alms or little pecuniary preſents given by houſekeepers to the boys; who, dreſſed in blue cloaks, on certain days in the week, chaunt their hymns or other ſongs of devotion in the public ſtreets, before every reſpectable houſe; and are accompanied by one of their uſhers. From the eleemoſynary money, thus collected by deputations conſiſting of from twenty to thirty ſcholars in each, they are clad, fed, and inſtructed; whence the whole inſtitution is called the *Pauper-houſe*.

Theſe introductory circumſtances will, perhaps, ſerve to explain ſeveral of the peculiarities and eccentricities in the character of this illuſtrious man; who, by his rigid manners, as well as by his ſtoical precepts, has alike excited the attention and admiration of his unbiaſſed cotemporaries.—The writer of theſe lines would not have ventured to engage in ſuch an arduous taſk, had he not, at an early age, been a pupil of Kant; a companion of his leiſure hours; and, though too young to penetrate into the depth of his abſtruſe reſearches, an attentive obſerver of the actions occurring within the ſphere of this extraordinary genius. Beſides, he has attended ſeveral courſes of the profeſſor's lectures, between the years 1778 and 1781, when he quitted the *alma mater* of Königſberg, being then in the nineteenth year of his age: during this period he ſtudied, under Kant, logic, metaphyſics, the philoſophical law of nature, geographical natural hiſtory, and maxims of education (*pædagogicum*); each of which branches was taught in a diſtinct courſe of lectures.

In tracing the gradual developement of a mind that has given the world ample proofs of tranſcendent abilities,

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* Leang-Vu-Ty, before he was emperor, was known by the name of Siao-Yuen. His virtues, political and military, had raiſed him to the dignity of prime-miniſter. Cloaking his ambition under various pretences, he ſucceeded in depriving two of his ſovereigns of their life and crown. Having attained the throne, he governed with extreme judgment, application, and activity. At length, being infatuated with the reveries of the bonzes, he retired to a monaſtery, and almoſt entirely abandoned the reins of government. Murmurs were raiſed on every ſide. Heu-King, prince of Ho-Nan, immediately came at the head of an army, and took poſſeſſion of the imperial city of Nan-King. The emperor was brought into his preſence; ſtruck with his venerable age, and firm, tranquil countenance, the rebel durſt not take his life on the ſpot, but condemned him to be ſtarved in priſon. In ſpite of the endeavours and ambitious projects of Heu-King, the crown deſcended to a ſon of Leang-Vu-Ty: the dynaſty of Leang, founded by him in the year of our Lord 502, reigned 54 years, and gave four emperors.

† Soui-Ven-Ty, before he was emperor, was a powerful prince in the north, known by the name of Yang-Kien. Being informed that the emperor Tchang-Tching-Kung, of the dynaſty of Schin, had rendered himſelf odious to his ſubjects by his infamous and criminal debaucheries, he put himſelf at the head of a numerous army, and traverſed the ſouthern part of China, and, without reſiſtance, entered the imperial city of Nan-King. On his arrival, the cowardly and voluptuous Tchang-Tching-Kung diſappeared; and, for fear of falling into the hands of the enemy, went and threw himſelf into a well. Yang-Kien remained in peaceable poſſeſſion of the empire. In the fifteenth year of his reign, he reſolved to name a ſucceſſor, and fixed upon his eldeſt ſon, a prince without any abilities. Yang-Ty, his ſecond ſon, enraged at this preference, and inflamed with a luſt of dominion, opened his way to the throne by the death of his father and brother. Sui-Ven-Ty founded, A.D. 590, the dynaſty of Sui, which, in 28 years, had three emperors.

‡ In the language of the Tartars, to die, and to return, are ſynonimous. Thus, to expreſs that a man is dead, they ſay, *petere he*, he is returned.

§ Yong-Tſing-Vang, when he aſcended the throne, took the name of Yong-Tching:—he did not falſify the advantageous opinion entertained of him by Kang-Hy. During his government, he conſtantly diſplayed great vigilance, application, and firmneſs. The only ſpot on his annals is his inhumanity towards four of his brothers, ſome princes of the blood, and an entire family of chriſtian princes. The Chineſe hiſtorians will not impute as a crime his having driven from the empire all the miſſionaries who had been admitted by his father; but the Chriſtians of Europe will not be equally indulgent. After a reign of 13 years, this prince left the throne to his ſon, by whom it is filled at this day.

‖ This mourning of twenty-ſeven days is kept by the princes in the interior of the palace. The public mourning laſts 100 days.

many difficulties preſent themſelves to the biographer, who is not leſs actuated by truth than perſonal regard towards a man, from whoſe oral and written inſtructions he has derived the firſt leſſons of prudence and wiſdom. Although the data in the life of Kant are but few, from which the diſcerning reader might diſcover the links of a great and almoſt boundleſs chain, yet there will be found ſome characteriſtics, marking the peculiar propenſities of the juvenile philoſopher.—When Kant commenced his literary career, both at the ſchool before mentioned, and at the univerſity of Königſberg (namely, between the years 1734 and 1744, and for ſome time after that period), it was cuſtomary to invite the fathers of the College of Jeſuits to all public diſputations, which were then held in the univerſity every *ſemeſtre*, or half-yearly, in what is termed the *Auditorium Maximum*. In theſe polemical diſcuſſions, wit and ſophiſtry rivalled each other; and he who could moſt pertinaciouſly adhere to the *forms* of his ſyllogiſms, however ſophiſtical the arguments, generally carried away the palm from the diſputants. The ſtudents of the univerſity, as well as thoſe of the different ſchools advanced in learning, together with the moſt reſpectable inhabitants of the city, had free acceſs to theſe literary tournaments. Our Kant, being naturally of an inquiſitive diſpoſition, and poſſeſſing acute powers of perception, devoted himſelf to the ſtudy of mathematics, in combination with natural and experimental philoſophy. Animated by the high reputation which his countrymen Leibnitz, Wolf, Bernouilli, and others, had acquired both at home and abroad, after having repeatedly tried his powers of reaſoning on abſtruſe ſubjects of divinity, which afforded him little ſatisfaction, he ſoon relinquiſhed the idea of qualifying himſelf to perform the duties and ceremonies of that ſacred profeſſion, and turned his attention excluſively to the inveſtigation of the different theories and proofs advanced by other philoſophers "on the living or moving powers of bodies." His firſt treatiſe on this ſubject appeared at Königſberg in 1746, 8vo. pp. 220, in the German language, with two plates. In this juvenile production, which is modeſtly entitled *Reflections*, he ſucceſſively combats the hypotheſes of Leibnitz and Deſcartes; the former of whom had introduced the ſimple propoſition, "that the mere velocity of bodies, even ſuch as are in actual motion, ſerves as a rule for aſcertaining their power;" and the latter had erroneouſly adopted the *ſquare of velocities* in ſuch computation. At this time, Kant was in the twenty-ſecond year of his age, and ſupported himſelf at the univerſity, chiefly by repeating the philoſophical lectures of different profeſſors, whom he alſo attended, to the more wealthy and leſs able ſtudents. Thus, he obtained conſiderable celebrity, both as a private tutor and as a very promiſing mathematician and naturaliſt, who was not born implicitly to adopt the erroneous notions of his predeceſſors. This feature of his character is ſufficiently evident from the following motto, which he borrowed from Seneca, and prefixed to his firſt eſſay; *Nihil magis præſtandum eſt, quam ne pecorum ritu ſequamur antecedentium gregem, pergentes, non qua eundum eſt, ſed qua itur.*

Although Kant did not, for many years, derive great emolument from either his writings or his inſtructions, yet his frugality, which nearly bordered on parſimony, enabled him to live at his native college with credit and reſpect, without any public ſalary or appointment. During this interval, he cloſely purſued his favourite ſtudy, the philoſophy of natural hiſtory, and occaſionally indulged in metaphyſical ſpeculations. His leiſure hours were employed in the acquiſition of modern languages, eſpecially the French and Engliſh, which latter he acquired without a teacher, principally with a view to examine the merits of Locke, Berkley, Reid, Hume, and Beattie; whoſe different philoſophical works were deſervedly, and ſtill are highly, eſteemed on the Continent. After inveſtigating the principles of theſe excellent writers, and finding himſelf diſappointed in his reſearches after a conſiſtent analyſis of the powers and faculties of the human mind, or what is commonly termed a ſyſtem of metaphyſics, he ſuſpended his enquiries on this important ſubject for a ſeries of years; delivered ſemeſtrial, or half-yearly, courſes of lectures on pure and practical mathematics; and amuſed himſelf with the more pleaſing contemplation of the planetary bodies and their revolutions. Thus, after an interval of nine years, he publiſhed his General Hiſtory of Nature, or Theory of the Celeſtial Bodies, founded on Newtonian Principles; dedicated to the late Frederic the Great of Pruſſia: of which a new and improved edition (by the author) lately appeared in Germany.—In the ſame year, 1755, he completed the following Latin treatiſes; in which he gave the firſt ſpecimens of his philoſophical and critical talents: *Principiorum metaphyſicorum nova elucidatio*; and *Diſſertatio de principiis primis cognitionis humanæ*; both 4to. *Regiomonti*. Theſe were ſucceeded by his *Monadologia phyſica*; 4to. 1756.—Soon after their appearance, Kant preſented the world with an ingenious and elaborate Hiſtory of the moſt remarkable Events produced by the Earthquake which convulſed an extenſive Part of the Globe, towards the Cloſe of the Year 1755; 4to. Königſberg, 1756.—Next, in the order of time, are his New Theory of Motion and Reſt, illuſtrated with Experiments on this Subject in Natural Philoſophy, 8vo. 1758:—Reflections upon Opticiſm, 4to. 1759:—An Outline of a Courſe of Lectures on Phyſical Geography; with an Attempt to ſolve the Problem, Whether Weſterly Winds are, for this Reaſon, accompanied with Moiſture in Pruſſia; becauſe they blow over an extenſive Sea, 4to. Königſberg, 1759:—Demonſtration of the Sophiſtical Subtlety contained in the four Syllogiſtic Figures, 8vo. 1762:—An Attempt towards introducing the Propoſition of Negative Magnitudes into Philoſophy, 8vo. 1763:—Enquiries into the Perſpicuity of the Principles relative to Natural Religion and Morals; or, an Eſſay on the Evidence required in Metaphyſical Sciences; being an Anſwer to the Prize Queſtion propoſed by the Royal Academy of Sciences at Berlin, for the Year 1763:—On the only poſſible Method of proving the Exiſtence of the Deity, 8vo. Königſberg, 1763:—Obſervations on the Effect of the Beautiful and the Sublime, 8vo. Königſberg, 1764:—Dreams of a Ghoſt-ſeer (Fanatic), illuſtrated by Dreams in Metaphyſics, 8vo. 1764:—Remarks ſerving to explain the Theory of Winds, 4to. 1765.—Theſe *eleven* treatiſes, laſt mentioned, are printed in the German language.

After a period of five years, Kant produced the outline of what is now called the *Critical Syſtem*; the principles of which are contained in the following work: *De mundi ſenſibilis atque intelligibilis forma et principiis*, 4to. Regiomonti, 1770.—The memorable occaſion on which this abſtruſe enquiry was written, deſerves to be ſtated. By the ſtatutes of the univerſity of Königſberg, every new profeſſor, when raiſed to the academical chair, is obliged to publiſh and defend an inaugural diſſertation, before he is admitted to exerciſe his public functions, or to become a member of the ſenate. It is further worthy of remark, that the new theory herein developed, though ingeniouſly oppoſed by three of the moſt expert diſputants of the univerſity, was ably defended by Marcus Herz, a gentleman of the Jewiſh nation, who then ſtudied medicine and philoſophy at Königſberg, and has ſince given many ſtrong

proofs of his proficiency by ſeveral publications, which, by the Germans, are conſidered as *claſſical:* he is at preſent one of the firſt phyſicians at Berlin, aulic counſellor, and a member of the Supreme College of Health.

In conſequence of this elaborate and profound elementary work, the name of Kant reſounded in the univerſities of Germany, eſpecially thoſe of the proteſtant perſuaſion; and the ſtrenuous advocates or followers of Ariſtotle, Deſcartes, Leibnitz, Wolf, Baumgarten, and other authors, began to feel the inſtability of their ſyſtems, and to apprehend a general reform in philoſophy. At the ſame time a general alarm ſpread through the German ſchools; where dogmatiſm on the one hand, and ſcepticiſm on the other, had long prevailed, to the great detriment and diſgrace of learning. Kant, from this period, purſued his critical labours with redoubled vigour; entered into a philoſophical correſpondence with ſeveral of the firſt literary characters of the age, particularly with Lambert, then preſident of the Royal Academy of Sciences at Berlin; and whoſe endeavours not only tended to accompliſh the ſame great object, but who had, in his Coſmological Letters, propoſed theories which perfectly coincided with thoſe of Kant, previouſly publiſhed in his General Hiſtory of Nature.—We have the letters interchanged by theſe two great men before us, forming part of the ſecond volume of Immanuel Kant's Miſcellaneous Works, edited by Prof. Tieftrunk, of Halle, in three large volumes, 8vo. 1799, third edition. It clearly appears from their mutual communications, that both were led to purſue the ſame path of philoſophiſing; with this difference only, that Lambert conſidered *time* and *ſpace,* or rather the phenomena which take place in time and ſpace, as *real* objects of perception; whereas Kant maintains, that they are merely *two eſſential forms of the mind.* Thus, *time* is the neceſſary condition of all intuitive perceptions, and the idea we have of it ſerves to aſcertain the impreſſions received by the *internal* ſenſes; ſuch as the imagination, memory, reflection, &c. On the contrary, *ſpace* is the characteriſtic of all external perceptions, being determined by the medium of the external ſenſes, and chiefly by thoſe of touch, viſion, and hearing. No thinking perſon will deny the truth and accuracy of this diſtinction; for the neceſſity and importance of ſuch diviſion cannot be queſtioned, unleſs by thoſe who are decided enemies to all innovation, or blind adherents to Ariſtotle and the ſchool-men.

Although the Latin treatiſe, laſt mentioned, contained the elements of a comprehenſive ſyſtem, yet, as many new and abſtruſe propoſitions were not illuſtrated by examples, the whole theory remained for about *eleven* years in a manner confined to the univerſity of Königſberg; where it was publicly taught and exemplified by Kant, in his logical and metaphyſical courſes. During this period the author employed himſelf almoſt excluſively in the elucidation of the *Critical Syſtem*; and we meet with no other publication between the years 1770 and 1781, than a ſhort eſſay, On the different Races of Man, in 1775.—When the philoſophers of Germany had nearly forgotten the bold attempt made by Kant, in his Inaugural Diſſertation, he unexpectedly rouſed them from their dogmatical ſlumber. The Critique of Pure Reaſon at length appeared in 1781; a work which promiſed a total and beneficial reform in every philoſophical department. For a long time, however, after its publication, it had been unaccountably neglected, or, at leaſt, miſunderſtood. This was ſurely not in conſequence of the difficulties with which the ſtudy of it, as well as of every metaphyſical ſubject, is neceſſarily attended; but of a certain indifference to philoſophy, and of a confirmed taſte for ſhallow and popular diſcuſſions, which Kant directly oppoſed. But, as ſoon as the work was more ſtudied and inveſtigated, and had found ſeveral ſucceſsful commentators, a revolution in philoſophy immediately commenced. It ſoon met with numerous admirers and friends; and even its opponents could not withhold their admiration from this maſterly production. They ſaw themſelves every-where driven from their ſtrong holds, and obliged to erect new fortifications for the defence of thoſe philoſophical tenets, which they wiſhed to maintain. Nay, many of the enemies of this ſyſtem became its friends; and the invaluable part of it, which treats of morals, met with an almoſt univerſal approbation. All the different branches of philoſophy were examined with greater ardour; and new ſources of knowledge, which formerly had ſcarcely been conceived, were now expoſed to view. The limits of this ſcience were more accurately defined, and the laudable reſearches after ſtable and ſimple principles, and after a rigid method, gave to philoſophical enquiries a certainty, and an intereſt, of which they had hitherto been deſtitute. Long before this period, doubts had ariſen in reflecting minds, concerning the ſyſtems of Leibnitz, Wolf, and Locke; but theſe had never been unfolded with ſufficient clearneſs, nor had a better theory been ſubſtituted for that which was to be relinquiſhed. Here all ſyſtems were examined with a critical acumen, and a ſolid foundation was laid for a new one. This new philoſophy in a ſhort time found friends and adherents, even among ranks of people who had not devoted themſelves to ſcience, or leaſt of all, to metaphyſics. It excited in Germany a ſound philoſophic ſpirit of enquiry, of which the preſent age was ſcarcely deemed capable. It contains ſuch an immenſe ſtore of new ideas and views, that, hitherto, only a ſmall part of theſe materials can be conſidered as digeſted; and even, in a diſtant age, new branches of knowledge may ſhoot forth from it.

The work itſelf is arranged with a ſyſtematic ſpirit, and written with a noble philoſophic impartiality. The ſtyle is ſomewhat obſcure; the conſtruction and arrangement of the periods, in many places, are ungraceful, heavy, and overloaded; but a reader who has a tolerable underſtanding, and an intereſt for truth, is ſufficiently recompenſed by the originality of thought, and by the new and ſtriking images with which it abounds. The celebrated author diſcovers all the talents requiſite to a reformer of philoſophy, eſpecially in our age:—not merely an admirable acuteneſs, and a rare talent of making *himſelf* the object of *his* reflection, but alſo a knowledge in mathematics and natural philoſophy, of which he had formerly given proofs; a nice ſenſibility of the beautiful and ſublime; and, in general, a cultivated manly taſte; a thorough acquaintance with the different ſyſtems of philoſophy that prevailed before his time; and a refinement of feeling which is truly honourable.

Such is the character given of this profound work, by one of the firſt German critics, the Rev. Dr. Stäudlin, profeſſor of divinity at Göttingen, in his claſſical work entitled, *On the Spirit and Hiſtory of Scepticiſm,* in two vols. 8vo. 1794. And, in order to convince the northern compilers of the *Encyclopædia Britannica,* that in their ſupplement they have inſerted an erroneous and illiberal account of the Critical Philoſophy, we ſhall previouſly obſerve, that the Kantian ſyſtem ought to be examined on the ſtrength or ſtability of thoſe principles on which it is founded; that it is unjuſt and abſurd to compare its individual parts with thoſe of other philoſophical theories; and that ſuch contracted minds as are incapable of reaſoning in the abſtract, of diſtinguiſhing the perceptions of enſe from

intuitive operations of reaſon, or of conceiving the wide difference between experimental knowledge, and that derived from operations of the underſtanding, or of the judging faculty—ſuch perſons are not qualified either to underſtand or to criticiſe metaphyſical propoſitions. Hence, we may eaſily account for the numerous and diſſonant opinions which have, during the laſt twenty years, appeared in Germany, and other countries, reſpecting the merits or demerits of the Critical Syſtem. We admit that the philoſophy of Kant, in all its details, requires a long and painful ſtudy; that his language is ſometimes obſcure, his phraſeology is often inverted, and his reaſonings are ſubtle; but we deny, that ſuch ſtudy is unproductive of real advantage: on the contrary, we are firmly perſuaded, that enquiries into the ſource and limits of human knowledge, are highly beneficial to the deareſt intereſts of mankind; but, at the ſame time, we allow that ſuch ſpeculative diſquiſitions are not adapted to the imbecility either of youth, or of old age. What appears to one perſon "a wonderful jargon," may, nevertheleſs, be perfectly intelligible to another, who commiſerates the ſelf-ſufficiency of the Scottiſh editor when he, in the plural number, requeſts the reader "to reflect that it is not ours." On this occaſion, we ſhall quote Baumgarten; who, ſpeaking of Ariſtotle and other acroamatic writers, expreſſes himſelf in the following appropriate words: "Et vere habent et hoc inter alia commodi, quod

Ignavum, fucos pecus, a præſepibus arcent,

profanumque vulgus vel tacentes doceant, eſſe non nihil in ſcientiis, quod non quivis a furno redux, vel lacu noverit, quamprimum ipſi libuerit, Philoſophum agere."

It would be ſuperfluous, in this place, to enter into the motives which induced the Scotch compilers of their *Encyclopædia* (Supp.), to give an unjuſt and unfavourable account of Kant's ſyſtem; but we have good reaſon to think that, by their own confeſſion, they were the moſt incompetent judges of the ſubject; as they neither underſtood the German language, nor the outline which Mr. Nitſch publiſhed in the year 1796, entitled A general and introductory View of Profeſſor Kant's Principles concerning Man, the World, and the Deity, ſubmitted to the Conſideration of the Learned.—There alſo appeared another View, by Dr. Willich, under the title of Elements of Critical Philoſophy, containing a conciſe Account of its Origin and Tendency; a View of all the Works publiſhed by its Founder, Profeſſor Immanuel Kant; and a Gloſſary for the Explanation of Terms and Phraſes, 8vo. 1798.—From theſe two publications, we conceive an *unprejudiced* reader might derive a tolerably correct idea of the Critical Syſtem, provided he be not an utter ſtranger to metaphyſical reaſoning: in the former he will find a diſtinct analyſis of the firſt principles, on which the new philoſophy is founded; and to the latter is prefixed a conciſe hiſtory of its origin, together with an account of the moſt celebrated theories which prevailed in Germany, previouſly to the publication of Kant's Critique of Pure Reaſon. It cannot, however, be denied, that the title of this work, as well as the nomenclature which its author has adopted, is unintelligible to thoſe who pertinaciouſly ſcoff at every new term, or mode of explanation, different from that which they have been taught to employ by their ſchoolmaſter. Thus, the northern editor (who pretends to have received his account of the Critical Philoſophy from an illuſtrious Frenchman, but we believe from the notorious alarmiſt Barruel) does not appear to underſtand Kant's diviſion of human knowledge into *two* diſtinct ſources, namely, that *à priori*, which is purely intellectual, being neither derived from, nor confirmed by, experience; and that *à poſteriori*, for which we are indebted to our ſenſes, or, in other words, to external perceptions. Now, it is not very difficult to conceive that, by the conſtitution of the human mind, we poſſeſs a certain faculty of comparing, combining, and reflecting on ſubjects which lie far beyond the circle of experience: ſuch, for inſtance, are the ideas of a Supreme Intelligence and its divine attributes; of immortality; of conſcious rectitude in our actions; of the principles of equity and juſtice, both as to ourſelves and others: nay, it includes all thoſe ſubjective operations of the mind, which are performed in an uniform manner by all mankind, and to which the fanatic or lunatic only forms an exception. In illuſtration of this fact, we appeal to every reader of common ſenſe, whether he requires any previous experience to decide, that *ſafety* is in general preferable to *danger*; that *reward* is always more deſirable than *puniſhment*; and that *patient ſearch* after truth is a more praiſe-worthy quality in intellectual beings, than either premature deduction, obſtinate adherence to exploded doctrines, or that ſelf-ſufficient mode of reaſoning, which is peculiar to the contracted mind of the pedant, or the illiberal enthuſiaſt. Hence Kant's diſtinction between experimental and pure intellectual knowledge widely differs from the obſcure notions of Ariſtotle; who indeed ſpeaks of *general forms*, or *formal cauſes*, in the mind, but he does not conſider them diſtinctly with a view to aſcertain the true ſource of human knowledge. It is, however, not an eaſy matter to perſuade thoſe who are ſeized with a mixture of political and religious frenzy, and to convince them that abſtract reaſoning in metaphyſics ſhould never be extended to, or confounded with, the eſtabliſhed tenets of church and ſtate: ſuch infuriated perſons, in all ages and countries, ſee through magnifying glaſſes; which ſhew ſedition, atheiſm, and anarchy, where none of theſe conſequences are apprehended by the calm obſerver. Hence they are utterly unqualified to write upon any other ſyſtem of philoſophy except that which is conſonant with their narrow minds, and by which their grovelling or intereſted views are more immediately ſupported. But, when party ſpirit, together with that faſhionable mania of a revolutionary age, which has convulſed the ſocial circles of Europe during the laſt fifteen years, have again ſubſided, the name of Kant, together with his ſound critical doctrines, will be duly revered.—In juſtice, therefore, to one of his commentators, it ought to be obſerved, that the Scotch reviewer of this philoſophy, after ſophiſtically pointing out the "futility of the ſyſtem, of which (according to him) the fundamental principles are not new;" after endeavouring to ſhew "the improper uſe of terms with its conſequences; groundleſs or falſe aſſertions, bad logic, &c.;" is anxious to perſuade the world that the "*tranſcendental philoſophy* of Kant inverts the order of nature, and is as little calculated to promote the progreſs of ſcience as the ſyllogiſtic ſyſtem of Ariſtotle, which was likewiſe built on *categories* or *general forms*." That ſuch aſſertion is egregiouſly falſe, will be allowed by every novice, who has only learnt to diſtinguiſh between abſtract reaſoning and demonſtration *in concreto*; between the manner of acquiring experimental or phyſical knowledge, and that of ſtudying or teaching the principles of metaphyſical ſcience;—provided the latter, in the preſent ſtate of things, deſerve that denomination. Without adhering to Kant's definitions of *knowledge à priori*, and *knowledge à poſteriori*, the Scottiſh critics continually confound the former with the latter; though they could not fail to underſtand, that our ideas *à priori* are produced *with* experience, but they are not produced *by* it, or do not proceed *from* it: as, therefore, they are conſtitutional in the human mind (though *not innate*), being only the forms of the mind, they are diſtinguiſhed by two marks,

namely, by their being *univerſal* and *neceſſary*, ſo that the contrary of ſuch ideas is impoſſible. Hence twice two is four, &c. among all nations, and in all ages of mankind. In ſhort, we meet with a fund of paradoxical and contradictory aſſertions in the reviews of thoſe very men; who, for want of underſtanding his propoſitions, chiefly deal in abſurd invectives and declamations againſt Kant. Such conduct, however, is highly injurious to the progreſs of true ſcience, and ſtamps diſgrace on the publications in which it is recorded. Thoſe readers who are inclined to doubt the truth of this accuſation, may eaſily convince themſelves of the juſtice of our remarks, by reſorting to the Supplement to the Enc. Brit. vol. II.; where, in the 357th page, No. 20. the critical philoſophy of Kant is ſtrangely compared with the inductive reaſoning of Bacon; a man whoſe talents we all revere, but whoſe excellent doctrine of induction is applicable chiefly to phyſical, and not to metaphyſical, demonſtrations: further, in the next paragraph, the reviewer boldly aſſerts, that "the diſtinction between knowledge *à priori*, and knowledge *à poſteriori*, is as old as ſpeculation itſelf; and the mode in which Kant illuſtrates that diſtinction, differs not from the illuſtrations of Ariſtotle on the ſame ſubject."—After groſsly comparing the general forms of the human mind to the form of the ſtatue in the rough block of marble; a compariſon which the Stagyrite, or ſome of his talkative diſciples, may probably have made 2000 years ago;—and after inaptly contraſting Kant's general forms or general ideas, with thoſe of Plato; then again confounding this propoſition with the probable meaning of Ariſtotle, "that particular ſenſations give occaſion to the intellect to form general ideas;"—the Caledonian editor ſagaciouſly obſerves, that "his (namely Kant's) doctrine on this ſubject differs not eſſentially from that of Locke and Reid, and many other eminent metaphyſicians of modern times." Thus, it will be evident that the object of the Scottiſh critics was to perplex the reader with a variety of heterogeneous notions, and to leave him in doubt and confuſion.

Whether we have contributed in ſome degree to the elucidation of the *critical ſyſtem*, by the preceding remarks and illuſtrations, muſt be decided by the unbiaſſed reader; but, we truſt, our good intentions will not be queſtioned. We are convinced, that ſuch ſyſtem leads neither to atheiſm, nor to immorality: on the contrary, the moſt able philoſophers of France and Germany have not only ſtudied the works of Kant, but have declared his doctrines, from the pulpit, to be conſonant with both moral and religious duties. Hence, we ſhall proceed to enumerate the different publications which he produced in the German language, ſince the year 1781, or the memorable æra of the elementary book before criticiſed.—*Prolegomena*; or, introductory Obſervations applicable to every future Syſtem of Metaphyſics that may deſerve the Name of a Science; 8vo. pp. 222; Riga, 1783. This is a conciſe and perſpicuous abſtract of the preceding *Critique* in an analytical method, which the author has here adopted, with a view to return by the ſame path on which he had before advanced ſynthetically.—Reflections upon the Foundation of the Powers and Methods which Reaſon is entitled to employ in judging of its Stability; 8vo. Königſberg, 1784.—Ideas for an Univerſal Hiſtory, in a Cofmopolitical View; and Reply to the Queſtion, What is Illumination of Mind? Theſe two Eſſays were originally inſerted in the Berlin Monthly Magazine for November and December, 1784.—Fundamental Principles of the Metaphyſics of Morals, 8vo. Riga, 1785; (2d edit. 1792).—On the Volcanoes in the Moon; *ibid.* for March, 1785.—On the Injuſtice of printing ſpurious Editions of Books; *ibid.* for May, 1785.—Definition of the Idea connected with the Expreſſion, *a Race of Men*; Berlin Monthly Magazine for November, 1785.—On the probable Origin of Human Hiſtory; *ibid.* for January, 1786.—What is underſtood by the Expreſſion, to become familiar with the Origin of our Thoughts? *ibid.* for October, 1786.—Metaphyſical Principles of Natural Philoſophy, 8vo. Riga, 1786; (2d edit. 1787, pp. 182).—Some Remarks on Mr. Jacob's Examination of a Work written by M. Mendelſſohn, and entitled *Morning Hours*, publiſhed in 1786, and reprinted in Kant's Miſcellaneous Works; vol. III. pp. 89 to 98.—Fundamental Principles of the Critique of Taſte; 8vo. Riga, 1787.—A Treatiſe concerning the uſe of Theological Principles in Philoſophy; publiſhed in the *German Mercury* for January and February, 1788.—Critique of Practical Reaſon; 8vo. Riga, 1788; (2d edit. 1792).—On the Failure of all Philoſophical Attempts made by Leibnitz, in his work entitled Theodicea; Berlin Monthly Magazine for September, 1791.—On the Radical Evil in Human Nature; *ibid.* for April, 1792.—On the common-place Aſſertion, that a Thing may be true in Theory, but is not applicable to Practice; *ibid.* for September, 1793.—Religion conſidered within the Limits of mere Reaſon; Königſberg, 1793; (2d edit. enlarged, pp. 340, 1794).—Some Obſervations reſpecting the Influence of the Moon on the Weather; Berlin, Monthly Magazine for May, 1794.—The following treatiſes having partly appeared in different periodical collections, and partly in diſtinct publications, we ſhall merely tranſlate their titles:—On the End or Termination of all Things; 1795.—Epiſtle to Sömmering, reſpecting the Organ of the Soul; 1796.—On the Peculiarity of the haughty Tone lately raiſed in Philoſophical Diſcuſſions; 1796.—Propoſals for deciding a Mathematical Diſpute which had ariſen from Miſunderſtanding; 1796.—Annunciation of the approaching Concluſion of a Treaty for perpetual Peace in Philoſophy; 1796.—On the ſuppoſed Right of ſpeaking Falſehood from philanthropic Motives; 1797.—Declaration on Mr. Schlettwein's literary Challenge directed to Kant; on the 11th of May, 1797.—On the Art of Book-making; in two Letters addreſſed to M. Frederic Nicolai, the Author and Publiſher: 1797.—On the Power of the Mind to overcome morbid Senſations by mere Reſolution; in Reply to the Aulic Counſellor and Profeſſor Hufeland: 1797.—Anſwer to the reiterated Queſtion, Whether the Human Race is in a progreſſive State of Improvement? 1798.—Conteſt between the Faculties: namely, 1. between the Theological and Philoſophical Faculties; 2. between the Juridical and Philoſophical Faculties; and 3. between the Medical and Philoſophical Faculties: 1798.

Beſide theſe ſmaller tracts, Profeſſor Kant has publiſhed various other performances, which are not contained in the collection of his miſcellaneous works above quoted; and have been ſeparately printed. Of this claſs are, his Project for a perpetual Peace; a Philoſophical Attempt; 8vo. pp. 104; Königſberg, 1795; and which has alſo been tranſlated into French and Engliſh.—Metaphyſical Elements of Juriſprudence; 8vo. pp. 299; Königſberg, 1797.—Metaphyſical Elements of Ethics, or Doctrinal Virtue (*Tugendlehere*); 8vo. Königſberg, 1797.—As the tendency of the laſt-mentioned work has been maliciouſly miſrepreſented by the Scottiſh editor, or his aſſociates, as leading "naturally to atheiſm," we think it our duty to add a few words on the ſubject. Kant is ſaid to make the following ſtrange obſervation: "As it would be abſurd to ſwear that God exiſts, it is ſtill a queſtion to be determined, whether an oath would be poſſible (or rather *admiſſible*) if it were made thus; *I ſwear on the ſuppoſition that God*

exiſts." The true meaning of the author, however, is not *ſuppoſition*; becauſe the German word *vorauſſetzung*, when uſed in a philoſophical ſenſe, ſignifies previous *admiſſion*, or taking it for granted that, &c. In this ſenſe, Kant's *formula juramenti* is perfectly reconcileable; becauſe a perſon who does not admit the exiſtence of the Deity, ſhould on no account be allowed to ſwear; for, if he be ſuffered to avail himſelf of an oath, it will be an abuſe of that ſacred invocation, and conſequently his promiſe will not be binding. Hence Kant juſtly remarks that "all *ſincere* oaths, taken with reflection, have very probably been taken in no other ſenſe."—We do not profeſs to defend the accuracy of Kant's phraſeology; but only to ſhew in what manner the hyper-critic may diſtort the moſt ſolid and harmleſs reaſoning, partly by abruptly ſelecting ſuch paſſages as may ſerve the baſe purpoſe of perverting the ſenſe of the whole inference; partly by tranſlating words ſo as to change their ſignification: for the German term above quoted, is never uſed in an *objective* ſenſe, in which it would be literally ſuppoſition; on the contrary, it is always employed *ſubjectively*, and expreſſes neither more nor leſs than what we have before advanced. Thus, we believe it to be alike unjuſt and illiberal to beſtow ſuch invectives as "mire of atheiſm—deteſtable doctrines," &c. on the writings of a man who is reſpected by diſtant nations, not only for his profound erudition; but alſo for the purity of his manners through a long and active life of ſeventy-eight years. Had he been guilty of the leaſt immoral tranſaction—had he eſpouſed the cauſe of democracy, atheiſm, or any other junto of fanatics—his numerous friends and admirers would no doubt have been reproached with his errors by inimical enthuſiaſts; eſpecially by thoſe alarmiſts who have lately amuſed the public with Proofs of Conſpiracies, and Memoirs of Jacobiniſm, which the writers themſelves believed only during their political fits, and while they were deprived of their ſenſes.

Let theſe obſervations ſuffice for the defence of the Critical Syſtem, which will probably ſtand long after its adverſaries, and their ſcurrilous refutations, have been conſigned to oblivion. We ſhall conclude with giving a ſhort ſketch of the author's peculiar habits and conduct through life.

Kant is of a middle ſtature, rather thin, though well formed, and of ſufficient bone. His head is uncommonly large; the front elevated, his eye lively, beſpeaking great acuteneſs and penetration; but the face is diſproportionately ſmall to the ſize of his head. In his countenance there is an air of dignity mingled with complacency; and, when ſmiling, the grave philoſopher appears to be loſt in the cheerful aſpect of the philanthropiſt. His private character perfectly correſponds with this external deſcription: the writer of theſe pages well remembers the affable and courteous manner in which Kant received him, when he applied for his immatriculation as *Civis academicus*, on the 7th of March, 1778, before he had completed the fifteenth year of his age; and on which occaſion Kant preſided as Dean of the Philoſophical Faculty. In the following year, the profeſſor was elected *Rector Magnificus*, being the higheſt dignity in the academical ſenate, with which he has, ſince that period, been repeatedly inveſted; a new preſident being choſen every ſix months. During a reſidence of nearly four years at Königſberg, he found Kant uniformly beloved and reſpected both by the ſtudents and other profeſſors. If this great man were not parſimonious in his domeſtic economy, and poignant in his ſatire among his beſt friends, he would form an exception to all mankind: for the ſtrict morality and ſtoiciſm, which he inculcates by his precepts as well as by his example, are univerſally admired. Kant is no admirer of the fair ſex, and has ever lived in celibacy it is, however, remarkable, that he is peculiarly attached to Engliſh company, and ſcarcely viſits any houſes in his native city, excepting thoſe of Green, Hay, Motherby, Barkley, and other Engliſh merchants; with moſt of whom he has been in habits of friendſhip during the laſt thirty or forty years of his life; and almoſt every evening amuſes himſelf with a ſocial game of whiſt, or ombre. His remarks are, on all occaſions, ſparing, but ſometimes pointedly acute; and his wit, eſpecially when directed to females, is often wounding. During the laſt three or four years, we underſtand, he has reſigned his academical chair, and lives more retired than uſual; his health is nevertheleſs good; as his mode of life is exemplarily regular. He retires to reſt at nine o'clock in the winter, and ten o'clock in the ſummer; riſing at five o'clock in the former, and four o'clock in the latter ſeaſon. Daily exerciſe on foot, ſerenity of mind, temperance in eating and drinking, conſtant employment, and cheerful company, have prolonged the life of Kant to the 79th year of his age: though his body is weak, the powers of his mind are ſtill unimpaired; and the whole of his moral conduct is the beſt refutation of the foul and abſurd tendency, which ignorant or malevolent men have falſely aſcribed to the principles of the *Critical Philoſophy*.

KAO-TCHEOU-FOU, a city of China, in the province of Quang-tong. In its vicinity is found a kind of marble, that repreſents, naturally, rivers, mountains, landſcapes, and trees: it is cut into ſlabs, and made into tables, &c. Kao-tcheou-fou has one city of the ſecond claſs, and five of the third, under its juriſdiction.

KATABA, a town of Arabia, in Yemen, defended by a citadel. It is ſituate in a fertile country, near a river which runs into the ſea at Aden, 75 miles N. of Aden. Long. 44. 39. E. Lat. 13. 54. N.

KAYSERSECH, a town of Germany, in the electorate of Treves, 12 miles W. of Coblentz, and 36 N.E. of Treves. Long. 6. 48. E. Lat. 50. 21. N.

KEMNAT, a town of Germany, in Bavaria, 26 miles N. of Amberg. Long. 11. 58. E. Lat. 49. 49. N.

KENTAIFFE, Mount, a ridge of mountains, in the S. part of Thibet, bordering on Hindooſtan Proper. On the W. ſide of this ridge are the two heads of the Ganges, and from its E. ſide iſſues the Burrampooter.

KENTZINGEN, a town of Suabia, in the Briſgau, ſeated on the river Elz, 13 miles N.W. of Friburg.

KERKUK, a town of Curdiſtan, the capital of a government and reſidence of a pacha. It is ſurrounded with walls, and defended by a caſtle; 95 miles E. of Moſul, and 120 S.E. of Betlis.

KETTLE, a veſſel of copper, tin, iron, or other metal, calculated for boiling, melting, or cooking different articles in, over a common fire. The following deſcription of a kettle for boiling inflammable fluids, by Mr. T. P. Smith, appears in the Tranſactions of the American Philoſophical Society. "When we conſider," ſays Mr. Smith, "the many unhappy accidents that occur from veſſels containing inflammable fluids boiling over and ſetting fire to the buildings in which manufactories of them are carried on, it muſt ſtrike us as a matter of importance to form a veſſel which ſhould be ſo conſtructed as to prevent any of thoſe accidents, and yet of ſo ſimple a form as to render it fit for general uſe. Impreſſed with theſe ideas, I take the liberty of offering for your approbation the following plan:

"Let A B C D (Plate 34) repreſent a large kettle, B E, a ſpout running out to the diſtance of three or four feet, commencing at B, four or five inches from the brim of the kettle, and the termination of it E, juſt as high as the

brim A. Let the bottom of this ſpout be covered with wet ſponges or rags. Now ſuppoſe the kettle to be filled up to B with any fluid, then as ſoon as it commenced boiling it would riſe in the kettle, and in riſing but a ſmall perpendicular height would paſs a conſiderable diſtance up the ſpout B E: here the liquor would ſoon cool, and of conſequence fall back into the kettle, and the whole ſubſide to its original height. This would occur as often as the fluid roſe above B, as the evaporation from the wet ſponges or rags would keep B E conſtantly cool.

"It would perhaps be beſt to paſs the ſpout through the ſide of the building into the open air, as thereby the evaporation would be increaſed, and conſequently the ſpout kept at a lower temperature; in this caſe it might be covered.

"In caſe of the fluid to be boiled poſſeſſing a very ſtrong elective attraction to caloric or the matter of heat, the ſpout might be extended to the width of the diameter of the kettle, or a projecting ſhelf might be formed all round it, lined below with wet ſponges or rags.

"In conformity to the wiſh of the ſociety, I procured a veſſel of the form here propoſed. I firſt tried the experiment with water, it boiled very rapidly, but every time the water roſe into the ſpout it immediately ſubſided, although the ſpout had for ſome time been directly expoſed to the heat of one of Lewis's furnaces: I afterwards attempted it with oil; but before the oil boiled the ſoldering of the veſſel, which was made of tin, melted."

KEUSCHBERG, or KIADE, a town of the electorate of Saxony, in Miſnia, remarkable for a victory obtained by Henry the Fowler over the Huns, in 933. It is ſix miles S.E. of Merſburgh.

KIA-KING-FOU, a city of China, in the province of Tche-kiang, remarkable for its ſtreets, ornamented by beautiful piazzas, that ſhelter paſſengers from the ſun and rain. Seven cities of the third claſs are dependent upon it.

KIANGARI, a town of Turkey in Aſia, chief place of a ſangiacat, in Natolia. It is defended by a caſtle, on a rock; and is 256 miles E.S.E. of Conſtantinople. Long. 34. 19. E. Lat. 39. 54. N.

KIEMA, a promontory of Switzerland, on the W. ſhore of the lake of Zug. It is remarkable, that the ground belongs to the canton of Lucern, the timber to that of Zug, and the leaves to that of Schweitz.

KIEN-NING-FOU, a city of China, in the province of Fo-kien. At the time of the conqueſt of China by the Tartars, it ſuſtained two ſieges, in the laſt of which it was taken, and all the inhabitants were put to the ſword. It was afterwards re-eſtabliſhed by the ſame Tartars that deſtroyed it, and has eight cities of the third claſs under its juriſdiction. It is 260 miles S.E. of Nanking.

KILCALMONIL, a town of Scotland, in Argyleſhire, and in the peninſula of Kintire, 17 miles N. of Campbelton.

KILGARREN, a town of Pembrokeſhire, with a market on Wedneſday. It had formerly a caſtle, now in ruins; and near it is a remarkable ſalmon-leap, where that fiſh is caught in great abundance. Above this place, are large works for fabricating tin plates. It is ſeated on the Tyvy, 30 miles N. of Pembroke, and 227 W.N.W. of London. Long. 4. 40. W. Lat. 54. 4. N.

KILHAM, a town in the eaſt riding of Yorkſhire, with a market on Saturday, 36 miles N.E. of York, and 200 N. of London. Long. 0. 36. W. Lat. 54. 5. N.

KILIA, a fortified town of Turkey in Europe, in Beſſarabia; ſeated on an iſland, at the mouth of the Danube. It was taken by the Ruſſians in 1790, but reſtored at the ſubſequent peace. It is 86 miles S.W. of Bialogorod, and 290 N.E. of Conſtantinople. Long. 28. 46. E. Lat. 45. 22. N.

KILLANY BAY, a bay of Ireland, on the eaſt coaſt of the iſland of Arran more, in the county of Galway. Long. 9. 36. W. Lat. 52. 44. N.

KILLBEGGAN, a borough of Ireland, in the county of Weſtmeath, 14 miles E. of Athlone, and 42 W. of Dublin. Long. 7. 55. W. Lat. 53. 23. N.

KILLFENORA, a town of Ireland, in the county of Clare, and ſee of a biſhop, founded in the twelfth century, united to Killaloe in 1752. It is 12 miles N.W. of Ennis.

KILLINAULE, a town of Ireland, in the county of Tipperary, 14 miles N. of Clonmell. Long. 7. 26. W. Lat. 52. 27. N.

KILN-DRYING, a proceſs by which vegetable ſubſtances, ſuch as hops, grain, &c. are deprived of their moiſture and rendered fit for keeping, heat being applied to them in a kiln properly conſtructed for the purpoſe. The important practice of kiln-drying corn in wet weather, firſt attempted by Mr. John Palmer, of Maxſtock, near Coleſhill, in Warwickſhire, is deſcribed, in the following terms, in the Tranſactions of the Society for the encouragement of Arts, Manufactures, and Commerce, who preſented their ſilver medal to Mr. Palmer for his ingenuity.

"The weather proving extremely rainy," ſays Mr. Palmer, "and my corn then ſtanding, taking much damage, I determined upon cutting it wet, and thraſhing it immediately, and then drying it on a kiln: in conſequence of this, I collected as many men as were ſufficient for the purpoſe, and employed them as follows, *viz.*

"I cauſed a part of my men to cut the corn in the common method with ſickles, and bind it into ſheaves. A ſecond part I employed to load it on waggons, and carry it to the barn; and as many as could work in the barn, to thraſh it. The next morning I winnowed it, and carried it to a malt-kiln to be dried; which operation was always completed in leſs than twenty-four hours.

"As it is impoſſible for me to ſend you two ſheaves of the corn harveſted as above deſcribed, I have ſent you the produce of two ſheaves and upwards, which I declare to be a fair ſample of the produce of four acres and upwards.

"A timber ſtove or a hop-kiln, will anſwer the purpoſe of drying corn equally well; or the malt-kiln (Pl. 34).

The Expence per Acre was as under ſtated:

	£.	s.	d.
Reaping and carrying to the barn - -	0	12	0
Thraſhing and winnowing - - -	0	12	0
Kiln-drying - - - - - -	0	5	0
	£. 1	9	0

"N. B. Only a part of the above ſum ſhould be charged to my new method of harveſting corn, *viz.* the extra expence, which is as follows:

"Five ſhillings per acre for drying, and four ſhillings for the extra trouble of thraſhing it.

"After the wheat above mentioned was thraſhed in the common method of flails, and dried, I ſo far completed a machine for thraſhing, that I thraſhed a very conſiderable quantity of wheat, and ten acres of barley, with it, carried from the field in November; and it was dried in the manner deſcribed in my claim. I did not however ſtate this to the Society, becauſe I had taken out a patent, dated the 6th day

of December, 1799, for my thraſhing machine; and was that day going to London to give in my ſpecification, dated the 4th of January, 1800.

"Part of the ſtraw of the four acres, deſcribed in my claim, was uſed for thatch immediately after it was thraſhed and part ſtacked in ſmall narrow ridges, for litter for my fold-yard.

"The grain was very well ſeparated from the ſtraw by the flails; but that thraſhed by the machine was completely cleared, though in a very wet ſtate. This would not be the caſe with the common machines of the North.

"The quantity of wheat upon an acre was about 21 buſhels, which is nearly as much as there would have been if it had been dried by fine weather. When the advantage of getting in an acre of wheat per day, in ſeaſons like the laſt, is properly conſidered, and making it immediately uſeful, at the ſmall additional expence of 9s. per acre, there can be but little doubt reſpecting its utility; for probably theſe men could not be employed at any other work."

The above was accompanied with three certificates, which teſtify that Mr. Palmer did harveſt four acres of wheat and upwards in the year 1799; that his plan is likely to be of general advantage; and that his thraſhing machine is in high repute, and anſwers every end purpoſed.

KIMPOLUNG, a town of Turkey in Europe, in Moldavia, on the river Moldava, 92 miles N.E. of Coloſwar.

KIN, a town of Perſia, in the province of Segeſtan, ſituate at the foot of a chain of mountains, near the lake Zare, 320 miles E. of Iſpahan.

KINDASSA, a town of Hindooſtan Proper, in the country of Molwa, 172 miles E.N.E. of Ougein. Long. 78. 42. E. Lat 24. 15. N.

KINE-POX, another name for the Cow-pox. See Cow-Pox, *Supp.*

KINGSTEIN, a ſtrong fortreſs of Norway. See Frederickstadt.

KING TE-TCHING, a town of China, in the province of Kiang-ſi and diſtrict of Jao-tcheou-fou. It is famous for its beautiful porcelain, is computed to contain a million of inhabitants, and extends a league and a half along the banks of a river, which here forms a kind of harbour, about a league in circumference.

KINROSS-SHIRE, a county of Scotland, ſurrounded by the ſhires of Perth and Fife. It is about 30 miles in circuit, its length and breadth being nearly equal; and ſends one member to parliament, alternately with the county of Clackmannan.

KINTAIL, a peninſula in Roſsſhire, between Loch Garron and Loch Duich. It forms the S.W. corner of the county.

KIN-TCHEOU FOU, a city of China, in the province of Hou-quang. Its diſtrict contains two cities of the ſecond, and 11 of the third claſs.

KIN-TCHING, the capital of the iſland of Lieou-kieou, in the China Sea, and of all the iſlands under that appellation. The king's palace, reckoned to be four leagues in circumference, is built on a neighbouring mountain. Kin-tching is ſeated in Cheonli, the ſouth part of the iſland. Long. 127. 30. E. Lat. 26. 2. N.

KIO-FEOU, a city of China, in the province of Chang-tong and diſtrict of Yen tcheou fou. It is celebrated as the birth-place of Confucius, ſeveral monuments to whoſe memory are ſtill to be ſeen here.

KIRCHBACH, a town of Germany, in the duchy of Stiria, 14 miles S.E. of Gratz.

KIRCHBERG, a town of Germany, in the circle of Upper Rhine, and county of Sponheim, 22 miles W.N.W. of Creutznach, and 41 W. of Mentz. Long. 6. 58. E. Lat. 49. 59. N.

KIRCHBERG, a town of Suabia, capital of a territory of the ſame name, ſubject to the houſe of Auſtria. It is ſeated on the Danube, nine miles S. of Ulm. Long. 10. 12. E. Lat. 48. 16. N.

KIRCHHAYN, a town of Germany, in the principality of Heſſe Caſſel, ſituate on the Wohra, 35 miles S.S.W. of Caſſel.

KIRCHHEIM, a town of Suabia, capital of a lordſhip, 18 miles S.W. of Augſburg, and 25 E.S.E. of Ulm.

KIRCHHEIM POLAND, a town of Germany, in the circle of Upper Rhine, and principality of Weilburg, 16 miles W. of Worms, and 28 N.W. of Manheim. Long. 7. 49. E. Lat. 49. 39. N.

KIRDORF, a town of Germany, in the principality of Upper Heſſe, 11 miles E. of Marpurg.

KIRIN, one of the three departments of E. Chineſe Tartary, bounded on the N. by the river Saghalien, on the E. by the ſea of Japan, on the S. by Corea, and on the W. by Leaotong. This country, which is extremely cold, from the number of foreſts by which it is covered, is ſcarcely inhabited. It contains only two or three ill-built cities, ſurrounded by mud walls. The valuable plant ginſeng grows here; and the emperor ſends hither the criminals baniſhed by the laws.

KIRIN, the capital of the province of Kirin, in E. Chineſe Tartary, ſituate on the river Songari, which is here called Kirin. It is the reſidence of a Mantchew general, who is inveſted with the authority of a viceroy.

KIRKPATRICK, a town in Dumbartonſhire, lying E. of Dumbarton. It is ſaid to be the birth-place of the tutelary ſaint of Ireland. The veſtiges of the Roman wall, built by Antoninus, extend from the frith of Clide at this place, to the frith of Forth. It is called, by the country people, Graham's Dike.

KIRN a town of Germany, in the circle of Upper Rhine, ſituate on the Nahe, 17 miles W. of Creutznach. Long. 7. 6. E Lat 49. 50. N.

KIRSHEHR, a town of Turkey in Aſia, capital of a diſtrict, in Natolia. It was formerly a conſiderable city, and called Diocæſarea. Salt is made in the neighbourhood. It is 84 miles N.E of Cogni. Long. 34. 15. E. Lat. 39. 10. N.

KIRSOVA, a town of Turkey in Europe, in Bulgaria, on the Danube, 76 miles S W. of Iſmail. Long. 28. 4. E. Lat. 44 47. N.

KISHENAGUR, a town of Hindooſtan Proper, in Bengal, 45 miles N. of Calcutta, and 50 S. of Moorſhedabad.

KISMISH, a fertile iſland at the entrance of the gulf of Perſia, 50 miles long and five broad It is well inhabited, and has been remarkable for its pearl fiſhery. Its E. end is 12 miles S. of Gombroon.

KISSINGEN, a town of Germany, in the biſhopric of Wurtzburg, in the environs of which are ſome medicinal and ſalt ſprings. It is 24 miles N. of Wurtzburg. Long. 10. 3. E. Lat. 50. 5 N.

KISTNA, a river of Hindooſtan, which riſes on the E. ſide of the Gauts, forms the boundary between the Deccan and the peninſula, and falls into the bay of Bengal, S. of Maſulipatam.

KISTNAGHERI, a town and fortreſs of the peninſula of Hindooſtan, in Myſore. This town was attacked by the Britiſh troops under Colonel Maxwell, in 1789; he carried the lower fort and ſuburb, without much difficulty; but the garriſon in the upper fort made ſo deſperate a reſiſtance,

that, after two hours' vigorous aſſault, he found it neceſſary to deſiſt from the attempt. It is 54 miles S.E. of Bangalore, and 66 W.S.W. of Arcot.

KITCHEN (*Encycl.*) Under that article we gave ſome account of the kitchen fitted up at the Foundling, under the direction of Count Rumford, which at that period might be conſidered as an experiment. The matron of that charity, however, has ſince drawn up the following particulars, which have been publiſhed by the Society for bettering the Condition of the Poor, &c. Theſe may have the effect of ſhewing how far the trial has ſucceeded.

"The kitchen (ſays the writer) has now had a fair trial, having been in conſtant uſe for above a twelvemonth. The ſaving to the hoſpital in fuel is very conſiderable, being about twenty-five chaldrons of coals a-year. The quantity annually conſumed has been hitherto 35 chaldrons; at preſent it is only 10. There were two cooks in the old kitchen, and they had a ſevere and hot ſervice: one cook, in the preſent kitchen, has a very eaſy one; and the food, particularly the roaſt beef, is better dreſſed than formerly.

"There are difficulties which attend the uſe of all new and valuable inventions at firſt. In this kitchen they were very few, and they were ſoon obviated; and the cook now manages her new kitchen, with much more eaſe and ſatisfaction to herſelf, than ſhe did her old one. The kitchen (the ſize of the room being 17 feet by 21), contains a large iron boiler divided into two parts, one of 82, and the other of 41 gallons; at the further end of which, and juſt above it, is a ſteam-box; which, with the waſte ſteam of the boiler, and without any addition of fuel, is capable of dreſſing 200lb. weight of potatoes. This double boiler and box will dreſs a dinner for above 400 perſons. They are both ſerved by one ſmall fire, which does not conſume, for a day's dinner, more than a peck of coals and a peck of cinders, the price of the peck of coals (reckoning them as dear as 2*l.* 12*s.* a chaldron) being *four pence*: the cinders are ſaved from the conſumption of the former day. On the other ſide of the room, there are two leſſer boilers, one of them divided into two parts; and in the centre of the wall, oppoſite the windows, is the roaſting machine *, which is five feet deep, two feet wide, and fifteen inches high. In this, on the roaſt-meat days, the dinner, being 112lb. of beef for the officers and children, is now dreſſed in four hours and a half, with a peck of coals and a peck of cinders; (ſee ROASTER, *Supp.*) Sixteen months have paſſed ſince this roaſter has been in conſtant uſe for dreſſing large dinners; I have juſt had the flue of the chimney cleaned: the duſt which was taken out (and that not more than a peck), was a mixture of ſmall aſhes and ſoot; but more of the former than the latter. Indeed there did not appear to be any real ſoot found among it. This can only be accounted for by the circumſtance, of all the ſmoke being actually conſumed and uſed in heating the roaſter, inſtead of being diſcharged, as is uſual, out of the chimney, to aſſiſt in increaſing and darkening the atmoſphere of London. The dampers mentioned by Count Rumford, in page 153 of his ſixth Eſſay, were put up before the kitchen was finiſhed, and have been of great uſe. I think the new kitchen does not require ſo much repair as the old one. The iron bars, at the bottom, are not burnt out near ſo ſoon as they uſed to be in the fire-place under the old boilers. They generally wanted repairing once in ſix weeks; there are four fire-places in the new kitchen, and in 16 months they have wanted only ſix new bars."

Theſe boilers would be very uſeful in all pariſh work-houſes. They would cauſe a very conſiderable ſaving of fuel, and almoſt as much of food; the waſte by evaporation, being, in general, much more than can be ſuppoſed, without an actual experiment made. In the uſual mode of boiling, the waſte by ſteam is about one-fifth. That this vapour carries with it a conſiderable part of the food and nouriſhment, may be eaſily aſcertained by any one, who paſſes by any of the kitchens in London, where much ſoup is made; he will find the atmoſphere around loaded with the waſte of a great deal of valuable nouriſhment. There is another advantage belonging to theſe boilers, which is, that by means of the double rim, which is impervious to ſteam, they not only preclude waſte in the food, but prevent its being contaminated by ſmoke; an inconvenience, to which the kitchens and cookery of the poor are peculiarly ſubject.

The double rim is filled by water, into which the projection of the cover of the boiler deſcends, ſo as abſolutely to preclude any communication with the outward air or ſmoke.—The benefit of this double rim may be obtained without an entire new boiler, by making the double rim of lead, ſoldered round the mouth of the old copper, and fitting the cover to it. The expence is about a guinea for a common ſized copper. It anſwered very well, when tried in the poor-houſe at Auckland.—The double rim would be very uſeful alſo in ſmaller boilers, eſpecially if intended for ſoup. Mr. Hopkins of Greek ſtreet, Soho, afterwards made one of ten quarts, for a village ſoup ſhop at Langley in Buckinghamſhire.

Of the cautions in the uſe of Count Rumford's kitchens, one of the moſt neceſſary, and the moſt difficult to procure attention to, relates to the quantity of coal to be uſed †. If,

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* "Enquiries having been made reſpecting the dimenſions of the iron-work and flues of the roaſter and boilers, I add this note.—The roaſter is 60 inches deep, 26½ wide, and 16 high: the grate, which is under the roaſter and ſupplies it with heat, is 22 inches long, 10 inches wide, and 14¾ high; the aſh-hole under the grate is 23 inches high; and the doors of this and of the other grates and aſh-holes are each 10 inches wide, and 7½ high. The two pipes, for forcing hot air into the roaſter, are two inches and three quarters diameter. The lower flue of the roaſter is 15 inches high, and four and a half wide, and winds partly under it; and the upper flue is alſo four inches and a half wide, ſpreading in a ſemicircle over the top of the roaſter.—The larger boiler is 60 inches long, by 36 wide, and 19 inches high: the grate under it is 24 inches long, 15½ wide, and 14 inches high; and the aſh-hole under the grate 18 inches high. The lower flue is ſix inches ſquare, winding partly under the boiler; the upper one eight inches high, and 5½ wide.—Of the leſſer oblong boiler the length is 36 inches, the width 24, and the height 18 inches: of the grate under it, the length is 17 inches, the width 10, and the height 14 inches; the aſh-hole is 14 inches high. The ſize of the ſteam-box, which is ſupplied by the waſte ſteam of the large boiler, is 44 inches long, 24 wide, and 18 high; the falſe cullender bottom being placed five inches above the bottom of the box."

† "The neceſſity of limiting the quantity of fuel (ſays the worthy editor of the Reports) to be uſed, cannot be too ſtrongly or too frequently enforced; and it ſhould be obſerved, that large coal is not ſo proper to mix with the cinders,

inſtead of the peck of coals, which is all that is neceſſary for one of theſe boilers, the cook follows her acquired inſtinct, and lays on twice the quantity, or more, the operation, inſtead of receiving benefit, is prejudiced, and the roaſter very much injured by the waſte of coals. Where coals are uſed without limitation, there is very little chance of theſe boilers or roaſters anſwering.

Three roaſters, after the model of that at the Foundling, have been put up at Chriſt's hoſpital; and now, when (inſtead of nine buſhels of coals, formerly uſed on roaſting days) they are limited to ſomething leſs than one buſhel, being about a tithe of the former conſumption, this quantity anſwers very well dreſſing 560 lb. weight, the allowance of their roaſt-meat days.

In thoſe caſes where public bodies may be induced to adopt Count Rumford's kitchen, it is preſumed that they may think proper to refer to the account of the Foundling kitchen; for which ſee our original article KITCHEN.

The following is the ſpecification of a patent granted to Mr. Walker, of Rathbone Place, Mary-le-bone, for a portable kitchen, for dreſſing and cooking victuals. It is dated May 12, 1801.

"The whole is to be made of caſt or wrought iron, with a fire place in the centre, incloſed with a door, aſh-hole under, a cloſet on each ſide, one of which will ſerve for the purpoſe of baking, &c. the other to contain two ſpits, racks, &c. complete, the top to be uſed for the purpoſe of a broiling plate heated by the ſame fire, the ſmoke conveyed through an iron funnel, in which is fixed a ſmoke-jack to turn the ſpits."

No further verbal deſcription is given, but the reader is referred to the drawings, for which ſee Pl. 34. where *a* is a funnel for ſmoke; *b*, the top which can be uſed as a boiling plate; *c*, a place for fire; *d*, the aſh-hole; *e*, a cloſet to roaſt meat in or broil; *f*, a hot cloſet or oven.

KITCHEN-GARDEN *(Encycl.)* Under the article GARDENING, we have ſpoken fully on the different requiſites for a kitchen-garden. We wiſh, nevertheleſs, further to obſerve, that the moſt important points in this, as well as every other branch of horticulture, conſiſts in digging and manuring the land *well*; and, above all, in the proper *watering of gardens*, for which the implements commonly employed appear indeed to be very inadequate. The filling, and carrying, of theſe veſſels to the ſpot where they are to be uſed too, are attended with great labour and loſs of time. To remedy theſe inconveniencies, different machines have been invented: one of the moſt ingenious and uſeful, is that contrived by M. Sylveſtre, and of which an accurate repreſentation is given in Pl. 35.

It conſiſts ſimply of a caſk, capable of holding a ſufficient quantity of water, for the purpoſe of irrigating the garden. The hinder part of this veſſel is furniſhed with a cock that communicates with the watering pipes, and the caſk is ſupported on a ſtrong frame, with one or two wheels, calculated for walks about eighteen inches wide. The carriage may be drawn by a mule or an aſs, and requires a perſon to guide the animal, to ſupport the veſſel when it is liable to be overturned, and to open and ſhut the cock as often as is neceſſary. Thus, one man will be able to water a conſiderable ſpace of ground in a ſhort time, and to ſprinkle that fertilizing fluid in an equable and regular manner.

KITE, a well-known ingenious paper machine, originally contrived to ſerve as a toy for children, but which has lately been applied to the more uſeful purpoſe of conducting the electric matter of the atmoſphere from the clouds.

Different *electrical kites* have been conſtructed by Cavallo, and other philoſophers; and, though ſuch contrivances are not very difficult, yet there are ſome fixed principles, which ought to be obſerved in manufacturing electrical kites to a certain degree of perfection. To accompliſh this object, we have given a repreſentation of it in Pl. 34. The following are the neceſſary rules, given in a treatiſe publiſhed in German, by the late Profeſſor Lichtenberg, of Göttingen, and copied into the Domeſtic Encyclopædia.

The body of the kite conſiſts of a long ſlender lath, *a*, *b*, and a wooden bow, *d*, *a*, *e*. The former muſt be made of ſlender dry deal, properly planed, about five feet in length, one inch in breadth, and half an inch thick, ſo that it may neither be too heavy, nor too light to reſiſt ſtrong guſts of wind.

The bow *d*, *a*, *e*, is formed of a ſound hoop, that may be taken from a dry caſk; or it may conſiſt of ſplit cane or whalebone, rendered perfectly ſmooth, and of equal thickneſs. Particular attention, however, is requiſite to adapt it to the proper ſize; for if too weak, it will not be ſufficiently elaſtic to expand the cord *c*, *c*. The dimenſions of the bow muſt likewiſe be carefully adjuſted to thoſe of the lath *a*, *b*; and as the utility of the machine in a great meaſure depends on the accuracy of ſuch proportions, we ſhall briefly ſtate the rules by which they may be eaſily aſcertained.

The two ends of the bow are firſt to be contracted by means of the cord, which ought to be properly ſtretched. The middle of the bow muſt be exactly fitted to the lath *a*, ſo that one inch only of the latter project; and the place which is interſected by the ſtring *c*, *c*, ſhould be accurately marked. The lath, from this mark to its extremity *b*, ought

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as coal-duſt that will hardly burn on a common fire. In every inſtance, that has come to my knowledge, of theſe kitchens not having ſucceeded, the failure has been owing to the improper waſte of fuel. The operation of the fire is ſo much increaſed by the manner in which the grates and flues of theſe boilers and roaſters are arranged, that the uſe of the ſame quantity of fuel in them, as in a common boiler, will very ſoon deſtroy all the iron-work, by the intenſeneſs of the heat. In one inſtance, where a Rumford boiler of fifty gallons had not anſwered, but was quite worn out at the end of five months, my firſt enquiry reſpected the quantity of coal uſed; and, by the anſwer, I found that there had been *ſix times* as much coal applied there, as is uſed in the Foundling kitchen for a boiler of more than twice that ſize. The wonder then was that the apparatus had laſted ſo long; but, upon examining it, this was explained; I found a hole broken between the flues, and that the ſtones (that are taken out to clean the flues), had not been properly put in again. By theſe means much of the heat had eſcaped; but enough had remained, to deſtroy entirely ſeveral ſets of bars in the grates, and to burn out the bottom of the boiler.—Many ſimilar inſtances might be quoted, to ſhew the neceſſity of keeping ſtrictly to the quantity of coals; which, for either the roaſter or boiler at the Foundling, is a peck of coal-duſt, mixed with a peck of cinders; and with this little quantity of fuel, there is warm water kept in the boiler the whole day, merely by the heat that remains after the dinner has been dreſſed."

to extend ſomewhat further than double the length of its upper part.

Having found the proportion between the length of the lath, and the ſemi-circle of the bow, every thing depends upon the proper joining of theſe two eſſential parts. Hence a ſuperficial excavation ſhould be made at about an inch from the extremity of the lath *a*, and a ſimilar cut in the centre of the bow; both are then to be brought into contact, and faſtened with ſtrong thread or ſilk.

The extremities of the hoop ſhould now be made exactly of equal length; when one end is to be tied with thin packthread to the bow at *d*, about half an inch from the point; and, after having made ſmall excavations into the lath *f*, on all its ſides, one arm of the hoop *d* ought to be drawn cloſe to the tranſverſe piece; the packthread twiſted ſeveral times round *f*; and at length tied to the other arm at *e*. Now the two ſides from *d* to *f*, and from *f* to *e*, ought to be meaſured; if they happen to be unequal, the difference may be adjuſted by pulling the thread towards the ſhorter ſide. Next, the thread is to be extended from *e* towards *a*, where it ſhould be turned round ſeveral times; and thence conducted to *d*, the place in which it is faſtened, ſo that it will form the angle *d*, *a*, *e*, as repreſented in the figure.—A ſmall inciſion muſt further be made in the part of the lath marked *b*, to which the thread is extended in the direction from *d* to *b*, and thence again to *e*, where it is ultimately ſecured.

Thus the ſkeleton of the kite will be arranged; and it now remains to aſcertain its equilibrium, which may be effected in the following manner: the end of the lath projecting at *a*, ſhould firſt be rounded by the knife, and placed on a table, when the oppoſite end *b* is to be poiſed on the tip of the finger. If both ſides of the bow are in perfect equilibrium, the ſkeleton is then complete; but, if either of them incline to one ſide, the want of ſymmetry may be remedied by cutting or ſhaving off the preponderating ſide of the lath, ſo as to reduce it to an equipoiſe. The frame, thus finiſhed, is next to be covered either with ſilk ſtuff, or thin paper previouſly oiled, that it may reſiſt the effects of moiſture; and to prevent folds either in the ſilken or paper cover, they ſhould be wetted before they are applied, and afterwards dried in a cool place. In order to ſecure the whole covering to the frame, narrow ſlips of ſilk or paper ſhould be paſted acroſs the lath, and over the packthread in all the parts marked *g*; and, when the whole is perfectly dry, its equilibrium muſt again be adjuſted, by putting ſuch additional pieces on the light ſide, as may be requiſite to reſtore the balance.

In conſtructing electrical kites, it is of the utmoſt conſequence to apply the ſtrings *h*, *h*, below the body of the machine to its proper place: when the latter is *five* feet long, the cord ought to be *eleven*, one end of which ſhould be paſſed through the two holes of the lath; namely, one in the direction of the uppermoſt ſlip marked *g*, *g*, and the other through the central part of the bow: then two ſimilar holes muſt be perforated through the lath where the lowermoſt ſlip is denoted at *g*, that is, at a little diſtance from each other; and, after properly drawing out the ſtring, ſo as to form an obtuſe angle over the body of the kite, it ought to be well ſecured behind, and afterwards tied with a knot, exactly in the middle, to make both parts of equal length. Another difficulty might ariſe from the uncertainty of determining the exact point of the cord laſt mentioned, at which the main ſtring governing the kite ſhould be applied. Hence the following general rule requires attention; namely, that according to the impetuoſity of the wind, the principal ſtring muſt be faſtened higher towards the head of the kite, with a view to facilitate its riſing; and, on the contrary, lower towards the middle, in leſs blowing weather. The moſt adviſable method will be, to tie the leading cord at a few inches only from the upper hole, and to aſcertain its exact ſituation by experience.

The tail of the kite, *k*, *k*, now remains to be fixed, and is perhaps the moſt critical part of the whole machine. If it be too ſhort, the latter inſtantly deſcends; and, if it be too long, its weight prevents the kite from riſing. The moſt effectual way to avoid both extremes, will be to make the tail ſeven times the length of the frame: fine packthread ſhould be choſen for this purpoſe, and double or triple ſolded ſlips of paper, two or three inches long, ought to be tied into the pendant ſtring, at ſhort intervals; when the latter is to be affixed to the body of the kite at *b*.

With reſpect to the flying of this machine, an open place and a fine day ſhould be ſelected, when a gentle breeze agitates the air: after launching it againſt the wind, the perſon who holds the ſtring ought to advance ſpeedily to the diſtance of thirty or forty yards; and gradually to relax the whole clue, according as the riſing is more or leſs rapid. In order to adapt kites to the *attraction of lightning from the clouds*, a thin metallic point is to be affixed to the higheſt end *a*, and connected with the ſtring of the machine by means of a thin wire: in this application, however, the greateſt caution is neceſſary; and thoſe who amuſe themſelves with experiments of ſuch precarious nature, ought by no means to make the firſt attempt during thunder-ſtorms, but only when the ſky is ſerene: nor ſhould any perſon affix a metallic point, or wind the wire round the ſtring, or even moiſten it, unleſs he be perfectly acquainted with the principles on which their joint action depends. Hence, ſmaller kites which do not aſcend too high, muſt be firſt employed, till we become better acquainted with the rules of flying, and of faſtening the machinery: thus, every danger may be obviated, and this apparently puerile contrivance, be rendered ſubſervient to a very uſeful purpoſe. See the articles LIGHTNING and ELECTRICITY.

KITTERY, a town of the United States, in the diſtrict of Main. It is famous for ſhip-building, and ſeated on the E. ſide of the mouth of Piſcataqua River.

KITZINGEN, a town of Franconia, on the Maine. It is large and handſome, and owes its riſe to a noble convent of Benedictines, founded in the year 745, by Duke Pepin. It is 10 miles E.S.E. of Wurtzburgh, and 34 N.N.W. of Anſpach. Long. 10. 4. E. Lat. 49. 40. N.

KIUTAJA, or CUTAJA, a town of Turkey in Aſia, the reſidence of the begler-beg of Natolia. Near it are ſome warm baths, much eſteemed in ſeveral diſorders. It is ſituate at the foot of a mountain, near the river Purſak, 136 miles S.S.E. of Conſtantinople. Long. 30. 44. E. Lat. 39. 14. N.

KIZBUHL, a town of Germany, in the Tyrol, on the river Acha, 36 miles E. of Inſpruck. Long. 12. 27. E. Lat. 47. 25. N.

KLATTAU, a town of Bohemia, built in the year 775, and ſurrounded with walls in the year 1000. There are ſome ſilver mines in the neighbourhood. It is 46 miles S.W. of Prague. Long. 14. 6. E. Lat. 50. 30. N.

KLETTENBERG, a town of Switzerland, ſeated on the Aar, three miles from Waldſchut. The ſpiritual juriſdiction belongs to the Biſhop of Conſtance; the ſovereignty to the cantons. Long. 8. 12. E. Lat. 47. 35. N.

KLUNDERT, a ſtrong fortreſs of the United Provinces, in Holland, near the arm of the ſea, called Hollands Diep. It was taken by the French, in 1793, after a gallant reſiſtance; but they were obliged to evacuate it ſoon after. It is nine miles S.E. of Williamſtadt.

KNITTELFELDT, a town of the duchy of Stiria, on the river Muehr, 78 miles S. W. of Vienna. Long. 14. 57. E. Lat. 47. 29. N.

KNOXVILLE, a town of the United States, capital of the diſtrict of Hamilton and the whole ſtate of Tenaſſee. It is ſeated on the river Holſton, 494 miles W.S.W. of Richmond, in Virginia. Long. 84. 8. W. Lat. 35. 58. N.

KOANG-FIN-FOU, a city of China, in the province of Kiang-ſi. Its juriſdiction contains ſeven cities of the third claſs.

KOBI, called by the Chineſe CHAMO, a vaſt deſert of Chineſe Tartary, which occupies almoſt all the ſouth extremity of the country of the Kalkas. It is more than 100 leagues from E. to W. and almoſt as much from N. to S.

KOEI-TCHEOU-FOU, a commercial city of China, in the province Setchuen. Its diſtrict contains one city of the ſecond claſs, and nine of the third.

KOEI-YANG, the capital of the province of Koeitcheou, in China. The remains of temples and palaces ſtill announce its former magnificence. It is 420 miles N.W. of Canton.

KOLA, a town of the Ruſſian government of Archangel, capital of Ruſſian Lapland. It has a good harbour on the river Kola, near a bay of the ſame name in the Frozen Ocean. Long. 32. 26. E. Lat. 68. 34. N.

KOLYVAN, a government of the Ruſſian empire, comprehending a part of Weſtern Siberia, and formerly included in the government of Tobolſk. Its capital, of the ſame name, is ſeated on the Oby, near the mouth of the Berda, and was known, before the inſtitution of this government, under the name of Berdſkoi Oſtrog. This country has very productive ſilver mines, which have been called the Potoſi of Ruſſia. They lie between the Oby and Irtyſh, near the mountains which form the frontiers of Siberia, and ſeparate that country from Chineſe Tartary.

KOM, a large and populous town of Perſia, in the province of Irac, with a celebrated moſque, an aſylum for debtors, who are protected and ſupported. It is 150 miles N. of Iſpahan. Long. 51. 14. E. Lat. 34. 20. N.

KONGSWINGER, a town of Norway, on the frontiers of Sweden. It is ſeated near the river Glomme, at the foot of a ſteep rock, on which ſtands an impregnable citadel; at laſt Charles XII. who reconnoitered it, thought it prudent to decline attempting a ſiege.

KONG-TCHANG-FOU, a city of China, in the province of Chen-ſi. It is ſurrounded by inacceſſible mountains, where a tomb is ſeen, which the Chineſe pretend to be that of Fo-hi. Its diſtrict contains three cities of the ſecond, and ſeven of the third claſs. It is 700 miles S.W. of Pekin.

KONIGSBERG, a town of Franconia, belonging to the Houſe of Saxe-Weimar, three miles N.E of Schweinfurt. Long. 10. 44. E. Lat. 50. 5. N.

KONIGSBERG, a town of Upper Saxony, in the marquiſate of Bradenburg, 47 miles S. of Stetin. Long. 14. 40 E. Lat. 52. 50. N.

KONIGSEGG, an ancient caſtle of Suabia, in a principality of the ſame name, eight miles N.W. of Ravenſburgh.

KONIGSGRATZ, a town of Bohemia, with a biſhop's ſee, ſeated on the Elbe, 35 miles S.W. of Glatz, and 115 N. by W. of Vienna. Long. 16. 8. E. Lat. 50. 6. N.

KONIGHSHOFEN, a ſtrong town of Franconia, with a biſhop's ſee, 25 miles N.N.W. of Bamberg. Long. 10. 46. E. Lat. 50. 24. N.

KONIGSTEIN, a town of Upper Saxony, in the territory of Miſnia, with an impregnable fort. It is a place of confinement for ſtate priſoners, and is ſeated on the Elbe, ten miles S.E. of Pyrna, and ten S.W. of Dreſden. Long. 13. 43. E. Lat. 51. 2. N.

KONIGSTEIN, a town of Germany, in the archbiſhopric of Mentz, with a ſtrong fort, twelve miles N.E. of Mentz. It ſurrendered to the French in 1796. Long. 8. 25. W. Lat. 50. 5. N.

KONIGSTUTER, a town of Germany, in the territory of Brunſwick Wolfenbuttle, with a celebrated abbey. Long. 11. 7. E. Lat. 52. 25. N.

KONITZ, a town Weſtern Pruſſia, ten miles N.W. of Culm, and fifty S.W. of Dantzic. Long. 18. 16. E. Lat. 53. 36. N.

KOOCH, a town of Hindooſtan Proper, in the country of Agra, ſixty miles E. of Gwalior, and ninety-five S.S.E. of Agra.

KOONJOOR, a town of the Deccan of Hindooſtan, in the province of Oriſſa, eighty-ſix miles N.N.W. of Cattack, and 163 W.S.W. of Calcutta.

KOPYS, a fortified town of Lithuania, ſeated on the Dnieper, eighteen miles N. of Mohilef. Long. 31. 2. E. Lat. 54. 32. N.

KORSAW, or KOSOA, a town of Denmark, in the iſle of Zealand, with a fort, forty-five miles W. by S. of Copenhagen. Long. 11. 10. E. Lat. 55. 29. N.

KOSAL, or KOSTA, a fortified town of Sileſia, near the river Oder, ſeventeen miles N. of Ratiſbon. Long. 17. 54. E. Lat. 50. 26. N.

KOSTROM, a town of Ruſſia, capital of a government to which it gives name. It is ſituate on the Volga, ſurrounded by a ſtrong wall, 168 miles N.E. of Moſcow, and 380 E.S.E. of Peterſburgh. Long. 41. 14. E. Lat. 57. 30. N.

KOSTROM, a government of the Ruſſian empire, formerly included in that of Moſcow. It is divided into the provinces of Koſtrom and Unſha. The capital of the former is Koſtrom, ſeated at the mouth of the Volga; the capital of the ſecond is Makarief, ſituate on the Unſha.

KOTTA, a town of Hindooſtan Proper, in the country of Malwa, ſeated on the Jeſul, 100 miles S.E. of Agimere, and 215 S. of Delhi. Long. 76. 20. E. Lat. 25. 15. N.

KOUEI-TE-FOU, a city of China, in the province of Ho-nan. The inhabitants are remarkably mild, and treat ſtrangers with uncommon hoſpitality. It is ſeated between two large rivers, 312 miles S. of Pekin. Long. 115. 29. E. Lat. 34. 30. N.

KOUS, or COSS, a town of Egypt, on the eaſt bank of the Nile, once a place of great wealth and trade, being the ſtaple of commerce between the Nile and the Red Sea. It is eighteen miles S. of Dendera, and forty-five N.N.E. of Eſne.

KOWNO, a town of Lithuania, ſeated on the Wilna and Niemen, 40 miles W. of Wilna. Long. 24. 12. E. Lat. 54. 56. N.

KRAANENBERG, a town of Weſtphalia, in the duchy of Cleves, ſeated on the declivity of a hill, betwen Nemeguen and Cleves. Its name, which ſignifies Crane-hill, is derived from the number of cranes that uſed to aſſemble round the caſtle, when the adjacent plain was a moraſs. It is celebrated for an image of the Virgin, pretended to be miraculous.

KRAINBURG, a town of Bavaria, ſeated on the Inn, 35 miles E. of Munich.

KRAINBURG, a town of Germany, in the duchy of Carniola, ſeated on the Save, 18 miles N.W. of Laubach. Long. 14. 5. E. Lat. 56. 15. N.

KRAINOWITZ, a town of Upper Sileſia, between Ratibor and Troppaw. Long. 17. 49. E. Lat. 50. 7. N.

KRAINSLAW, a town of Poland, in the province of Red Ruſſia and palatinate of Chelm, 110 miles S.E. of Warſaw. Long. 23. 0. E. Lat. 51. 15. N.

KRANICHFELD, a town of Upper Saxony, in the princi-

pality of Altenburg, 12 miles S.E. of Erfurt, and 48 W. of Altenburg. Long. 11. 4. E. Lat. 50. 43. N.

KREKITH, a corporate town in Carnarvonſhire, with a market on Wedneſday. It is ſeated on the Iriſh Sea, near Traeth Amawer Bay, where a caſtle formerly ſtood, now in ruins. It is 13 miles S. by E. of Carnarvon, and 237 N.W. of London. Long. 4. 18. W. Lat. 52. 57. N.

KREMPEN, a ſtrong town of Denmark, in Holſtein, with a caſtle. It is five miles north of Gluckſtadt, and 30 N.W. of Hamburg. Long. 9. 15. E. Lat. 53. 58. N.

KREMS, a town of Auſtria, ſeated on the Danube, 35 miles weſt of Vienna. Long. 15. 40. E. Lat. 48. 18. N.

KREUTZENACH, a town of Germany, in the circle of Lower Rhine, with a caſtle, on an eminence. It was once an imperial city, and is ſeated on the Nahe, 20 miles S.W. of Mentz.

KRUMLAW, a town of Germany, in Moravia, 50 miles S.W. of Olmutz. Long. 16. 49. E. Lat. 48. 46. N.

KRUTZOW, a ſtrong town of Lithuania, ſeated on the Sofz, 30 miles S.W. of Mozciſlaw. Long. 32. 4. E. Lat. 54. 8. N.

KRYLOW, a ſtrong town of Poland, in the palatinate of Kiof, ſeated on the Dnieper, 140 miles S.E. of Kiof. Long. 33. 50. E. Lat. 48. 50. N.

KUBESHA, a ſtrong town of Aſia, in the country of the Leſguis, ſituate on a hill, between high mountains. Its inhabitants call themſelves Franki (Franks, a name common in the eaſt to all Europeans), and relate, that their anceſtors were brought hither by ſome accident, the particulars of which are forgotten. The common conjecture is, that they were caſt away upon the coaſt; but others ſay, that the Greeks and the Genoeſe carried on, during ſeveral centuries, a conſiderable trade, not only on the Black Sea, but on the Caſpian, and were acquainted with the mines contained in theſe mountains, from which they drew, by their trade with the inhabitants, great quantities of ſilver, copper, and other metals. In order to work theſe upon the ſpot, they ſent hither a number of workmen, to eſtabliſh manufactures. The ſubſequent invaſion of the Arabs, Turks, and Moguls, during which the mines were filled up, and the manufactures abandoned, prevented the ſtrangers from effecting their return; ſo that they continued here, and formed a republic. What renders this account the more probable is, that they are ſtill excellent artiſts, and make very good fire arms, ſabres, coats of mail, and ſeveral articles in gold and ſilver, for exportation. They have, likewiſe, for their own defence, ſmall copper cannons, of three pounds calibre, caſt by themſelves. They coin Turkiſh and Perſian ſilver money, and even rubles, which readily paſs current, becauſe they are of the full weight and value. In their valleys, they have paſture and arable land, as well as gardens; but they purchaſe the greater part of their corn, truſting chiefly for ſupport to the ſale of their manufactures, which are much admired in Turkey, Perſia, and the Crimea. They are generally in good circumſtances, and are a quiet inoffenſive people, but high ſpirited and independent. Their town is conſidered as a neutral ſpot, where the neighbouring princes can depoſit their treaſure with ſafety. They elect yearly twelve magiſtrates, to whom they pay unlimited obedience; and, as all the inhabitants are on a footing of the moſt perfect equality, each individual is ſure to have, in his turn, a ſhare in the government. In 1725, their magiſtrates acknowledged the ſovereignty of Ruſſia, but without paying any tribute. Long. 67. 59. E. Lat. 42. 30. N.

KUFSTEIN, a ſtrong town of Germany, in the Tyrol, with a caſtle, on a rock. It is ſeated on the Inn, 46 miles S. by E. of Munich. Long. 12. 5. E. Lat. 47. 26. N.

KUHLSHEIM, or KULTZHEIM, a town of Germany in the electorate of Mentz, 32 miles E.N.E. of Heidelberg.

KUNERSDORF, or CUNNERSDORF, a town of Upper Saxony, in the Middle Marche of Brandenburg, near which the King of Pruſſia was defeated by the Ruſſians, in 1759. It is three miles E.N.E. of Francfort on the Oder.

KUR, a river of Perſia, which riſes in mount Caucaſus, and paſſing by Teflis, falls into the Caſpian Sea.

KURSK, a government of the Ruſſian empire, formerly part of that of Belgorod. Its capital, of the ſame name, is ſeated on the Tukor, which falls into the Seine or Sem.

KUSISTAN, or CHUSISTAN, a province of Perſia, bounded on the north and eaſt by Irac-Agemi, on the ſouth by Farſiſtan, and on the weſt by Irac-Arabia. Suſter is the capital.

KUTTENBERG, a town of Bohemia, ſeated near a mountain, remarkable for its ſilver mines, 35 miles S.E. of Prague. Long. 15. 37. E. Lat. 49. 56. N.

KUTTORE, a country of Aſia, between the N.E. part of Cabul, and the N.W. of Caſhmere. The Mahometans call it Caferiſtan, or the Land of Infidels. It has a town and fortreſs of the ſame name, 100 miles N.E. of Cabul, and 280 N.W. of Lahore. Long. 70. 17. E. Lat. 35. 27. N.

KUYNDER, or FORT KUYNDER, a ſea-port and fortreſs of the United Provinces, in Frieſland, ſituate on the weſt ſide of the river Kuynder, at its entrance into the Zuyder Zee, 23 miles ſouth of Lewarden. Long. 5. 24. E. Lat. 52. 50. N.

KYLBURG, a town of Germany, in the electorate of Treves, ſeated on the Kyll, 16 miles N.W. of Treves. Long. 6. 37. E. Lat. 50. 1. N.

KYNETON, a town in Herefordſhire, with a good trade in narrow cloth, and a market on Wedneſday. It is 15 miles N.W. of Hereford, and 149 W.N.W. of London. Long. 2. 50. W. Lat. 52. 12. N.

KYNETON, a village in Somerſetſhire, N.E. of Somerton. It is naturally paved, for half a mile, with one ſmooth rock, which looks like ice.

L.

LAA, Laab, or Lahab, a town of Germany, in Auſtria, ſeated on the river Teya, twenty-ſeven miles N. W. of Vienna. Long. 16. 9. E. Lat. 48. 48. N.

LABADIA, a ſtrong town of Italy, in the peninſula of Rovigo, ſubject to the Venetians. It is ſeated on the river Adige, twenty miles N. W. of Ferrara. Long. 11. 54. E. Lat. 45. 39. N.

LABIA, a town of Turkey in Europe, in Servia, ſixty-two miles S. W. of Niſſa.

LABOUR (*Encycl.*). The *price* of labour has at all times varied; and, as the poorer claſſes feel with additional rigour every evil ariſing from the preſſure of the times, different expedients have been deviſed, with a view to alleviate their burthens, ſupply their wants, and render them more comfortable.

From theſe inveſtigations, it appears that, in the middle of the 14th century, the uſual price of labour was 2d. per day; and wheat was ſold at from 3s. 4d. to 4s. per quarter.

In the middle of the 15th century, the pay of a labourer per day was 3d.; and wheat coſt from 5s. to 5s. 6d. per quarter.

In the earlier part of the 16th century the price of labour roſe to 3½d. and that of a quarter of wheat to 7s. 6d. About the middle of the 17th century, the pay of a labourer, upon an average, was (in Eſſex) 13d.; and corn had riſen to 40s. per quarter.

Toward the latter end of the 18th century, the daily pay of a labourer was from 14d. to 18d. in the country, and from 2s. to 2s. 6d. in the metropolis; while the price of wheat was 48s. per quarter.—We forbear to ſtate the average pay of labour during the late exorbitant prices of grain, and every other article of food; when all proportion between *merit* and *reward* appeared to have been ſuſpended.

The payment of *daily* wages, however, ſerves but imperfectly to aſcertain the *real* price of labour, as a conſiderable portion of work is performed by the piece; ſo that a labourer in general earns from 3d. to 6d. per day more than by the common pay. For, without this, or ſome ſimilar method, the reward of labour would be inadequate to the maintenance of thoſe numerous perſons who poſſeſs no other means of providing for their infirm wives, or helpleſs children. And we conceive, that if their wages could be ſo regulated as to riſe and fall with the price of wheat, conſiderable benefit would thus reſult to ſociety.

The rapid increaſe of *poor-rates* throughout the kingdom can be attributed only to the low and inſufficient recompence of labour, in conſequence of which the poor are obliged to reſort to the pariſh for relief. Indeed, when the average price of wheat for the laſt ten years is conſidered, we preſume not to exceed the limits of moderation in ſaying, that no *country labourer*, in the full poſſeſſion of his health and ſtrength, ought to be paid leſs than the value of a half-peck loaf per day, according to the price of wheat, and a proportionable ſum by piece-work. In populous towns, however, an addition of twenty per cent. ſhould be allowed, if vegetables and butchers' meat are ſold at the preſent unreaſonable prices.

The curious and philanthropic reader, who feels an intereſt in this popular enquiry, will be fully gratified by a peruſal of Mr. Davies's "Caſe of Labourers in Huſbandry ſtated and conſidered, &c." and Sir F. M. Eden's "State of the Poor, &c." in which the ſituation of the labouring claſſes is clearly developed.

By the 2d and 3d Edw. VI. c. 15, all labourers who combine or conſpire together concerning their work or wages, incur a penalty of 10l. for the firſt offence, which ſum is doubled in caſe of repetition; and if the money be not paid, they are to be ſet in the pillory. Juſtices of the peace, and the ſtewards of courts leet, &c. are likewiſe empowered by the 4th Edw. IV. c. 1, to hear and determine all complaints relative to the non-payment of labourers' wages; which, by the ſtat. 5 Eliz. c. 4, are to be annually ſettled for every county by the ſheriffs and juſtices of the peace, in every Eaſter ſeſſion, and in corporations, by the chief magiſtrates, under certain penalties in caſe of neglect. And ſuch aſſize, when made, is ordered by the 1 Jac. I. c 6. to be proclaimed.

Beſides theſe laws in behalf of the labouring claſſes, others have been enacted for the benefit of the employer. Thus, by the ſtat. 4 Eliz. all perſons who are fit for labour are compellable to ſerve by the day during the ſeaſon of making hay and the corn-harveſt; but thoſe labourers who have obtained proper teſtimonials, are permitted to go into other counties. It is further provided, that ſuch labourers, from the middle of March to the middle of September, ought to work from five o'clock in the morning till ſeven or eight at night, being allowed two hours for breakfaſt and dinner, and half an hour for repoſe during the three hotteſt months: in the other ſix months of the year they are obliged to work from twilight to twilight, excepting one hour and a half for breakfaſt and dinner, on the penalty of forfeiting one penny (at preſent it ſhould be two pence) for every hour's abſence.

An excellent mode of encouraging labour amongſt the poor, is the diſtribution of bounties on their earnings. The following account of a plan for allowing the poor a bounty on their work, by Thomas Hall, eſq. is publiſhed by the Society for bettering the Condition of the Poor.

"In my neighbourhood, in Hampſhire," ſays Mr. Hall, "there has been for near twenty years back, a bounty allowed the poor on their work; which has been found to produce very good effects in the increaſe of induſtry. In this way the ſum of 3s. a-week, thus diſpenſed by the overſeers in the aid and encouragement of the induſtry of a family of ſix perſons, has, as a bounty on work, eventually produced them the comfortable income of 9s. a-week; whereas, in the common mode, 3s. a-week would have gone but a very little way to their maintenance. By the advice of a manufacturer, the bounty is now proportioned to each ſhilling earned; ſo as to apply to the quality of the work, as well as to the quantity."

Observations.—It is preſumed that in this manner great part of the able-bodied poor might be ſupported at half the expence that is now incurred on their account; and that better order and regularity would be kept up among them, and the national ſtock of induſtry increaſed. The plan is ſimple and eaſy in its execution; and the meaneſt cottage may, by the bounty propoſed, become a working houſe for

one family, ſo long as it is wanted.—We cannot help making an obſervation, connected with this ſubject, as it relates to induſtry and the encouragement of it, that if pariſh certificates were granted for a limited period, as for two or more years, there would be eight or ten granted under ſuch a limitation for one that is granted in the preſent mode; and thereby the number of induſtrious people in the nation would be much increaſed, it being found that certificated labourers are in general more active and induſtrious than ſettled inhabitants, reſident in their own pariſhes. See the articles, CHARITY, HOUSE of INDUSTRY, POOR, &c.

LABOURD, a late territory of France, part of that of Baſques. It abounds in fruit, and the inhabitants are ſaid to be the firſt that went to fiſh for whales. It is now included in the department of the Lower Pyrenées.

LACK, or BISCHOF'S-LACK, a town of Germany, in Carniola. Here is a great deal of iron, ſteel, quickſilver, and corn; and a large quantity of linen is ſent hence to Fiume and Trieſt. It is 26 miles weſt by north of Laubach, and 35 north of Trieſt. Long. 14 7. E. Lat. 46. 31. N.

LADOGA, a lake in Ruſſia, between the gulf of Finland and the lake of Onega. It is 150 miles long and 90 broad, and eſteemed to be the largeſt lake in Europe. Among the fiſh with which it abounds are ſeals. It is full of quickſands, which, being moved from place to place by the frequent ſtorms, cauſe ſeveral ſhelves which often prove fatal to the flat-bottomed veſſels of the Ruſſians. This induced Peter the Great to cut a canal 67 miles in length, from the S.W. extremity of this lake to the river Neva, by which it has a communication with the gulf of Finland.

LAGNASCO, a town of Piedmont, 24 miles ſouth of Turin.

LAHN, a river of Germany which riſes in Heſſe Caſſel, and flowing by Marpurg, Wetzlar, and Naſſau, falls into the Rhine, above Coblentz.

LAHORE, a province of Hindooſtan Proper, bounded on the weſt by Candahar, on the north by Caſhmere, on the eaſt by Sirinagur and Delhi, and on the ſouth by Moultan. It is often called Panjab, or the country of Five Rivers. It is very extenſive and remarkably fertile; affording, in addition to all the neceſſaries of life, wine, ſugar, and cotton wool. In the tract between the Indus and the Chelun are ſalt mines, wonderfully productive, and affording fragments of rock ſalt, hard enough to be formed into veſſels, &c.

LAHR, a town of Weſtphalia, in the biſhopric of Munſter, 12 miles N.W. of Munſter.

LAHR, a town of Germany, in the principality of Naſſau-Saarbruck Uſingen, 18 miles S.S.E. of Straſburg, and 19 N. of Friburg.

LAINO, a town of Naples in Calabria Citeriore, near a river of the ſame name. Long. 16. 11. E. Lat. 31. 25 N.

LAJOON, a town of Perſia, in the province of Mezanderan, near the coaſt of the Caſpian Sea, 20 miles E. of Reſht.

LAI-TCHEOU-FOU, a city of China, in the province of Chang-tong, with a convenient harbour on the Yellow Sea. Its juriſdiction contains two cities of the firſt, and five of the third claſs.

LALAND, a ſmall iſland of Denmark, in the Baltic, lying ſouth of Zealand, from which it is ſeparated by a narrow channel. It is fertile in corn, with which it ſupplies Copenhagen. Naxkow is the capital.

LALANG, an iſland near the north coaſt of the iſland of Sumatra, in the ſtraits of Malacca. Long. 99. 20. E. Lat. 1. 45. N.

LAMA (*Encycl.*). The following curious account of the ceremonies employed at the *burning of the body of a deceaſed Lama*, among the Calmuc Tartars, which never before appeared in Engliſh, was written by Mr. Nitſchmann, who attended Profeſſor Pallas, of Peterſburgh, during his travels through the Ruſſian empire, as draftſman; and who made a drawing on the ſpot, from which the engraving (ſee Pl. 36.), repreſenting the chief part of the ſcene, was executed.

In the year 1772, the chief lama of the Derbet horde of the Calmucs, on the Wolga, named Abagai, died at his reſidence not far from Sarepta, in the ninety-fourth year of his age, after a tedious illneſs. When this event was made known, all the *Labans*, or *Gellongs*, that is, prieſts, then preſent, aſſembled to deliberate how they ſhould diſpoſe of the body, according to the rules preſcribed in their ſacred books; and an account of this remarkable death was immediately tranſmitted to the prince of the horde, Zebek Ubuſchi, and to his miniſters. He was viſited alſo by all the prieſts, who requeſted that he would order the one next in rank to the deceaſed to repair to his late reſidence, for the purpoſe of carrying into execution the command of the ſacred books. This office fell to the lot of Samptan, or Dajantſhi lama, who had received the latter title of honour on account of his having lived in a monaſtery, or hermitage, till he had attained to that rank. Early in the morning, next day, he ſet out for Sarepta with a numerous train of prieſts, as the intended ſucceſſor of the deceaſed lama.

As on ſuch occaſions each prieſt receives a conſiderable part of the property left by the deceaſed lama, the number aſſembled was exceedingly great; ſo that, in the courſe of a day and a half, above ſeventy gellongs, and many others of inferior rank, were collected. For thoſe of the higheſt rank a ſufficient number of horſes, partly ſaddled and partly unſaddled, were provided and diſtributed among them according to their dignity. There was alſo plenty of ſheep and other animals, intended to be killed for food. The Dajantſhi lama then called the prieſts together to regulate the funeral ceremonies. For that purpoſe the ſacred books, which had till that period been kept cloſely ſhut up, were produced; and after all the circumſtances attending the lama's death, together with the time, had been compared with the rules in theſe books, it was concluded that the body ſhould be burnt.

The place appointed by the new lama for performing the ceremony was the Moo-Chammur, or ſummit of a ſandy hill, near Sarepta; from which the hut of the deceaſed, where ſtrict guard was kept to prevent any one from approaching it, was diſtant only a few hundred paces. The foundation of a furnace was then accurately meaſured out by the lama himſelf; and the earth was dug up with great care and ſolemnity by the gellongs and prieſts; for no perſon of any other condition durſt put a hand to the work. During this labour the lama, accompanied by the moſt diſtinguiſhed of the prieſts, returned to the habitation of the deceaſed, where they ſat down in a circle, and prayed from books with great earneſtneſs and fervour. While they were thus employed, the deceaſed was ſtripped of his uſual clothing, and his yellow ornaments, *jamön chubzuſum*, were put upon the body; together with a yellow lackered five-pointed crown, called *volo-malachai*. His throne, on which he had breathed his laſt, with a devout benevolent aſpect, ſitting croſs-legged, with his hands folded, was raiſed up, and after his wide yellow dreſs had been ſpread out around it, he was ſuffered to remain in that ſtate. The entrance of the habitation was covered by a particular kind of curtain, and guards were placed on each ſide to prevent the common people from looking in when the prieſts entered or went out.

In the mean time the prayers were continued at intervals; and, on a certain ſignal being given, the people aſſembled without were ſuffered to go in one by one, uncovered, in or-

der that they might pay their laſt reſpects to the deceaſed, by kneeling and touching his yellow robe with their foreheads. As the number collected was, however, too great, the new lama at length went out, and beſtowed his benediction on all thoſe within his reach, by laying his roſary *(erken)* on their heads; but as the throng around him increaſed more and more, he diſtributed a general benediction among the whole multitude, by waving the roſary, after which he returned to pray with deep ſighing and ſobbing. Such of the people as had not obtained the lama's benediction, ſhewed their reſpect and veneration by walking round the hut of their deceaſed, and as it were deified lama; and counting their beads amidſt continual ſighs, while they repeated by way of prayer, the monoſyllables *om ma ni pat me chang*; and every now and then, in going round, threw themſelves down, with their faces towards the earth, before the door of the hut.

After ſome time two ſingular figures, made of dough, were brought out from the hut, on wooden trenchers, and borne towards the place deſtined for the furnace. They had each two legs and two arms; but, in other reſpects, they bore a greater reſemblance to devils than to men.

While prayers were performing in the hut of the deceaſed, the reſt of the prieſts ſat together in circles, diſperſed here and there, filled with conſternation, and viewing attentively what was going on. A deputation, appointed by the new lama, made a diſtribution to the prieſts, according to their rank, of the cattle and other property left by the deceaſed; and, by command of the prince, ſix hundred rubles, in ready money, were collected from the horde, to defray the expence of the funeral, and to be divided among the prieſts.

The four ſides of the foundation, dug for the furnace, in which the body was to be burnt, were directed towards the four cardinal points. On the north, ſouth, and eaſt ſides, large fire holes were dug, and covered towards the ſide of the furnace with earth, that the wood might lie under the covering, and not within the furnace itſelf, to prevent any of the aſhes of the wood from being mixed with the aſhes of the body. The bottom was then conſtructed of tiles, which had been conveyed on horſeback by gellongs from the diſtance of ſome werſts; and, inſtead of lime, clay was employed to cement them. When the furnace was raiſed about a foot above the earth, a large iron tripod, made for the purpoſe, was fixed in the middle of it, and one of the gellongs immediately placed himſelf in the furnace, croſs-legged, on the tripod, in order to try whether it would anſwer the intended purpoſe. A kind of hut was then erected around the furnace with poles, which were covered up to the top with pieces of old felt. This hut was about eighteen or twenty feet in height; and at the top was a large opening, to afford a paſſage to the flame and the ſmoke.

All the prieſts who were preſent, after viewing the furnace, went in proceſſion, accompanied by the new lama, to the habitation of the deceaſed, where the fifteen prieſts who were to officiate put on the dreſs peculiar to their office. This dreſs conſiſted, firſt, of a ſort of ſhirt, called *bitſchan majak*, which the prieſts uſe inſtead of breeches and ſtockings. It is worn next the ſkin, and is gathered in plaits, and faſtened round the middle by means of a broad girdle. Over this was put the *ſch ibi chubzuſun*, which is a ſhort red ſhirt without ſleeves, and open at the breaſt; alſo the *gika majak*, a piece of red cloth placed around the body in folds above the firſt ſhort *majak*, and faſtened by means of a red ſaſh; the ſecond *majak* muſt hang down almoſt to the heels. The chief lama alone had a *jamohn chubzuſun*, or red ſhirt, with ſhort ſleeves, which was faſtened by means of a broad yellow girdle. In the laſt place all of them had a *tſchogi chubzuſun*, or large ſquare piece of ſilk, which, except a border two ſpans in breadth, conſiſted of red and yellow patches, four inches ſquare, diſpoſed chequer-wiſe. Some, however, had this piece of ſilk entirely yellow. It was thrown over the ſhoulders, ſo as to reach the ground behind; and the two corners of it before were faſtened over each other on the breaſt. The arms, head, and legs, during the ceremony, were bare; and each had wound his roſary around his arm; all which gave them a very terrible appearance.

After they had put on their dreſs, a certain kind of veſſel, called *ordu charaſch*, was brought forth, and put into the hands of the *Bakſki*, or inſtructing prieſt, who walked next to the lama; and who, inſtead of the variegated piece of ſilk, had one entirely red. Another ſmall metal veſſel, of coſtly workmanſhip, containing ſacred water, mixed with ſpices and ſugar, and ornamented at top with a very beautiful peacock's feather, was delivered to the lama, and borne by him at the head of the proceſſion. Eight of the gellongs, dreſſed as above deſcribed, ſupported the bier, and the other five had in their hand each a bell. The habitation of the deceaſed was torn open behind with the utmoſt expedition, and the body, after the large yellow ſilk cloth ſuſpended from its ſhoulders had been thrown entirely over it, and the high-ſpiked crown had been put on its head, was taken out, and placed, in a ſitting poſture, on a bier made for the purpoſe. The bier was borne by the eight gellongs, and the proceſſion moved towards the furnace in the following order: firſt, the lama, then the bakſchi, after him the dead body, then the five gellongs with their bells, and, in the laſt place, the remainder of the muſic and the people. During the proceſſion the lama, every now and then, dipped the peacock's feather in the ſacred water, and ſprinkled it every-where around him.

The inſtruments of muſic, beſides the bells, were three long copper trumpets, which emitted, at moſt, two or three baſs notes, and which followed behind. They were full three yards in length, and therefore were ſuſpended by rings to two poles, and, in that manner, carried by two men. There were alſo four drums ſuſpended from a pole; and two muſicians, with braſs cymbals, which were beat in the ſame manner as the Turkiſh.

The people, who had aſſembled in crowds on all ſides, were kept off by prieſts appointed for that purpoſe, and armed with ſtrong cudgels. As ſoon as the proceſſion reached the furnace, the muſicians placed themſelves in a ſemicircle before the entrance of the hut, and made a loud noiſe with their inſtruments. The body of the deceaſed lama was then carried with great ſpeed into the hut, and placed on the tripod, after the crown and yellow covering had been taken from it. Both theſe articles were afterwards conveyed back, with the ſame proceſſion and muſic, to the habitation of the new lama. The next operation was to complete the conſtruction of the furnace, which was done with great privacy. Two pieces of iron were put round the neck of the deceaſed, projecting ſo far on each ſide, that the ends of them could be built into the wall. Theſe ſerved to keep the body upright in the midſt of the fire. The top of the furnace was arched in a ſloping manner over the head of the dead body; and on the weſt ſide, where there were no fire-holes, a ſquare opening was left at top, through which, while the body was in a ſtate of combuſtion, tallow and other inflammable ſubſtances were poured. The wood deſtined for fuel was all cut exactly of the length of the fire-holes, and a great quantity of butter, incenſe and reſin, was intermixed with it. Near the furnace was placed a kettle, in which the butter was melted with the other ingredients: and on both ſides of the furnace there were ſmall altars, covered, as uſual, with ſacred veſſels and lamps. A

magnificent throne was prepared on the weſt ſide for the officiating lama; and, when every thing was ready, the lama put on the yellow wrapper of the deceaſed, placed his crown on his head, and ſeated himſelf on the throne. The gellongs, who had laid aſide their ſacerdotal habits, and aſſumed their uſual dreſs, ſat down in a circle around him. Each had a bell in his left hand, and a book lying before him, on his knees; and on a ſignal given by the lama, the ſmall lamps on the altar, and the wood in the three fire-holes of the furnace, were immediately lighted. The two figures of dough already mentioned appeared alſo on one of the altars. The fire was lighted about ſeven o'clock in the evening, amidſt prayers, ſinging, and the noiſe of bells and muſical inſtruments, which was ſometimes interrupted by converſation between the lama and the bakſchi, reſpecting ſome paſſages of the ſacred books. The prieſts who kept guard were, in the mean time, ſtrictly forbidden to ſuffer any perſon to peep in through the holes in the tent. Wood was continually thruſt into the fire-holes; and the lama, by means of a ladle with a long handle, furniſhed at the fore part with ſmall ſpouts, poured ſome of the greaſe which ſtood near him through the aperture upon the body, by which means the fire was ſo ſtrengthened, that the flames roſe in a continued column to the height of eighteen or twenty feet above the furnace. It was found neceſſary, therefore, to enlarge the aperture in the top of the tent, to prevent it from being deſtroyed. The gellongs alſo, were ſoon obliged to ſtand ſo far back, that every thing which took place within the tent, or hut, could be plainly ſeen. At certain times the lama threw the bark of trees, daubed over with reſin, and pieces of conſecrated white ſilk, into the top of the furnace; and as he was expoſed to great heat by ſtanding ſo near it to pour the fat over the body, a ſcreen was held conſtantly before his face by one of the gellongs, which ſecured him from the flames, but permitted him to ſee the aperture in the top of the furnace. The prayers offered up in the Tangut language, while the body was burning, became always longer, and were uttered with a louder tone of voice. They were intermixed with the ringing of bells, the clapping of hands, ſnapping of fingers, thruſting the fingers through each other, and then drawing them back, great contortion of the eyes and face, and various movements of the head.

This formidable fire was kept up for three hours, after which the furnace was ſuffered to ſtand ſome hours to cool. One can ſcarcely believe with what ſtrength the fire was maintained by the air which paſſed through the furnace; and the different aromatic ſubſtances which were thrown into it prevented any diſagreeable effect from the ſmoke, or the ſmell of the body. Next morning, when the furnace had cooled, it was opened with great ſecrecy, under cover of the tent, and the body, ſhrivelled like a mummy, being taken out, was divided in portions among the prieſts. Some of the poor people alſo, who were able to force their way through the crowd, obtained ſmall bits of the little which was left. This burnt ſubſtance of the lama's body *(lamain-dſhunder)* is conſidered by the ſuperſtitious people, as a ſacred medicine; and it may therefore be ſaid, that the lama is gradually conſumed by his own worſhippers.

This mode of burning the body produces ſcarcely any aſhes, as the ſkin, fleſh, and bones, are ſo baked, by continually pouring fat over it, that the whole maſs has the appearance of a cinder, and is equally friable. The few aſhes, however, which remain, are carefully ſcraped, together with the aſhes in the fire-holes, and are preſerved by the prieſts. After the furnace was opened, it was entirely raſed to the foundation, and not a ſingle ſtone of it left. All the materials were carried in a cart to the other ſide of the Wolga, where the horde at that time reſided. All the four corners of the ſpot where the furnace had ſtood, high flags (*mani*) were erected; and at the end of ſome weeks, when the horde returned to the diſtrict of Sarepta, a ſmall ſtone chapel was conſtructed in the middle of the four flags, and filled in the inſide with inſcriptions, images, rags of old clothes, and the like, and ſurrounded by a ditch. This formed the concluſion of the whole ceremony.

LAMBALE, a town of France, in the department of the North Coaſt. It is the chief town of the late duchy of Penthievre, and gave the title of princeſs to the unfortunate lady who was maſſacred at Paris, in 1792, for her inviolable attachment to her unhappy miſtreſs, the late queen of France. Lambale has a good trade in cattle, linen, and parchment, and is 37 miles N.W. of Rennes. Long. 2. 21. W. Lat. 48. 27. N.

LAMBESC, a town of France, in the department of the Mouths of the Rhone, nine miles N. of Aix. Long. 5. 31. E. Lat. 43. 40. N.

LAMBETH, a village in Surrey, on the Thames, oppoſite Weſtminſter. Here the Archbiſhop of Canterbury has an ancient palace. By the vaſt increaſe of buildings, Lambeth is now joined to the metropolis, in a direction to each of the three bridges. Here is a manufacture of artificial ſtone, which anſwers every purpoſe of ſtone carving, and extends, not only to ſtatues from the fineſt models, but to every kind of architectural ornaments. Here likewiſe are extenſive works for vinegar and home-made wine, a patent ſhot manufactory, and numerous timber yards, ſupplied with almoſt incredible ſtores of foreign timber.

LAMBORN, a town in Berks, with a market on Friday; ſeated on a river of the ſame name, ſeven miles N. by W. of Hungerford, and 68 W. of London. Long. 1. 26. W. Lat. 51. 30. N.

LAMEGO, a town of Portugal, in Beira, with a biſhop's ſee, and a ſtrong citadel. It contains two cathedral churches, an hoſpital, four convents, and about 4500 inhabitants. In this town the ſtates aſſembled to confirm the election of Alfonſo Henriquez, the firſt king of Portugal, and enacted the fundamental laws, now forgotten. It is 50 miles N. of Liſbon. Long. 7. 30. W. Lat. 41. 12. N.

LAMLASH, a town of Scotland, on the eaſt coaſt of the iſle of Arran, ſituate on a bay to which it gives name, and which, Mr. Pennant ſays, forms the ſafeſt harbour in the univerſe, with depth of water for the largeſt ſhips.

LAMMERMUIR, a mountainous ridge in Scotland, which divides the county of Berwick from that of Haddington for above twenty miles. Theſe mountains are bleak and barren, affording but ſcanty paſture for ſheep. Scoutra Hill is the moſt elevated of this ridge.

LAMO, a kingdom and iſland of Africa, on the coaſt of Melinda, between the iſland of Pate and Cape Formoſa. Its capital, of the ſame name, is well fortified. The king and government being Mahometans, are frequently at war with the reſt of the inhabitants, who are pagans. In 1589, the king of this iſland, being accuſed by the Portugueſe of having betrayed the governor of the coaſt, was ſeized with four of his ſubjects, in his own capital, and carried to Pate, where they were publicly executed, in the preſence of the king of that iſland, and of ſeveral kings of the neighbouring iſlands; ever ſince which, Lamo has been tributary to the Portugueſe.

LAMPEDOSA, a deſert iſland on the coaſt of Tunis, 12 miles in circumference. It is 50 miles from Tunis, and 112 from Malta; and has a good harbour, where ſhips water. Long. 11. 0. E. Lat. 36. 10. N.

LAMPSACO, an ancient town of Natolia, with a Greek

archbiſhop's ſee. It is now an inconſiderable place, ſeated on the ſea of Marmora, ſix miles from the Dardanelles. Long. 27. 20. E. Lat. 40. 12. N.

LAMPSPRINGE, a town of Lower Saxony, in the biſhopric of Hildeſheim, ſituate at the ſource of a ſmall river, called Laine, 17 miles ſouth of Hildeſheim.

LANCASTER, a town of Pennſylvania, 41 miles long and 40 broad. In 1790, it contained 36,147 inhabitants.

LANCASTER, the capital of a county of the ſame name, in Pennſylvania. Beſides its churches, and other public buildings, it contains a college founded in 1787, and named Franklin college, after the late Dr. Franklin. It is a place of conſiderable trade, ſeated on the Coneſtogo Creek, near the river Suſquehannah, 66 miles W. by N. of Philadelphia. Long. 76. 17. W. Lat. 40. 2. N.

LAND (*Encycl.*) The following account of "*A Method of gaining Land from the Sea,*" by the Rev. Henry Bate Dudley, of Bradwell Lodge, in the pariſh of Tillingham, is inſerted in the Tranſactions of the Society for the Encouragement of Arts, Manufactures, and Commerce; who conferred on the ingenious and enterpriſing writer their gold metal.

"A tract of land," ſays Mr. Dudley, "which I incloſed on the ſame line of coaſt within this pariſh about eleven years ago, being already under a profitable courſe of tillage, I was induced to undertake the preſent incloſure as a leſſee of the collegiate eſtate of St. Paul's. The front line of embankment againſt the ſea is nearly one mile in length, and, with the returning banks on each wing to the old wall, forms an incloſure of contents, as expreſſed in the certificate already in your poſſeſſion. The whole of the embankment is compoſed of earth alone, borrowed from the irregular ſalting land in the front, called *chatts*, and taken at the limited diſtance of twelve feet from the baſe of the new work, to leave a ſufficient foreland for its protection. I found, from experience, in my former embankment, that I had not given it a ſufficient angular declenſion in front, for an eaſy aſcent and deſcent of the waves. This error was therefore corrected in the laſt work. I began it on a baſe of thirty-two feet, and wrought it to the height of ſeven feet, leaving it a plane of five feet on the top, and making the land-ſide of the embankment as nearly perpendicular as the ſecurity of the baſe would allow.

"Within, on the land ſide, is cut a ditch, twelve feet wide, five feet deep, and four feet at bottom; the earth from which was thrown into the mound. My former ſea-embankment, in Bradwell pariſh, had nearly given way to the great inundating tide of February, 1792, from this erection of new earth being made on the ſurface. To guard againſt ſimilar danger in the preſent work, a ſpit-deep trench, ſix feet wide, was previouſly cut along the centre of the whole line, on which the mound was to reſt; this, by admitting the new earth into an incorporative adheſion with the baſe ſoil, renders a future ſeparation almoſt impoſſible. Before this, the main rills had been filled and rammed, to give theſe parts equal ſolidity with the reſt.

"The whole operation was performed by a gang of twelve ſea-wallers, with barrows and planks only, at 1l. 10s. the marſh-rod, of twenty feet, and perfectly incloſed in ſeven months: but it muſt be obſerved, that the ſoil, compoſed of rich vegetable matter, is without one particle of ſtone or gravel, and cuts with iron-edged ſcoop-tools, ſo as to load the barrows with great facility. At each end of the front line is laid an out-fall gutter, or ſluice, through the whole embankment, five feet in width, by three feet deep, clear in the run; and another of ſmaller dimenſions in the centre, for diſcharging the land-waters freely to ſea. The conſtruction of theſe aqueducts is too well known to require further deſcription here: probably, however, the little addition given to thoſe erected on this occaſion may be found of ſome uſe. Obſerving it often happen, that, either from accident or deſign, the outward lid of the ſea-ſluices remained open, and admitted the tide to the great injury of the freſh waters within the marſhes, I introduced here a light fly-lid within the centre of each ſluice, which is out of reach, and yields to the ſlighteſt preſſure of the water going out; but ſhuts cloſely againſt that of the tide, when it paſſes inward of the external flap. Theſe ſluices are laid upon as ſolid a foundation as can artificially be made on ſuch ſoils, to prevent the crabs, and other ſea-fiſh, from undermining them, which muſt otherwiſe be the caſe. The frame and flooring are of fir, which lies under water as durable as oak.

"The land thus incloſed is partitioned into four nearly equal parts, by new-cut ditches, twelve feet wide, five deep, and four at the bottom, which, with ſmall interſecting rills, from various parts, give the whole a good drainage of its ſalts, on the fall of heavy rains: and, by a courſe recently made from a diſtant brook, each diviſion of this land is now amply ſupplied with freſh water. Not leſs than 800 South-Down ſheep, and from ſixty to eighty horſes, are almoſt conſtantly grazed, and even winter thereon remarkably well. The eſtabliſhed opinion of the beſt farmers of the country was, that land, thus taken from the ſea, would not grow corn under thirty years at leaſt after their incloſure. But as no experiment had been made, by which this fact could be clearly aſcertained, as ſoon as I had ſhut out the ſea from a part of it, about ſix yards ſquare were immediately dug, and ſown with horſe beans and oats, which, though the ſummer proved very dry, and conſequently unfavourable, produced of each a fair return of ſound good corn; and the laſt harveſt the ſame ſpot being ſown with wheat, yielded an excellent crop. The next ſpring I mean to try it with barley and turnips. My firſt incloſed lands in this pariſh have produced two ſucceeding crops of fine oats, and are now growing to a very promiſing breadth of rape for ſeed.

"It may here be remarked, that the lower oozy parts of the new incloſure, on which no vegetable ever grew before, begin to be coated with various graſſes; and as the ſaline parts die away in other ſpots, for want of their natural moiſture, freſh graſſes replace them, ſo that the whole is now nearly covered with grazing plants of good quality, amongſt which appear the different *clovers*, *treſoil*, and *rye-graſs*, &c. Hence I conclude, but contrary to the general opinion, that though all theſe grew artificially from ſeed ſown, it does not follow of neceſſity that they cannot be produced without. I think that the natural operation of the ſun and air upon certain ſoils will alone effect it; and my experience in lands taken from the ſea confirms very ſtrongly this opinion."

The Rev. J. H. Wright, in a certificate, which accompanies the above account, alleges that the Rev. Henry Bate Dudley had completed an embankment, with all the ſluices and other neceſſary works appertaining thereto, and had thereby effectually obtained 206 acres of land from the ſea, which he had ſubdivided by twelve-feet ditches into four ſpacious marſhes. For other means by which this important object may be effected, ſee EMBANKMENT, *Supp.*

LAND *for Cottagers.* The following extract from an account of the advantages of cottagers renting land, by the earl of Winchilſea, is publiſhed by the Society for bettering the Condition of the Poor.

"Upon my eſtate in the county of Rutland," ſays his lordſhip, "there are from ſeventy to eighty labourers, who keep from one to four cows each. I have always heard that they are hard-working induſtrious men. They manage their land well, and pay their rent very regularly. From what I have ſeen of them I am more and more confirmed in the opi-

nion I have long held, that nothing is ſo beneficial both to them and to the land owners, as their having land to be occupied either for the keeping of cows, or as gardens, according to circumſtances.

" By means of theſe advantages the labourers and their families live better, and are conſequently more fit to endure labour; they are more contented, and more attached to their ſituation, and acquire a ſort of independence, which makes them ſet a higher value upon their character. In the neighbourhood in which I live, men ſo circumſtanced are almoſt always conſidered as the moſt to be depended upon and truſted: the poſſeſſing of a little property certainly gives a ſpur to induſtry; as a proof of this, it has almoſt always happened to me, that when a labourer has obtained a cow, and land ſufficient to maintain her, the firſt thing he has thought of has been, how he could ſave money enough to buy another; and I have almoſt always had applications for more land from thoſe people ſo circumſtanced. There are ſeveral labourers in my neighbourhood, who have got on in that manner, till they now keep two, three, and ſome four cows, and yet are amongſt the hardeſt working men in the country, and the beſt labourers.

" With regard to the profit they make of a cow, thoſe who manage well might, as the prices of the market were two or three years ago, have cleared twenty pence a-week *, or 4*l.* 6*s.* 8*d.* per ann. by each cow; ſuppoſing the rent of the land, levies, expences of hay-making, &c. to coſt them 4*l.* excluſive of houſe-rent. This clear profit, over and above rent, &c. may now be ſet at 2*s.* a-week, or 5*l.* a-year at leaſt; ſo as to make the whole 9*l.* a-year, on a ſuppoſition that all the produce is ſold. Whether, however, this calculation is too low, or how it is, I cannot ſay; but certainly thoſe who have a cow, appear to be (in compariſon with thoſe who have none) much more than 2*s.* per week richer. It may probably be owing to the ſuperior induſtry of thoſe families.—I muſt obſerve, that they keep ſheep during the winter upon their cow paſture, at the rate of two, and in ſome caſes three, at 2*s.* 6*d.* each, for each cow-paſture. This is included in the above eſtimate of profit. The ſkim-milk is alſo valued. Some of them, where the land is not

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* " The profit of a cow to a family of the deſcription in queſtion, is ſtated by Lord Winchilſea at only 1*s.* 8*d.* a-week; but the value of a cow, ſuppoſing her to give only ſix quarts of milk a-day (which muſt be allowed to be a low average, if the cow be properly kept), will be worth, at a penny a quart, 3*s.* 6*d.* a-week, or 9*l.* 2*s.* a-year; ſetting the profit of the calf againſt the loſs ſuſtained while the cow is dry. Three acres of land, of the quality of 30*s.* an acre, will in general keep a cow in good condition the whole year, by admitting about an acre to be parted off, for mowing in the ſummer, to furniſh a little hay for the winter: to this rent muſt be added, for tithes and parochial rates, perhaps, 14*s.* more, making the whole charge 4*l.* 4*s.* which is not half the value of the produce; and if a further allowance be made for the labour attending the object, there will ſtill be left at leaſt 30 per cent profit; and in every other article of a cottager's conſumption, he is obliged to purchaſe at 30 per cent loſs. But, when it is conſidered that milk is the natural food for children, that it is of a nutritious quality, and that, where there is a cow, a pig is generally an appendant to her, the advantage is ineſtimable." Mr. Kent (who makes the foregoing remarks) has been for many years ſo impreſſed with the propriety and good policy of this plan, that he has never failed of giving it all the encouragement he poſſibly could; and flatters himſelf, that, in the different eſtates which he has had the regulation of, with the aſſiſtance of his partners, Meſſrs. Claridge and Pearce, they have been inſtrumental in eſtabliſhing a great deal of real comfort; but no-where upon ſo extenſive a ſcale, as in the courſe of the laſt year, upon the great property of the Earl of Egremont in Yorkſhire. His lordſhip, who is conſidered not only as one of the moſt liberal encouragers of all rational experiments in agriculture, but a ſteady friend to the working farmer and induſtrious labourer, gave them, on this occaſion, *carte blanche*; and their feelings were highly gratified, in being able to accommodate a conſiderable number of men, of the deſcription in queſtion, with the means of ſupporting their families, in a much more comfortable manner, than they were before enabled to do. This ſeems to be the true and beſt exerciſe of power; and when it is further conſidered, that much good may often be done, merely by parting off a few acres from a large farm, or by breaking up one farm out of twenty, which may frequently be done, without injury to any perſon, it is rather a matter of ſurpriſe, that this thing is not oftener done than it is! But though the before-mentioned plan is confeſſedly good, it is very often defeated for want of capital in the cottager, which has induced him to recommend another ſcheme for keeping cows for them, in his opinion, preferable to the former, as it may have a more general tendency to improvement, and does not require any capital, nor is attended with any riſk. The hint is taken from the weſtern dairies. In moſt parts of Wiltſhire and Dorſetſhire, there are few farmers but what let off a dairy, upon the following plan:—The farmer finds, keeps, and renews a certain number of cows to a ſub-tenant, at a fixed price, generally from five to ſix pounds a cow yearly, allowing the calf into the bargain. The management of the dairy is done by the ſub-tenant.—Why ſhould not every farmer, in a leſs degree, accommodate ſuch of his labourers as have a family of children in the ſame way? There is no farmer, but has ſome land better adapted for cows than for any other ſtock; there is no farmer, but keeps two or three cows for his own family.—Why ſhould he not keep one or two in addition for his labourers? The wife or daughter of the labourer would milk them, without being attended with any inconvenience. The farmer would run no riſk, as the rent of the cow might be ſtopped out of the labourer's weekly pay. No loſs could be ſuſtained, as he could not make a better return from any other ſtock than this. The power of doing good in this way, without loſing any thing by it, is offered to every farmer; and the great objection to cottagers keeping cows, namely, that of their injuring the farmers' fences by running in the lanes, is, by this mode of letting, done away. As to the allowance that ſhould be made, we would propoſe that it ſhould be 2*s.* a-week, the year round, beſides the farmer's retaining the calf. This would certainly be better for a poor man, than even renting land; for, as was obſerved before, no money would be requiſite in the firſt inſtance.—The milk of the cow would be more certain, by her being more regularly kept, and having greater ſcope and change of food; and no time in mowing and making hay for her, would be loſt by the labourer. The public is indebted to Mr. Kent for a valuable work, entitled, " Hints to Gentlemen of landed Property;" in which, above twenty years ago, he pointed out the diſadvantages to which cottagers are ſubject in the purchaſe of all the neceſſary articles of life, the want of proper habitations for them, and the expediency, not to ſay neceſſity, of gentlemen of fortune paying more attention to the ſituation of the labourers, who work on their eſtates.—See p. 228 of Mr. Kent's book to the end.

good, do not pay ſo much. I put down 4*l.* ſuppoſing the land * tolerably good; and it is certainly more advantageous to them to occupy good land at a high rent, than poor land at a low one. They all agree, that two cows are more than twice as profitable as one: particularly where the ſuckling of calves is the ſyſtem purſued. The generality of the people near me ſuckle calves; ſome make butter, and a few make cheeſe; ſome buy the ſupernumerary lambs of the farmers, and rear them by hand; and where they have more than one or two cow-gates, ſtock with ſheep at the rate, in ſummer, of three for a cow-gait. Thoſe who have families, and only one cow, generally make butter for the ſake of having ſkim-milk for their children, which is an article rarely to be obtained by the poor. When a labourer has the offer of a cow-gait, and land for winter proviſion, and has not money enough to purchaſe a cow, he generally applies to his employer, who will, in all probability, advance him ſome money; and the inhabitants of the pariſh, if the man has a good character, frequently ſubſcribe to ſet him up, from charitable motives, and from a perſuaſion that by this means his family will never want relief from the pariſh: and this is ſo much the caſe, that when a labourer dies, and his ſon takes his land and ſtock, he in ſome caſes maintains the widow †. I know of ſeveral inſtances of labourers' widows, now paſt work, who are maintained by their ſons, but could not otherwiſe have lived without pariſh relief.

"When a poor man's cow dies, it is certainly a great diſtreſs; and ſometimes the owner is obliged to aſk aſſiſtance to replace her. Somehow or other, they always contrive to get one; as I ſcarcely ever knew a cow-gait given up for want of ability to obtain a cow, except in the caſe of old and infirm women, who are left without children: for they cannot, without ſome aſſiſtance, live upon the profits of a cow, nor can they manage it properly. Should a caſe of this ſort occur, the pariſh officers would act very unwiſely in refuſing aſſiſtance, as a very trifling allowance, together with the cow, would enable a woman to live; whereas, by refuſing any aſſiſtance, they oblige the woman to part with her cow, and then ſhe muſt have her whole ſubſiſtence from them."

To what is here ſaid on a ſubject which we have alſo urged under the articles COTTAGER and COW (*Supp.*), the following obſervations are annexed.

"When a labourer is poſſeſſed of cattle, his children are taught early in life the neceſſity of taking care of them, and acquire ſome knowledge of their treatment; and, if he has a garden, they learn to dig and weed, and their time is employed in uſeful induſtry, by which means they are more likely to acquire honeſt and induſtrious habits, than thoſe who are bred up in the poverty and lazineſs which we too often ſee; for I believe it is a certain fact, that extreme poverty begets idleneſs.

"In the neighbourhood of large towns, and in countries where there is hardly any thing but arable land, the value of graſs land is too great to allow of labourers renting it with advantage ‡; a garden, however, may be allotted to them in almoſt every ſituation, and will be found of infinite uſe to them. In countries, where it has never been the cuſtom for labourers to keep cows, it may be difficult to introduce it; but where no gardens have been annexed to the cottages, it is ſufficient to give the ground, and the labourer is ſure to

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* The quantity of land, which is let for the ſupport of a cow in this county, varies much according to the goodneſs of the land. In one pariſh, the cow-paſture, which contains 114 acres, feeds during the ſummer 100 cows; in another it contains forty-two acres, and feeds ſeventeen cows; in another thirty-five acres, and feeds twenty-five cows. The price varies much; but, in general, the cottager can afford to pay as much as the farmer can, or, in my opinion, ought. In another pariſh there is no cow-paſture; but the cottagers have incloſed land, ſome having fields to themſelves, others uniting, and grazing, and manuring two fields alternately: the rents in all theſe caſes varying according to the quality of the land, the quantity aſſigned to them, and the time when they were firſt let. The cottagers, whoſe cows have the run of a cow-paſture, have ſmall fields for hay: theſe alſo vary much in quantity and quality, and conſequently in price. Where the quantity of land is more than is requiſite for their cow, or cows, they keep ſheep of their own, or let the paſturage to a butcher. Where there is no meadow land, which is the caſe in one pariſh near me, they have fields of about ſix acres of ploughing ground, where they raiſe winter proviſion for the cow.—The rent of the new-built cottages is from 20*s.* to 30*s.* for the houſe, and 5*s.* for the garden, which is about a rood of land, and frequently not ſo much.

† In the pariſh of Burley, and the two adjoining pariſhes of Hambledon and Egleton, where there are a great number of labourers who keep cows, the rate collected for the relief of the poor laſt year did not on an average amount to 6*d.* in the pound. No rents are better or more regularly paid on my eſtate, than thoſe for the cottagers' land. There has not been, for ſeveral years back, any arrear of them.—In theſe pariſhes there are ſeveral labourers with very large families, and ſeveral aged perſons paſt work, who muſt have had relief from the pariſh if they had not cows: they do not receive any parochial aid; the ſums raiſed for the relief of the poor, in thoſe pariſhes, being for thoſe who, from various circumſtances, are not poſſeſſed of cows. The lowneſs of the rates, in theſe inſtances, may therefore be fairly imputed to the cuſtom of letting land to labourers.—With regard to the amount of the poor's-rate, the beſt way to judge of the management of the poor, is to aſcertain the number of inhabitants, and the annual ſum raiſed for the poor: this will ſhew what proportion of theſe perſons can maintain themſelves, and what are paupers. The following is an account of the number of inhabitants, and of the ſums raiſed for the poor, and alſo of the amount of the poor's-rate per pound, in theſe three pariſhes, from Eaſter, 1796, to Eaſter, 1797.

	Number of inhabitants.	Sums raiſed for the poor.	Amount in the pound.
Burley -	225	38 12 1	3½*d.*
Egleton -	144	15 11 5	4¾*d.*
Hambledon -	335	74 16 6	6¼*d.*
	740	129 0 0	

‡ As land cultivated as a garden will produce a greater quantity of food for man than in any other way, and as four fifths of the labour beſtowed upon their gardens will be done by the labourers at extra hours, and when they and their children would otherwiſe be unemployed, it may not be too much to ſay, that 100,000 acres, allotted to cottagers as garden ground, will give a produce equal to what 150,000 acres cultivated in the ordinary way would give; and that, without occupying more of the time they would otherwiſe give to the farmers who employ them, than the cultivation of 20,000 acres would require.

know what to do with it, and will reap an immediate benefit from it. Of this I have had experience in ſeveral places, particularly in two pariſhes near Newport Pagnell, Bucks, where there never had been any gardens annexed to the labourers' houſes, and where, upon land being allotted to them, they all, without a ſingle exception, have cultivated their gardens extremely well, and profeſs receiving the greateſt benefit from them.

"Thoſe very ſmall ſpots of a few ſquare yards, which we ſometimes ſee near cottages, I can hardly call gardens: I think there ſhould be as much as will produce all the garden ſtuff that the family conſumes, and enough for a pig with the addition of a little meal. I think they ought to pay the ſame rent that a farmer would pay for the land, and no more. I am perſuaded that it frequently happens, that a labourer lives in a houſe at 20*s.* or 30*s.* a-year, which he is unable to pay, to which, if a garden of a rood was added, for which he would have to pay 5*s.* or 10*s.* a-year more, that he would be enabled, by the profit he would derive from the garden, to pay the rent of the houſe, &c. with great advantage to himſelf.

"Whoever travels through the midland counties, and will take the trouble of enquiring, will generally receive for anſwer, that formerly there were a great many cottagers who kept cows, but that the land is now thrown to the farmers; and if he enquires ſtill further, he will find, that, in thoſe pariſhes, the poor's-rates * have increaſed in an amazing degree, more than according to the average riſe throughout England. It is to be hoped, that as the quantity of land required for gardens is very ſmall, it will not excite the jealouſy of the farmers."

That exemplary, and truly benevolent prelate, the biſhop of Durham, has alſo given an account of three cottagers keeping cows, and renting land in Rutlandſhire.

"Among the cottagers," ſays the biſhop, "on Lord Winchilſea's eſtate in the county of Rutland, which I have very lately viſited, I have ſelected for the ſociety three examples of the benefit of cottagers renting land. They are as follows:

1. "A day labourer, his wife, and eight ſmall children.

2. "An old man of fourſcore, and his wife of nearly the ſame age.

3. "The firſt and ſecond of theſe families have each two cows, and the old ſingle woman has one cow, with land to keep them on. They have each of them gardens. With this benefit, and that of his labour, the day labourer has bred up ten children, two of which are put out to ſervice; and he is now maintaining himſelf, his wife, and his other eight children, without any call for parochial relief. The two old people cannot make any thing of their labour; but yet, with the benefit of their cow and garden, and the exertions which theſe call forth, and with a little occaſional aſſiſtance that the old man and his wife receive from their ſon, and which the other old woman has from her younger neighbours, they all appear to enjoy much more comfort than old age in general poſſeſſes. They ſatisfied me that, but for the cow and the garden, they could not have ſubſiſted without parochial relief.

"I have ſelected theſe three examples, from many ſimilar ones on the ſame eſtate, in proof of the utility of the meaſures, which Lord Winchilſea has adopted for the benefit of his cottagers. There are two circumſtances which I learnt upon enquiry, and which I think will ſhew that the benefit I have ſtated, was not local or partial, but diffuſed over his eſtate; one, that the rate collected for the relief of the poor, in his three pariſhes is not ſo much, on an average, as an annual ſix-pence in the pound; the other, that his cottagers' rents (for their cottages and little cloſes of ground) are, of all his rents, the earlieſt and beſt paid; and that there has been no arrear of them for ſeveral years.

"There was an air of content and gratitude marked in the countenances, and expreſſed in the language of all the cottagers, that convinced me that what had been done for them by their landlord, had not only made them more happy, and improved their means of ſubſiſtence, but that it had produced very beneficial effects on the heart and the morals. The advantages, however, are not confined to the poor man and his family; they extend to the pariſh, and prevent its being burthened with a heavy poor's-rate; and to the community at large, on account of the children of the lower claſſes of the people being educated in habits of induſtry and good order; and having, at an early age, a ſpirit and energy infuſed into them by the examples of their parents; which teach them that their beſt and ſureſt dependence, in future life, will be on their own exertions and good conduct for the maintenance and welfare of themſelves and their families."

LANDAU, a town of Germany, in the circle of Upper Rhine, 12 miles N. of Waldeck, and 34 S.S.E. of Paderborn.

LANDAU, a town of Lower Bavaria, ſituate on the Iſer, 32 miles W. of Paſſau. Long. 12. 41. E. Lat. 48. 32. N.

LANDERON, a town of Switzerland, in the principality of Neufchatel. In 1707 this town refuſed to acknowledge the King of Pruſſia for ſovereign, and was reduced by force of arms. It is ſituate at the S.W. extremity of the lake of Bienne, ſeven miles N.E. of Neufchatel, and nine S.W. of Bienne.

LANDES, a department of France, including the late territory of Marſan. It takes its name from a diſtrict called Landes, extending along the coaſt of the bay of Biſcay. It is a barren ſandy country, covered with fern, pines, and the holm-tree, of the bark of which corks are made. Mount-de-Marſan is the capital of this department, and Dax the epiſcopal ſee.

LANDRIANO, a town of Italy, in the Milaneſe, 11 miles S.S.E. of Milan.

LANDSBERG, a town of Bavaria, near the river Lech, 23 miles S. of Augſburg.

LAND'S-END, a promontory of Cornwall, the moſt weſterly point of Great Britain, and a vaſt aggregate of moorſtone. Long. 5 40. W. Lat 50. 6. N.

LANDSCHUT, a town of Sileſia, in the duchy of Schweidnitz. It has a flouriſhing linen trade, and is ſeated on the Zelder, 12 miles W. of Schweidnitz.

LANDSCHUT, a town of Lower Bavaria, with a ſtrong caſtle, on an adjacent hill. It is ſeated on the Iſer, 35 miles N.E. of Munich. Long. 12. 10. E. Lat. 48. 30. N.

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* In the Dillorn incloſure act, paſſed in 1781, there is a clauſe for ſecuring to cottagers, in fee-ſimple, houſes built by them upon the waſte, with the gardens belonging to them, and alſo for ſecuring to them an eſtate for one, two, or three lives, in the incloſures previouſly made by them on the waſte, not exceeding two acres. This clauſe was ſuggeſted by a principal proprietor, Mr. Holliday of Lincoln's-Inn, from whom we learn, that the cuſtom of joiſting the cottager's cow is prevalent in that pariſh; and the rent is uſually made up out of the extra wages during harveſt. Mr. Holliday has declared that, during the ſixteen years that have paſſed ſince the incloſure, there has been hardly any inſtance of a cottager, who kept a cow, ſtanding in need of, or ſeeking relief from the pariſh.

LANDSCHUT, a town of Moravia, ſeated on the Morava, on the confines of Hungary and Auſtria.

LANERK, a borough in Lanerkſhire, ſeated on the Clyde, 20 miles S.E. of Glaſgow. Long. 3. 49. W. Lat. 55. 40. N.

LANGANICO, the ancient Olympia, a town of Turkey in Europe, ſituate on the ſmall river Carbon, the ancient Alpheus. Here anciently the famous Olympian games were celebrated. It is 32 miles S.S.E. of Chiarenza, and 60 S.W. of Corinth.

LANGEAC, a town of France, in the department of Cantal, ſeated near the Allier, among mountains, 17 miles E. of St. Flour. Long. 3. 35. E. Lat. 45. 5. N.

LANGENTHAL, a town of Switzerland, in the canton of Berne. Here are three great annual fairs, at which great quantities of linen, as alſo cattle, cheeſe, and grain, are ſold. Near the town are ſome medicinal ſprings. It is 10 miles E. of Soleure, and 18 N E. of Berne.

LANGOGNE, a town of France, in the department of Lozere, 21 miles N.E. of Mende, and 33. W. of Privas. Long. 3. 45 E. Lat. 44. 44. N.

LANGON, a town of France, in the department of Gironde. It is noted for excellent wine, and ſeated on the Garonne, 15 miles N. of Bazas. Long. 0. 10. W. Lat. 44. 33. N.

LANGPORT, a town in Somerſetſhire, with a market on Saturday. It is ſeated on a hill, by the river Parret, which is navigable for barges to Bridgewater. It is 10 miles S.E. of Bridgewater, and 128 W. by S. of London. Long. 3. 0. W. Lat. 51. 0. N.

LANGUAGE (*Encycl.*). It appears to be not without the moſt powerful reaſons, that a general cuſtom of a great part of Europe has devoted a conſiderable portion of the time allotted to education to the ſtudy of languages; for, beſides the convenience and pleaſure of being enabled to comprehend and appropriate, without difficulty, the ideas of writers of various nations in their original purity, it is impoſſible to learn a language without gaining a variety of other knowledge connected with that of words; without learning to make logical and metaphyſical diſtinctions on the moſt ſubſtantial grounds; and without acquiring a taſte for the beauties, and ſenſibility to the perfections, of the works of genius, which muſt neceſſarily be ſtudied in order to attain a familiarity with that language. Unfortunately, indeed, men are too prone to miſtake the means for the end, and to devote ſuch a degree of attention to the form of expreſſion, as is only due to the beauty or deformity of the ſenſe; and that pedantry, which always accompanies a little mind, has been moſt conſpicuouſly exhibited in verbal ſcholars. But there is a point of view in which every language may be conſidered, which renders it an object highly worthy the attention of a philoſophical obſerver. The different character of each language, their general derivation, dependence, and connection; the progreſs of the primitive expreſſion of an idea through different forms and modifications; the various metaphyſical relations which are more or leſs openly expreſſed or implied in a ſentence; and other hiſtorical and critical enquiries of this kind, ſtill leave a wide field of reſearch open to thoſe who are diſpoſed to cultivate it. Conſiderable progreſs has already been made by M. Court de Gebelin, Profeſſor Buettner, Mr. Horne Tooke, and Profeſſor Hunter; and two other gentlemen might be named who promiſe to add much to our knowledge of the affinity of languages in general; and it is to be hoped, that ſucceſſive attempts will extend our views of the ſubject as far as our means of information will allow. A perfect language ſhould be capable of expreſſing every poſſible idea, and combination of ideas, accurately and conciſely: but if we compare any exiſting language with this model, we ſhall find great imperfections in both theſe reſpects; but more particularly in point of conciſeneſs; for inaccuracy is generally precluded by a diſproportionate prolixity. The ſame teſt will apply to the delineation of a language by written characters; and here we have the greateſt reaſon to complain, in moſt languages, of innumerable inaccuracies. No man of cool judgment would attempt to introduce a general philoſophical language into common uſe; for when a country is once enlightened and civilized, its language, in all eſſential points, is unalterably fixed; and no literary authority is powerful enough to increaſe or diminiſh it, excepting technical terms, by a ſingle word; as, on the other hand, it is equally vain for the pedantry of faſhionable fools to endeavour to give currency, in elegant converſation, to ſuch terms, for words they are not, as a quiz, a gig, a bore, and a row. But it may be worth while to attempt a comparative view of the degrees in which various languages approach to the ſtandard of perfection in point of conciſeneſs; and it is remarkable, that the Engliſh ſeems to be the leaſt objectionable of all in this reſpect; unleſs perhaps the Hebrew, conſidered without points, may be reckoned more ſimple. For, in fact, the immenſe maſs of concordances, declenſions, conjugations, and inflections, with which the memory and patience of many a poor ſchool-boy is overpowered, is entirely compoſed of ſo many pleonaſms, which add nothing to the ſenſe but an unneceſſary repetition of an unimportant idea; although, like many other amiable weakneſſes, they are admired as elegancies; eſpecially, when by the capricious inverſions of the poets, they are rendered, in ſome degree, ſubſervient to perſpicuity. "The ſcorching ſun," in Engliſh, is equally expreſſive with the correſponding expreſſion in Greek, Latin, Italian, or French, where the idea of the maſculine gender is not only unneceſſarily, but falſely added to each of two or more words; or, in German, where the feminine gender is, with equal impropriety, applied as often. In ſpeaking of "a handſome girl," the idea of the female ſex is repeated in moſt languages; in German that of neutrality is added, with the ſame impropriety as frequently occurs in Greek and Latin. But the German, by ſometimes omitting, and ſometimes repeating the ideas of gender and caſe implied in the termination, render their language exceedingly complicated; for when ſeveral adjectives come together, they ſometimes add the form of caſe and gender to each; and ſometimes make the firſt the only echo, leaving the remainder in a kind of indifferent ſtate with reſpect to both. The conjugations of verbs, as far as they expreſs perſon and number, add no new limitation to the ſenſe; and the Engliſh auxiliaries define the time of an action with far more accuracy than the more complicated temporal terminations in other languages. Not but that the Engliſh have pleonaſms in this reſpect too; "he give" would be as intelligible as "he gave;" and "you loves I," and "I loves you," inelegant as they appear, are yet more truly logical than the received expreſſions. But as it is impoſſible to accommodate actual language to rules perfectly analogical, all theſe defects muſt, in practice, be tolerated; although it is abſolutely neceſſary to pay regard to them in every metaphyſical analyſis of the nature and conſtruction of languages. The imperfections of written characters are productive of more ſerious inconvenience, as they greatly and unneceſſarily increaſe to foreigners the difficulty of learning any modern language. The leaſt imperfectly delineated language is, perhaps, the Italian; next the Spaniſh; then the German; the French; and, laſt of all, the Engliſh; which is more irregular in its orthoepy, than, perhaps, any other language that ever exiſted. There is reaſon to ſuppoſe that

the Greeks and Romans deviated but little from an uniform pronunciation of ſimilar characters. The evil is, perhaps, too inveterate to admit a radical cure; not ſo much from any eſſential difficulty, as from the inconveniences of a change; but certainly ſome very conſiderable palliatives have lately been adminiſtered; and it is to be hoped, that when the formation of articulate ſounds ſhall have been more attentively examined, it may be, in great meaſure, practicable to deſcribe the ſound of every word with perfect accuracy.

Another ſuperfluity in many languages is the uſe of a *ſubjunctive mood*, which is conceived to ſignify a kind of contingency that ſtill requires an auxiliary particle to define it. It is certain, that no rule has ever yet been laid down which will ſufficiently limit every caſe of its application; and for a very obvious reaſon, that the beſt authors have never been perfectly conſiſtent in their uſe of the moods. But it is preſumed, that a rule may be given which approaches very nearly to the practice of correct writers; and which may, in every caſe, be followed with perfect ſafety and elegance. It is, to conſider it ſimply as a future tenſe following a conditional particle. A few examples will make this rule more intelligible than a prolix explanation would do. 'If the Elbe "is" now open, we ſhall ſoon have the mails; and then, if there "be" any news from the army, I will ſend it you immediately.' 'If Catiline "was" generous, it was in order to ſerve his ambition.' 'If it "were" not certain that ſome men of good ſenſe maintain the nineteenth century to have commenced, it would appear utterly incredible that ſo ſimple a queſtion could admit of diſpute,' &c.

LANJAN, or LANCHANG, a city, and the capital of the kingdom of Laos, at leaſt of the ſouthern part, to which it gives name. It is the uſual reſidence of the king, whoſe palace is of vaſt extent. The houſes of the grandees and perſons of condition are lofty and elegant; but thoſe of the inferior people are no better than huts. The prieſts alone have the privilege of building their houſes and convents with brick and ſtone. Lanjan is ſituate on the W. ſide of the river Mecon, 400 miles N.N.W. of Cambodia. Long. 101. 38. E. Lat. 18. 30. N.

LANION, a town of France, in the department of the North Coaſt. Its trade conſiſts in wine and hemp, and it has ſome mineral waters. The inhabitants of Lanion, Guingamp, and the environs, ſpeak the Welſh language, which was probably brought hither by the Britons, who took refuge in theſe parts, in the fifth century. Lanion is 15 miles W. of Treguier.

LANNOY, a town of France, in the department of the North, five miles S.E. of Liſle.

LANSINBURGH, a town in the ſtate of New York, formerly called the New City. It ſtands on the eaſt ſide of Hudſon's River, oppoſite the ſouth branch of Mohawk River, nine miles N. of Albany.

LANZO, a town of Piedmont, on the river Sture, 12 miles N.W. of Turin. Long. 7. 28. E. Lat. 45. 9. N.

LAPELA, a town of Portugal, in Entre Douero e Minho, ſeated on the Minho, 13 miles E. of Valenzo do Minho.

LAR, a town of Perſia, in the province of Lariſtan, with a caſtle. It carries on a great trade in ſilk. Long. 52. 45. E. Lat. 27. 30. N.

LARACHA, a ſtrong town in the kingdom of Fez, ſeated at the mouth of a river of the ſame name, with a good harbour. It was once in poſſeſſion of the Spaniards, but the Moors took it from them. Long. 5. 59. W. Lat. 35. 40. S.

LARGENTIERE, a town of France, in the department of Ardeche, 18 miles S.W. of Privas. Long. 5. 11. E. Lat. 44. 32. N.

LARGO, a town of Scotland, in Fifeſhire, ſituate on the north coaſt of the frith of Forth, in a large bay to which it give name. It is ſix miles S. of Cupar.

LARISTAN, a province of Perſia, which lies N. of the gulf of Perſia. It abounds in oranges, lemons, and very large tamarinds. Lar is the capital.

LARNE, a town of Ireland, in the county of Antrim, ſituate at the mouth of a river of the ſame name, eight miles N. of Carrickfergus, and 16 N.E. of Antrim. Long. 5. 43. W. Lat. 54. 51. N.

LARNIO, a ſea-port on the S. coaſt of Cyprus, the ſee of a Greek biſhop, and the reſidence of ſeveral European conſuls. It is 30 miles S.W. of Famagoſta.

LARVIGEN, or LAURWIGEN, a ſea-port of Norway, capital of a county to which it gives name. It is a place of conſiderable trade, and its iron-works are eſteemed among the moſt valuable in Norway. It is 55 miles S.S.W. of Chriſtiania. Long. 10. 15. E. Lat. 59. 3. N.

LASNEBOURG, a town of Savoy, in the county of Maurienne, on the Arc, at the foot of Mount Cenis, the paſſage of which is the principal ſupport of the inhabitants. The ſun is hidden from the inhabitants of this town by the mountain during two months of the year: 20 miles N.N.W. of Suſa, and 23 miles E. of St. Jean-de-Maurienne.

LASSA, or LHASSA, the capital of the country of Great Thibet, in Aſia. It is not a large city; but the houſes are of ſtone, and are ſpacious and lofty. About ſeven miles on the eaſt ſide of the city, is the mountain of Putala, which contains on its ſummit the palace of the grand lama, the high-prieſt and ſovereign of Thibet. Laſſa is 24 miles N.E. of the croſſing place of the river Sanpoo, which is ſeven miles from the foot of Mount Kambala; and it is 850 miles N. by E. of Calcutta. Long. 91. 40. E. Lat. 30. 34. N.

LATACUNGA, a town of South America, and principal place of a juriſdiction of the ſame name, in the audience of Quito, containing 10,000 inhabitants. This town was deſtroyed by an earthquake in the year 1698, and great numbers of the inhabitants were buried in the ruins: 50 miles S. of Quito.

LATAKIA, formerly LAODICEA, an ancient and conſiderable town of Aſia, in Syria, with a harbour, biſhop's ſee, and beautiful remains of antiquity. It is become the moſt flouriſhing place on the coaſt, and is 75 miles S.W. of Aleppo, and 245 N. of Jeruſalem. Long. 34. 30. E. Lat. 35. 40. N.

LATTON, a village in Eſſex, between Epping and Harlow. It had once a priory of Auguſtine monks, whoſe church, now uſed for a barn, ſtands about three miles S. of the pariſh church. Latton is about 21 miles N. by W. of London.

LAVAL, a conſiderable town of France, in the department of Maine and late province of the ſame name. It has been recently erected into a biſhopric, ſuffragan to Rennes. The inhabitants are computed at 24,000. Linen of all kinds and qualities is manufactured here; and the neighbouring quarries produce green-marble, or black, veined with white. It has two caſtles, and is ſeated on the river Maine, 15 miles S. of the town of that name, and 40 W. of Mans. Long. 0. 42. W. Lat. 48. 7. N.

LAVAMUND, or LAVANT MINDF, a town of Germany, in Carinthia, with a caſtle, and a biſhop's ſee. It belongs to the archbiſhop of Saltzburg, and is ſeated on the river Drave, 40 miles E. of Clagenfurt. Long. 15. 18. E. Lat. 46. 44. N.

LAVAUR, a town of France, in the department of Tarn and late province of Languedoc. Before the revolution it was a biſhop's ſee; and it is ſeated on the river Agout, 20 miles N.E. of Toulouſe. Long. 1. 52. E. Lat. 43. 40. N.

LAUBACH, a handſome and ſtrong town of Germany, in Carniola, with a biſhop's ſee, and a caſtle. It is ſeated on a

river of the ſame name, in which are the largeſt crawfiſh in Europe, 32 miles S. of Clagenfurt, and 155 S. by W. of Vienna. Long. 14. 25. E. Lat. 46. 24. N.

LAUDA, a town of Germany, in the biſhopric of Wurtzburg, 18 miles S.W. of Wurtzburg. Long. 9. 45. E. Lat. 49. 28. N.

LAUDER, a borough of Scotland, in Berwickſhire; a ſmall town, but lately much improved. Near it, is Lauder Caſtle, 22 miles S. of Edinburgh. Long. 3. 5. W. Lat. 55. 36. N.

LAVELLO, an ancient town of the kingdom of Naples, with a biſhop's ſee; 30 miles E. by N. of Naples. Long. 15. 55. E. Lat. 41. 5. N.

LAVELT, or LAFELT, a village in the biſhopric of Liege, near Maeſtricht, remarkable for a battle gained here by the French in 1747.

LAUENSTEIN, a town of Upper Saxony, on the margravate of Meiſſen, 18 miles S. of Dreſden. Long. 13. 45. E. Lat. 51. 42. N.

LAUFFEN, a town of Germany, in the duchy of Wirtemburg, ſeated on the Neckar, 10 miles S. of Hailbron. Long. 9. 25. E. Lat. 49. 3. N.

LAUFFEN, a town of Switzerland, in the canton of Baſle, ſeated near the river Birs, 12 miles S.W. of Baſle.

LAUFFEN, a village of Switzerland, in the canton of Zuric, three miles S. by W. of Schauffhauſen. Here is a celebrated cataract of the Rhine; the perpendicular height of which is 50 or 60 feet, and the breadth 300.

LAUFFENBURG, a ſtrong town of Suabia, and one of the four Foreſt-Towns, with a ruined caſtle. It belongs to the houſe of Auſtria, and is ſeated on a rock, on the Rhine, which divides it in two parts. Here is a ſmall cataract, noted for the beauty of the ſcenery. It is 17 miles E. of Baſil. Long. 8. 2. E. Lat. 47. 35. N.

LAUGHTON, a village in the W. riding of Yorkſhire, on a high hill, ſix miles E.S.E. of Rotherham. It is noted for its church, whoſe tower and ſpire are not excelled by any Gothic piece of the kind; and it is ſeen, in ſome places, at the diſtance of 60 miles.

LAVIGNA, a town of Italy, in the territory of Genoa, at the mouth of a river of the ſame name, eight miles from Rapallo.

LAUINGEN, a town of Suabia, formerly imperial, but now ſubject to the duke of Neuberg. It is ſeated on the Danube, 32 miles N.W. of Augſburg. Long. 10. 25. E. Lat. 48. 38. N.

LAUNU, a town of Bohemia, near the river Eger, 27 miles N.W. of Prague. Long. 14. 20. E. Lat. 50. 21. N.

LAUREATE (*Encycl.*). Degrees in grammar, which included rhetoric and verſification, having been anciently conferred in our univerſities, that circumſtance has occaſioned much confuſion, and has led ſome writers too haſtily to ſuppoſe that perſons were inveſted with the office of poet laureat, who, in truth, had no claim to it. A wreath of laurel being preſented to the new graduate on taking his degree, he was afterwards frequently ſtyled *poeta laureatus*; and this ſcholaſtic laureation certainly gave riſe to the appellation by which the court poet was diſtinguiſhed. The king's poet laureat, therefore, ſtrictly ſpeaking, is only a graduate rhetorician, employed in the ſervice of the king.

On this ſubject, Fuller (in his Worthies of England, c. x. p. 27.) makes the following obſervation: "As for our Engliſh poets, ſome have aſſumed unto themſelves the title of *laureat*, as John Kay, in his dedication of The Siege of Rhodes to King Edward the Fourth, ſubſcribing himſelf *his humble poet laureat*. Others have, in compliment, given the title to ſuch perſons as were eminent in that faculty; and nothing is more uſual than to ſee their pictures before their books, and ſtatues on their tombs, ornamented accordingly. However, all this is done by civil courteſy, or common cuſtom; no ceremonious creation in court or univerſity."

So early as the thirteenth century, *Henry d'Avranches*, a Frenchman (*Henricus Abrincenſis*), was entertained by our Henry III. as a poet attached to his court; and under the title of "Maſter Henry the verſifier" received from that monarch an annual ſtipend, which ſeems to have been ten pounds a-year.

In the 36th year of the ſame king's reign (1252), forty ſhillings a-year and a pipe of wine were granted to *Rickard*, the king's harper; which perhaps gave riſe, at a ſubſequent period, to a ſimilar bounty to the poet laureat.

Gulielmus Peregrinus, who compoſed a poem on the cruſade of Richard I. appears to have been the royal poet of that time; and *Robert Baſton*, whom Ball calls *poeta Oxonii laureatus*, and whom Edward II. carried with him to the ſiege of Stirling-caſtle, to record his Scottiſh exploits in verſe, may be conſidered as exerciſing the ſame office under that monarch. Of theſe verſifiers, as they were then called, the compoſitions produced in their character of poets laureat were in Latin.

Chaucer, perhaps, in the time of Edward III. and Richard II. as a poet, and as receiving a royal penſion, not without a due allowance of ſack; and in the time of Henry IV. *Henry Scogan*, maſter of arts, who, if we may credit Ben Jonſon, made diſguiſes for the king's ſons, and wrote in fine tinkling rhyme and *ſtowand verſe*; may with ſufficient propriety be enrolled in the ſame tuneful and honourable band: yet neither theſe poets nor *Gower*, though two of them were afterwards enumerated in Dryden's patent, as having worn the laurel, were ever regularly and expreſsly appointed to this office*; nor does the title of *poet laureat* occur earlier than the time of Edward IV., to whom Jon Kay (Caius), about the year 1470, dedicating a proſe tranſlation of a Latin hiſtory of the Siege of Rhodes, ſtyles himſelf *lys humble poete lauriate*. None of his poetry, however, either in Latin or Engliſh, is known to be extant.

Andrew Bernard, a Frenchman, and an Auguſtine monk, who was blind, was ſucceſſively poet laureat and hiſtoriographer to Henry VII. and Henry VIII. and was living in 1522.

In 1489, *John Skelton* was laureated as a rhetorician at Oxford, and a few years afterwards was permitted to wear the laurel publicly at Cambridge. Previouſly to which he had been honoured by Henry VII. with a grant to wear either ſome peculiar dreſs, or ſome additional ornament on his ordi-

* Fuller (Worthies, ubi ſup.) aſſerts, that till the time of his writing (about 1660), there was no regular appointment of a poet laureat. "There want not thoſe," he obſerves, "who do confidently aver that there is always a laureat poet in England, and but one at a time; the laurel importing conqueſt and ſovereignty; and ſo, by conſequence, ſoleneſs in that faculty; and that there hath been a conſtant ſucceſſion of them at court, who, beſide their ſalary from the king, were yearly to have a tun of wine, as very eſſential to the heightening of fancy." This laſt is founded on what we find given to Geoffery Chaucer, *Vigeſimo ſecundo anno Richardi ſecundi conceſſum Galfrido Chaucer unum dolium vini per annum durante vitâ in portu civitatis London, per manus capitâlis pincernæ noſtri.* But Chaucer, beſides his poetical accompliſhments, did the king ſervice both in war and peace, as ſoldier and ambaſſador, in reward whereof, this and many other boons were beſtowed on him.

nary apparel. That he was poet laureat to Henry VIII. may be presumed from the titles of some of his works, but there is not sufficient proof of his ever having received an annual salary, which is a criterion for forming a conjecture, at least, concerning the possession of the office, for none of the persons who may be considered as filling the station before Dryden, except Andrew Bernard, are expressly denominated *poets laureate* in any authentic record.

Thomas Churchyard, a voluminous poet after in the time of Queen Elizabeth, in consequence of having addressed many of the noblemen of her court for near 40 years, in such rhymes as he could spin, is called by one of his contemporaries *the old court poet*; this has given rise to a conjecture that he was peculiarly countenanced and patronised by the queen, and formally placed at the head of the poetical band of that time; but, undoubtedly, Elizabeth had no poet laureat till in February, 1590-1, she conferred on *Edmund Spenser* a pension of 50l. a-year; from which time to his death, in 1598-9, he may properly be considered as filling the office, though not expressly styled *Laureat* in his patent.

Samuel Daniel has been represented by Anthony Wood, and others, as the next successor to the laurel, but he never was thus honoured; for from the death of Spenser to the year 1616 the poetical throne was vacant, though in that period *Daniel, Jonson, Dekker*, and others, furnished the court with pageants and masques, and may, during that interval, be considered as *volunteer laureats*. About four months before the death of Shakspeare, January 1, 1615-16, King James granted to *Ben Jonson* a pension of one hundred marks a-year (66l. 13s. 4d.) during his life, "in consideration of his good and acceptable services past and future;" a grant which invested him with all the dignity and functions of poet laureat. This consideration, however, is common to many other crown grants not conferred on poets; nor did any patent expressly mention the duty and peculiar services expected from a poet laureat, before that of Charles I. to the same person; in which the character and functions of this office are, for the first time, specifically pointed out. On the 23d of April, 1630, that king, "in consideration of good and acceptable services done by the said Benjamin Jonson, and especially to encourage him to proceed in those services of his wit and pen which we have enjoined unto him, and which we expect from him," was pleased to augment his annuity of one hundred marks to one hundred pounds per annum, during life, payable from the preceding Christmas. Old Ben had not long before been struck with the palsy, on which account, perhaps, as well as to gratify his well-known propensity, his majesty, by the same instrument, granted him a tierce of Canary wine yearly, during his life, out of the royal cellars at Whitehall.

It has been generally supposed that Sir *William d'Avenant* succeeded to the bays immediately on Jonson's death, in August, 1637; but he then received no favour from the crown. About sixteen months afterwards, December 13, 1638, letters patent passed the great seal, granting an annuity of one hundred pounds a-year to the said William d'Avenant, during his majesty's pleasure. By this patent no Canary wine was given, nor is any mention made of the office of poet laureat, or the duties belonging to it.

In 1670, some time after the death of Sir William d'Avenant, *Dryden* was made poet laureat by letters patent, and held the office till he was compelled to forego it in consequence of the revolution.

On the 29th of August, 1689, he was succeeded by *Shadwell*.

Shadwell's successor was *Nahum Tate*, December 23d, 1692, with an annual pension of one hundred pounds, and a butt of Canary wine.

On the death of Tate, 1716, the laurel was given to *Rowe*; who dying in December, 1718, the Rev. *Laurence Eusden* was, in the following year, invested with this office.

On the death of Eusden, September 27, 1730, *Colley Cibber* was appointed poet laureat. His reign extended to the end of the year 1757.

To him succeeded *William Whitehead*, who dying April 14, 1785, the Rev. *Thomas Warton* obtained the laurel, which he held for five years.

Shortly after his death, which happened May 21, 1790, *Henry James Pye*, esq. was appointed poet laureat, and now fills the poetical throne.

There is no grant in the chapel of the rolls, constituting Rowe poet laureat. The practice of conferring this office by a warrant signed and sealed by the lord chamberlain, nominating A. B. to the office, with the accustomed fees thereunto belonging, then commenced, and has prevailed from that time to the present.

LAURINGEN, a town of Germany, in the bishopric of Wurtzburg, 24 miles N.W. of Bamberg, and 30 N.E. of Wurtzburg. Long. 10. 21. E. Lat. 50. 5. N.

LAURVIG, a town of Norway, in the province of Aggarhuus, 55 miles S. of Christiania. Long. 10. 15. E. Lat. 59. 3. N.

LAUTERBRUNN, a village of Switzerland, six miles S. of Interlacken. It is seated in a valley of the same name, celebrated for its picturesque and romantic scenery. See STAUBBACH.

LAUTERBURG, a town of Western Prussia, in the palatinate of Culm, 50 miles N.E. of Thorn.

LAUTERBURG, a town of Germany, in the circle of Upper Rhine, but subject to the French. It is 10 miles S.E. of Weissemburg. Long. 8. 26. E. Lat. 48. 48. N.

LAUTERECK, a town of Germany, in the circle of Upper Rhine, and county of Veldenz, situate on the Glan, 24 miles N. of Deux Ponts, and 46 S. of Coblentz. Long. 7. 17. E. Lat. 49. 39. N.

LAUZERTE, a town of France, in the departments of Lot and Garonne, 15 miles N.E. of Marmande. Long. 0. 22. E. Lat. 44. 38. N.

LAWRENCE, St. the largest river of North America, proceeding from Lake Ontario, from which it runs 700 miles to the Atlantic. It is navigable for large ships of war, as far as Quebec, which is above 400 miles; but beyond Montreal, it is so full of shoals and rocks, that it will not admit large vessels without danger. It is here called the Iroquois.

LAXENBURG, a town of Austria, with a palace, where the princes of the house of Austria go for pleasure. It is seated on a small river, 10 miles S. of Vienna. Long. 16. 28. E. Lat. 48. 5. N.

LAYBACH, a town of Carniola, on a navigable river of the same name, 28 miles N.E. of Trieste. Long. 14. 32. E. Lat. 46. 12. N.

LAZZARONI, a peculiar description of the lowest class of people, that have, for a number of years, constituted a very singular, as well as a very considerable, part of the poor of Naples. Their origin, which is but little known, is said to be as follows: the romantic and enterprising Duke of Guise, who defended the city of Naples against the Spaniards for a long time with very inadequate forces, tells us, in the third book of his Memoirs, that two secret enemies of his, "*Gennaro* and *Vincenzo*, cherished underhand the aversion the rascality had for the better sort of citizens, and civiler people, who, by reason of the insolencies suffered from them, justly hated them. The latter of these, by whom the greatest part of the Virgin's suburbs was inhabited, were called *black-cloaks*, and the ordinary sort of people took the name of *Lazares*, at

the beginning of the revolutions; as the revolters in Flanders formerly had done that of *beggars*, thoſe of Guienne that of *caters*, thoſe of Normandy of *barefeet*, and of Beauſſe and Soulongne of *wooden pattens*." The Lazzaroni's quondam opponents, the *black-cloaks*, and all the others, are now completely blotted out of the remembrance of men, but they ſtill ſurvive, and were never more conſpicuous, nor of more importance, than in the preſent æra, after the lapſe of a century and half. Titles, ſimilar to thoſe above, in times of public diſorder, have been aſſumed by combinations of the lower claſſes of ſociety in almoſt every age, but have ſeldom long ſurvived their exiſtence who originally conſtituted thoſe confederacies. Perhaps in another century the *Chouans* and the *ſans culottes* will be as little talked of in the diſtricts which gave them birth as are now the *barefeet* and the *wooden pattens*.

LEA, a river which riſes near Luten in Bedfordſhire, flows to Hertford and Ware, and dividing Eſſex from Hertfordſhire and Middleſex, falls into the Thames below Blackwall. By this river large quantities of corn and malt are brought out of Hertfordſhire to London.

LEAD (*Encycl.*). Though we have ſpoken fully on the nature, qualities, and chemical combinations of this metal, under the articles LEAD and CHEMISTRY, and alſo under ACETITE in this Supplement, the following extracts from a Memoir on the Preparation of Sugar, or Acetite of Lead, by Citizen Marchais, which was read before the Société Académique des Sciences, in France, ſeem to deſerve notice in this place.

"Machy," ſays he, "the only French author who has given circumſtantial details concerning this manufacture, has repreſented it as being ſo difficult in the execution, that its ſucceſs cannot always be certain. Thoſe who have written ſince this author, have either added nothing to our knowledge, or have at leaſt not been able to determine what was good in the ancient proceſſes, and what might be proper to be added to them; neither have they pointed out the grounds of the ſuperiority of one proceſs over the other, as they were unable to determine the theory of the operation in a clear manner, the evidence of which was ſupported by facts. Baſil Valentin, and Iſaac the Hollander, who are mentioned as the firſt who gave an account of the action of vinegar upon lead, and the ſalt thereby produced, required for that purpoſe much leſs ſcience, and were obliged to make much fewer experiments than were afterwards required, in order to aſcertain the uſes of this ſalt in the arts, and eſpecially in that of dyeing, in which it is of ſo great importance. At that time, in order to make chemical diſcoveries, it was ſufficient to place ſubſtances in contact, and ſee whether they exerted any operation upon each other. From thence to the knowledge of the theory of this action, the road was much longer than that which had led to the firſt obſervation; thus almoſt all the explanations which chemiſtry gave of her operations, prior to the diſcoveries of the immortal Lavoiſier, have rather retarded than accelerated the progreſs of the ſcience. Every ſound theory points out the route we are to take in a certain manner, but when the theory itſelf is erroneous, it leads us aſtray, and the arts receive no improvement. Local circumſtances may render the error leſs perceptible, or cauſe it to diſappear; but, when we do not well know what we are doing, which is almoſt as bad as not knowing it at all, we can never rectify our courſe, nor know whether or not it be the beſt which we could take, if perchance that ſhould happen. What I have to ſay concerning the preparation of the ſugar of lead is evident, is known, and yet it has never been ſaid before; for the operation has remained obſcure, uncertain, little productive in France, whilſt other nations know how to derive profit from it: this is what muſt have happened, as the facts will prove.

"It had been diſcovered that diſtilled vinegar was leſs concentrated than the ſame vinegar not diſtilled; becauſe, in diſtillation, more water raiſes itſelf than acid, the latter concentrating itſelf in the alembic; but this portion cannot be employed, as it is only after having been diſtilled, that it becomes proper for preparing the acetite of lead. My firſt idea was, to combine the oxyd of lead with vinegar not diſtilled, but, however, without any colour, as I attributed to its extractive part, the impoſſibility of obtaining a cryſtaliſable product from the direct combination of the oxyd and the acid. The preparation known in pharmacy by the name of extract of lead, yields no cryſtals on condenſation, but merely the appearance of an extract, ſuch as is obtained from vegetables. I believed that I had found, in the oxygenated muriatic acid gas, a means of deſtroying the colouring matter of the vinegar. It was white-wine vinegar that I uſed.

Experiment 1. "The apparatus which I employed is a known one; it is that which chemiſts uſe for obtaining the muriatic acid gas, ſuſpended in water; inſtead of water I had put vinegar into it: this loſt its colour, and became very white. I ought to remark that it no longer retained its peculiar odour; neither had it that of oxygenated muriatic acid; but it had acquired one peculiar to this combination, which no author has hitherto treated of. Into 18 ounces 5 drachms 60 grains of this liquor, I put three ounces of the white oxyd of lead; of this there was a little that was not diſſolved, and a ſmall part precipitated in a pulverulent form; this was muriate of lead. The liquor poured off, ſubjected to a very ſlow evaporation, and cooled in its ſand bath, preſented nothing to the eye but a brown extract, having the ſmell of mucous-ſaccharine matter when beginning to burn, but no appearance of cryſtals was obſerved in it, after it had been kept cool for eight hours. I gently ſtirred it, inclining the veſſel at the ſame time, in order to examine whether there might not be ſome cryſtals at the bottom; immediately the liquid was converted into a ſolid, and I had nothing more than a ſaline maſs, irregularly cryſtaliſed and very brown. This was acetite of lead; but it ought to have been the acetite of commerce, with reſpect to the whiteneſs and regularity of the cryſtals; it was only the chemiſt who could diſcover in it the principles of the acetite of lead.

Experiment 2. "I endeavoured to bleach the vinegar, if I may be allowed the expreſſion, by the admixture of oxygenated muriatic acid diſſolved in water; the vinegar was deprived of its colour, but the ſtate in which I found it was preciſely the ſame as in the firſt experiment; I therefore judged it ſuperfluous to employ it for diſſolving the white oxyd of lead, as I could foreſee the reſult from the former experiment.

Experiment 3. "Chemiſts having frequently employed the ſulphurous acid for depriving vegetable ſubſtances of their colour, I diſpoſed the apparatus uſed in Experiment 1, and diſtilled the ſulphuric acid upon a combuſtible ſubſtance; (it was on ſtraw): a conſiderable diſengagement of ſulphurous acid took place; the vinegar became turbid, a very light precipitate was formed; but the colouring matter was not attacked: I therefore judged it uſeleſs to treat the white oxyd of lead with this acid.

Experiment 4. "I thought I ought to try, for the ſake of compariſon, the ſolution of the white oxyd of lead in ſtrong red vinegar. A pound of this acid was able to diſſolve an ounce, and ſome particles remained in the form of a brown powder. I tried in vain every expedient I could deviſe, in order to make this ſolution cryſtalize. I had only a blackiſh-brown extract, of the conſiſtence of honey, but which exhibited

no appearance of cryſtals; diſtilled vinegar poured upon it very eaſily effected its complete ſolution; the ſolution was brown, and ſerved me for ſome experiments foreign from the ſubject of this memoir.

"The experiments which I have juſt related had taught me that if the colouring matter was an impediment to the cryſtalliſation, one ought not to attribute to it alone the more or leſs red appearance of the cryſtals of acetite of lead.

Experiment 5. "I put ſeveral pounds of the ſame vinegar into a diſtilling apparatus of glaſs. I divided the whole into four portions in the following order: $\frac{1}{4} + \frac{1}{4} + \frac{1}{3}$, ſo that there remained only $\frac{1}{6}$ in the diſtillatory veſſel: the three firſt products preſented no apparent diverſity to the eye; they were equally limpid and colourleſs; the fourth was very high coloured, very acid, and when cooled, depoſited cryſtals of tartarite of potaſh.

Experiment 6. "Eight ounces of the firſt fourth were combined with ſix drachms 44 grains of white oxyd of lead*; the ſolution took place under a continued effervescence; the pieces of oxyd did not aſſume a brown colour, as in experiments 1 and 4; the ſalt which I obtained was beautiful, very white and brilliant; I had 5 ounces 36 grains of it; the mother-water was ſomewhat coloured, and yielded 70 grains of a reddiſh ſalt. The portions of the vinegar, No. 2 and 3, on being ſubjected to the ſame operation, yielded a ſalt much inferior to that of No. 1, eſpecially No. 3; the mother-water was in larger quantity and more coloured, as were alſo the cryſtals which were more irregular. The conſideration of theſe three facts gave me reaſon to conclude, that the oil, which exiſts in conſiderable quantity in vinegar, was the real cauſe of the difficulty which had been found in obtaining the acetite of lead. Machy was not aware of this difficulty, though he was in the way to diſcover it; he relates that the manufacturers of Grenoble pour ſeveral ounces of alcohol into each of the veſſels in which the cryſtalliſation is performed. What I have juſt ſaid may ſerve to demonſtrate the utility of this precaution. Alcohol has a decided affinity on the one hand with the acetite of lead, and on the other with the oil furniſhed by the vinegar; it will therefore diſſolve in preference the oily and red cryſtals, or even the oily part, ſo that what remains in the veſſel will be more beautiful, and freed from that ſubſtance which impaired its whiteneſs. Machy, and thoſe who have repeated it after him, are wrong, in aſſerting that the manufacturers uſe this alcohol in order to prevent evaporation from taking place, during the cryſtalliſation of the ſalt: its direct object is to free it from that ſubſtance which would impair its whiteneſs. In order to demonſtrate this theory with the moſt convincing evidence, it was neceſſary to take acetous acid that contained no oil, conſequently not that which is obtained from wine; I therefore procured vinegar prepared from cyder.

Experiment 7. "I diſtilled it in glaſs veſſels, and twice ſtopped the diſtillation, in order to ſuffer the ſalt, which the liquor might contain, to cryſtaliſe; but not having perceived any cryſtalliſation, I continued it to exſiccation; a ſmall quantity of extractive matter remained, which could be re-diſſolved by water. I diſſolved the white oxyd of lead in the diſtilled acid; the liquid remained white and tranſparent, it cryſtaliſed completely, without any coloured mother-water, and the laſt cryſtals were no leſs beautiful than the firſt. Succeſs, ſo complete and conformable to theory, proved to me, that the real ſuperiority of the Dutch conſiſts in their employing in the manufacture of this ſalt, vinegar exempt from oily particles; ſuch as are the vinegars prepared from grain. It is known that they manufacture theſe vinegars of very ſuperior quality, and that they very carefully keep ſecret the details of this operation. I have been informed upon good authority, that at the time when the Dutch territory was covered by our troops, and when the influence of France, in that country, was at its greateſt height, it was never poſſible to penetrate into theſe manufactories of vinegar, many of which even ceaſed for the time to work. The beautiful appearance of the ſugar of lead which they ſell us, depends therefore upon local circumſtances; they naturally would employ the acid which they manufacture themſelves, in preference to that for which they would have been obliged to procure the materials from abroad, as their ſoil produces no wine: our country, on the other hand, knows in general of no other vinegar than that produced from wine, which conſequently has been employed, and all thoſe inconveniences have reſulted with which its uſe is naturally attended. It may perhaps be objected to me, that it is ſaid in the works that have been quoted, that the Dutch come to buy up the huſks of grapes in the Artois and Bordelois territories; myſterious as they are in whatever they undertake, if the Dutch pretend that the uſe for which theſe huſks are deſtined is the manufacture of ſugar of lead, I ſhould be induced to believe the contrary; but, beſides, might not the manufacture of white lead and that of verdigris conſume theſe huſks? Do not the four ſtalks ſerve to develope an acid principle in fermentation. Beſides, it is not ſaid that the Engliſh, who likewiſe excel in the manufacture of the acetite of lead, come to our ports to buy theſe huſks; but it is certain that they make uſe of vinegar prepared from grain.

"I cannot conclude this memoir without remarking, that though I have uſed the term of white oxyd of lead, I have done ſo only in order to conform to the denomination generally adopted; but it is nevertheleſs certain that this is not a pure oxyd, but a carbonate of lead, and it conſequently diſſolves in vinegar in a larger proportion than the oxyds of lead, even than that which is termed litharge, which amongſt all is the moſt of an oxyd. If a continued effervescence takes place during the ſolution, it is owing to the diſengagement of the carbonic acid, which yields to a more powerful affinity; we muſt therefore conclude, that the acetous acid undergoes a decompoſition in the fermentation, excited by the heat of the layers of dung, with which the pots in which this preparation is made are covered; but chemiſtry is at preſent familiariſed to the changes which the vegetable acids undergo of the one into the other, ſo that the obſervation here preſented coincides with thoſe that have already been made."

LEADHILLS, a village in Lanerkſhire, ſituate among the mountains of Clydeſdale, and ſaid to be the higheſt human habitation in Great Britain. Here reſide many hundreds of miners, with their families. Theſe miners, though, in a great meaſure, excluded from ſociety by their habitation, pay great attention to the cultivation of the mind, and have provided a circulating library for the inſtruction and amuſement of the little community belonging to the village.

LEAO-TONG, or CHEN-YANG, one of the three departments of Eaſt Chineſe Tartary, or country of the Mantchew Tartars, who hence entered and conquered China. It is bounded on the S. by the great wall of China and the gulf of Lea-tong; and incloſed on the eaſt, north, and weſt, by a paliſade, conſtructed of ſtakes ſeven feet high, without either bank of earth or ditch. Chen-yang, or Mougden, is the capital.

LEATHER (*Encycl.*). To what has been already offered under that head, we are induced to add the following account

* To the quina of vinegar, 10 lb. 5 oz. 2 dr. 16 grs. of oxyd, a little more than one-tenth.

of a mode of manufacturing morocco leather, as practiſed at Fez.

The goat being ſtripped of his ſkin by doubling it over itſelf, and ſo drawing it off as one would pull off a ſtocking by the upper part, the hide, entire and covered with its hair, is thrown into water, in which it is left to ſoak during three days. It is then expoſed to the air, and, when dry, coarſely ſtripped of the hair; after which it is plunged into ſlaked lime.

To clear the ſkins more thoroughly from the hair, they are powdered over with quick lime, which takes away even the ſmalleſt hairs. They are next waſhed in running water, and very carefully rinſed. They are ſuffered to remain in that water during the ſpace of a night, then hanged up to drain in the open air. After this, they are laid in bran, in the proportion of a hundred and eighty ſkins to three hundred pounds of bran. They continue in the bran, being each day turned inſide out, until they have acquired a conſiderable degree of pliability.

They are next waſhed again in running water, by trampling them with the feet; after which operation, they are thrown into a ſecond bath prepared with white figs—about a hundred and ninety pounds of figs to a hundred and eighty ſkins. The figs render the water ſoapy. The ſkins remain in it four or five days, in which time they are frequently turned. And, during the period of their ſoaking in it, they are, on three ſucceſſive days, ſprinkled with ſal gemmæ very finely powdered: after which, the water being ſuffered to drain from them, they are again ſprinkled with ſal gemmæ, and laid in a heap in a flat veſſel, where the proceſs of impregnating them with the ſalt is completed. The water is then ſqueezed out by wringing the ſkins; after which they are very pliant, and fit to receive the colour.

If red be the intended colour, half a pound of cochineal and three ounces of alum are employed for ſixty ſkins. Finally, they are tanned by placing them in pits, where beds of tan are made, of about fifty pounds of tan for each ſkin. The ſkin is tanned ſo as to have the grain ſide within, and filled with the tanning water. After the expiration of eight days it is again turned, and again filled with the tanning water, which is ſuffered to remain in it ſix days. During the whole of this term, the ſkins are carefully ſtirred and ſhaken. They are then rinſed in running water, ſcraped with an iron inſtrument, opened up along the belly, and rendered pliant by the application of a little oil. They are dried in the ſun, ſet to cool in the ſhade, ſlightly moiſtened with water, and finally ſcraped down to a proper thinneſs with three different inſtruments of iron.

When the red colour is too deep, it is weakened with a decoction of a plant called *razoul al achbi*, which is the *meſembrianthemum annuum*. This liquor is uſed warm, a ſpoonful of it being poured on each ſkin.

If the hides are intended to be dyed yellow, they are prepared in the ſame manner as for the red, except that the operation of ſalting is not prolonged beyond the time of their ſoaking in the fig-water. And, beſides, only twenty-five pounds of tan are, in this caſe, uſed for five dozen of ſkins. The yellow dye is made of powdered pomegranate-rind and alum.

An inferior red is produced from Braſil wood and alum. Inſtead of Braſil wood, the manufacturers frequently uſe the *fouah*, which is a ſpecies of *gallium* or *rubia* (*madder*) that is brought in great quantities from Morocco.

LEATHERHEAD, a town in Surrey, which had formerly a market. Here is a bridge of many arches over the river Mole. It is 18 miles S.S.W. of London.

LEATHES-WATER, called alſo WYTHBURN, or THIRLMERE-WATER, a fine lake of Cumberland, which lies S. by E. of Keſwick. It begins at the foot of Mount Helwellyn, which it ſkirts for the ſpace of four miles, receiving numerous torrents that deſcend from the mountains. The ſingular beauty of this lake is its being almoſt interſected in the middle by two peninſulas, that are joined by a bridge. Its outlet joins the rapid river Greeta, at New-Bridge, and thus has a communication with the lake of Derwentwater.

LEAWAVA, a ſea-port on the E. coaſt of the iſland of Ceylon, which yields a great deal of ſalt. Long. 83. 15. E. Lat. 6. 40. N.

LECASELLO, a town of Italy, in the ſtate of Genoa, 23 miles N.E. of Genoa. Long. 8. 53. E. Lat. 44. 37. N.

LECCE, a city of Naples, in Otranto, with a biſhop's ſee. It contains 18,000 inhabitants; is the reſidence of the governor, and ſometimes called the capital of the province; and by ſome the province is called Lecce, inſtead of Otranto. It is 17 miles N.W. of Otranto, and 195 E.S.E. of Naples. Long. 18. 20. E. Lat. 40. 36. N.

LECCO, a town of Italy, in the Milaneſe, ſeated on the lake Como, 26 miles N. of Milan. Long. 9. 21. E. Lat. 45. 55. N.

LECH, a river of Germany, which riſes in Tirol, divides Suabia from Bavaria, and falls into the Danube, below Donawert.

LECK, a river of the United Provinces, which branches off from the Rhine at Wyck-by-Deurſtede, and enters the Merve, 10 miles E. of Rotterdam.

LEDUM (*Encycl.*). The following obſervations have been made by Dr. Maton on Ledum Paluſtre, and on the uſes to which it may be applied in medicine. He conſiders it a plant which ſeems to poſſeſs very active properties. Its very odour indicates an aromatic quality, though this is not ſo ſtrong in the ſpring as during the ſtate of floreſcence. Weſtring mentions a curious fact reſpecting the permanence of the aroma. A dried ſpecimen, which he found in the Burſerian Herbarium at Upſal, retained a very ſenſible fragrance, though upwards of 150 years had elapſed from the time of its being gathered. An infuſion of the leaves is ſomewhat bitter, and conveys a ſenſation to the palate ſimilar to that produced by turpentine; a good evidence of its poſſeſſing an aſtringency. There is undoubtedly a narcotic quality in a ſtrong decoction of the plant, ſome of the northern nations being accuſtomed to boil ſticks of it in beer, for the ſake of imparting to the latter an inebriating effect; and this liquor has been obſerved to occaſion violent vomiting, cephalalgia, and even ſyncope. Some caution, therefore, is neceſſary in the exhibition of this vegetable; and though in many caſes it may be adviſable to keep up that ſtate, reſembling ſtupor, by which the advantageous effects of cicuta and other narcotics are produced, the doſe ought to be ſmall at firſt. Of the recent plant, four ounces may be infuſed in a quart of boiling water, and two ounces of the ſtrained liquor are ſufficient for the firſt exhibition.

Ledum Paluſtre grows ſo abundantly in all the northern parts of the Continent, that large quantities may be obtained without difficulty; though, as its favourite ſoil is of a moiſt, boggy nature, and as it is found on the declivities of lofty mountains, the cultivation of this plant may not often prove very ſucceſsful. No animals appear to be fond of it, excepting the goat, which Linnæus tells us (in the Pan Succus) will often brouze it; and there is a ſpecies of phalæna that dwells on its leaves; but inſects in general ſhun, and are ſo much affected by its odour, that the ſmoke is uſed for the extermination of lice and other vermin. The ſpirit obtained by diſtillation ſeems likely to be moſt efficacious for this purpoſe.

There is another ſpecies of ledum (ſcarcely deſerving, however, to be conſidered as different) which grows very plentifully in the vicinity of Hudſon's Bay, in North America, and

is generally known by the name of *Labrador Tea*, an appellation that indicates its being uſed as a beverage by the natives of that diſtrict, probably on account of this plant poſſeſſing qualities ſimilar to thoſe of ledum paluſtre,—I mean more particularly, that of intoxicating. Ledum *latifolium*, as the name implies, is diſtinguiſhed by its broader leaves; but in no other reſpect does it appear to differ from its congener. Dr. Maton has taſted infuſions of the dried leaves, and found the flavour the ſame. This plant is well deſcribed by Jacquin in his *Collectanea*, tom. ii. and in the new edition of the *Species Plantarum* by Wildenow, diſtinguiſhed thus, *Ledum (latifolium) foliis oblongis, margine revolutis, ſubtis tomentoſis floribus ſubpentandris*, tom. ii. p. 602. There is given in the Tranſactions of the Academy of Sciences of Stockholm, for 1774, an account of the efficacy of ledum paluſtre as a remedy for lepra. Dr. Odhelius ſpeaks of his ſucceſs in the exhibition of it in that diſeaſe, with the higheſt ſatisfaction.

LEE, a river of Ireland, which riſes on the confines of Kerry, and flows E. to Cork, below which city it forms a fine harbour, and enters St. George's Channel.

LEEFOOGA, one of the Friendly Iſlands, in the South Pacific Ocean, viſited by Captain Cook in 1776. Many parts of the country, near the ſea, are ſandy and barren; but in the internal parts, the marks of conſiderable population, and of an improved ſtate of cultivation, are conſpicuous. Many of the plantations are incloſed in ſuch a manner, that the fences, running parallel to each other, form ſpacious public roads. Large ſpots, covered with the paper mulberry-tree, were obſerved, and the plantations in general were abundantly ſtocked with plants and fruit-trees. To theſe Captain Cook made ſome addition, by ſowing the ſeeds of melons, Indian corn, &c. The iſland is ſeven miles in length; its breadth, in ſome places, is not above three.

LEER, or LEHR, a town of Weſtphalia, in Eaſt Frieſland, on a river of the ſame name, which ſoon after falls into the Embs. It is 11 miles S.E. of Embden, and 24 W.N.W of Oldenburg. Long. 7. 11. E. Lat. 53. 21. N.

LEERDAM, a town of the United Provinces, in Holland, ſeated on the Linghe, 17 miles N.E. of Dort. Long. 5. 13. E. Lat. 51. 56. N.

LEEROT, a fortreſs of Weſtphalia, in Eaſt Frieſland, ſeated at the confluence of the Lee with the Embs, 10 miles E. by S. of Embden.

LEERS, or LIERS, a town of Weſtphalia, in the biſhopric of Liege, near which a battle was fought on the 1ſt of October, 1746, between the allies, commanded by Prince Charles of Lorrain, and the French under Count Saxe. It is four miles N. of Liege.

LEESTOWN, a town of Kentucky, in the county of Fayette, ſeated on the E. bank of the river Kentucky. As the banks of the river are remarkably high, there are few croſſing places; and the beſt being at Leeſtown, is a circumſtance which contributes to its increaſe. It is a few miles W. of Lexington. See KENTUCKY RIVER.

LEEWARD ISLANDS, that part of the Caribbee Iſlands, in the Weſt Indies, commencing at Dominica, and extending to Porto Rico.

LEEWE, a fortified town of Auſtrian Brabant, ſeated on the Geete, 12 miles E. of Louvain. Long. 5. 7. E. Lat. 50. 53. N.

LEGACY, a ſum of money, or gift bequeathed to any one in the laſt will and teſtament of a deceaſed perſon. See TESTAMENT. The following duties have of late years been laid upon legacies. By the act of 20 Geo. III. c. 28, ſ. 1; 23 Geo. III. c. 58, ſ. 2; and 29 Geo. III. c. 51, ſ. 2; every receipt for a legacy, whether pecuniary or ſpecific, or ſhare of a perſonal eſtate, payable to the wife, children, or grandchildren of the deceaſed, ſhall be chargeable as follows:

Where the amount ſhall not exceed twenty pounds, 2s. 6d.

Where the amount thereof ſhall be of the value of twenty pounds and under one hundred pounds, 5s.

Where the amount thereof ſhall be of the value of one hundred pounds or upwards, 1l.

And for every ſuch receipt for a legacy or ſhare of a perſonal eſtate, payable to a huſband:

Where the amount ſhall not exceed twenty pounds, 2s. 6d. by 20 Geo. III. c. 28, and 2s. 6d. by 23 Geo. III. c. 58. Total 5s.

Where the amount thereof ſhall be of the value of twenty pounds and under one hundred pounds, by 20 Geo. III. c. 28, 5s. and by 23 Geo. III. c 58, 5s. Total 10s.

Where the amount thereof ſhall be one hundred pounds, by 20 Geo. III. c. 28, 1l. and 23 Geo. III. c. 58, 1l. Total 2l.

And by 23 Geo. III. c. 58, for every further ſum of one hundred pounds, an additional 1l.

And by 29 Geo. III. c. 51, if of four hundred pounds, an additional 1l. and for every further ſum of one hundred pounds, a further additional 1l.

And for every ſuch receipt for a legacy or ſhare of a perſonal eſtate, payable to collateral relations or ſtrangers, there ſhall be charged:

Where the amount ſhall not exceed twenty pounds, 2s. 6d. by 20 Geo. III. c. 28, and 2s. 6d. by 23 Geo. III. c. 58. Total 5s.

And by the laſt act, 36 Geo. III. c. 52,

Upon any legacy of the value of 20l. or ſhare of the perſonal eſtate of a perſon dying inteſtate, and leaving a perſonal eſtate of the clear value of 100l. after payment of debts, &c. which ſhall paſs to a brother or ſiſter of the deceaſed, or any deſcendant of a brother or ſiſter of the deceaſed, there ſhall be charged a duty of 2l. for every one hundred pounds of the value, and ſo after the ſame rate for any greater or leſs ſum.

To a brother or ſiſter of a father or mother of the deceaſed, or any deſcendant of a brother or ſiſter of a father or mother of the deceaſed, 3l. for every one hundred pounds of the value, and after the ſame rate for any greater or leſs ſum.

To a brother or ſiſter of a grandfather or grandmother of the deceaſed, or any deſcendant of a brother or ſiſter of a grandfather or grandmother of the deceaſed, 4l. for every one hundred pounds of the value, and after the ſame rate for any greater or leſs ſum.

To any perſon in any other degree of collateral conſanguinity to the deceaſed than before deſcribed, or any ſtranger in blood to the deceaſed, 6l. for every one hundred pounds of the value, and after the ſame rate for any greater or leſs ſum.

The duties are placed under the management of the commiſſioners of ſtamps, who are to appoint receivers in the different counties.

The duties are to be paid by executors or adminiſtrators on retaining or paying legacies or ſhares, and if duty be not paid before legacies or ſhares are retained by executors, or adminiſtrators, or diſcharged, they having deducted it, the amount ſhall be a debt from them to his majeſty; and if they pay without deducting the duty, it ſhall be a debt, not only from them, but alſo the party receiving the ſame.

The value of any legacy given by way of annuity for life or lives or for a term of years, and the duty chargeable thereon, ſhall be charged according to the tables annexed to the act; and the duty chargeable on ſuch annuity ſhall be paid by four equal payments, the firſt before or on completing the payment of the firſt year's annuity, and the three others in like manner ſucceſſively, before or on completing the reſpective payments

of the three ſucceeding years' annuity reſpectively; but if any ſuch annuity ſhall determine by death, or any other contingency, before four years' payment ſhall become due, then the duty ſhall be payable in proportion only, and all future payments of the duty ſhall ceaſe.

The duty on legacies given to purchaſe annuities to be calculated on the ſums neceſſary to purchaſe them, according to the tables before mentioned.

The duty on legacies whoſe value can only be aſcertained by application of the allotted fund, to be charged on the money as applied.

The duty payable on a legacy given to different perſons in ſucceſſion, ſhall be paid thereout, as in the caſe of a legacy to one perſon; and where the ſame ſhall go to different perſons in ſucceſſion, ſome of whom ſhall be chargeable with no duty, or ſome with different rates, ſo that one rate cannot be immediately charged; all perſons entitled for life, or other temporary intereſt, ſhall be chargeable in the ſame manner as for an annuity, and paid by equal portions in four years; and the duty on partial intereſts ſhall be charged as the duty on property given, otherwiſe than to different perſons in ſucceſſion; and perſons who ſhall become abſolutely entitled in ſucceſſion, ſhall, when they begin to enjoy the benefit, pay the duty in the ſame manner as if the ſame had come immediately on the death of the party.

No duty ſhall be paid on any articles of plate, furniture, or other things, not yielding any income, and given to be enjoyed by different perſons in ſucceſſion, whilſt the ſame ſhall be ſo enjoyed in kind only by any perſon not having any power of diſpoſing thereof; but if the ſame ſhall be actually ſold or diſpoſed of, or come to any perſon having power to diſpoſe thereof, then duty ſhall be paid thereon.

Duty on legacies in joint tenantcy to be paid in proportion to the intereſt of the parties.

Any legacy, ſubject to any contingency which may defeat the gift, and whereupon the ſame may go to ſome other perſon (unleſs chargeable as an annuity), ſhall be charged with duty as an abſolute bequeſt to the perſon who ſhall take the ſame, ſubject to ſuch contingency, and ſuch duty ſhall be paid out of the legacy.

Any legacy, ſubjected to any power of appointment for the benefit of perſons ſpecially deſcribed, ſhall be charged with duty as property given to different perſons in ſucceſſion.

Any money or perſonal eſtate, directed to be applied in the purchaſe of real eſtate, ſhall pay duty as perſonal eſtate.

Eſtates *pur auter vie*, applicable as perſonal eſtate, ſhall be charged as perſonal eſtate.

But if any direction ſhall be given, by any will, for payment of the duty out of ſome fund, ſo that the legacy may paſs free of duty; no duty ſhall be chargeable upon the money applied for payment of the duty.

In caſes of ſpecific legacies, and where the reſidue of any perſonal eſtate ſhall conſiſt of property which ſhall not be reduced into money, the executor or adminiſtrator, or the perſon to whom the duty thereon ought to be paid, may ſet a value thereon, and offer to pay the duty according to ſuch value; or may require the commiſſioners of ſtamps to appoint a perſon to ſet ſuch value, at their expence; and the commiſſioners may either accept the duty offered, or appoint a perſon to appraiſe ſuch effects, and to ſet the value, on which the commiſſioners ſhall aſſeſs the duty; but if the party ſhall not be ſatisfied with the commiſſioners' valuation, they may cauſe ſuch valuation to be reviewed by the commiſſioners of land tax, who may alſo (if they think fit) appoint a perſon to appraiſe the effects, and ſet a value thereon, whoſe judgment ſhall be final.

Duty on legacies not ſatisfied in money, &c. to be paid according to the value of the ſatisfaction.

If legatees refuſe to accept legacies, duty deducted, the court, in caſe of ſuit, may order them to pay coſts; and in ſuits where the party ſued may with to ſtop proceedings on payment of bequeſts, deducting duty, the court may make order therein.

If ſuit be inſtituted concerning adminiſtration, the court to provide for payment of the duty.

Executors and adminiſtrators may, at any time, diſcharge legacies, or pay ſhares of the perſonal eſtate, on payment of the duty accrued.

No legacy, liable to duty, to be paid without a receipt, expreſſing the date thereof, and the names of the teſtator, or inteſtate, and of the perſon to whom ſuch receipt ſhall be given, and of the party to whom ſuch legacy or reſidue ſhall belong, and the amount of the legacy or reſidue for which ſuch receipt ſhall be given, and alſo the amount of the duty payable thereon; and no receipt ſhall be available, unleſs ſtamped.

But a copy of the entry, in the books of the commiſſioners of ſtamps, of payment of duty, ſhall be admitted as evidence; and payment of any annuity ſhall not be deemed a payment for which ſuch ſtamped receipt ſhall be required, except it be the payment which ſhall complete the payment for each of the firſt four years during which ſuch annuity ſhall be payable.

Any executor, adminiſtrator, or truſtee, who ſhall pay any legacy, or reſidue, without taking ſuch receipt as aforeſaid, and cauſing the ſame to be ſtamped within the time hereby allowed for ſtamping the ſame, ſhall forfeit ten pounds *per cent.* on the amount of ſuch receipt; and all perſons receiving ſuch money, or property, without giving a written receipt, as aforeſaid, ſhall forfeit ten pounds *per cent.* on the money or property received.

Every ſuch receipt ſhall be brought within twenty-one days after the date, to the next ſtamp-office, to be ſtamped, paying duty for the ſame, and upon ſuch payment, an acknowledgement of the payment of the duty ſo paid, in words at length, and bearing date the day on which ſuch payment ſhall be made, and ſubſcribed with the officer's name, ſhall be wrote upon the receipt, and afterwards the ſame ſhall be duly ſtamped, in the manner directed in the act.

But if any ſuch receipt ſhall not be brought to ſuch office, within ſuch ſpace of twenty-one days as aforeſaid, it ſhall nevertheleſs be lawful to carry ſuch receipt to the head office to be ſtamped in like manner, within three calendar months after the date thereof, paying the duty, and a further ſum of ten pounds *per cent.* on ſuch duty, by way of penalty; but the commiſſioners ſhall not, *on any pretence* whatever, ſtamp any receipt unleſs the duty be paid, and ſuch receipt be brought to be ſtamped as aforeſaid, within the times before limited.

Upon oath or affirmation, adminiſtered by a juſtice, or maſter in chancery, that leſs duty has been paid than ought to have been paid, by miſtake, the commiſſioners may rectify ſuch miſtake, and accept the difference between the money paid and the juſt duty, together with ten pounds *per cent.* on ſuch difference, by way of penalty.

Perſons paying or receiving money contrary to this act, indemnified on diſcovering the other offender.

If by infancy or abſence legacies cannot be paid, the money may be paid into the bank, and laid out in the 3*l. per cents.* and if ſuch money be improperly paid in, the chancery may diſpoſe thereof.

[And when money is paid into the bank in purſuance hereof, the accountant-general's certificate ſhall be filed in the

Report Office, where his drafts on the bank for the money for inveſtment ſhall be entered, and be a warrant to the bank for the payment. 37 Geo. III. c. 135.]

If more than the proper duty has been paid, the commiſſioners for ſtamps may return the exceſs; and if leſs, on payment of the full duty, the chancery may order re-payment to the party.

If it ſhall appear to the commiſſioners for ſtamps, at the end of two years after the death of any perſon, that it will require time to collect the effects, or be difficult to aſcertain the reſidue of the perſonal eſtate, the duty may be compounded for.

But the duty ſhall be paid on any part of perſonal eſtates not included in the compoſition.

If at any time after payment of duty on any legacy, or reſidue, any debt ſhould be recovered againſt the eſtate, by reaſon whereof any legatee or entitled perſon ſhall be obliged to refund, the commiſſioners are, on proof thereof on oath as aforeſaid, to repay the duty.

Executors, previous to retaining their own legacies, to tranſmit the particulars, with the duty offered, to the commiſſioners of ſtamps, who ſhall charge the ſame agreeably to this act; and in caſe any perſon ſhall neglect to pay ſuch duty within fourteen days, ſuch perſon ſhall forfeit treble the value of the duty which ought to have been paid.

If adminiſtration be made void, and any duty ſhall have been improperly paid, it ſhall be repaid; but if it ought to have been paid, it ſhall be allowed in account with the rightful executor.

Perſons ſwearing falſely, are guilty of perjury. Penalty of 500l. for altering receipts. And perſons forging ſtamps, &c. to ſuffer death.

The penalties are recoverable in the courts of law.

The form of an account and receipt to be taken by the executor and adminiſtrator, is alſo annexed to the act, and is as follows:

On account of the perſonal eſtate of deceaſed, between taking the adminiſtration of the ſaid eſtate, and legatee [*or* next of kin, *as the caſe may be*]:

	£.	s.	d.
Amount of the ſum [*or* value, *if not in money*] accounted for - - -			
Duty allowed at the rate of *per centum* - - -			
Balance received -			

Received the day of the above balance in [full, *or* part, *as the caſe may be*] of my [legacy, *or* ſhare, *as the caſe may be*] out of the perſonal eſtate above mentioned.

(Signed)

LEGHENICH, or LECHENICH, a town of Germany, in the circle of Lower Rhine, and archbiſhoprie of Cologne, 10 miles S.S.W. of Cologne, and 50 E.N.E. of Liege. Long. 6. 31. E. Lat. 50. 50. N.

LEGIUNCARA, a town of Naples, in the province of Bari, 21 miles N.W. of Matera.

LEGNAGO, a fortified town of Italy, in the Veroneſe. It ſurrendered to the French in 1796, and is ſeated on the Adige, 25 miles S.S.E. of Verona.

LEIBNITZ, a town of Germany, in the duchy of Stiria, ſeated on the Sulm, 16 miles S. of Gratz.

LEIGH, a ſea-port in Eſſex, on a creek at the mouth of the Thames, oppoſite the eaſt extremity of Canvey Iſland. It is noted for oyſters, and has a good road for ſhipping. It is 18 miles S.S.E. of Chelmsford, and 40 E. of London. Long. 0. 42. E. Lat. 51. 31. N.

LEIGH, a town in Lancaſhire, whoſe market is now diſuſed. It is ſeven miles N.N.E. of Warrington, and 191 N.W. of London.

LEIGHTON-BUZZARD, a town in Bedfordſhire, with a market on Tueſday, conſiderable for fat cattle. It is ſeated on a branch of the Ouſe, 18 miles S. of Bedford, and 41 N.W. of London. Long. 0. 35. W. Lat. 51. 55. N.

LEININGEN, a town of Germany, in the palatinate of the Rhine, ſeven miles S.W. of Worms. Long. 8. 22. E. Lat. 49. 30. N.

LEINA, a river of Germany, which flows through Brunſwick-Lunenburgh, and paſſing by Heiligenſtadt, Gottingen, Calenberg, and Hanover, falls into the Aller.

LEIPHEIM, a town of Suabia, in the territory of Ulm, on the ſouth bank of the Danube, 11 miles N.E. of Ulm; and 22 W.N.W. of Augſburg.

LEISZNIG, a town of Upper Saxony, in the circle of Leipſic, ſeated on the Mulde, where are manufactures of cloth, lace, ſtockings, &c. It is 24 miles E.S.E. of Leipſic, and 32 N.W. of Dreſden. Long. 12. 53. E. Lat. 51. 7. N.

LEMBRO, the ancient Imbros, an iſland of the Archipelago, on the coaſt of Romania, 22 miles in circumference, with a town of the ſame name and a harbour. Long. 26. 0. E. Lat. 40. 25. N.

LEMGOW, a town of Weſtphalia, in the county of Lippe, 17 miles N. of Paderborn. Long. 9. 0. E. Lat. 52. 5. N.

LEMNOS, a celebrated iſland of the Archipelago, now called STALIMENE, ſituate near the ſtrait of Gallipoli. It is above 112 miles in circumference according to Pliny, who ſays, that it is often ſhadowed by Mount Athos, though at the diſtance of eighty-ſeven miles. The poets made it ſacred to Vulcan, who was hence called Lemnius Pater. Lemnos was alſo celebrated for its labyrinth, of which not a trace remains; and what hiſtorians relate of it, ſerves only to excite, but not to gratify, curioſity. The modern Greeks entertain the ſame opinion of that earth of Lemnos, which is ſaid to have cured Philoctetes, and which Galen went to examine. It is never dug up but on one particular day in the year, and then with great ceremony. This earth, called terra ſigillata, formed into ſmall loaves, and ſealed with the grand ſignior's ſeal, is then diſperſed over all Europe. The greateſt virtues are attributed to it; and yet a chemiſt can diſcover nothing but a mere clayey earth, incapable of producing the effects that have been attributed to it. Lemnos is ſubject to the Turks; but the inhabitants are almoſt all Greeks, and very induſtrious. Its capital is of the ſame name, and the ſee of a Greek archbiſhop. Long. 25. 28. E. Lat. 40. 3. N.

LENHAM, a town in Kent, with a market on Tueſday; ſeated on an eminence, 10 miles eaſt of Maidſtone, and 47 E.S.E. of London. Long. 0. 45. E. Lat. 51. 18. N.

LENNEP, a town of Weſtphalia, in the duchy of Berg, 20 miles E.S.E. of Duſſeldorf. Long. 6. 56. E. Lat. 51. 11. N.

LENS, a town of France, in the department of the Straits of Calais, eight miles N.E. of Arras.

LENTINI, a town of Sicily, in Val di Noto. It is a ſmall remainder of the ancient Leontium, contains 4000 inhabitants, and is ſituate at the foot of a height; on the top of which Charles V. built a new town, called Carlentini, which

contains 3000 people. Lentini was greatly damaged by an earthquake in 1693, and is ſeated on the Leonardo, 17 miles S.W. of Catania.

LENTZEN, a town of Upper Saxony, near the Elbe, 74 miles N.W. of Berlin. Long. 11. 32. E. Lat. 53. 6. N.

LENZBURGH, a town of Switzerland, in the canton of Bern, which has a conſiderable manufacture of flowered linens and cottons. It is ſeated on a ſmall river, eight miles weſt of Baden.

LEOBEN, a town of Germany, in the duchy of Stiria, ſituate on the Muehr. At this town the preliminaries of peace between the emperor and the French were ſigned April 20, 1797. It is 68 miles S.W. of Vienna.

LEOBSCHUZ, a town of Sileſia, in the principality of Jagerndorf, 14 miles N.N.E. of Jagerndorf, and 27 W.N.W. of Ratiſbon. Long. 17. 28. E. Lat. 50. 14. N.

LEOGANE, a town and fort with a good harbour, on the W. ſide of St. Domingo. It was taken by the Engliſh and the French royaliſts in January, 1794, but retaken by the republicans in October following; and it was unſucceſsfully attacked by the Engliſh in March, 1796. Long. 72. 37. W. Lat. 18. 38. N.

LEON, an iſland of Spain, ſeparated from the Continent by a ſtrait about ten miles long, and ſcarcely three broad in any part. The town of Cadiz is built at its N.W. extremity.

LEON, NEW, a kingdom of North America, lying between New Mexico on the north, the gulf of Mexico on the eaſt, Panuco on the ſouth, and New Biſcay on the weſt.

LEON DE NICARAGUA, a town of New Spain, in Nicaragua, the reſidence of the governor, and a biſhop's ſee. It was taken by the buccaneers in 1685, in ſight of a Spaniſh army, who were ſix to one. It is ſeated at the foot of a volcano, at the N.W. extremity of the lake Nicaragua, 30 miles from the Pacific Ocean, and 104 N.W. of Niagura. Long. 88. 10. W. Lat. 12. 25. N.

LEONARD DE NOBLET, ST. an ancient town of France, in the department of Upper Vienna, with a conſiderable manufacture of paper, and another of cloth for clothing the army. It is ſeated on the Vienna, 12 miles N.E. of Nimoges, and 195 ſouth of Paris. Long. 1. 32. E. Lat. 45. 54. N.

LEONBERG, or LEONSBERG, a town of Suabia, in the duchy of Wirtemberg, ſituate on the Glem, ſix miles weſt of Stutgard, and 34 N.N.E. of Frendenſtadt. Long. 8. 51. E. Lat. 48. 46. N.

LEONESSA, a town of Naples, in Abruzzo Ulteriore, 19 miles N.W. of Aquila.

LEONHART, a town of Germany, in Carinthia, 42 miles eaſt of Clagenfurt. Long. 15. 23. E. Lat. 46. 57. N.

LEOPOLDSTADT, a ſtrong town of Upper Hungary, built by the emperor Leopold in 1665. It is ſeated on the Waag, 36 miles N.W. of Neuhauſel, and 62 E. of Vienna. Long. 18. 6. E. Lat. 48. 35. N.

LEPERS, ISLE OF, one of the New Hebrides, in the South Pacific Ocean. Long. 168. 0. E. Lat. 15. 23. S.

LERICI, a ſea-port of Italy, on the eaſt coaſt of the gulf of Specia, in the territory of Genoa. Long. 9. 55. E. Lat. 44. 5. N.

LESINA, a town of Naples, in Capitanata, with a biſhop's ſee, 26 miles N.N.W. of Manfredonia, and 86 N.N.E. of Naples. Long. 15. 14. E. Lat. 41. 44. N.

LESKO, a town of Poland, in the palatinate of Lemberg, and Auſtrian kingdom of Galicia, 68 miles S.W. of Lemberg.

LESNEVEN, a town of France, in the department of Finiſterre, ten miles north of Landernau, and 13 N.E. of Breſt. Long. 4. 21. W. Lat. 48. 38. N.

LESPARE, a town of France, in the department of Gironde. In its environs are found tranſparent pebbles, reſembling the falſe diamonds of Alençon, and known by the name of Medoc ſtones. It is 30 miles N.N.W. of Bourdeaux.

LETTERE, a commercial town of Naples, in Principato-Citeriore, with a biſhop's ſee. It is ſeated at the back of a mountain, 12 miles N.W. of Salerno, and 20 S.E. of Naples.

LEVANTINE VALLEY, a valley of Switzerland, on the confines of Italy, lying between Mount St. Gothard and Lake Maggiore. It is divided into two parts by the river Teſino; and is eight leagues long, but the breadth inconſiderable. The lower part is populous, rich in paſturage, and produces much hemp and flax. The houſes are entirely of wood, and have externally the appearance of Swiſs cottages, but a neglect of cleanlineſs proves the vicinity and greater ſimilarity to the Italians. It is a bailiwic, ſubject to the canton of Uri; and Oſſogna, the reſidence of the bailiff, conſiſts only of a few houſes.

LEUCATE, a town of France, in the department of Aude, 18 miles ſouth of Narbonne. Long. 3. 9. E. Lat. 43. 0. N.

LEUCHTENBERG, a town of Germany, in the upper palatinate of Bavaria, ſeated on a mountain, near the river Eſreimpt, 50 miles N.W. of Ratiſbon. Long. 12. 26. E. Lat. 49. 40. N.

LEVEN, LOCH, a beautiful lake in Kinroſsſhire, twelve miles in circumference, and ſomewhat of a circular form. It has ſeveral ſmall iſlands, on one of which is a ruinous caſtle. Here the unfortunate Mary, queen of Scots, was confined by the confederate lords, after the murder of her huſband Lord Darnley, and her marriage with Bothwell; but ſhe eſcaped in 1568 by the aſſiſtance of the brother of the governor of the caſtle. Another iſland, named St. Serf's Iſle, is ſaid to have been a reſidence of the Pictiſh prieſts: it was afterwards the ſeat of a priory, of which ſome remains are to be ſeen. This lake produces trout of peculiar excellence; of which great quantities, at certain ſeaſons, are ſent to the Edinburgh markets. In autumn, a ſingular ſpecies, called the gully trout, is here ſalted and dried for winter proviſion.

LEVER (*Encycl.*). Levers are of various kinds, according to the purpoſes for which they are deſigned; and, being eminently ſerviceable for the lifting of weights, we have ſubjoined the following deſcription of a *croſs-bar lever*, which is particularly calculated for raiſing earth that abounds with great quantities of ſtones; though this machine is likewiſe applicable to other objects.—It was invented by Mrs. Wyndham, of Petworth, in Suſſex, on whom the Society for the Encouragement of Arts, &c. in 1796, conferred their ſilver medal.

A (Plate 35), is the lever.

B, an upright piece of wood, to be affixed to the lever; care being taken to place the ſide marked with this letter oppoſite to that marked A on the lever; by which means it inclines backwards, and thus increaſes the power.

C, is a croſs-bar, being the hand by which the workmen exert their ſtrength.

D, is another croſs-bar to be placed at the bottom, behind the upright piece of wood, on which the labourers are to ſtand, and through which the end of the lever paſſes. Theſe additions are ſo conſtructed, that they may be occaſionally fixed and removed, becauſe they are to be employed only

when the ſtrength of the rock, or earth, requires an increaſe of power.

Should the rock be elevated ſo conſiderably above the ground, as to endanger the men by its fall, when the ſeparation takes place, the lever may be reverſed; ſo that the labourers will ſtand upon the bar intended for the application of their hands, in common caſes; and thus all danger will be effectually prevented.

Sliding-LEVER, an invention of Mr. Snart's for transferring the weight of a loaded cart from a fallen horſe; called alſo ALEXIPPOS, and HORSE-HELPER. See the latter in this Supplement.

LEUGNE, a village of France, in the department of Upper Saone, lying to the eaſt of Veſoul. Here is a cavern, thirty-five paces deep and ſixty wide, which ſerves as a barometer to all the country people. A fog at the entrance of this glacier, is an infallible ſign of rain the next day. From the roof, which is fifty feet high, deſcends columns of ice, of a prodigious ſize. The brook, which runs through a part of this grotto, is frozen in ſummer, but flows in winter.

LEVROUX, a town of France, in the department of Indre, with a caſtle, 35 miles S.W. of Bourges. Long. 1. 40. E. Lat. 47. 0. N.

LEUSE, a town of Auſtrian Hainault, ſeated on the Dender, 14 miles N.W. of Mons. Long. 3. 45. E. Lat. 50. 35. N.

LEUTMUHL, a town of Bohemia, in the circle of Chrudim, erected into a biſhopric in 1144, but the town having ſuffered greatly by the Huſſites, the biſhopric was ſuppreſſed. It is 22 miles eaſt of Chrudim, and 76 eaſt of Prague.

LEUTSCH, a town of Germany, in the duchy of Carniola, eight miles S.S.E. of Idria.

LEWENSTEIN, a town of Franconia, capital of a county of the ſame name, with a fortreſs, 10 miles eaſt of Hailbron, and 30 N.N.E. of Stutgard. Long. 9. 38. E. Lat. 49. 18. N.

LEWISBURGH, a town of Northumberland county, in Pennſylvania, ſeated on the Suſquehannah, 140 miles N.W. of Philadelphia.

LEWISTOWN, the county town of Mifflin, in Pennſylvania, ſeated on the Juniatta, 150 miles W.N.W of Philadelphia. Long. 78. 13. W. Lat. 40. 35. N.

LEWISHAM, a village in Kent, on the river Ravenſbourn, five miles S.E. of London. The church is an elegant new edifice.

LEXINGTON, the capital of the ſtate of Kentucky, and county of Fayette. Near this town are to be ſeen curious ſepulchres, full of human ſkeletons, which were thus fabricated: firſt, on the ground were laid large broad ſtones; on theſe were placed the bodies, ſeparated from each other by broad ſtones, covered with others, which ſerved as a baſis for the next arrangement of bodies. In this order they are built, without mortar, growing ſtill narrower to the height of a man. This method of burying appears to be totally different from that now practiſed by the Indians. In the neighbourhood alſo are the remains of two ancient fortifications, with ditches and baſtions; one containing about ſix acres of land, and the other nearly three. Pieces of earthen veſſels have alſo been ploughed up near Lexington; a manufacture with which the Indians were never acquainted. Theſe, with the fortifications, and the ſepulchres, have been urged as an argument, that this country was formerly inhabited by a people different from the preſent Indians, and further advanced than they in the arts of life; and Mr. Filſon, in his account of this country, has advanced arguments to prove, that theſe people were, in all probability, an ancient colony from Wales. Lexington ſtands at the head of the river Elkhorn, 470 miles weſt of Waſhington. Long. 85. 10. W. Lat 38. 20. N.

LEXINGTON, a town of the ſtate of Maſſachuſets, celebrated for being the place where hoſtilities commenced between the Britiſh troops and the Americans, in April, 1775. It is 12 miles N.W. of Boſton.

LIAMONE, or LIMONE, a river of Corſica, which falls into the ſea, ten miles north of Ajazzo. It gives name to a department in the new French diviſion of the iſland.

LIBRARY (*Encycl.*). The following extract from an account of a Pariſh Library for the Poor, by Mrs. Bernard, is publiſhed by the Society for Bettering the Condition of the Poor.

"At Steeple Morden, in the county of Cambridge, the poor have been furniſhed with a circulating library of ſhort tracts of a religious and moral nature. The idea had been originally ſuggeſted by a ſimilar plan, uſeful in its way, but not ſo peculiarly required, which has been adopted for the benefit of the children at the Foundling. The collection at Steeple Morden conſiſts of the Cheap Repoſitory tracts, and ſome few others of a ſimilar kind; and has already, even at the beginning, proved of conſiderable benefit to the pariſh. On Sunday afternoon, when the buſineſs of the Sunday ſchool is over, Mrs. King, the lady who has founded the library, reads one of the tracts to the children, and to ſuch of the parents as chooſe to attend. It is then made the ſubject of converſation; and a few copies of the tract are lent to different children, who read it over again in the evening with their parents and neighbours; and by theſe means ſpend their Sunday evening well, and with uſeful amuſement. Copies of the ſame tract are afterwards lent out for the week, and generally go round the pariſh. On the Sunday following they are brought back, when they receive others, which have been firſt read over to them in the ſame manner. Fifty-two tracts furniſh the year's reading; and ten or twelve copies of each are ſufficient for a moderate ſized pariſh. It is very gratifying to contemplate the pleaſure, the amuſement, and other more material effects, which are produced in this pariſh by a meaſure perfectly ſimple and eaſy in itſelf, and executed at a trifling expence. It anſwers, in one reſpect, the end of the Sunday friendly ſocieties at Winſton and Auckland, and with more general extenſion to the different ages in the pariſh.

"There is hardly any thing which will be found more uſeful in promoting moral and religious improvement in a pariſh, than the ſupply of Sunday reading for the poor, to fill up thoſe hours which are not occupied by worldly employment. Many cottagers have been induced to an habitual attendance on the ale-houſe, to the entire ruin of themſelves and their families, not ſo much by natural diſpoſition, as by want of occupation, for the hours of ceſſation from labour. Perhaps the remark of diſſipation being the conſequence of want of employment, will apply with ſtill more force to higher life; and it may be found that the diſeaſe is of a more incurable nature. But, among the poor, the remedy is neither expenſive nor troubleſome; and its application will be as beneficial to the benevolent diſpenſer of relief, as to the object for whoſe benefit it is applied. I will therefore," ſays Mrs. Bernard, "expreſs my humble hope, that this plan, which has been alſo adopted by the ſame lady in two other pariſhes, and with the ſame ſucceſs, may be imitated by thoſe of our own ſex, who feel gratefully the advantages they derive from the ſources of religious and moral improvement, which are opened to them; and are therefore anxious to expreſs their gratitude, by communicating thoſe advantages to every individual who is dependent upon them."

LICENCE (*Encycl.*). The following are the regulations under which the licences granted to ale-houſe keepers, are placed by the act of 30 Geo. III. c. 38.

	£.	s.	d.
To retail foreign wines in England, if the party has not a ſpirit or beer licence - -	5	4	0
If the party has a beer licence, and not one for ſpirits - - -	4	4	0
If the party has alſo a ſpirit licence -	2	4	0
For every licence to retail Britiſh made wines or ſweets, either in England or Scotland -	2	4	0
To retail foreign wines in Scotland if the party has not a ſpirit or beer licence - -	3	6	8
If he has a beer licence, but not one for ſpirits	2	13	4
If he has alſo a ſpirit licence -	1	6	8
For every licence to retail ſpirits in Great Britain, if the party's houſe be rated to the houſe duty under the ſtat. 38 Geo. III. c. 40 (ſee p. 40, 41), at a ſum not amounting to 15l. per annum - - -	4	14	0
If at 15 and under 20 - -	5	2	0
If at 20 and under 25 - -	5	10	0
If at 25 and under 30 - -	5	18	0
If at 30 and under 40 - -	6	6	0
If at 40 and under 50 - -	6	14	0
If at 50 or upwards - -	7	2	0

Theſe licences to be renewed annually; every perſon who ſells foreign wine retail without a licence, or renewing it in time, forfeits 50l.

On death or removal, upon application to the commiſſioners, or collectors, or ſupervifors, as before recited, the executors, &c. will be authoriſed to carry on the trade for the remainder of the term.

All perſons ſhall be deemed retailers of foreign wine who ſell it in any leſs quantity than the quantity imported.

Any perſon ſelling 25 gallons or under of Britiſh made wine or ſweets is deemed a retailer of that article.

All perſons who ſhall ſell ſpirits, mixed or unmixed, in any leſs quantity than two gallons, ſhall be deemed retailers.

N. B. The ſtamp duty on the juſtices' licence to retail ale, &c. is 1l. 11s. 6d. and by 41 Geo. III. c. 86. 10s. 6d.—Total two guineas.

LICH, or LICHA, a town of Germany, in the landgravate of Heſſe, and county of Selms, 21 miles north of Francfort. Long. 8. 42. E. Lat. 50. 15. N.

LICHSTALL, a town of Germany, in the circle of Upper Rhine, and biſhopric of Baſle, ſeven miles S.E. of Baſle.

LICHTALLEN, or LIESTAL, a town of Switzerland, in the county of Baſil, ſeated on the Ergetz, eight miles S E. of Baſil. Long. 7. 39. E. Lat. 47. 29. N.

LICHTENAU, a town of Weſtphalia, in the biſhopric of Paderborn, nine miles S.S.E. of Paderborn. Long. 8. 23. E. Lat. 51. 52. N.

LICHTENAU, a town of Germany, in the principality of Heſſe Caſſel, 13 miles S.E. of Caſſel, and 24 eaſt of Naumburg. Long. 5. 28. E. Lat. 51. 1. N.

LICHTENBERG, a town and caſtle of Germany, in the duchy of Deux Ponts, 25 miles north of Deux Ponts.

LICHTENBERG, a town of Germany in Franconia. In the neighbourhood are quarries of marble, and mines of copper and iron. It is 22 miles north of Bayreuth, and 26 E. of Coburg. Long. 11. 41. E. Lat. 50. 16. N.

LICHTENSTEIG, a town of Switzerland, capital of the county of Tockenburg, ſeated on the Thur, 31 miles eaſt of Zuric. Long. 9. 8. E. Lat. 47. 15. N.

LICHTENSTEIN, a caſtle and village in the archduchy of Auſtria, nine miles S.S.W. of Vienna.

LIDA, a town of Lithuania, in the palatinate of Wilna, 56 miles ſouth of Wilna. Long. 25. 34. E. Lat. 53. 50. N.

LIDDEL, a river in Roxburghſhire, and the only one in that county that flows ſouthward. It falls into Solway Frith, near the mouth of the Eſk.

LIDDISDALE, a diſtrict in Roxburghſhire, comprehending the ſouthern angle of that county. It admits of little cultivation, and is chiefly employed in paſture.

LIEBENWERDER, a town of the electorate of Saxony, 22 miles north of Meiſſen, and 33 N.N.W. of Dreſden. Long. 13. 20. E. Lat. 51. 30. N.

LIEN-TCHEOU-FOU, a city and ſea-port of China, in the province of Quangtong. Its territories border on the kingdom of Tonquin, from which it is ſeparated by inacceſſible mountains. It is 325 miles S.W. of Canton.

LIEOU-KIEOU, the general name of 36 iſlands lying between Corea, Formoſa, and Japan. They form a powerful empire, the inhabitants of which are civiliſed, and ought not to be confounded with the other ſavage nations diſperſed throughout the iſlands of Aſia. Each iſland has a particular name; the largeſt and principal, called Lieou-kieou, extends 146 miles from north to ſouth, and 38 from eaſt to weſt. They have a king, who is tributary to China. Kint-ching, the capital, in Checuli, the ſouth part of Lieou-kieou, is in Long. 127. 30. E. Lat. 26. 2. N.

LIERE, a town of Auſtrian Brabant, at the junction of the Great and Little Lethe, nine miles N.N.E. of Mechlin, and 12 S.E. of Antwerp. Long. 4. 16. E. Lat. 51. 9. N.

LIESINA, an iſland of Venetian Dalmatia, in the gulf of Venice, 58 miles long and 12 broad. It abounds in corn, olives, ſaffron, and wine.

LIESKENSHOECK, a fortreſs of Dutch Flanders, on the weſt ſide of the Scheld, oppoſite Fort Lillo, and ſeven miles N.W. of Antwerp.

LIESSE, a town of France, in the department of Aiſne, famous for an image of the Virgin Mary, to which a great number of pilgrims uſed to reſort. It is ſix miles eaſt of Laon. Long. 3. 51. E. Lat. 49. 35. N.

LIFFEY, a river of Ireland, which riſes in the county of Wicklow, runs weſt thence into Kildare, and then turning N.E. paſſes through the county of Dublin, and by the city of that name, below which it falls into the Iriſh Sea.

LIFFORD, a borough of Ireland, in the county of Donegal, ſituate on the Foyle, 24 miles N.E. of Donegal. Long. 5. 45. W. Lat. 54. 47. N.

LIGHT (*Encycl.*). Mr. Walker, the author of "Familiar Philoſophy" has endeavoured to ſhew, that the earth and planets perform both their diurnal and annual revolutions in conſequence of the *impulſe* which they receive from *ſolar light*, and that their reſpective diſtances from the ſun may be determined by the balance ſubſiſting between this projectile force of luminous matter, and their gravitating tendency towards the ſun, as their common centre.

That the revolution of the ſun on his own axis (which is eaſily aſcertainable by obſerving the change of place that happens in the ſpots on his ſurface) anſwers ſome eſſential purpoſe in our ſyſtem, that this purpoſe may be to give velocity and force to the light which emanates from him, and that the aggregate momentum of that light may occaſion the daily and annual motions of the planetary world, which is ſubject to his influence, are all conjectures ſo exceedingly probable, that he who ſhould have propoſed them to the world unſupported by experimental inveſtigation would, in our opinion, have deſerved

praiſe for his ingenuity, and credit for the originality of his ſpeculations.

Mr. Walker has not, however, reſted his theory on the unſtable baſis of conjectural reaſoning, but, from direct experiments, has ſhewn that light, contrary to the idea which many philoſophers have entertained, *poſſeſſes an impulſive power;* a fact which neither the experiments of Homberg nor Michell had ſatisfactorily proved, but which is of high importance at a time when every circumſtance which reſpects that firſt and faireſt bounty of Providence is eagerly enquired into, in the conviction that we have but juſt begun to be acquainted with its all-pervading influence—an influence which juſtifies the beautiful obſervation of the regretted Lavoiſier.

" L'organiſation, le ſentiment, le mouvement ſpontané, la vie, n'exiſtent qu'à la ſurface de la terre, et dans les lieux expoſés à la lumière."

Mr. Walker calculates, from his experiments, that the impetus of ſolar light on $1\frac{1}{4}$ ſquare foot of the earth's ſurface is equal to the 100th part of a grain, and that it amounts to 20 tons on the whole diſk of the earth; a force ſufficient, according to him, to cauſe not only the diurnal rotation of this orb upon its own axis, floating as it is in an unreſiſting medium, but alſo its annual revolution round the great ſource of light, in conſequence of the luminous impulſe being greater on one half of the earth than on the other.

If there be ſome errors in the quantity of momentum which the author of this theory aſcribes to ſolar light (for it does not arrive at the earth's ſurface in a *concentrated* ſtate, or as when brought to a focus by a mirror or lens), and if, therefore, a proportionate deduction muſt be made for this diminiſhed force on the different planets, ſtill it is of importance to know that ſmall bodies are ſenſibly moved by the *impulſe of light,* and until the contrary can be ſhewn, it will ſtill remain probable that even the leſſened momentum of the ſun's equatorial emanation acting upon the earth's ſurface may be adequate to the production of its different motions, and to the preſervation of its proper diſtance from the ſun.

Light is eſſentially neceſſary to vegetation: in our climate it is ſeldom productive of injury by its exceſs, though the want of it is often pernicious. This fluid acts as a kind of ſtimulus on the more irritable parts of plants; as appears from the ſun-flower and others, that expand or how when expoſed to the rays of the ſun: hence Dr. Darwin ſuppoſes there may be diſeaſes in plants, ariſing from the exceſs of this ſtimulus, but which, he thinks, have hitherto been diſregarded. To corroborate this conjecture, he ſpecifies the goat's-beard, or ſalſafie (*tragopogon*, L.), and ſome other vegetable productions, which cloſe their flowers about noon, in order to prevent the influence of ſuch ſtimulus.

On the contrary, the abſence or defect of light produces a diſeaſe called *etiolation*, or *blanching*, becauſe vegetables deprived of that fluid become white. It has a ſimilar effect on animal bodies; which, as Dr. Darwin has pointedly remarked, are in conſequence rendered pale and inert: this is confirmed by the languid and *etiolated* countenances of the young ladies in ſome boarding-ſchools, where from falſe motives of delicacy, they are ſecluded both from the light of the ſun, and the invigorating influence of the air: it is ſtill farther evinced in thoſe ſtudious perſons, who paſs their waking hours in unventilated apartments, eſpecially during a conſiderable part of the night.

But, though ſuch *etiolation* be naturally injurious to vegetation, it has been artificially employed with ſucceſs, in rendering certain plants eſculent, by depriving them of their acrimony, cohesion, and colour. This method is chiefly practiſed on celery, by earthing up that plant nearly to the top; on ſea-kale, by covering it entirely with horſe-litter or ſtraw; and, laſtly, on lettuces and endive, by tying the root-leaves together with a bandage.—On the chemical effects of light, the opinions of the learned are quite as unſettled as upon its nature.

Mr. Boeckmann has made ſeveral experiments reſpecting the particular influence of light on phoſphorus diſſolved in different gaſes. It has always been a matter of enquiry and diſcuſſion, whether there is any real difference between heat and light, ſome naturaliſts having attempted to prove the identity of thoſe two matters; while others maintained, that there exiſted a great diverſity between them. From the experiments of Mr. Boeckmann, however, it ſeems to reſult, that dark heat, and heat combined with light, produce phenomena eſſentially differing from each other; and that accordingly we ought not to adopt an identity in the nature of heat and light. As it would lead us too far to relate the ſingle experiments, we ſhall only enumerate the facts that have ariſen from them, and which are the following.

1. The ſolution of phoſphorus in hydrogen gas proceeds not only at a heat combined with light, but alſo at a dark heat.

2. It proceeds with more ſpeed when the temperature is increaſed, whereby, at the ſame time, a greater quantity of phoſphorus diſſolves than at a leſs degree of heat.

3. When the ſolar light is kept off by opake bodies, either ſolid or fluid, from the glaſs tubes in which the phoſphorus is expoſed to ſolution, no phoſphoric particles are found to adhere to the ſides of the tubes, even when the degree of heat is ſo conſiderable as to melt the phoſphorus; whereas,

4. When direct or reflected ſolar light falls on the glaſs tubes, the phoſphorus is, as it were, ſublimed at the ſides of the tubes.

5. The phoſphoric particles lay themſelves on the inner ſides of the tubes more or leſs quickly, according to the degree in which light acts upon them.

6. Thoſe ſublimations of phoſphorus are even produced when the light is faint.

7. When the glaſs tubes are covered on the outſide with opake ſtripes, alternately with places uncovered, the phoſphorus only adheres at theſe ſpots.

8. The difference of temperature has no influence on the phoſphorus adhering to the places where light acts.

9. The experiments were made in veſſels very cloſely ſhut, ſo that the atmoſphere had not the leaſt ſhare in producing the cryſtallizations of phoſphorus that adhered to the inner ſides of the tubes.

On the whole, in theſe experiments we meet with two phenomena, viz. the ſolution of phoſphorus in gaſes, and the adheſion of it to the ſides of the veſſel in which the ſolution was undertaken, when they are expoſed to the light of the ſun. The ſolution is undoubtedly promoted by heat, though the adheſion never takes place without the action of light. But how this is cauſed, is not ſo eaſily to be reſolved.

LIGNAC, a town of France, in the department of Indre, 11 miles S.E. of Blanc. Long. 1. 20. E. Lat. 46. 31. N.

LIGNE, a town of Auſtrian Hainault, on the river Dender, 12 miles N.W. of Mons. Long. 3. 45. E. Lat. 50. 35. N.

LIGNEROLLES, a town of France, in the department of Allier, four miles ſouth of Montluzon.

LIGNIERES, a town of France, in the department of Cher, with a collegiate church and a caſtle, 22 miles S S.W. of Bourges. Long. 2. 24. E. Lat. 46. 47 N.

LIGNITZ, a town of Sileſia, capital of a principality of the ſame name, with a caſtle, ſeated on the rivulet Cet, 30 miles ſouth of Glogaw. Long. 16. 36. E. Lat. 51. 10. N.

LIGNY, a town of France, in the department of Meuſe,

with a caſtle, a collegiate church, and a handſome park. It is ſeated on the Orney, eight miles S.E. of Bar-le-Duc, and 125 of Paris. Long. 5. 26. E. Lat. 48. 39. N.

LIGON, a ſea-port in the peninſula of Malacca, capital of a ſmall territory of the ſame name, with a magazine belonging to the Dutch Eaſt-India Company. It is ſeated on the eaſt coaſt. Long. 100. 5. E. Lat. 7. 40. N.

LIGUEIL, a town of France, in the department of Indre and Loire, ſeated on a brook, 23 miles S.S.E. of Tours. Long. 0. 52. E. Lat. 47. 3. N.

LILIENTHAL, a town of Lower Saxony in the duchy of Bremen, ſituate on the Warp, 10 miles N.N.E. of Bremen, and 20 N.N.W. of Verden.

LILLERS, a town of France, in the department of the Straits of Calais, ſeated on the Navez, 17 miles N.W. of Arras. Long. 2. 35. E. Lat. 50. 30. N.

LILLO, a fort of Dutch Brabant, on the eaſt ſide of the Scheld, ſeven miles north of Antwerp. It was taken, in 1793, by the French, who ſoon after evacuated it, retaking it, however, in 1794. Long. 4. 18. E. Lat. 50. 30. N.

LIMALE, a town of Auſtrian Brabant, ſeated on the Dyle, 13 miles S.E. of Bruſſels. Long. 4. 42. E. Lat. 50. 42. N.

LIMAVADY, a town of Ireland. See NEWTOWN LIMAVADY.

LIMBURG, a town of Germany, in the electorate of Treves. The Auſtrians defeated the French on the heights near this place, in 1796. It is ſeated on the Lahn, 10 miles eaſt of Naſſau, and 20 north of Mentz. Long. 7. 51. E. Lat. 50. 24. N.

LIME, or QUICKLIME *(Encycl.)*. Though we have already ſpoken of this ſubſtance as a valuable manure (ſee HUSBANDRY), we are induced to add the following particulars reſpecting the principle on which lime is of uſe in agriculture. Lime is prepared from various materials of the calcareous claſs, by the application of proper degrees of heat, by which one of their conſtituent principles is diſſipated or forced off, and its place ſupplied by another; carbonic acid, or fixed air, being diſengaged, and caloric, or the matter of heat, being taken in its ſtead. In this ſtate lime poſſeſſes the greateſt power over animal and vegetable ſubſtances, being capable of breaking down their texture, and deſtroying their organization, in the moſt expeditious manner. Hence it has been denominated *quick* or *cauſtic* lime. But on expoſure to the atmoſphere, moiſture is abſorbed, the caloric or heat diſengaged, the carbonic acid or fixed air readily reſtored. This conſtitutes the mild *effete* or *carbonated* ſtate of lime. In this ſituation, though it is far from acting with ſuch violence on thoſe animal or vegetable matters that come in its way, it has much effect in accelerating the putrefactive proceſs, and in promoting their ſolution.

However well theſe different conditions of lime may have been diſcriminated by the chemiſt, they ſeem to us to have been but very little regarded by the practical agriculturiſt. The term *lime* being applied, without diſtinction, to the different ſtates, it is eaſy to perceive that they muſt frequently have been uſed in an improper manner, and that, of courſe, much confuſion, as well as contrariety of effect, muſt have been engendered.

The differences that have proceeded from the want of proper chemical examinations of the ſeveral kinds of calcareous ſubſtances that have been made uſe of for the purpoſe of lime, are perhaps not leſs productive of error or uncertainty than thoſe which have ariſen from the other cauſe which we have aſſigned; for it appears from the late experiments of that very able and ingenious chemiſt, Mr. Tennant (ſee the Philoſ. Tranſ. Royal Society, 1799, part II.), that there are ſubſtances contained in ſome ſort of limeſtone that are highly injurious to vegetation, while other kinds do not poſſeſs them at all. He found, upon reducing two different ſorts of limeſtone to a coarſe powder, and ſowing in them ſeeds of different plants, that in both the ſeeds grew equally well, and nearly in the ſame manner, as they would in ſand or other ſubſtances that afford no nouriſhment to plants; but that, after burning them into lime, and expoſing them for ſome weeks to the air, in order to leſſen their cauſticity, and then ſowing ſeeds in them, in that ſort of lime which had been found the moſt advantageous when applied to land, almoſt all the ſeeds came up, and continued to grow ſo long as they were ſupplied with water, the roots of the plants having many fibres which penetrated to the bottom of the veſſels in which they grew. The compoſition of this kind of lime, on examination, turned out to be entirely calcareous earth; and, on expoſure to the air for about three months, was found to have abſorbed four-fifths of the carbonic acid, or fixed air, that was neceſſary to ſaturate it. But in the other ſort, which had been found injurious to land, only a few of the ſeeds grew, and the plants produced by them had ſcarcely any ſtalks or roots, being formed almoſt entirely of the two ſeed-leaves which lay quite looſe on the ſurface. On ſpreading this ſort of lime on a garden ſoil, to the thickneſs of the tenth of an inch, it prevented nearly all the ſeeds that had been ſown from coming up, while no injury at all was occaſioned by common lime applied in the ſame way. This lime, on being examined, was found to contain three parts of calcareous earth, and two of magneſia; it only abſorbed, on being expoſed to the air for nearly the ſame length of time as the other, forty-two hundreds of the carbonic acid that was combined with it before it was burnt into lime. As it ſeemed extremely probable, from theſe trials, that the magneſia contained in lime of this kind was the cauſe of its extraordinary properties, ſome experiments were made to aſcertain the effects of that ſubſtance upon vegetation. Seeds of colewort, as growing rapidly, were ſown in uncalcined magneſia, which, though they ſprouted, the leaves never roſe above the ſurface, and the plants were without roots: they did not appear to grow better in magneſia that had been waſhed in water, which contained carbonic acid or fixed air. Calcined magneſia was ſtill more prejudicial, the ſeeds not coming up in it. In order to compare its effect on vegetables with thoſe of lime, each of theſe earths were mixed in different proportions with ſand in ſmall cups, and ſeeds then ſown in them. The lime being obtained from marble, and made to fall to powder from being moiſtened with water before it was put to the ſand. In a mixture of four ounces of ſand with three or four grains of calcined magneſia it was long before the ſeeds came up, and the plants had ſcarcely any roots or ſtems; and with ten grains or upwards of magneſia there was not the leaſt ſign of vegetation: thirty or forty grains of the lime not retarding the growth of the ſeeds more than three or four of the magneſia, and the injurious effects not ſo laſting. The lime, from its abſorbing carbonic acid or fixed air, ſoon loſt its deſtructive properties; ſo that after keeping the mixtures four or five weeks, ſeeds were found to grow in that with forty grains of lime nearly as well as in pure ſand; but in that with four grains of magneſia they produced only the ſeed-leaves as ſtated before. It is neceſſary to break the ſand occaſionally where much lime is uſed, in order to allow the ſeeds to puſh through it. It was found that plants would bear a much larger proportion of magneſia in vegetable ſoil than in ſand; but with twenty grains of calcinated magneſia in as much ſoil as was equal in bulk to four ounces of ſand, the ſeeds, however, only produced the ſeed-leaves without roots; and with forty grains they were totally prevented from coming up. As land

is frequently rendered barren for ſome time by the application of this ſort of lime, Mr. Tennant made experiments with mortar conſtituted of this lime, which had been prepared three and eight years, and conſtantly expoſed to the air. Theſe, on being reduced to powder, had ſeeds ſown in them, but only a few came up, and theſe merely produced the ſeed-leaves without roots. As plants would grow in the limeſtone from which this ſort of lime was made, but not in the mortar prepared from it, he next endeavoured to aſcertain what proportion of the carbonic acid contained originally in the limeſtone had been abſorbed by the mortar. To prove this, a piece of it was finely powdered, and trials made of the quantities of this powder and of the limeſtone that would ſaturate the ſame meaſure of acid, from which he found that the mortar and limeſtone contained equal quantities of the magneſian lime; and the carbonic acid or fixed air being obtained from them and meaſured, it was found that the mortar which had been expoſed three years had abſorbed forty-three, and that of eight only forty-ſeven hundreds of the quantity originally combined with the limeſtone. Common mortar that had been expoſed to the air for a year and three quarters had regained ſixty-three hundreds of its full proportion of carbonic acid. The lime which contains magneſia may, Mr. Tennant obſerves, be readily diſtinguiſhed from that which is purely calcareous by the ſlowneſs of its ſolution in acid, which is ſo conſiderable that the ſofteſt kind of the former is much longer in diſſolving than marble. The cryſtaliſed ſtructure which is generally obſerved in the magneſian limeſtone, he thinks, demonſtrates that it has not been formed by the accidental union of the two earths, but that it muſt have been the reſult of their chemical combination. The difficulty of diſſolving it he ſuppoſes to ariſe from the greater attraction of its different conſtituent parts to each other. Mortar formed from this kind of lime is as ſoluble in acids as common marble; and the ſubſtances of which it conſiſts are readily ſeparated. The magneſian may be taken from it by boiling it in muriated lime, and lime precipitated by it from lime water; but theſe effects can neither of them be produced by the ſtone previous to its calcination. This able experimenter has offered ſeveral other obſervations and concluſions to ſhew the different proportions of calcareous and magneſian earths contained in different ſpecimens of this ſort of limeſtone, which perhaps do not leſs deſerve the attention of the agriculturiſt than the chemical enquirer; but the above are amply ſufficient for the purpoſes of this work, as they abundantly prove that not only much error and confuſion muſt have been cauſed in the practice of huſbandry, but very different effects produced by the want of ſufficient knowledge of the chemical properties of the various ſorts of calcareous matter that are employed for the preparation of lime.

LIME, or LEMEN, a village in Kent, three miles weſt of Hithe. It was formerly a port, till choked up by the ſands, and is now a poor town; but it has the horn and mace, and other tokens left of its ancient grandeur. It uſed to be the place where the lord warden of the Cinque Ports was ſworn, at his entrance upon his office. The Roman road from Canterbury, called Stanc-ſtreet, ended here; and from the brow of its hill may be ſeen the ruins of the Roman walls. Here was formerly a caſtle, now converted into a farm-houſe.

LIME-TREE; (ſee TILIA, *Encycl.*) The following is an extract of a paper on the genus tilia, read at the National Inſtitute in France, by Citizen Ventenat.

Linnæus has mentioned in his Species Plantarum, only two ſpecies of lime-tree, to which he gave the name of *Europæa* and *Americana*; but as there are more diſtinct ſpecies of this tree to be met with in Europe as well as in America, thoſe names cannot conveniently be retained, becauſe one might ſuppoſe by them, that the other ſpecies do not grow in Europe or in America.

Miller, in his Gardener's Dictionary, deſcribes two American ſpecies of lime-tree, retaining the name of *Americana* for that which was known to Linnæus, and aſſigning to the other, brought from Carolina by Cateſby, the name of Caroliniana; but this cannot likewiſe be adopted, ſince *Michaux* and other botaniſts have diſcovered in Carolina another ſpecies of lime-tree, different from that found by Cateſby. Mr. Aiton, in his Hortus Kewenſis, has probably changed, on that account, the name of *Caroliniana* into that of *pubeſcens*. Mr. Walther diſtinguiſhes a ſpecies of lime-tree, native of Carolina, "*Tilia Americana, floribus nectario inſtructis, ſtipulis floriferis*;" but as this deſcription agrees evidently with all the lime-trees that may grow in the whole extent of America, it is obvious how difficult it would be to determine which ſpecies Walther may have meant, if the naturaliſts who travelled in Carolina had not brought with them ſpecimens of the tree, which the Engliſh botaniſt meant to characteriſe.

After having given the generic character, Mr. *Ventenat* deſcribes the following ſpecies, of which he has given figures:

Lime-trees of Europe, with naked petals.

Tilia microphylla.—Foliis cordato-ſubrotundis, acuminatis, argute ſerratis, capſula ſubgloboſa, minime coſtulata, tenuiſſima, fragili. Var. fructo oblongo, utrinque acuminato. Tilli Hort. Piſan. T. 49. fig. 3.

T. platyphyllos.—Foliis cordato-ſubrotundis, acuminatis, inæqualiter ſerratis, capſula turbinata, coſtis prominentibus, inſignita, lignoſa, craſſa. Var. Carolina, Ait. Hort. Kew.

Lime-trees of America; petals provided with a ſcale, at their baſis.

T. glabra.—Foliis profunde cordatis, ſerratis, glabris; petalis apice truncatis, crenatis, capſula ovata, ſubcoſtata (T. Americana L.)

Habitat in Virginia et Canada.

T. pubeſcens. Ait.—Foliis baſi truncatis et obliquis denticulato ſerratis, ſubtus pubeſcentibus, petalis emarginatis, capſula globoſa lævi.—T. Caroliniana Mill.

Habitat in Carolina.

Var. leptophylla, foliis tenuiſſimis, ſubpapyraceis. Habitat in Louiſiana.

T. rotundifolio.—Foliis cordato-ſubrotundis, ſubſinuatis, dentatis verticalibus ſubtus tomentoſis; capſula ovata, obſcuri nervoſa. T. alba Ait. argentea Mus. Nat.

Habitat in America ſeptentrionali.

T. heterophylla.—Foliis ovatis, argute ſerratis, baſi nunc cordatis nunc oblique aut æqualiter truncatis ſubtus tomentoſis, capſula globoſa, multinervoſa.

Habitat in Carolina inferiori, et in Marylandia.

Mr. Ventenat terminates this paper, by preſenting ſome obſervations on the culture of the ſpecies of this genus, on the ſoil that agrees with them, and on the advantages that may reſult from them to the community.

LIMEUIL, a town of France, in the department of Dordogne, 20 miles S. of Perigueux. Long. 0. 50. E. Lat. 44. 52. N.

LIMMAT, a river of Switzerland, formed by the junction of the Mat and the Linth; the former iſſuing from the N.W. extremity of the lake Wallenſtadt, and the latter flowing from the S. The Limmat, continuing its courſe N.W. flows through the lake of Zuric, and falls into the Aar, below Baden.

LIMOUX, a commercial town of France, in the department of Aude. It has a manufacture of cloth; and the environs produce an excellent white wine, called the Perry of Limoux. It is ſeated on the Aude, 37 miles W. by S. of Narbonne, and 50 S.E. of Toulouſe. Long. 2. 16. E. Lat. 43. 4. N

LINCHE, or LINKE, a ſtrong town of France, in the department of the North, ſeated on a river, 10 miles S.W. of Dunkirk. Long. 2. 20. E. Lat. 51. 0. N.

LINDAU, a free imperial town of Suabia. Here is a celebrated abbey of canoneſſes, whoſe abbeſs is a princeſs of the empire, and a Roman-catholic, though the inhabitants of the town are proteſtants. The French took poſſeſſion of this town in July 1796. It is a trading place, ſeated on an iſland of the lake of Conſtance, joined to the main land by a long beautiful bridge, 12 miles S.E. of Buchorn, and 75 S. by W. of Augſburg. Long. 9. 50. E. Lat. 47. 38. N.

LINDAU, a town of Upper Saxony, in the principality of Anhalt Zerbſt, five miles N. of Zerbſt.

LINDENFELS, or LINDENFELD, a town of Germany, in the palatinate of the Rhine, 14 miles N.N.E. of Manheim, and 17 of Heidelberg. Long. 8. 47. E. Lat. 49. 42. N.

LINDKOPING, or LINKIOPING, a town of Sweden, capital of Weſt Gothland, with a biſhop's ſee. It is ſeated on the lake Wenner, 12 miles N.W. of Skar, and 178 S.W. of Stockholm. Long. 13. 5. E. Lat. 58. 25. N.

LINDOW, a town of Upper Saxony, in the Middle Marche of Brandenburg, eight miles S.S.W. of Frankfort on the Oder.

LINDSEY, the largeſt of the three principal diviſions of Lincolnſhire, including all the county that lies N. of Lincoln, and the Foſſdike, which Henry I. cut between the Witham and the Trent. It is the moſt elevated part of the county: and the air is generally eſteemed healthy, eſpecially on the W. ſide. To the N.E. is a large tract of heathy land, called the Wolds, the S. part of which is well inhabited, but the N. is thin of people: great flocks of ſheep are bred throughout this tract. See AXHOLM.

LIN-KIANG-FOU, a city of China, in the province of Kiang-ſi, ſeated on the river Yu-ho. It has only four cities of the third claſs in its diſtrict; but is of ſome note, on account of one of its villages being the general mart for all the drugs ſold in the empire. It is 410 miles N. by E. of Canton.

LIN-TCHEOU-FOU, a city of China, in the province of Kiang-nan; including, in its juriſdiction, two cities of the ſecond, and ſix of the third claſs.

LIN-TCHIN-TCHEOU, a city of China, in the province of Chan-tong, ſeated on the Great Canal. Among the edifices admired here, is an octagonal tower, divided into eight ſtories, the walls of which are covered on the outſide with porcelain; and near this are ſome temples of beautiful architecture. It is 225 miles S. of Pekin.

LINEN, a general name given to thoſe garments that the people of England, and other countries, uſually wear immediately next the ſkin; theſe being, for the moſt part, of flaxen manufacture. That this is the moſt conducive to longevity, however, eſpecially in ſo variable a climate as that of Britain, has been long doubted; and the more wholeſome practice now prevails, not only with valetudinarians, but with conſiderate perſons who even enjoy good health, to wear flannel or fleecy-hoſiery (ſee FLEECY-HOSIERY, *Supp.*) *under* their linen.

The following extract from an account of an *annual diſtribution of linen to the poor*, with a propoſal as to a mode of ſupplying them with blankets, by the Rev. Mr. Dolling, late vicar of Aldenham, Herts, is publiſhed by the Society for bettering the Condition of the Poor.

"A worthy friend," ſays Mr. Dolling, "annually confided to me the diſtribution of five guineas, for the benefit of the poor. With them I purchaſed about 110 yards of linen cloth, which was cut out chiefly into ſhifts, the pieces of each being pinned togther. I kept an annual linen liſt, giving at Chriſtmas a ſhift each to about thirty-ſeven women, and occaſionally a ſhift to a girl, or a ſhirt to a boy; ſo that they all had this benefit in their turns, and ſome more deſerving mothers, with large families, conſtantly; the preference being given to thoſe who did not receive parochial relief.—Whenever they attended together at my houſe to receive the linen, I took the opportunity of pointing out to them any improprieties in their conduct, deſerving of obſervation. What was then ſaid was often attended with good effect."

On this plan the following obſervations are made:

"At the ſame time that it muſt be admitted that the poor are not provident, it ſhould be obſerved in their exculpation, that they frequently have not the means of being ſo. It ſeldom happens, when winter approaches, that they have been able to make, or at leaſt that they have made, a ſufficient proviſion for clothing during the ſeverity of the ſeaſon; and their health often ſuffers for want of it. If blankets were purchaſed, and lent out to cottagers in November, a regiſter book being kept, and the blankets marked, and No. 1, 2, &c. placed againſt each name, and ſigned by the borrower, to be returned again clean in the enſuing month of May, unleſs the cottager could become the purchaſer of it, at a limited and reduced price, it would contribute greatly to their health and comfort during the winter."

We cordially agree with the benevolent writer of theſe remarks, well knowing how greatly the miſeries of the poor are aggravated, as well as their diſeaſes promoted, in ſevere weather, from the mere want of the means of warmth and cleanlineſs. Nothing is more common amongſt the poor, eſpecially in great towns, than the uſe of ſheets, and body linen that are worn for a *continuance*, perhaps till they are *worn out*, without *once* undergoing the purifications of a waſhing tub!

LINNE, a town of Germany, in the archbiſhopric of Cologne, 32 miles N.N.W. of Cologne.

LINNICH, a town of Weſtphalia, in the duchy of Juliers, five miles N.N.W. of Juliers. Long. 6. 2. E. Lat. 51. 2. N.

LINOSA, an iſland of the Mediterranean, on the coaſt of Africa, 12 miles from Lampedoſa. It is 12 miles in circumference. Long. 12. 30. E. Lat. 36. 50. N.

LINSELLES, a town of Flanders, where, in 1794, a battle was fought between the allies, but chiefly the Engliſh commanded by the Duke of York, and the French. It is five miles N. of Liſle.

LINTON, a town in Cambridgeſhire, with a market on Thurſday, 12 miles S.E. of Cambridge, and 46 N. by E. of London. Long. 0. 22. E. Lat. 52. 8. N.

LIPOUREC, a town of Poland, in the palatinate of Cracow, 32 miles W. of Cracow.

LIPPEHNE, a town of Upper Saxony, in the New Marche of Brandenburg, 26 miles N. of Cuſtrin. Long. 14. 52. E. Lat. 52. 53. N.

LIPSTADT, a conſiderable town of Weſtphalia, capital of the county of Lippe. It was once free and imperial; afterward ſubject to its own counts, and now to the king of Pruſſia. It carries on a good trade in preparing timber for building veſſels on the Rhine, with which it has a communication by the river Lippe. It is ſeated in a moraſs, 17 miles W.S.W. of Paderborn, and 30. S.E. of Munſter. Long. 8. 30. E. Lat. 51. 42. N.

LIQUE, a town of France, in the department of the

Straits of Calais, 12 miles W. of St. Omer. Long. 2. 0. E. Lat. 50. 45. N.

LIS, a river of the Netherlands, which has its ſource in Artois, and running N.E. into Flanders, paſſes by Aire, St. Venant, Armentieres, Menin, Courtray, and Deynſe, and then falls into the Scheld, at Ghent.

LISCA, or Lisca Bianca, one of the Lipari Iſlands, three miles S.W. of Stromboli. It is a ſmall deſert ſpot.

LISIER, St. a town of France, in the department of Arriege, lately an epiſcopal ſee. Here is a chapel, which has been famous for the reſort of pilgrims. It is ſeated on the Satat, 50 miles S.E. of Auch, and 390 S. by W. of Paris. Long 1. 15. E. Lat. 42 56. N.

LISONZO, a river, which riſes in Carinthia, runs through part of the republic of Venice, and falls into the gulf of Venice, at the harbour of the ſame name.

LITHAY, a town of Germany, in the duchy of Carniola, ſituate on the Save, 15 miles E. of Lanſbach.

LITIZ, a town of the ſtate of Pennſylvania. Here is a flouriſhing ſettlement of the Moravians, begun in 1757. It is eight miles from Lancaſter, and 70 W. of Philadelphia.

LITSCHAU, a town of Germany, in the archduchy of Auſtria, 70 miles N.W. of Vienna. Long. 14. 55. E. Lat. 48. 48. N.

LITTERMORE, an iſland near the W. coaſt of Ireland, and county of Galway, about four miles long and two broad. Long. 9. 40. W. Lat. 53. 17. N.

LIVADOSTA, a town of Livadia, ſeated on the gulf of Lepanto, in the iſthmus of Corinth, to the N. of the city of that name, with a biſhop's ſee.

LIVENZA, a river of Italy, in the territory of Venice, which runs on the confines of Treviſano and Friuli, and falls into the gulf of Venice, between the mouth of the Piava and the town of Caorlo.

LIVERDUN, a town of France, in the department of Meurthe, ſeated on a mountain, near the river Moſelle, eight miles N.E. of Toul. Long. 6. 5. E. Lat. 48. 45. N.

LIZARD; (ſee Basiliscus, *Encycl.*). Some have inſiſted on the efficacy of lizards in curing the leproſy. The following tranſlation of a letter from M. Rey Demourande, a French merchant ſettled in Spain, inſerted in the Journal de Bourdeaux, together with a letter from M. Delarche at Madras, to George Smith, eſq. at Calcutta, contain ſome curious accounts of this fact. The writer of the former expreſſes himſelf eager to communicate to his country what he calls "a moſt uſeful and precious diſcovery for human nature." "It is," ſays he, "a wonderful ſpecific againſt the leproſy, cancers, venereal diſorders, and every kind of ulcers. We owe the knowledge of this remedy to the Indians of the village of Saint Chriſtoval Amalelace, dependent on the kingdoms of Guatimala. The trials which have been made of it in that country, at Malaga, and at Cadiz, have been ſo ſurpriſing and favourable, that about a month ago there was printed in the latter city a ſmall pamphlet of twenty pages, containing an account of its diſcovery, and a detail of the miraculous cures which have been derived from it, as well at Guatimala as at Mexico and Malaga. This remedy is ſmall lizards eaten or ſwallowed raw, either thoſe called in the Encyclopædia *anolis de terre*, or *gobe mouches*; and the manner they are deſcribed by Doctor Joſeph Storey, of the royal univerſity of the city of Guatimala, is this: "Theſe reptiles are very properly called ſmall lizards, for their figure is exactly that of a lizard; they are eight or ten inches in length, and a little more than half an inch in breadth; they are very active and vivacious; ſome of them are gilt between a yellow and green, and others are grey with ſpots; both of them have their ſkin covered with triangular ſcales from the head to the tail. I apprehend that the gilt ones, or thoſe of the colour *de tourne ſol*, are the female, becauſe their bellies are larger and more protuberant. The Indians," adds the doctor, "are neither averſe to them nor diſguſted with them. They take a ſmall lizard, and with much dexterity cut off its head and tail, immediately they extract the entrails, and with a ſingle exertion tear off the ſkin. In this raw ſtate, the fleſh trembling and ſtill hot, they chew them ſlowly, and ſwallow them with great compoſure. They take daily one of them faſting. It is ſaid they are accuſtomed not to take more, but it has happened that they have taken two and even three." Diſguſt has prevented the Spaniards, both in Europe and America, from taking the medicine in this manner: to render it more ſupportable and leſs repugnant to their feelings, after having cut off the head and tail, and feet of the animal, and taken away its entrails and ſkin, the remainder has been divided into ſmall pieces, and being covered over with a paſte of flour, adminiſtered to the patient in pills; the body of a ſmall lizard making two, each a little leſs than a muſquet-ball. Every experiment which has been made, both at Guatimala, Mexico, and Malaga, in the moſt deſperate caſes, has been attended with the greateſt ſucceſs. It appears, nevertheleſs, that although at Guatimala and Mexico only five or ſix *anolis* are neceſſary to cure a patient radically, yet a much greater number is requiſite at Malaga to produce the ſame effect, for it was not till after a leper's having ſwallowed thirty or forty at Malaga, in a like number of days, that his cure was completed. The effects which this remedy produces are conſtantly an extraordinary heat and burning, accompanied with a profuſe ſweat, and a ſalivation thick, plentiful, and yellow. There have been patients who have neither ſalivated or perſpired much from it, but in lieu thereof have had plentiful evacuations either by the way of urine, which was exceſſively acrid and fetid, or from conſiderable excrements. In America a patient has never been prepared by bleeding, purging, or other courſe of medicine; but at Malaga in ſome caſes it has been thought expedient to bleed ſlightly previous to adminiſtering the remedy.

"Although my letter is already very long, the ſubject is ſo intereſting to human nature that I deem it incumbent on me to add ſome few obſervations; the firſt is to remark, that theſe ſmall lizards, or anolis, retire during the winter into the holes of walls, old trunks of trees, in the ſand, and in the earth, where they remain torpid until the return of heat. I believe as well from this circumſtance as from the burning abundant ſweats which the medicine cauſes, and to approach as near as poſſible the method made uſe of at Guatimala, that it will be proper to adminiſter them only in ſummer; too much care cannot be taken to oblige the patient to ſwallow theſe animals whilſt hot, and as ſoon after being killed as poſſible, it being probable that their ſingular and wonderful property ariſes from the animal ſpirits, and a ſalt, extremely volatile, which every part of their body contains, and which the ſmalleſt degree of fire or the leaſt cooling after their death would diſſipate. Here is a fine field for diſcoveries in phyſic! for if, as I am perſuaded it will, this remedy produce the ſame effects in France as in America and Spain, it is not to be doubted but that the animal ſpecies being the moſt perfect and analogous to mankind, we ought to find in that claſs the moſt ſalutary remedies. I am alike convinced, that, after the example of the preſent diſcovery, if, inſtead of making uſe of the viper in broth, it were to be given raw, or in pills, it would produce a much greater effect, and might have the ſame efficacy as that attributed to the lizards.

"M. de Malzac, an experienced phyſician of Kaſtres,

having promiſed to make experiments with theſe lizards or *anolis*, I have given him a copy of the tranſlation which I made of the pamphlet printed at Cadiz."

Mr. Delarche writes thus from Madras, 7th May, 1785, to Mr. Smith.

"I have, in conformity with the accompanying receipt, attempted to adminiſter this cure to a leper here, who laboured under this malady for twenty years, and who had loſt the joints of his toes on both feet, and who was all over covered with pimples and ulcers, eſpecially about the ears and noſe, which diſcharged a fœtid and vicious matter. I cauſed him to take 180 of theſe lizards warm, and almoſt trembling, and for three months without interruption. The fifteenth day of the remedy he began to ſpit, or ſalivate, in great abundance, which he did for a month and a half, when it ceaſed of itſelf: during this time of his ſalivation, the pimples and ulcers, with which he was covered, dried up, and they fell off in ſcales, in ſuch manner, that it would not ſeem that this man had ever been affected with the leproſy; but ulcers which he had on his feet, though without toes, did not dry up, but continued to diſcharge matter, though in ſmaller degree than before. In other reſpects, this man, who for fifteen years had not ſlept two hours in the twenty-four, and even that a broken and diſturbed ſleep, began on the thirteenth day of his cure to ſleep ſoundly, and ſometimes for ſix hours without interruption, recovering his appetite, which he had before loſt. This, ſir, is the preſent ſtate of this man; if the leproſy ſhould not again break out on his body, he may think himſelf very happy, though not radically cured. I intend next month, when it becomes very hot, to recommence the remedy, and to adminiſter it for forty days without interval, for probably the lizards will then have more animal ſpirits, and more volatile ſalts, than they have in the months of October, November, and December, which you know is our rainy and cold ſeaſon. May it pleaſe God, for the ſake of human kind, that this man be radically cured; in ſuch event, I ſhall inform you.—N. B. No fiſh or pickles muſt be eaten by the patient during this cure."

LIZARD, the moſt ſouthernly promontory of England, whence ſhips uſually take their departure, when bound to the weſtward. Long. 5. 10. W. Lat. 49. 57. N.

LLANARTH, a town in Cardiganſhire, with a market on Tueſday, 17 miles eaſt by north of Cardigan, and 212 weſt by north of London. Long. 4. 20. W. Lat. 52. 13. N.

LLANBEDER, a town in Cardiganſhire, with a market on Tueſday. It is ſeated on the Tyvy, over which is a bridge into Carmarthenſhire, 24 miles eaſt of Cardigan, and 197 weſt by north of London. Long. 4. 8. W. Lat. 52. 9. N.

LLANDILOVAWR, a town in Carmarthenſhire, with a market on Tueſday and Saturday. It is ſeated on an aſcent, on the river Towy, over which is a bridge, 13 miles eaſt by north of Carmarthen, and 194 weſt by north of London. Long. 3. 58. W. Lat. 51. 55. N.

LLANELLY, a town in Carmarthenſhire, with a market on Tueſday. It trades much in coal, and is ſeated on a creek of the Briſtol Channel, 13 miles ſouth by eaſt of Carmarthen, and 216 weſt by north of London. Long. 4. 10. W. Lat. 51. 43. N.

LLANGADOC, a town in Carmarthenſhire, with a market on Thurſday. It is ſeated between the rivers Brane and Sawthy, which ſoon join the Towy, 18 miles eaſt by north of Carmarthen, and 185 weſt by north of London. Long. 3. 48. W. Lat. 51. 54. N.

LLANGOLLEN, a town in Denbighſhire, with a beautiful bridge of four arches over the river Dee, ſeven miles S.W. of Wrexham, and 184 N.W. of London.

LLANGUNNER, a village in Carmarthenſhire, a mile and a half from Carmarthen, noted for being the private ſeat of Sir Richard Steele, who died here in 1729.

LLANROOST, a town in Denbighſhire, with a market on Tueſday, ſeated on the Conway, 15 miles S.W. of Denbigh, and 222 N.W. of London. Long. 3. 58. W. Lat. 53. 6. N.

LLANTRISSENT, a town in Glamorganſhire, with a market on Friday. It is an ancient place, governed by a portreeve, who is ſworn by the deputy conſtable of the caſtle that ſtands near it. It is 10 miles N.W. of Landaff, and 166 weſt of London. Long. 5. 22. W. Lat. 51. 28. N.

LLANWILLING, a town in Montgomeryſhire, with a market on Tueſday. It is ſeated in a flat, among hills, near the river Cane, 15 miles north by weſt of Montgomery, and 179 N.W. of London. Long. 3. 8. W. Lat. 52. 40. N.

LLANYDLOS, a town in Montgomeryſhire, with a great market on Saturday, for woollen yarn. It is ſeated on the Severn, near its ſource, 18 miles S.W. of Montgomery, and 180 W.N.W. of London. Long. 3. 28. W. Lat. 52. 19. N.

LLANYMDDOVRY, a town in Carmarthenſhire, with a market on Wedneſday and Saturday. It had once a caſtle, now in ruins, ſeated near the Towy, 26 miles E.N.E. of Carmarthen, and 181 weſt by north of London. Long. 3. 42. W. Lat. 51. 56. N.

LLAUGHARN, a town in Carmarthenſhire, with a market on Friday; ſeated at the mouth of the Towy, near the ruins of two caſtles, ſeven miles S.W. of Carmarthen, and 233 weſt by north of London. Long. 4. 28. W. Lat. 51. 48. N.

LLERENA, a town of Spain, in Eſtramadura, 53 miles eaſt of Cordova, and 54 north of Seville. Long. 5. 23. W. Lat. 38. 24. N.

LLORET, a town of Spain, in Catalonia, 20 miles N.E. of Mataro. Long. 2. 39. E. Lat. 41. 47. N.

LO, ST. a town of France, in the department of the Channel, with a good citadel. It has conſiderable manufactures of ſerges, ſhalloons, ribands, and gold and ſilver lace. It is ſeated on the Vire, 12 miles eaſt of Coutances, and 125 weſt by north of Paris. Long. 0. 53. W. Lat. 49. 6. N.

LOANO, or LOVANO, a town of Italy, in the ſtate of Genoa, near the ſea, ſix miles S.S.W. of Finale. Long. 7. 58. E. Lat. 44. 9. N.

LOBAW, a town of Weſtern Pruſſia, with a caſtle, where the biſhop of Culm reſides. It is 25 miles eaſt of Culm. Long. 19. 0. E. Lat. 53. 25. N.

LOBENSTEIN, a town of Upper Saxony, in the county of Reuſſen, 26 miles north of Bareith. Long. 11. 37. E. Lat. 50. 20. N.

LOBOA, a town of Spain, in Eſtramadura, ſeated on the Guadiana, 22 miles eaſt of Badajoz. Long. 6. 22. W. Lat. 38. 32. N.

LOBSTADT, a town of the electorate of Saxony, in the circle of Leipſic, 10 miles S.S.E. of Leipſic.

LOBURG, a town of Lower Saxony, in the principality of Magdeburg, 22 miles eaſt of Magdeburg. Long. 12. 7. E. Lat. 52. 12. N.

LOCCO, a town of Naples, in Abruzzo Citeriore, ſituate on the Peſcara, 10 miles north of Solmona.

LOCHEM, a town of Dutch Guelderland, in the county of Zutphen. It was taken by the French in 1672, who abandoned it in 1674, after having demoliſhed the fortifications. It is ſeated on the Borrel, 10 miles eaſt of Zutphen. Long. 6. 13. E. Lat. 52. 12. N.

LOCHER MOSS, a moraſs in Dumfrieſſhire, 10 miles long and three broad. Here vaſt oak trees, and alſo canoes and anchors, have been dug up.

LOCHES, a town of France, in the department of Indre and Loire, with a ſtrong caſtle, the proſpect from which is very extenſive. Here was one of thoſe horrid dungeons, built by the cruel Lewis XI., the walls, floors, ceilings, and doors of which were lined with plates of iron faſtened to bars of the ſame metal. The unfortunate Ludovic Sforza, duke of Milan, taken in battle, under Lewis XII., ended his days in one of them. In the choir of the late collegiate church, is the tomb of the celebrated Agnes Sorel, miſtreſs of Charles VII., to whoſe patriotic exhortations that monarch owed almoſt all his glory. Loches is ſeated on the Indre, near a foreſt, 15 miles ſouth of Amboiſe, and 20 S.E. of Tours. Long. 0. 51. E. Lat. 47. 10. N.

LOCHMABEN, a borough in Dumfriesſhire, ſituate on the weſt ſide of the Annan, nearly oppoſite the place where it receives the united ſtreams of Yea and Kinnel, 10 miles N.E. of Dumfries. Long. 3. 19. W. Lat. 55. 19. N.

LOCHRIDA, or OCRIDA, a town of Turkey in Europe, in Albania, with a Greek archbiſhop's ſee. It is well fortified, and ſeated on a hill, near a lake of its own name, 62 miles S.E of Durazzo. Long. 20. 40. E. Lat. 41. 40. N.

LOCHTA, a ſea-port of Sweden, in Eaſt Bothnia, ſeated on the gulf of Bothnia, 90 miles ſouth of Tornea. Long. 24. 16. E. Lat. 64. 20. N.

LOCHWINNOCH, a lake in Renfrewſhire, called alſo Caſtle Semple Loch, near three miles in length. On an iſland in this lake, is an old fortreſs, called the Peel; a name frequently given to old fortreſſes in Scotland. From this lake iſſues the river Black Cart.

LOCHY, LOCH, a lake in the S.W. part of Inverneſsſhire, 10 miles in length, and from one to two in breadth. From the N.W. the waters of Loch Arkek deſcend into this lake. Out of it runs the river Lochy, which, about a mile below, receives the Spean, and after flowing through the diſtrict of Lochabar, falls into Loch Eil, at Fort William.

LOCK (*Encycl.*). Under that article we have minutely deſcribed the ingenious inventions of Mr. Bramah to prevent private depredation and pilfering; juſtice to the inventions of others, however, remains to be done, and we accordingly ſubjoin the following particulars on the ſubject of locks.

An account of a door or cheſt lock, of a peculiar conſtruction, by Mr. Thomas Arkwright, of Chorley-moor, in Lancaſhire, appears in the Tranſactions of the Society for the Encouragement of Arts, Manufactures, and Commerce, who conferred fifteen guineas on Mr. Arkwright for his invention.

This lock has two bolts, ſo formed, that, if the key ſhould by any accident be left in the lock, it would be ſcarcely probable that a ſervant could unlock it.

In Pl. 37. A, ſhews the pointer on the ſhank of the key.

B, the pin on which the key turns.

C, top bolt of the lock.

D, the upper higher tumbler for the top bolt.

E, another tumbler for the top bolt, and placed underneath it.

F, a lever, which works both bolts, and moves on a centre G.

H, the lower bolt, with a joint I upon its head.

K, the lower tumbler, with two joints L, L, which fall into two notches of the top bolt. Underneath the lower bolt is another tumbler, ſimilar to that marked E. There are five ſprings within the lock, four of which act upon the upper and lower tumblers, the other on the joint bolt H.

M, the bottom part of the key. The dark ring in the centre repreſents the hollow to be applied to the lock-pin B, above mentioned.

The directions given for working the double-bolted lock, are theſe:

Firſt, place the head or bolts of the lock towards the left hand; then take the key with the right hand, with the ſmall pointer A, in the ſhank of the key, towards the right: after this, put the key down to the bottom of the ſocket upon the centre pin B, in the lock, and give one half-turn with the pointer in the ſhank of the key, upwards, by which the bolt C at the top will be locked. In the next place, draw back the key about one inch, ſo that the webs or bits of the key may clear the tumblers in the lock; then turn the key with the ſmall pointer towards the right hand, and put down the key in the manner above mentioned. After this, make one half-turn with the pointer in the ſhank of the key downwards, by which means the lower bolt H is locked, and the higher bolt C unlocked. Then draw up the key as aforeſaid, and turn it with the pointer in the ſhank to the right hand. In the laſt place, thruſt down the key, and give one half-turn with the pointer in the ſhank of the key, upwards, by which means both the bolts C and H will be locked; ſo that, when the bolts are to be unlocked, the pointer in the key muſt be towards the left hand, and muſt be worked as above directed.

We ſhall next lay before the reader a ſpecification of the patent granted to Mr. Holemberg, of Silver-ſtreet, Bridgewater-ſquare, London, for locks or faſtenings on an improved conſtruction. It is dated June 24, 1801.

In Plate 37. fig. 1, ſhews the front of the lock finiſhed:—1, the four faſtening ſcrews;—2, flat plate;—3, the box;—4, key hole;—5, 5, catch faſtening to the door-poſt, &c. with two ſcrews. Fig. 2:—1, ſecond or inner plate on which the key turning opens number 4;—2, 3, ſcrews faſtening inner plate to the bottom of lock;—3, ſpring flat bolt to double faſten the lock;—4, circular or principal bolt;—5, key-hole. Fig. 3:—1, ſpring ſcrew;—2, inſide tumbler, deſigned for greater ſecurity of the principal bolt, as appears from the drawing;—3, the orbicular bolt, the principle of the whole, for ſecurity unequalled;—4, key-hole, exhibiting foot of the key;—5, ſtopper, for the recurrency of principal bolt;—6, quadra circular conductor, for the principal bolt;—7, the catch. Fig. 4:—a faſtening for ſaſhes, ſhutters, and doors, upon the ſame principle with the above deſcribed. The dimenſions, thickneſs, works, &c. may be varied at pleaſure, according to the intended uſe and deſignation of the locks and faſtenings.

In the year 1784, the Society for the Encouragement of Arts, &c. conferred their ſilver medal on Mr. Taylor, of Petworth, for his improvement on the latch or ſpring-bolts of common locks. This is effected by ſimply reverſing the tumbler, ſo that its curved ſide acts againſt two ſtubs fixed on the tail of the latch, and thruſts back the latter with eaſe, whether the knob be turned to the right or to the left, when the lock is opened. Mr. Taylor has alſo, behind the tail of the latch, fixed a guide containing a groove, in which runs a ſmall *friction-wheel*, that ſerves to keep the latch in its direct ſituation, and at the ſame time to diminiſh its friction: the arms of his tumbler are ſomewhat contracted, in order that the latch or ſpring-bolt may move with greater facility. By this conſtruction, the parts of the tumbler and latch, which are in contact, move in a line, ſo that they paſs over the greateſt ſpace, under the ſmalleſt angle; and the lock itſelf may be conſtantly uſed for ſeveral years, without requiring the application of oil.

The ſame Society alſo granted, in the ſame year, the ſum of ten guineas to Mr. Marſhal, for a *ſecret eſcutcheon*, which, when fixed to a lock, may be ſo repeatedly varied, that even the artiſt who made it, is unable to open the lock: A ſatiſ-

factory deſcription of its mechaniſm is given in the 3d volume of the Society's Tranſactions.

LOCKING-POLE, an ingenious piece of mechaniſm, to be affixed to the wheels of waggons or other carriages, when deſcending ſteep hills.

As many diſtreſſing accidents happen from loads overpowering the ſhaft-horſe, when proceeding down declivities, Mr. Colley laid before the Society for the Encouragement of Arts, &c. a contrivance for preventing ſuch caſualties; in conſequence of which, he was rewarded with their ſilver medal. See Pl. 35.

A, The hollow, which lies on the nave of the wheel.

BC, The chains, that clip the felly of the wheel.

D, the front part of the pole, ſhod with iron: and which is further ſtrengthened by a rib of iron, that is rivetted along its ſide, as is indicated by the black line.

In order to apply this locking-pole, the chain C is put round the felly of the wheel: the pin B is paſſed through the laſt link of C, and turned back through the moveable ring *e*: thus the wheel is ſecured, and any waggon, however laden, may deſcend the ſteepeſt hill with ſafety.

To prevent the locking-pole from breaking, Mr. Colley directs it to be made of the ſtem of an aſh-tree, the *ſpurns*, that is, the beginnings of which, have not been cut off in felling. He further remarks, that if a horſe, which has been accuſtomed to ſuch ſituation and to deſcents, be put in the ſhafts, the animal will be ſo much inclined to hold back, that it will be extremely difficult to make him draw. This exertion, however, is abſolutely neceſſary; as otherwiſe the chain-horſe, which ſhould always be linked to the locked ſide, will be obliged to pull an unneceſſary weight, occaſioned by his being conſiderably lower than the points of the ſhafts.

Laſtly, in conveying the locking-pole from one declivity to another, it is to be placed between the lower part of the cart and the axle-tree, while the ſmaller end is to be buckled with a ſtrap fixed under the body of the cart, on the driving ſide.

LODDON, a town in Norfolk, with a market on Friday, eight miles S.E. of Norwich, and 113 N.E. of London. Long. 1. 18. E. Lat. 52. 36. N.

LODESAN, a diſtrict of Italy, in the duchy of Milan. It is very fertile and populous, and its cheeſes are in high eſteem. Lodi is the capital.

LODEVE, a town of France, in the department of Herault. It was lately a biſhop's ſee; and has manufactures of hats and of cloth for the army. It is ſeated in a dry barren country, on the river Logue, at the foot of the Cevennes, 27 miles N.W. of Montpellier. Long. 3. 30. E. Lat. 42. 47. N.

LODI, a town of Italy, in the Milaneſe, and capital of the Lodeſan, with a fortreſs. The French defeated the Auſtrians near this place, in 1796. It is ſeated on the Adda, 15 miles N.W. of Placentia, and 20 S.E. of Milan. Long. 9. 26. E. Lat. 45. 15 N.

LODRONE, a town of Italy, in the biſhopric of Trent, ſeated on the ſmall lake Idro, at the place where it receives the river Chieſe, 31 miles S.W. of Trent. Long. 10. 46. E. Lat. 46. 0. N.

LOFFINGEN, a town of Suabia, in the lordſhip of Furſtenberg, with a famous medicinal bath, ſix miles weſt of Furſtenberg.

LOFSTA, a town of Sweden, in the province of Upland, with a hammer-mill, eight forges, and a ſmelting furnace. Theſe works were deſtroyed by the Ruſſians, in 1719, but have ſince been again erected. It is 32 miles north of Upſal.

LOGOWOGOROD, a town of Poland, in Volhinia, ſeated on the weſt bank of the Dnieper, 25 miles N.W. of Kiof. Long. 31. 7. E. Lat. 50. 46. N.

LOGRONO, an ancient town of Spain, in Old Caſtile, ſeated on the Ebro, in a country abounding with excellent fruits and good wines, 52 miles eaſt of Burgos, and 115 north by eaſt of Madrid. Long. 2. 20. W. Lat. 42. 29. N.

LOHEIA, a town of Arabia, in the province of Yemen. It has a great trade in coffee, and is 360 miles S.S.W. of Mecca. Long. 42. 49. E. Lat. 15. 42. N.

LOITZ, a town of Upper Saxony, in Anterior Pomerania, 16 miles north of Treptow, and 24 ſouth of Stralſund. Long. 13. 4. E. Lat. 53. 56. N.

LOMBARDY, a part of Italy, which comprehends almoſt all the ancient Ciſalpine Gaul. It lies towards the north, and is divided into the Upper and Lower. Upper Lombardy, the weſtern part, comprehends Piedmont, with its dependencies, and the duchies of Montſerrat and Milan. Lower Lombardy, the eaſtern part, contains Parma, Modena, Mantua, Ferrara, the Bologneſe, the territories of the Church, the Paduan, Vicentino, Veroneſe, Breſciano, Cremaſco, and Bergamo. In the late war, the whole of theſe provinces were overrun by the French republicans, who not only levied exorbitant contributions on the inhabitants, but alſo demanded many of their fineſt pictures and ſtatues, which they tranſported to Paris.

LOMBEZ, a town of France, in the department of Gers, lately a biſhop's ſee. It is ſeated on the Save, 27 miles S.W. of Toulouſe. Long. 1. 0. E. Lat. 43. 29. N.

LOMOND, Ben, a great mountain, in the north of Stirlingſhire, about 3200 feet above the level of the lake, at its bottom. It ſtretches along the eaſt ſide of Loch Lomond ſeveral miles; and its broad baſe extends ſo far into the country, that the aſcent of this mountain, though ſteep, is computed to be ſix miles. Ptarmigans, and other heath fowls, frequent its upper regions: its lower are the haunts of the roebuck; and herds of cattle feed in the irriguous valleys at its baſe. From this lofty mountain are ſeen Loch Lomond, the Clyde, the Forth, Edinburgh, the eaſtern coaſt as far as the Cheviot Fells, the iſles of Bute and Arran, the rock of Ailſa, Ireland, the mountain of Plynlimmon in Wales, the Skiddaw in Cumberland, and the hills far beyond it.

LON, or Lune, a river which riſes in Weſtmoreland, and flowing by Kirby Lonſdale in that county, falls into the Iriſh Sea, below Lancaſter. Its banks are beautiful and romantic.

LONATO, a town of Italy, in the Breſciano, 12 miles E.S.E. of Breſcia. Long. 10. 11. E. Lat. 45. 24. N.

LONDON, New, a ſea-port in the ſtate of Connecticut, and county of New London. Its harbour is the beſt in Connecticut, and as good as any in the United States. It is defended by two forts, and ſeated on the Thames, near its entrance into the Sound, 80 miles N.E. of New York. Long. 72. 45. W. Lat. 41. 15. N.

London, New, a town of the United States, in Virginia, on James River, 133 miles weſt by ſouth of Richmond.

LONG ISLAND SOUND, a kind of inland ſea in North America, 25 miles broad and 140 long, extending the whole length of Long Iſland, and dividing it from Connecticut. It communicates with the Atlantic at both ends of the iſland.

LONGARA, a town of Naples, in Calabria Ulteriore, 20 miles W.N.W. of St. Severino.

LONGEVITY (*Encycl.*). The following "*Hints on Longevity*," were drawn up by Sir John Sinclair, baronet, with the view of being inſerted in the Analyſis of the Statiſtical Account of Scotland; and printed in a fugitive form for the purpoſe of obtaining additional facts and obſervations on that intereſting ſubject. They contain, however, ſo much truly valuable matter, and the object of them is ſo important to ſociety, that we are tempted to give them further publicity, by adding them to the information we have already furniſhed on the ſubject.

I. *On the healthineſs of Scotland.*—Perhaps there is no country in Europe, where, in proportion to its population, a greater number of individuals reach to ſixty, and thence to eighty, and even ninety years of age, in full poſſeſſion of all their faculties, both perſonal and mental, than in Scotland; and ſuch a circumſtance, is a ſtronger proof of the healthineſs of a climate, than a few remarkable inſtances of extraordinary longevity. At the ſame time, North Britain is not a little diſtinguiſhed, for having given birth to a number of perſons, who have lived beyond the uſual period of human exiſtence *. In a work containing a collection of inſtances of longevity, for no leſs a period than 1733 years, namely, from A.D. 66 to 1799, in which there is given the name, age, place of reſidence, &c. of 1712 perſons, from all parts of the world, who had attained to a century and upwards, 170 are ſtated to have been natives of Scotland, and the two moſt remarkable in the whole liſt, are Kentigern, a native of Scotland †, and Peter Torton of Temeſwar, in Hungary, both of whom attained the great age of 185 years ‡."

" II. *Tables of longevity.*—But before we proceed to diſcuſs the ſubject of longevity in general, it may not be improper, to lay before the reader the following table, drawn up by an eminent author (Hufeland), which explains the ſhortneſs of human life, and points out how few there are, in proportion to the number born, who reach even the period of ſixty years §.

" Of a hundred men who are born, there die, according to Hufeland,

Under 10 - -	50
Between 10 and 20 - -	20
20 and 30 - -	10
30 and 40 - -	6
40 and 50 - -	5
50 and 60 - -	3
	94

" Hence only ſix remain, out of a hundred, who ſtand a chance of living beyond ſixty years.

" Of perſons who have lived above a hundred years, the induſtrious Haller has collected 1113 inſtances, and gives the following ſtatement of the duration of their lives ||.

" Of thoſe who lived from 100 to 110 years, the inſtances have been above - - 1000

From 110 to 120 about -	62
120 to 130 - -	29
130 to 140 - -	15
140 to 150 - -	5
152 (Parr) -	1
169 (Jenkins) -	1
	1113

" But in a recent publication, the following table is given, as the reſult of a more extenſive collection of inſtances of longevity.

" Of males and females, who lived from 100 to 110 years, both incluſive, the inſtances have been - 1310

Above 110 to 120 - -	277
120 to 130 - -	84
130 to 140 - -	26
140 to 150 - -	7
150 to 160 - -	3
160 to 170 - -	2
170 to 185 - -	3
	1712

" III. *Circumſtances tending to promote longevity.*—As the means of attaining great age, is a ſubject reſpecting which it is natural to entertain a conſiderable degree of anxiety, and as many intereſting facts regarding it, are ſcattered throughout the Statiſtical Volumes, I ſhall proceed to ſtate the circumſtances on which longevity ſeems principally to depend.

" In the firſt place, climate ſeems to be of conſiderable importance; and it may be laid down as a general rule, that the moderate, or even the coldeſt climates, are the moſt favourable to long life. Heat ſeems to relax and enfeeble, cold to ſtrengthen and brace, the human frame. The diet alſo of hot countries is not ſo nouriſhing, as that of cold **; and there is in general a greater diſpoſition, and greater opportunities, to indulge in various exceſſes, in the former, than in the latter. But if the climate be cool, a rainy atmoſphere ſeems to be leſs unfavourable to longevity than could well be

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* " Buffon places the mountainous diſtricts of Scotland, at the head of a liſt containing thoſe parts of Europe the moſt diſtinguiſhed for longevity. Hiſt. Nat. de l'Homme. edit. 1752, tom. IV. p. 358. The celebrated Pallas, in the ſecond volume of his Travels, ſtates, that the inhabitants of the mountainous diſtricts of the province of Jſeſk, in the northern parts of Siberia, live to a great age; people of 100 years are very common; and he ſaw an invalid ſoldier aged 120. The inhabitants of the plains in their neighbourhood, are by no means ſo healthy or ſo long lived."

† " Kentigern, known alſo under the name of St. Mungo, was the founder of the biſhopric of Glaſgow. The following verſes were made on his extraordinary age and place of interment:

' Cum octogenos centum quoque quinque vir annos
' Complerat, Sanctus eſt Glaſgow funere functus.'

Spotiſwood's Hiſt. of the Church of Scotland, p. 11 and 12.

If we ſhould not be willing to give credit to the extraordinary age which Kentigern and Torton are ſaid to have reached, in which there is nothing impoſſible, as Parr and Jenkins approached to it ſo nearly, the firſt being 152, and the ſecond 169 years of age; yet they may certainly be cited as examples of long life, greatly beyond the uſual extent."

‡ " See Human Longevity, by James Eaſton. Printed at Saliſbury, in one vol. 8vo. anno 1799. There is a portrait of Torton in England, which it would be deſirable to have engraved."

§ " On the Art of prolonging Human Life; a work written by Profeſſor Hufeland of Jena, in Germany, which merits to be tranſlated. The original may be had at Geiſweiller's, Parliament-ſtreet."

|| " Haller's Elementa Phyſiologiæ Corporis Humani, vol. III. lib. xxx. ſect. 3. p. 103."

** " In cold countries they live more upon animal, in hot countries upon vegetable, food, and fruits. A judicious mixture of both is the beſt plan to purſue, but of the two, animal food is the moſt nouriſhing."

imagined; for Ireland, which is a wet country, boaſts of a great number of old people. And a very large proportion of the aged who have lived in England and Scotland, have reſided in the weſtern, and conſequently the rannieſt, counties in the iſland *.

" The next circumſtance to be conſidered is, the form † and ſize of the individual. It is generally admitted, that perſons of a compact ſhape, and of a moderate ſtature, are the moſt likely to live long. Height often originates from the diſproportioned growth of ſome particular part of the body, which neceſſarily has a tendency to engender weakneſs and diſeaſe. Tall perſons alſo are apt to acquire a habit of ſtooping, which contracts the cheſt, and is a great enemy to free reſpiration; whereas the ſhort-ſized find little difficulty in keeping themſelves erect, and are naturally much more active, by which the animal functions are retained in a ſtate of much-greater perfection. The only diſadvantage attending a ſhort ſtature is, that it is frequently accompanied with corpulence, which is extremely unfavourable to long life.

" Being born of healthy parents, and exempted from hereditary diſeaſe, are circumſtances evidently favourable to longevity. A puny frame, like Cornaro's, may, by the greateſt care and anxiety, be preſerved in exiſtence, but thoſe who inherit health and ſtrength, and are born with robuſt conſtitutions, can alone expect not only to live long, but to enjoy the pleaſures and comforts of life, while they continue to poſſeſs it.

" Longevity alſo, ſeems to depend upon good temper, mixed at the ſame time with a cheerfulneſs of diſpoſition, or good ſpirits ‡. Neither the iraſcible, nor thoſe who, from deſpondency, ſink under the croſſes of life, can expect to live long. Even thoſe who ſuffer their ſtrength and ſpirits to be exhauſted by ſevere ſtudy, or other mental exertions, ſeldom reach great age. Of the long liſt of 1712 perſons, who lived about a century, Fontenelle (who did not quite reach 100 years) is the only author of any note; and his great age is aſcribed to the tranquil eaſe of his temper, and that livelineſs of ſpirits, for which he was much diſtinguiſhed; for he retained to the laſt, *the youth of old age*, as the French happily expreſs it.

" It is commonly obſerved, ' that it is not the rich and great, not thoſe who depend on medicines, who become old, but ſuch as uſe much exerciſe, are expoſed to the freſh air, and whoſe food is plain and moderate §. And it is certain that perſons of that deſcription, in general ſtand the beſt chance of living long. At the ſame time, though inſtances of great age, in royal and in noble perſonages, are not often to be met with, yet they may be as many, *in proportion to the ſmaller number of ſuch perſons*, as thoſe in the lower but more numerous claſſes of ſociety. Nor is there any thing inconſiſtent in ſovereign power, high rank, or great wealth, being accompanied with a long period of exiſtence, provided other circumſtances are favourable to longevity.

" In the next place, it is evident, that long life muſt depend much on the manner in which the individual is employed. Unhealthy occupations generally become fatal. Yet Peter Prin, a glaſs-blower, is ſaid to have attained the great age of 101; and John Tyler, a miner at Leadhills, in Scotland, is ſuppoſed to have reached even 132 years ‖. His age, indeed, could not be proved by direct, but it reſts on very ſtrong circumſtantial, evidence; and a perſon of the moſt undoubted authority (Dr. Walker, profeſſor of natural hiſtory in the univerſity of Edinburgh) informs me, ' that in his muſcles, joints, and in his whole conformation and aſpect, he wore the appearance of more remote antiquity, than he had ever ſeen in any human creature.' But on the whole, farmers, gardeners, and labourers in the country, are in general the longeſt lived. Foot ſoldiers alſo, who have ſurvived the dangers of war, are remarkable for long life. They are generally ſtout and vigorous men, and the regularity to which ſurviving ſoldiers muſt have accuſtomed themſelves, whilſt the careleſs and diſorderly drop off, the erect poſture to which they have been trained, and being of courſe men well formed by nature, and habituated to march and walk well (which familiarizes them to a natural and healthy exerciſe), all combine in their favour.

" It is alſo proper to remark, that not only moderate exerciſe, but even labour, if not too ſevere, contributes to good health, and old age. In many inſtances, perſons have worked at threſhing, and other laborious occupations, expoſed to a current of freſh air, after they had paſſed beyond the age of 100; and, if accuſtomed to them, they do not appear to have ſuffered any inconvenience from ſuch exertions.

" Nor ought it to be omitted, that a large proportion of the long lived have preferred a married to a ſingle ſtate, and in general have left behind them a numerous family. Whether a life of celibacy occaſions diſeaſe, or leads to irregularity, or ſours the temper, or to whatever other cauſe it ought to be attributed, may be a ſubject of diſpute, but it is certain, that the number of ſingle perſons who live long, bear no proportion to the married **.

" In the laſt place, though a greater number of males are born than of females, at leaſt in European countries, yet there is reaſon to believe, that of the two ſexes, women reach old age in the greateſt proportion. For this various cauſes may be aſſigned, as the greater regularity and temperance of their mode of living, their being leſs expoſed to danger and hardſhips, leſs ſubject to violent agitations, and generally endowed with more cheerfulneſs and gentleneſs of diſpoſition ††.

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* " Moiſture, it would appear, is not prejudicial to health, if it does not affect the purity of the air. Even ſtagnated water, if in peat bogs or moraſſes, is not unwholeſome, as the water, by the aſtringency of the peat, is prevented from becoming putrid. Lincolnſhire, alſo, and ſeveral of the marſhy counties of England, can produce a number of inſtances of great age, but probably they were from the more elevated parts of theſe diſtricts."

† " On the extent of the thorax, and the moderation of impulſe on the heart, it has been remarked, that the endurance of animal life materially depends."

‡ " Hence the great age to which many of the French nobility lived, particularly before the regency of Orleans."

§ " See Eaſton on Human Longevity, Introduction, p. 11."

‖ " It is ſaid that neither of theſe inſtances ought much to be wondered at, as a glaſs-blower is conſtantly expoſed to freſh and dry air, and the labour of miners under ground is not for many hours, and they generally reſide in hilly diſtricts."

** " This applies to both ſexes, in particular to the male. Dr. Ruſh of Philadelphia aſſerts, that he never ſaw but one unmarried man exceed fourſcore years."

†† " Among the ſymptoms of longevity, none is more ſtriking, than when nature ſeems to renew itſelf, by producing, even in old age, new teeth, new hair, &c. but the inſtances of this are extremely rare."

" IV. *Rules tending to promote long life.*—We ſhall conclude with ſhortly ſtating ſuch rules as have been followed by thoſe who have attained great age, as they may furniſh ſome hints that may be ſerviceable to others.

" The plan laid down by the celebrated Cornaro is well known, and the abſtemious manner in which he lived has often been recommended to the imitation of others; but I queſtion much, whether many would wiſh to lead the ſame life, for the ſake of mere exiſtence. Life is no longer deſirable, than whilſt it can be enjoyed with ſome degree of ſatisfaction, and it is of little conſequence, if a perſon merely vegetates, whether he lives or not.

" Without entering therefore into minute particulars, fitter for the diſcuſſions of experimental philoſophy, than for real life, we ſhall proceed to ſtate the rules which have been found the moſt effectual, and which are the moſt likely to be carried into practice.

" The firſt rule is, to avoid exceſs, whether in eating, in drinking, or in mental or perſonal exertion of any ſort, for nothing is more likely to deſtroy the ſprings of life, particularly when theſe become more feeble. Some inſtances are mentioned, of perſons who have continued to commit exceſſes, and have lived long; but theſe are to be conſidered in no other light than exceptions from a general rule. It may indeed be reaſonably contended, that if ſuch perſons lived to a great age, notwithſtanding their intemperance, they would have lived much longer, had they followed a different courſe.

" In the ſecond place, any great alteration with regard to clothing, occupation, or mode of living, ought to be avoided. When once an individual has been accuſtomed to any particular ſtyle of life, a change muſt in general be dangerous, and a long period muſt elapſe before he can accommodate himſelf to the alteration. Even if a perſon has been accuſtomed to live freely, and finds it neceſſary to become temperate, the change ought to be gradual.

" In the third place, nothing is more conducive to longevity, than to preſerve equanimity and good ſpirits, and not to ſink under the diſappointments of life, to which all, but particularly the old, are neceſſarily ſubjected. Regularity of hours, early riſing, a due proportion of ſleep, pure air, wholeſome food, warm clothing, particularly in advanced life, and moderate exerciſe or labour *, are alſo of eſſential importance.

" In the next place, good health, and conſequently longevity, depends much on perſonal cleanlineſs, and a variety of minute attentions, which it is impoſſible here to diſcuſs. It were much to be wiſhed, that ſome author would undertake the trouble of collecting the reſult of general experience upon that ſubject, and would point out a number of habits, which taken ſingly, appear very trifling, yet when combined, there is every reaſon to believe, that much additional health and comfort would ariſe from their obſervance †.

" It is a common ſaying, that every man, after the age of forty, ſhould be his own phyſician. This ſeems, however, to be a dangerous maxim. The greateſt phyſicians, when they are ſick, ſeldom venture to preſcribe for themſelves, but generally rely on the advice of their medical friends. Perſons who pretend to be their own phyſicians are generally much addicted to quackery, than which nothing can be more injurious to the conſtitution. It is eſſential to health, that medicines ſhould never be taken but when neceſſary, and never without the beſt advice, in regard to the commencement, which ought not to be too long delayed, otherwiſe much benefit cannot be expected from them, and alſo with reſpect to nature or ſort, quantity, and continuance.

" It is generally acknowledged, that the powers of phyſic are bounded. The medical art, however, is probably ſtill in its infancy, and it is impoſſible yet to ſay, to what perfection it may reach, not only in conſequence of the new improvements which chemiſtry daily furniſhes, but alſo of thoſe which may be made, by the diſcovery of new and valuable plants, in countries either already known or hitherto unexplored, and indeed the new uſes to which old medicinal plants may be applied. Perhaps ſuch diſcoveries will be much accelerated, when, inſtead of being left to the zeal and induſtry of individuals, they ſhall meet with that public encouragement and protection, to which they are ſo peculiarly well entitled.

" It has frequently been remarked, that the greateſt number of old people die in winter, and that many individuals, in a weak and conſumptive ſtate, are obliged to fly to warmer climates, as the only means of ſafety. It has thence occurred to Dr. Pearſon, that it would be of ſervice, both to the aged and to the conſumptive, to have houſes erected, of ſuch a peculiar conſtruction, that the air could always be preſerved, not only pure, but nearly of the ſame, and of rather an elevated temperature, ſo that the invalids who reſided in them, ſhould never be affected by the viciſſitudes of the ſeaſons ‡. Such an idea, it muſt be admitted, cannot be a general remedy, or reſource, but it is well entitled to the attention of thoſe who are in affluent circumſtances, by ſome of whom, it is to be hoped, an hoſpital for the aged and conſumptive will be erected, and the experiment fairly tried, both for their own ſakes, and for that of human nature in general ||.

" On the whole, it is more than probable, that by proper attention and good management, perſons in general might not only live longer, but might enjoy life with more reliſh, than is commonly the caſe at preſent; and it is to be hoped, in reſpect of this, as well as of many other particulars, that human nature is ſtill in the threſhold of acquirement, that it will yet obtain greater and more important acquiſitions of knowledge, and may reach further improvement, both with regard to the extent of perſonal and mental gratifications, which our ſpecies may be found capable of enjoying, and alſo the means of poſſeſſing them, with more ſatisfaction and comfort, and for a much longer period of time."

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* " Travelling, in moderation, from the change of air and ſcene, has alſo been found of great uſe."

† " Many people, for inſtance, injure their health, by neglecting their teeth, in conſequence of which, the gums become firſt diſeaſed, the breath becomes tainted and noxious, the teeth then rapidly decay, and the food not being properly maſticated, muſt occaſion various complaints."

‡ " Heller (p. 118) recommends it to old men to emigrate from a colder to a warmer region; but the propoſed building will probably anſwer the ſame purpoſes equally well."

|| " An eminent ſurgeon (Mr. Benjamin Bell, of Edinburgh) is of opinion, that any common houſe might be made ſufficiently warm to anſwer the propoſed object; and he has frequently recommended the plan of keeping the houſe, during the colder ſeaſons of the year, with much advantage to aged and infirm patients; but to give the idea a fair trial, a houſe peculiarly conſtructed for the purpoſe ſhould be built."

Sir John Sinclair juſtly obſerves, that it would be of importance, if ſome author, who had leiſure to probe this enquiry to the bottom, would undertake a paper on longevity; and he annexes a liſt of ſome publications upon the ſubject, which might be conſulted with advantage. The following obſervations, he adds, alſo, coming from ſo reſpectable a quarter as that of Dr. Fordyce, merit particular attention:

"If a man wiſhes to prolong life to a very long period, he muſt take great care to eat very moderately, and drink no wine, nor uſe any intoxicating liquor whatever. In all poliſhed nations, men eat at leaſt double the quantity of food neceſſary, perhaps four or five times. If men eat only the neceſſary quantity, they have no occaſion for wine, ſpices, or any other ſtimulant to aſſiſt the digeſtion of their food. On the other hand, if a man be contented to live to the age of ſeventy, rather a greater quantity of food is uſeful, to ſupport the exertions of the bodily powers; but eating in exceſs, always wears out the body without any advantage whatever. If a man uſes more food than is neceſſary, it is likewiſe proper to uſe ſtimulants to increaſe the powers of digeſtion. This contributes alſo to wear out the powers of the body. Drinking large quantities of wine of any kind, beer, cyder, mead, &c. tends to produce many diſeaſes, but at the ſame time defends a man intoxicated from many, ſuch as ariſe from ſudden expoſure to cold, infection, and many others, if their cauſe be applied during the time of intoxication; ſo that many men who have been intoxicated every day, have lived to the age of eighty, ninety, or even longer, but never to any very great length beyond that time. Thoſe who have been intoxicated by ſpirits diſtilled from theſe liquors have hardly ever arrived at even the age of ſeventy, and moſt of them have been cut off at an early age. This much I have to obſerve in general; to enter into the proofs, would require a long diſquiſition, which I have not time at preſent to enter into."

Another reſpectable phyſician obſerves, "that in reſpect of diet, no one rule is of ſo much importance as to avoid all ſorts of compound liquors, *water* being the only wholeſome beverage, the beſt ſolvent and diluent of the ſolid portions of our food; ſupporting the tone of the ſtomach, without exhauſting its vigour, and furniſhing the moſt ſimple, the moſt bland, and manifeſtly the moſt ſuitable ſupply to the ſecretory veſſels and general humidity of the body. In a word, good water is the only fit, and ſalutary, liquor for the ordinary uſes of man; all others are noxious, and this in the proportion as they recede in their qualities from water."

It is to be obſerved, however, that though water may be an effectual ſolvent, yet that wine, beer, and other fermented liquors, muſt contain more nouriſhment; and conſequently a moderate uſe of them, beſides acting as a ſtimulant, and aſſiſting digeſtion, muſt be ſerviceable to perſons exhauſted by ſevere labour, whether mental or perſonal; and in particular muſt prove a ſtrengthening and refreſhing cordial to the aged and the infirm.

LONGUION, a town of France, in the department of Moſelle. Here is a conſiderable iron-forge and cannon-foundery. It is 10 miles S.W. of Longwy, and 22 W. of Thionville. Long. 5. 29. E. Lat. 49. 27. N.

LONS-LE-SAULNIER, a town of France, in the department of Jura, with a late abbey of noble Bernardines. It derives its name from the ſalt ſprings with which it abounds, and is ſeated on the Solvan, 30 miles S.S.W. of Dole. Long. 5. 30. E. Lat. 46. 37. N.

LOOKOUT, Cape, a cape of North Carolina, ſouth of Cape Hatteras, and oppoſite Core Sound.

LOOTS, a town of Germany, capital of a county of the ſame name, in the biſhopric of Liege, 16 miles weſt of Maeſtricht. Long. 5. 19. E. Lat. 50. 52. N.

LOPATKA, Cape, the ſouth extremity of the peninſula of Kamtſchatka. See Kuriles.

LOPESCO, a town of Naples, in the province of Abruzzo Ulteriore, 19 miles S.W. of Aquila. Long. 13. 30. E. Lat. 45. 50. N.

LORA, a town of Spain, in Andaluſia, on the river Guadalquiver, 28 miles N.E. of Seville. Long. 5. 4. W. Lat. 37. 46. N.

Lora, a town of Upper Saxony, in the county of Hohenſtein, 30 miles north of Saxe Gotha. Long. 10. 55. E. Lat. 51. 30. N.

LORE, a town of Spain, in Granada, 15 miles north of Malaga. Long. 4. 35. W. Lat. 36. 50. N.

LORBUS, a town of the kingdom of Tunis, with a caſtle, and fine remains of antiquity. It is ſeated in a plain, fertile in corn, 150 miles S.W. of Tunis. Long. 9. 0. E. Lat. 35. 35. N.

LORCA, an ancient town of Spain, in Murcia, ſeated on an eminence, near the river Guadalantin, 30 miles weſt of Carthagena. Long. 1. 37. W. Lat. 37. 44. N.

Lorca, a town of Suabia, in the duchy of Wurtemburg. It had formerly a very rich abbey, whoſe revenues now belong to the univerſity of Tubingen. It is ſeated on the Remms, 20 miles N.W. of Eſſingen.

LORCH, a town of Germany, in the electorate of Mentz. The inhabitants ſubſiſt principally by cultivating vineyards and making wine. It is 24 miles W.N.W. of Mentz. Long. 8. 1. E. Lat. 50. 8. N.

LORCHAUSEN, a town of Germany, in the electorate of Mentz, 27 miles weſt of Mentz.

LORD HOWE'S GROUP, an extenſive group of iſlands in the South Pacific Ocean, diſcovered, in 1791, by Captain Hunter, who diſtinctly deſcried 32 of them, ſome of conſiderable extent. They appeared thickly covered with wood, among which the cocoa nut was very diſtinguiſhable. Nine of the natives came near the ſhip, in a canoe, which was about 40 feet long, badly made, and had an outrigger. They were a ſtout, clean, well-made people, of a dark copper colour; their hair tied in a knot on the back of the head; and they appeared as if clean-ſhaved. They had an ornament, conſiſting of a number of fringes, like an artificial beard, which was faſtened cloſe under the noſe; and to this beard hung a row of teeth, which gave them the appearance of having a mouth lower than their natural one. They had holes run through the ſides of the noſe into the paſſage, into which, as well as through the ſeptum, were thruſt pieces of reed or bone. The arms and thighs were tattowed, and ſome were painted with red and white ſtreaks. They wore a wrapper round their middle. Long. from 159. 14. to 159. 37. E. Lat. 5. 30. S.

Lord Howe's Island, an iſland of the South Pacific Ocean, diſcovered, in 1788, by Lieutenant King, in his voyage from Port Jackſon to Norfolk Iſland. Many excellent turtle have been caught here on a ſandy beach; and it abounds with a variety of birds, which were ſo unaccuſtomed to be diſturbed, that the ſeamen went near enough to knock down as many as they wanted with a ſtick. At its ſouth end are two high mountains, nearly perpendicular from the ſea; the ſouthernmoſt named Mount Gower. About 14 miles to the ſouth is a remarkable rock, named Ball's Pyramid, which has much the appearance of a ſteeple at a diſtance. The iſland is three miles and a half long, and very narrow. Long. 159. 0. E. Lat. 31. 36. N.

LOREDO, a town of Italy, in Poleſino di Rovigo, ſeated on the Adige, 20 miles eaſt of Rovigo. Long. 12. 50. E. Lat. 45. 5. N.

LORGUES, a populous town of France, in the department of Var, ſeated on the Argens, five miles weſt by ſouth of Draguignan, and 360 ſouth by eaſt of Paris. Long. 6. 27. E. Lat. 43. 30. N.

LORRACH, or LARACH, a town of Suabia, in the margravate of Baden, ſix miles N.W. of Rheinfelden, and ſix N.E. of Baſle.

LORRIS, a town of France, in the department of Loiret. It was the reſidence of Philip the Long, in 1317, and of other kings of France. It is 15 miles weſt by ſouth of Montargis.

LOT, a river of France, which riſes in the department of Lozere, and watering Mende and Cahors, enters the Garonne, below Agen. It begins to be navigable at Cahors.

LOT, a department of France, including the late province of Querci. It takes its name from the river Lot. Cahors is the capital.

LOT AND GARONNE, a department of France, including part of the late province of Guienne. It is ſo called from two rivers. Agen is the capital.

LOTZIN, a town of Pruſſia, with a caſtle, ſituate on a canal, which joins the Angerburg and Leventin lakes, 56 miles S.E. of Konigſberg.

LOUANS, a ſmall town of France, in the department of Saone and Loire, ſituate in a kind of iſland between the rivers Seilles, Salle, and Solnan, 18 miles S.E. of Chalons.

LOUDEAC, a town of France, in the department of the North Coaſt. Here is an iron forge and a manufacture of thread. It is 20 miles ſouth of St. Brieux, and 27 S.S.E. of Guingamp. Long. 2. 40. W. Lat. 48. 11. N.

LOUDUN, a town of France, in the department of Vienne. It is remarkable for the tragical end of its rector, Urbain Grandier, who, in 1634, was burnt alive for having cauſed certain Urſulin nuns to be poſſeſſed with devils! It is ſeated on a mountain, 30 miles N.W. of Poitiers, and 155 S.W. of Paris. Long. 0. 17. E. Lat. 47. 2. N.

LOUGHREA, a town of Ireland, in the county of Galway, near a lake of the ſame name, 15 miles S.W. of Galway.

LOVIGNANO, a town of Naples, in Otranto, 12 miles S.S.W. of Brindiſi.

LOUISA, a town of Swediſh Finland, with a fortreſs, on a bay of the gulf of Finland. The houſes are all of wood, two ſtories high, and painted red.

LOUISBURGH, the capital of the iſland of Cape Breton. It was taken by the Engliſh in 1745, reſtored to the French in 1745, taken by the Engliſh in 1758, and ceded to them in 1763; ſince which the fortifications have been deſtroyed. It has an excellent harbour, near four leagues in circumference. Long 59 48. W. Lat. 45. 54. N.

LOUISVILLE, a town of the ſtate of Georgia, in the county of Burke, ſeated on the north ſide of the Ogeechee, 50 miles S.W. of Auguſta. Long. 82. 30. W. Lat. 32. 42. N.

LOUISVILLE, a town of Kentucky, in the county of Jefferſon, ſeated on the Ohio, at its rapids, 95 miles S.W. of Lexington. Long. 86 30. W. Lat. 38. 3. N.

LOUI-TCHEOU FOU, a city of China, in the province of Quang-tong. Its territory is ſeparated, by a narrow ſtrait only, from the iſle of Hai-nan. It is 315 miles S.W. of Canton.

LOUITZ, a town of Great Poland, in the palatinate of Rava, 55 miles eaſt of Gneſna. Long. 19. 0. E. Lat. 52. 26. N.

LOULE, a town of Portugal, in Algarva, with a caſtle. It is ſurrounded with antique walls, and ſeated on the river Loulé, near the ſea, 10 miles north of Faro, and 15 weſt of Tavira. Long. 8. 1. W. Lat. 37. 18. N.

LOU-NGAN-FOU, a city of China, in the province of Chan-ſi, ſituate near the ſource of the Tſo-tſang-ho, and containing eight cities of the third claſs in its juriſdiction. It is 375 miles S.W. of Pekin.

LOUNG, LOCH, a great arm of the ſea, in Argyleſhire, which communicates, on the ſouth, with the frith of Clyde.

LOURDE, a town of France, in the department of the Upper Pyrenées, with an ancient caſtle, ſeated on a rock, on the Gave de Pau, 10 miles N.W. of Bagneres. Long. 0. 5. W. Lat. 43. 8. N.

LOURICAL, a town of Portugal, in Eſtremadura, 12 miles ſouth of Montemor-o-Velho.

LOUSE (*Encycl.*). Reference was erroneouſly made, in that article, to LICE. See PEDICULUS.

LOUVESTEIN, a fortreſs of the United Provinces, in Holland, on the weſt end of an iſland, called Bommel Waert. In this caſtle, the patriotic chiefs were impriſoned by Prince Maurice; whence that party has ever ſince been called the Louveſtein party. It is 16 miles eaſt of Dort. Long. 5. 13. E. Lat. 50. 40. N.

LOUVIERS, a fortified town of France, in the department of Eure, with a conſiderable manufacture of fine cloths. It is ſeated on the Eure, in a fertile plain, 10 miles N. of Evreux, and 55 N.W. of Paris. Long. 1. 15. E. Lat. 49. 0. N.

LOUVO, a populous town of the kingdom of Siam, with a royal palace, 50 miles north of the city of Siam. Long. 100. 50. E. Lat. 15. 8. N.

LOUVRES, a town of France in the department of Seine and Oiſe, 12 miles north of Paris. Long. 2. 24. E. Lat. 49. 3. N.

LOWDORE, a fine cataract in Cumberland, on the eaſt ſide of the lake of Derwent-water, in the vale of Keſwick. It is formed by the ruſhing of the waters of Watanlath through an awful chaſm made by the contiguity of two vaſt rocks; but it fails entirely in a dry ſeaſon.

LOWENSTEIN, a town of Suabia, and capital of a county. It is 20 miles N.E. of Stutgard. Long. 9. 19. E. Lat. 49. 1. N.

LOWESTOFFE, a town in Suffolk, with a market on Wedneſday. It is built on a cliff, the moſt eaſterly point of Great Britain; partakes with Yarmouth in the mackerel and herring fiſheries; is much frequented for ſea-bathing; and has a manufacture of coarſe china. It is 10 miles ſouth of Yarmouth, and 117 N.E. of London. Long. 1. 55. E. Lat. 52. 35. N.

LOWES-WATER, a lake in Cumberland, one mile long and a quarter of a mile broad. It is of no great depth, and without char; but it abounds with pike and perch. In oppoſition to all the other lakes, it has its courſe from north to ſouth, and, under the loſty Mellbreak, falls into Cromack-water.

LOWICZ, a populous town of Poland, in the palatinate of Rava, with a ſtrong fortreſs, ſeated on the Bzura, 21 miles ſouth of Plockſko, and 30 north of Rava. Long. 19. 29. E. Lat. 52. 24. N.

LOW-LAYTON, a village in Eſſex, ſix miles N.E. of London. Here ſeveral foundations, with Roman bricks, and coins, have been found near the manor-houſe; and ſome urns, with aſhes in them, have been dug up in the church-yard, and other parts.

LOXA, a conſiderable town of Spain, in Granada, ſeated in a fertile country, on the river Xenil, 18 miles weſt of Granada. Long. 3. 52. W. Lat. 37. 15. N.

LOXA, a town of Peru, in the province of Quito, 200 miles E.N.E. of Paita. Long. 77. 10. W. Lat. 4. 50. S.

LOYTZ, a town of Pomerania, in the county of Gutz-

kow, ſeated on the Pene, 10 miles above the city of Gutzkow.

LOZERE, a department of France, including the late province of Gevaudan. It is a mountainous barren country, and receives its name from one of its principal mountains. Mende is the capital.

LU, a town of Italy, in Montferrat, eight miles ſouth of Caſal, and eight weſt of Alexandria.

LUARCA, a town of Spain, in Aſturias, near the north coaſt, 30 miles N.W. of Oviedo.

LUBAN, a town of the Ruſſian government of Livonia, 70 miles eaſt of Riga. Long. 26. 36. E. Lat. 56. 55. N.

LUBANSKEN-SEA, or LAKE OF LUBAN, a lake in Livonia, toward the confines of Courland and Lithuania. The river Roſitta falls into this lake.

LUBBEN, a town of Germany, in Lower Luſatia, capital of a diſtrict of the ſame name. It has ſeveral churches, with a noble hoſpital, and a landhouſe, or a houſe where the diets aſſemble. It is ſeated on the Spree, 60 miles S.E. of Berlin. Long. 14. 25. E. Lat. 52. 0. N.

LUBEC, biſhopric of, a ſmall biſhopric, in the duchy of Holſtein. It has been enjoyed by proteſtant princes of the houſe of Holſtein, ever ſince 1561, when Lutheraniſm was eſtabliſhed here.

LUBEC, an iſland of the Indian Ocean. Long. 112. 22. E. Lat. 5. 50. S.

LUBOW, a town of Poland, in the palatinate of Cracow, 50 miles S.E. of Cracow. Long. 20. 36. E. Lat. 49. 36. N.

LUBZ, or LUBITZ, a town of Lower Saxony, in the duchy of Mecklenburgh, 23 miles S.S.W. of Guſtrow.

LUC, a town of France, in the department of Var, 25 miles N.E. of Toulon. Long. 6. 25. E. Lat. 43. 28. N.

LUC, a town of France, in the department of Iſere, ſeated on the Drome, 32 miles ſouth of Grenoble. Long 5. 48. E. Lat. 44. 40. N.

LUCE, a great bay in Wigtonſhire, lying to the eaſt of the promontory, called the Mull of Galloway.

LUCENA, a town of Spain, in the province of Cordova, 29 miles S.S.E. of Cordova, and 40 N.W. of Granada. Long. 3. 50. W. Lat. 37. 28. N.

LUCERA, an ancient town of Naples, in Capitanata, with a biſhop's ſee. The town is ſmall but populous, and has a manufacture of cloth. It is 30 miles W.S.W. of Manfredonia, and 65 N.E. of Naples. Long. 15. 34. E. Lat. 41. 28. N.

LUCERNA, a town of Italy, in Piedmont, 15 miles S.W. of Turin. Long. 7. 38. E. Lat. 44. 52. N.

LUCHEN, a town of Spain, in Valencia, 30 miles S. of the city of that name Long. 0. 10. E. Lat. 38. 53. N.

LUCHO, a town of Lower Saxony, in the principality of Lunenburg, ſituate on the Jetze, 40 miles E.S.E. of Lunenburg, and 54. N.E. of Zell.

LUCHOWICE, a town of Lithuania, in the palatinate of Novogorodeck, 40 miles S.S.E. of Novogorodeck.

LUCIANA, a town of Spain, in the province of Seville, eight miles W.N.W. of Ecya.

LUCIANO, a town of Spain, in New Caſtile, 19 miles W. of Cindad Real.

LUCIGNANO, a town of Italy, in Tuſcany, 10 miles S. of Sienna. Long. 11. 11. E. Lat. 43. 0. N.

LUCITO, a town of Naples, in the Moliſe, 11 miles N.E. of Moliſe.

LUCKNOW, an ancient and extenſive city of Hindooſtan Proper, capital of Oude. It is meanly built; the houſes are chiefly mud walls, covered with thatch; many are entirely of mats and bamboos, thatched with leaves of the cocoa-nut, palm-tree, and ſometimes with ſtraw; and very few are built with brick: the ſtreets are crooked, narrow, and worſe than moſt in India. In the dry ſeaſon, the duſt and heat are intolerable; in the rainy ſeaſon, the mire is ſo deep, as to be ſcarcely paſſable; and there is a great number of elephants, belonging to the nabob and the great men of his court, which are continually paſſing the ſtreets, either to the palace, or to the river, to the great danger and annoyance of the foot paſſenger, as well as the inferior claſs of ſhopkeepers. The comforts, conveniency, or property of this claſs of people are, indeed, little attended to, either by the great men or their ſervants; the elephant itſelf being frequently known to be infinitely more attentive to them as he paſſes, and to children in particular. The palace of the nabob is ſeated on a high bank near the Goomty, and commands an extenſive view both of that river and the country on the eaſtern ſide. Lucknow is 605 miles N.W. of Calcutta. Long. 81. 25. E. Lat. 26. 35. N.

LUCKO, a town of Poland, capital of Volhynia, with a citadel, and a biſhop's ſee, ſeated on the Ster, 75 miles N.E. of Lemburg, and 175 S.E. of Warſaw. Long. 25. 30. E. Lat. 51. 13. N.

LUCO, a town of Naples, in Abruzzo Citeriore, ſeated on the W. bank of the lake Celano, nine miles S.S.W. of Celano.

LUCON, or LUZON, a town of France, in the department of Vendée, and late province of Poitou, and lately an epiſcopal ſee. It is ſeated in an unwholeſome moraſs, 17 miles N. of Rochelle, and 50 S. of Nantes. Long. 1. 5. W. Lat. 46. 27. N.

LUCONIA, or LUCON, the chief of the Philippine Iſlands, in the N. Pacific Ocean, 400 miles in length, and 100 in breadth. It is not ſo hot as may be expected, becauſe it is well watered by large lakes and rivers, and the periodical rains, which inundate all the plains. There are ſeveral volcanoes in the mountains, which occaſion earthquakes; and a variety of hot baths. The produce of this iſland is wax, cotton, ſilk, wild cinnamon, ſulphur, cocoa nuts, rice, gold, horſes, buffaloes, and game. Philip II. of Spain, formed a ſcheme of planting a colony in the Philippine Iſlands, which had been neglected ſince the diſcovery of them by Magellan, in 1521. Manilla, in this iſland, was the ſtation choſen for the capital of the new eſtabliſhment. Hence an active commercial intercourſe began with the Chineſe, a conſiderable number of whom ſettled in the Philippine Iſlands, under the Spaniſh protection. Theſe ſupplied the colony ſo amply with all the valuable productions and manufactures of Aſia, as enabled it to open a trade with America, by a direct courſe of navigation, the longeſt from land to land on the globe. This trade, at firſt, was carried on with Callao, on the coaſt of Peru; but it was afterward removed to Acapulco, on the coaſt of New Spain. From this port, annually ſail one or two ſhips, which are permitted to carry out ſilver to the amount of 500,000 crowns, in return for which they bring back from Manilla ſpices, drugs, China and Japan wares, callicoes, chintz, muſlins, ſilks, &c. The inhabitants are a mixture of ſeveral nations, beſide Spaniards; and they all produce a mixed breed diſtinct from any of the reſt. The blacks have long hair, and good features; and there is one tribe, who prick their ſkins, and draw figures on them, as they do in moſt other countries where they go naked.

LUDENSCHEIDE, or LUNSCHEDE, a town of Weſtphalia, in the county of Mark. The principal trade is in manufactures of iron. In 1723 it was almoſt wholly deſtroyed by fire, ſince which it has been rebuilt with ſtone. It is 28 miles N.E. of Cologne. Long. 7. 20. E. Lat. 51. 11. N.

LUDERSBURG, a town of Lower Saxony, in the duchy of Lauenburg, ſeated on the Elbe, five miles above the town of Lauenburg.

LUDGERSHALL. See LUGGERSHALL.

LUDWIGSBURG, a town of Suabia, in the duchy of Wurtemburgh, which manufactures cloth, damaſk linen, and marble paper. Here is a fine hunting ſeat belonging to the Duke of Wurtemburg, called La Favorita. It is five miles N.N.E. of Stutgard.

Ludwigsburg, a town of Upper Saxony, in Anterior Pomerania, five miles E.N.E. of Grieſſwalde.

LUDWIGSTADT, a town of Franconia, in the principality of Culmbach, 13 miles S. of Saalfeld.

LUGA, a town of Ruſſia, in the government of Peterſburg, ſituate on a river of the ſame name, 80 miles S. of Peterſburgh. Long. 29. 39. E. Lat. 51. 49. N.

LUGANO, a town of Switzerland, capital of a bailiwic of the ſame name, which is the principal of the four tranſalpine bailiwics. It is built round a gentle curve of the lake of Lugano, and backed by an amphitheatre of hills. It is the emporium of the greateſt part of the merchandiſe, which paſſes from Italy over the St. Gothard, or the Bernardin. It contains 5000 inhabitants; and on an eminence above the town, is the principal church, which has a delightful proſpect from its terrace. Moſt of the houſes are built of tufſtone; and the reſidence of the governor is a low building, on the walls of which are the arms of 12 cantons to which this bailiwic is ſubject; for the canton of Appenzel has no juriſdiction over it. It is 17 miles N.W. of Como. Long. 8. 48. E. Lat. 45. 54. N.

Lugano, a lake of Switzerland, on the Italian ſide of the Alps. It is 25 miles in length, and from two to four in breadth; its form is irregular, and bending into continual ſinuoſities. It lies about 190 feet higher than the lakes of Como and Locarno.

LUGDE, or Lude, a town of Weſtphalia, in the biſhopric of Paderborn, ſituate on the Emmer, 24 miles N.N.E. of Paderborn. Long. 8. 39. E. Lat. 51. 49. N.

LUGO, an ancient city of Spain, in Galicia, with a biſhop's ſee. There are ſprings in this city boiling hot. It is ſeated on the Minho, 32 miles S.E. of Mondonnedo, and 60 S.W. of Oviedo. Long. 8. 52. W. Lat. 42. 46. N.

LUNDEN, a town of Lower Saxony, in the duchy of Holſtein, ſeated near the Eyder, 36 miles N.N.W. of Gluckſtadt. Long. 9. 20. E. Lat. 54. 26. N.

LUNEL, a town of France, in the department of Gard, near the river Ridourle. It produces excellent Muſcadine wine, and is 16 miles E. of Montpellier. Long. 4. 19. E. Lat. 43. 38. N.

LUNEN, a town of Weſtphalia, in the county of Marche, ſituate at the conflux of the Zeſick and Lippe, 20 miles S.S.W. of Munſter. Long. 7. 49. E. Lat. 50. 40. N.

LUNERA, a mountain of Italy, between Naples and Puzzoli. It contains much ſulphur, and alum; and the ſprings that riſe from it are excellent for curing wounds.

LUNEVILLE, a conſiderable town of France, in the department of Meurthe, with a caſtle, where the dukes of Lorrain formerly kept their court, as did afterward King Staniſlaus. It is now converted into barracks. The church of the late regular canons is very handſome; and here Staniſlaus founded a military ſchool, a large library, and a fine hoſpital. It is ſeated in a plain, on the rivers Vezouze and Meurte, 12 miles S.E. of Nanci, and 62 W. of Straſburg. Long. 6. 35. E. Lat. 48. 36. N.

LUPO GLAVO, a town of Auſtrian Iſtria, ſeated near the mountains of Vena, 15 miles W. of St. Veit.

LURE, a town of France, in the department of Upper Saone, remarkable only for a late abbey of Benedictines, converted, in 1764, into a chapter of noble canons. It is 30 miles N.E. of Beſançon. Long. 6. 33. E. Lat. 47. 38. N.

LURI, an ancient town of Corſica, between Cape Corſe and the towns of Baſtia and St. Fiorenza.

LUSIGNAN, a town of France, in the department of Vienna, ſeated on the Vonne, 15 miles S.S.W. of Poitiers, and 200 of Paris. Long. 0. 10. E. Lat. 46. 25. N.

LUSO, a river of Italy, which riſes in the duchy of Urbino, croſſes part of Romagno, and falls into the gulf of Venice, 10 miles W. of Rimini.

LUTANGE, a town of France, in the department of Moſelle, eight miles S.E. of Thionville, and 11 N.N.E. of Metz. Long. 6. 19. E. Lat. 49. 11. N.

LUTKENBURG, a town of Germany, in the duchy of Holſtein, ſeated near the Baltic, 13 miles from Ploen.

LUTON, a town in Bedfordſhire, with a market on Monday, ſeated among hills, 18 miles S. of Bedford, and 31 N. by W. of London. Long. 0. 25. W. Lat. 52. 27. N.

LUTSCHINEN, a river of Switzerland, in the canton of Bern. It is formed by the junction of two ſtreams; the Weiſs Lutſchinen, which flows through the valley of Lauterbrunn, and the Schwartz Lutſchinen, which comes from the valley of Grindelwald. In a rainy ſeaſon, the river forms a torrent, which ruſhes impetuouſly through the great maſſes of rock that obſtructs its courſe, and, with inconceivable violence, forces from their beds the moſt enormous fragments. The road to Zwey Lutſchinen and Lauterbrunn is over this roaring torrent, by a kind of bridge, which is fixed againſt the ſides of rocks, that are almoſt in a leaning poſition. A huge vertical ſtone, raiſed in the middle of the river, ſupports ſome thick planks, ſo badly joined, as to be neither ſteady nor ſolid; and theſe form the wretched bridge, over which the inhabitants daily paſs, with a firm ſtep and undaunted eye; a paſſage, which the traveller, unaccuſtomed to ſuch ſtrange communications, would tremble to attempt. Hence the Lutſchinen flows till it falls into the lake of Brientz.

LUTTENBURG, a town of Germany, in the duchy of Stiria, ſeated on the Muehr, 34 miles S.E. of Gratz. Long. 16. 10. E. Lat. 46. 46. N.

LUTTER, a town of Lower Saxony, in the duchy of Brunſwick, remarkable for a battle gained over the Auſtrians, by the Danes, in 1626. It is eight miles N.W. of Goſlar, and 13 S.E. of Hildeſheim. Long. 10. 25. E. Lat. 52. 4. N.

LUTTERBERG, a town of Lower Saxony, in the electorate of Hanover. It was formerly a county, and for a long time governed by lords of its own. It is 15 miles S. of Goſlar. Long. 10. 40. E. Lat. 51. 45. N.

LUTTERWORTH, a town in Leiceſterſhire, with a market on Thurſday, and a large handſome church, with a fine lofty ſteeple. Here Wickliff, the firſt reformer, was rector, who died in 1385; but was dug up and burnt for a heretic 40 years after. Lutterworth is ſeated on the river Swift, 14 miles S. of Leiceſter, and 88 N.N.W. of London. Long. 1. 10. W. Lat. 52. 26. N.

LUTZENSTEIN, a town of France, in the department of Lower Rhine, with a ſtrong caſtle, ſeated on a mountain, 30 miles N.W. of Straſburg. Long. 7. 17. E. Lat. 48. 55. N.

LUXEUIL, a town of France, in the department of Upper Saone, remarkable for its mineral waters. From the number of urns, medals, and inſcriptions, found here, it is ſuppoſed to have been a conſiderable place in the time of the Romans. It was deſtroyed by Atilla in 450. Near the town was a late celebrated abbey, founded by St. Golumban, an Iriſhman. It is ſeated at the foot of the Voſges, 15 miles W. of Veſoul. Long. 6. 24. E. Lat. 47. 50. N.

LUZARCHES, a town of France, in the department of Seine and Oiſe, 15 miles N. of Paris. Long. 2. 19. E. Lat. 49. 7. N.

LUZERNE, a county of Pennſylvania, 80 miles long and 61 broad. In 1790, it contained 4,904 inhabitants. Wilkeſborough is the capital.

LUZZANA, a town of Italy, in the Mantuan, 22 miles S. of Mantua. Long. 10. 48. E. Lat. 44. 50. N.

LUZZARA, a ſtrong town of Italy, on the confines of the duchies of Mantua and Guaſtalla, near the confluence of the Croſtolo with the Po. Here a battle was fought between the French and Spaniards, in 1702, when each ſide claimed the victory. It is 10 miles S. of Mantua. Long. 10. 50. E. Lat. 45. 0. N.

LUZZI, a town of Naples, in Calabria Citeriore, near the river Craté, three miles S. of Biſignano.

LYCHAM, a town in Norfolk, whoſe market is diſuſed. It is 24 miles W. by N. of Norwich, and 92 N.N.E. of London.

LYDSING, a village in Kent, near Graveſend. Here 600 young Normans, who came over with Alfred and Edward, the ſons of Ethelred, after the death of Canute, to take poſſeſſion of their father's throne, were maſſacred by Godwin, earl of Kent.

LYESSE, a town of France, in the department of the North, 15 miles E. of Landrecy. Long. 4. 10. E. Lat. 50. 6. N.

LYGE, a town of Norway, near a lake of the ſame name, 16 miles N.W. of Chriſtianſand.

LYGUM, a town of Denmark, in the duchy of Sleſwick, 14 miles W. of Apenrade.

LYING-IN CHARITIES, a kind of uſeful inſtitutions, which, happily for the female poor, have multiplied greatly of late years, in the moſt populous diſtricts of the united kingdom. The eſtabliſhments which go by this name differ from the Lying-in HOSPITALS very eſſentially, and in fact confer greater benefits on the indigent at a ſmaller expence to the ſubſcribers. One important and diſtinguiſhing feature in them, which marks them with a decided preference is, that poor women are not under the neceſſity of leaving their families, but have charitable aid adminiſtered to them at their own homes, where their preſence cannot but be of great uſe in keeping an eye on their ſmall domeſtic concerns, which might ſuffer materially during an abſence of ſome weeks at an hoſpital.

The following extract from an account of a charity, for aſſiſting the female poor, at the period of their lying-in, with *child-bed linen*, &c. is publiſhed in the Reports of the Society for bettering the Condition of the Poor, and may ſerve as a ſufficient model for ſimilar Inſtitutions:

Fifteen ſets of child-bed linen and clothes are diſtributed in parcels at Stowe, Wotton, Buckingham, and Ayleſbury, in the county of Buckingham, and at Gosfield Hall in Eſſex, under the care of perſons at thoſe places, who receive applications and enquire into the characters of the perſons applying. The ſets are lent out for a fortnight, three weeks, or a month, according to circumſtances, and conſiſt of the following articles each;—three ſheets, two blankets, one leathern ſheet, two bed-gowns, two night-caps, three bed ſhifts, three children's caps, three children's ſhirts, one cotton wrapper, one flannel wrapper, and a ſufficient quantity of ſmall articles.

The woman, who has the uſe of any ſet, is allowed to retain a cap, a ſhirt, and ſome flannel for the child: the reſt are returned clean, and five ſhillings allowed her for waſhing them; which, as that is generally done by the kindneſs of her neighbours, is ſo far an additional charity to her.—During her confinement, broth and beer caudle are occaſionally ſent her, and medical aid in particular caſes.

This charity was inſtituted by the Marchioneſs of Buckingham about ten years ago.—The benefit of it has been accepted by the poor in the moſt grateful manner; and there occurs no inſtance of its having been abuſed, by their damaging or purloining any of the articles. Almoſt every article is ſpun, woven, and made up, at the ſchools for poor children, which have been of late years eſtabliſhed at Stowe, Wotton, and Gosfield; and, when made of coarſe materials, which will anſwer the purpoſe, need not coſt more than 30s. a ſet. The annual expence of keeping them up may be about 10s. a ſet.

The advantage of this charity is, that it affords the poor, at a ſmall expence, much more relief and comfort than they could provide for themſelves with the ſame ſum, even if they poſſeſſed it: for one ſet of articles may, in the courſe of a year, ſerve a dozen families ſucceſſively, who either might not have the means of purchaſing them, or, if they had, would be obliged to buy them merely for temporary uſe, and then to ſell them again to diſadvantage. Beſides this there is a ſaving in the purchaſe of the articles by wholeſale, and an advantage in thus furniſhing work for a village ſchool. Though what has been done, in this inſtance, is at the expence of one perſon, it is quite as well ſuited to be eſtabliſhed by a ſubſcription, and conducted by a committee of ſubſcribers. This charity has been adminiſtered many years, at Audley End, in Eſſex; and has alſo been adopted, on a ſmaller ſcale, in ſome other places. Aid is alſo given to females during their lying-in by ſome of the Benefit Societies for women. See FEMALE BENEFIT SOCIETIES, *Supp.*

LYNDHURST, a village in Hants, with a ſeat which belongs to the Duke of Glouceſter, as lord warden of the New Foreſt. It is ſeven miles N. of Lymington.

LYNN, a town of Maſſachuſets, with a conſiderable manufacture of women's ſilk and cloth ſhoes. It is nine miles N.E. of Boſton. Long. 70. 55. W. Lat. 42. 33. N.

LYSE, a town of Norway, eight miles S.S.W. of Bergen.

LYSEKIL, a ſea-port of Sweden, in Weſt Gothland, 16 miles W. of Uddevalla.

LYSOBYKI, a town of Poland in the palatinate of Lublin, 20 miles N.N.W. of Lublin. Long. 22. 40. E. Lat. 51. 29. N.

M.

MABRA, a town of the kingdom of Algiers, ſeated on the gulf of Bona, W. of the town of Bona.

MACEDONIA, a province of Turkey in Europe, bounded on the N. by Servia and Bulgaria, on the E. by Romania and the Archipelago, on the S. by Livadia, and on the W. by that country and Albania. Salonichi is the capital.

MACERATA, a town of Naples, in Terra di Lavoro, four miles S. of Capua.

MACHECOUL, a town of France, in the department of Lower Loire, ſituated on the Tenu; 20 miles S.W. of Nantes. Long. 1. 11. W. Lat. 47. 2. N.

MACHERRY, a town of Hindooſtan Proper, in the country of Mewat, 70 miles S.S.W. of Delhi.

MACHIA, a town of Naples, in the Moliſe, 12 miles S.W. of Moliſe.

MACHICACO, a promontory of Spain, in the Bay of Biſcay. Long. 3. 0. W. Lat. 43. 37. N.

MACKERAN, a province of Perſia, bounded on the N. by Segeſtan and Sableſtan, on the E. by Hindooſtan Proper, on the S. by the Arabian Sea, and on the W. by Kerman. It is tributary to the ſultan of Candahar; and the capital, of the ſame name, is 100 miles N. W. of Tatta. Long. 66. 0. E. Lat. 26. 0. N.

MACOCO, or Anzico, a kingdom of Africa, to the E. of Congo, and S. of the equator. The Portugueſe trade with the inhabitants for ſlaves, elephants' teeth, and copper.

MACON, or Mascon, an ancient town of France, in the department of Saone and Loire, and lately a biſhop's ſee. It is remarkable for good wine, and ſeated on the declivity of a hill, near the Saone, 35 miles N. of Lyons, and 188 S.E. of Paris.

MACPHERSON (James), a Scotch writer of ſome celebrity, was born in 1738. His firſt work, and that which brought him moſtly into notice, was a tranſlation of poems attributed by him to Oſſian. Theſe poems certainly poſſeſs great beauty; but after they had been publiſhed ſome time, their authenticity was doubted by Dr. Johnſon and other writers, while they were as vigorouſly defended by ſome men of genius, the principal of whom was Dr. Blair. Mr. Macpherſon was greatly irritated at Dr. Johnſon's remarks, and wrote him a threatening letter, which the doctor anſwered in the moſt indignant terms. In 1773 Mr. Macpherſon publiſhed a Tranſlation of the Iliad into heroic proſe, but it ſunk into contempt. In 1775 Mr. Macpherſon publiſhed *The Hiſtory of Great Britain from the Reſtoration to the Acceſſion of the Houſe of Hanover*, in two volumes 4to.; a work in our opinion of great merit, though by one party it has been induſtriouſly, and, we are ſorry to add, too ſucceſsfully, decried. As an hiſtorian, our author could not indeed boaſt the attic elegance of a Robertſon, the ſplendor of a Gibbon, or the philoſophical profundity of a Hume; but his *ſtyle*, though it has ſometimes been the avowed, was not the real, cauſe of the coldneſs with which his hiſtory was received. The writer of this ſketch once ſaw a gentleman of rank, and of the whig intereſt, turn over one of Macpherſon's volumes, and heard him ſay, upon ſhutting the book: "I cannot bear that work." He was aſked if he thought the narrative falſe; and he replied, "No! It is too true; but I cannot bear it, becauſe it gives me a bad opinion of thoſe great men to whom I have been accuſtomed to look back with reverence as to the ſaviours of my country."

The author, however, acted with great fairneſs; as, together with the hiſtory, he publiſhed the proofs upon which his facts were founded, in two quarto volumes, entitled, *Original Papers, containing the Secret Hiſtory of Great Britain, from the Reſtoration to the Acceſſion of the Houſe of Hanover; to which are prefixed, Extracts from the Life of James II. as written by himſelf.* Theſe papers were chiefly collected by Mr. Carte, but are not all of equal authority.

Soon after this period, the tide of fortune flowed very rapidly in Mr. Macpherſon's favour, and his talents and induſtry were amply ſufficient to avail himſelf of every favourable circumſtance which aroſe. The reſiſtance of the Colonies called for the aid of a ready writer to combat the arguments of the Americans, and to give force to the reaſons which influenced the conduct of government, and he was ſelected for the purpoſe. Among other things, he wrote a pamphlet, which was circulated with much induſtry, entitled, *The Rights of Great Britain aſſerted againſt the Claims of the Colonies; being an Anſwer to the Declaration of the General Congreſs*, 8vo. 1776, and of which many editions were publiſhed. He alſo was the author of *A ſhort Hiſtory of Oppoſition during the laſt Seſſion of Parliament*, 8vo, 1779; a pamphlet which, on account of its merit, was by many aſcribed to Mr. Gibbon.

But a more lucrative employment was conferred on him about this time. He was appointed agent to the nabob of Arcot, and in that capacity exerted his talents in ſeveral appeals to the public in behalf of his client. Among others, he publiſhed, *Letters from Mahommed Ali Chan, Nabob of Arcot, to the Court of Directors; to which is annexed, a State of Facts relative to Tanjore, with an Appendix of Original Papers*, 4to. 1777; and he was ſuppoſed to be the author of *The Hiſtory and Management of the Eaſt-India Company from its Origin in 1600 to the preſent Times*, vol. I. containing the affairs of the Carnatic, in which the rights of the Nabob are explained, and the injuſtice of the Company proved, 4to. 1779.

In his capacity of agent to the nabob, it was probably thought requiſite that he ſhould have a ſeat in the Britiſh Parliament. He was accordingly, in 1780, choſen member for Camelford; but we do not recollect that he ever attempted to ſpeak in the Houſe. He was alſo re-choſen in 1784 and 1790.

He had purchaſed, we think before the year 1790, an eſtate in the pariſh in which he was born; and changing its name from *Retz* to *Belville*, built on it a large and elegant manſion, commanding a very romantic and picturesque view; and thither he retired, when his health began to fail, in expectation of receiving benefit from the change of air. He continued, however, to decline; and after lingering ſome time, died at his ſeat at Belville, in Inverneſs, on the 17th of February, 1796. He appears to have died in very opulent circumſtances; and by his will, dated June 1793, gave various annuities and legacies to ſeveral perſons to a great amount. His remains were afterwards taken from the place where he died, and buried in the Poets' Corner of Weſtminſter church.

MACRES, a river of Africa, which croſſes the kingdom of Tripoli, and falls into the Mediterranean, a little to the E. of Lebeda.

MACRI, an ancient town of Samos, in the Archipelago.

MACRO, or Macronisi, an iſland of the Archipelago, near the coaſt of Livadia, 20 miles E. of Athens. Long. 24. 16. E. Lat. 37. 30. N.

MACZUA, a ſmall iſland on the Red Sea, near the coaſt of Abex.

MADIA, or Maggia, a town, river, valley, and bailiwic

of Switzerland, in Upper Valais. The valley is long and narrow, between high mountains, watered throughout its whole length by the river; and it is the fourth transalpine bailiwic. The town is 10 miles N.W. of Locarno.

MADRE DE DIOS, an island in the S. Pacific Ocean, near the coast of Patagonia, 180 miles in circumference. Long. 42. 0. W. Lat. 51. 0. N.

MADRID, New, a city, now building, or to be built, in a new Spanish settlement, in Louisiana, on the Mississippi, opposite the mouth of the Ohio. The settlers are to enjoy a free toleration in religion. Long. 89. 50. W. Lat. 30. 36. N.

MADRIGAL, a town of Spain, in Old Castile, seated in a plain, fertile in excellent wine, 10 miles N.E. of Medina-del-Campo. Long. 4. 19. W. Lat. 41. 25. N.

Madrigal, a town of Terra Firma, in the province of Popayan. Long. 75. 45. W. Lat. 0. 50. N.

MADRISIO, a town of Italy, in Friuli, lately belonging to the state of Venice, 30 miles N. of Venice.

MADROGAM, the capital of Monomotapa, with a spacious royal palace. The upper part of the houses is in the shape of a bell. Long. 31. 40. E. Lat. 18. 0. N.

MADURA, a town of the Carnatic, capital of a province of the same name, on the coast of Coromandel. It is 130 miles N. by E. of Cape Comorin, and 300 S.S.W. of Madras. Long. 78. 12. E. Lat. 9. 55. N.

Madura, the capital of an island of the same name, in the Indian Ocean, situate to the N. of the E. end of the island of Java. Long. 112. 49. E. Lat. 9. 50. N.

MAELER, a lake of Sweden, between the provinces of Westmania and Sudermania. It contains several fine islands, is usually frozen during a few weeks in winter, and opens an easy communication, by sledges, between the interior parts of Sweden and the city of Stockholm.

MAERNA, a town of Germany, in the county of Tyrol, 23 miles W.S.W. of Trent.

MAESLANDSLUYS, a town of the United Provinces, in Holland, five miles S.W. of Delft. Long. 4. 18. E. Lat. 51. 57. N.

MAESYCK, a town in the bishopric of Liege, on the river Maese, eight miles S.W. of Ruremonde.

MAFFRA, a town of Portugal, in Estremadura, near which, in a sandy and barren place, King John V. erected a building of extraordinary magnificence. This was done in pursuance of a vow, made in a dangerous fit of illness, to found a convent for the use of the poorest friary in the kingdom. Upon enquiry, this poorest of convents was found at Maffra, where twelve Franciscans lived together in a hut. The king procured from Rome the design of a building far exceeding the Escurial. It is five miles N.W. of Lisbon.

MAGGEROE, a large island, near the coast of Norway, said to be the most northern land in Europe. Long. 25. 0. E. Lat. 72. 0. N.

MAGGIORE, or Locarno, a lake of Italy, partly in the duchy of Milan, and partly in the country of the Grisons. It is 35 miles long and six broad.

MAGHERAFELT, a town of Ireland, in the county of Londonderry, considerable for its linen manufactures, 13 miles W. of Antrim, and 30 S.E. of Londonderry.

MAGLIANO, a small but populous town of Italy, in the territory of the pope, and district of Sabina, seated on a mountain, near the river Tiber, 30 miles S.W. of Spoletto, and 30 N. of Rome. Long. 12. 35. E. Lat. 42. 25. N.

MAGNAVACCA, a town of Italy, in the Ferrarese, with a fort, seated at the mouth of the lake of Comachio, in the gulf of Venice, 18 miles N. of Ravenna. Long. 12. 4. E. Lat. 44. 52. N.

MAGNY, a town of France, in the department of Seine and Oise, 32 miles N.W. of Paris. Long. 1. 54. E. Lat. 49. 10 N.

MAGRA, a river of Italy, which rises in the Appennines, in the valley of Magra, washes Pont-Remoli and Sarzana, below which it falls into the Mediterranean.

Magra, a valley in the duchy of Tuscany, 27 miles long and 15 broad.

MAGUELONE, a lake of France, in the department of Herault, near a town of the same name, which is seated on the coast of the Mediterranean, into which the lake enters by a canal, the beginning of the famous canal of Languedoc.

MAHALEU, a town of Egypt, capital of Garbia. It carries on a considerable trade in linen, cottons, and sal-ammoniac; and the inhabitants have ovens to hatch chickens. Long. 30. 31. E. Lat. 31. 30. N.

MAHANUDDY, or Mahanady, a river of Hindoostan, which rises in the N.W. part of Berar, and falls by several mouths into the bay of Bengal, at Cattack. These mouths form an assemblage of low woody islands; and at the mouth of the principal channel, near False Point, is a fortified island, named Cajung or Codjung.

MAHMUDPOUR, a town of Hindoostan Proper, in Bengal, 80 miles N.E. of Calcutta, and 84 S.E. of Moorshedebad.

MAHOMDY, a town of Hindoostan Proper, in the country of Oude, 70 miles N.W. of Lucknow, and 150 E.S.E. of Delhi. Long. 80. 32. E. Lat. 27. 54. N.

MAIDA, a town of Naples, in Calabria Ulteriore, nine miles W.N.W. of Squillace.

MAILLEZAIS, a town of France, in the department of Vendée, seated in an island formed by the Seure and Autize, 22 miles N.E. of Rochelle, and 210 S.W. of Paris. Long. 0. 40. W. Lat. 46. 27. N.

MAIN, a district of Massachusets, 300 miles long and 104 broad; bounded on the N.W. by the high lands, which separate the rivers that fall into the St. Lawrence, and those that fall into the Atlantic; on the east by the river St. Croix, and a line drawn due north from its source to the said high lands, which divides this territory from Nova Scotia; on the S.E. by the Atlantic; and on the west by New Hampshire. It is divided into three counties. The heat in summer is intense, and the cold in winter extreme: all the lakes and rivers are usually passable on ice, from Christmas till the middle of March. Portland is the capital.

MAINA, a country of Turkey in Europe, in the Morea, according to tradition, derives its name from the Greek word Μανια, signifying *rage* or *fury*, and intended to express the ardor with which those people fought against the Turks. That tract of territory, though rough with rocks and mountains, contains a population of about forty-five thousand souls. It reckons three hundred and sixty villages, of which Vitulo is the most considerable.

Its principal productions are wheat, barley, and lupines, which are each year grown in rotation, so as never to let the land lie uncultivated. Here, as every-where else, agriculture is the mother of the principal domestic resources. It is not attended with great difficulty in Maina, in consequence of the great population, and the proximity of the villages. The labours of the plough are performed by oxen: the crops are not abundant; but the deficiency of corn is compensated by a prodigious quantity of oil, and by the produce of the silk-worm.

The lands of Maina, like its inhabitants, are unacquainted with rest. They annually yield their produce, without the aid of manure, except such as they derive from the natural deposits of the cattle, which remain constantly in the fields, as there are no stables in the country. Besides, the soil is dotted with little rocks which prevent the waters from washing away the mould; and the rain, being stopped by those rocks, deposits around them a kind of mud, which probably contributes much to the fertility of the land.

No vineyards are seen in Maina. It is not that the soil is

unfit for the cultivation of the grape; for there are parts of it well adapted for the propagation of the vine; but the Mainots give the preference to Ceres over Bacchus. They can very well diſpenſe with wine, they ſay, but not with corn. Beſides, they can eaſily procure grapes and wine from any other part of the Morea.

The Mainots are equally unacquainted with extreme poverty and great opulence. During the ſummer, they imitate the ant, and carefully lay up for winter a ſufficient ſtore of proviſions of prime neceſſity. The inhabitants of Cape Matapan are alone deſtitute of that advantage: their territory being leſs fertile than the other parts of the diſtrict of Maina, numbers of them go in the harveſt ſeaſon to work in the Morea, and thus procure ſupplies of wheat and barley for the whole year.

Since the fall of the Greek empire, the Mainots have ever conſidered courage as the virtue which was the moſt neceſſary to them for the preſervation of their liberty. Their bodily exerciſes give them agility; and their temperance renders them robuſt. Having neither tribunals nor judges, they have acquired the habit of perſonally avenging themſelves for every kind of injury. To pardon an outrage is deemed the conduct of a coward: to puniſh it, is frequently to kindle the flames of war between the families of the parties: but even this kind of family hoſtilities is advantageous to them, inaſmuch as it inures them to martial toils.

Their œconomy conſtitutes their wealth. Equally ſparing of their time and their money, they have ſufficient dependence on each other's word, to ſuperſede the neceſſity of binding themſelves by written agreement. Neither notaries nor lawyers are to be found among them: all their engagements are made verbally, but are not on that account the leſs faithfully obſerved.

At Maina, nothing is more ſacred than the honour of the fair ſex. To deceive a woman is accounted an act of baſeneſs: an outrage offered to her is, in the eyes of her family, a ſtain which cannot be waſhed out except in blood. The women, it is true, ſhew in the firſt inſtance a proper reſpect for themſelves. The conduct of the mothers is the beſt leſſon for their daughters. They ſeldom go abroad from their houſes, and then on family buſineſs alone. Accuſtomed to labour, they neither experience the irkſome *ennui* of our polite circles, nor are expoſed to the dangers of our public places, nor frequent balls, where every thing is maſked, except debauchery. Accordingly they are ſafe from thoſe dark intrigues in which virtue too often falls a ſacrifice. It is not that their hearts are proof againſt the ſhafts of love, or that the young men view them with the eyes of indifference; but both ſexes are equally attentive to preſerve their moral and phyſical powers for the purpoſe of more effectually ſecuring their liberty.

All the inhabitants of the ſame village live together like children of the ſame family: they mutually lend to each whatever is neceſſary, and take pleaſure in relieving each other's wants. If any one of them, burthened with a numerous family, is reduced to diſtreſs, the prieſts or principal inhabitants of the place make for him a collection without naming him, and cauſe it to be privately conveyed to his hands.

Hoſpitality is the favourite virtue of the Mainots. Does a hapleſs victim of Turkiſh cruelty come to them from any other part of the Morea in queſt of an aſylum? he is received with all the attention due to misfortune and to friendſhip: he is provided with lodging, food, raiment, every thing. If they do not obſerve the ſame conduct toward foreigners, it is becauſe the Mainots are afraid of ſeeing corruption introduced among them. To inſure himſelf a good reception, a foreigner muſt come recommended by ſome perſon who is well known to the inhabitants, or bring with him the means of ſupplying all his wants until his demeanour have gained him reſpect, and he have learned in ſome meaſure to ſpeak the language of the country. His character once eſtabliſhed, he is thenceforward treated as if he were a native Mainot.

In no other part of the globe is ſo great affection and friendſhip ſeen to reign among relatives as in Maina. The glory of a noble deed, or the diſgrace of an act of baſeneſs, reflects on the whole kindred. Each family regards its ſeniors as its guides. Is there queſtion of a marriage, or of any other important undertaking? The old men are conſulted before a ſingle ſtep be taken in the buſineſs.

There is no corporal puniſhment for theft; but the depredator is obliged to make ſeven fold reparation. His crime is never expiated by the penalty of death: for "all the wealth in the world," ſay the Mainots, "is not equal in value to the life of a man." Indeed, what is ſtolen among them is of no great moment: it is only fruits or garden produce. The moſt effectual check upon perſons who might be inclined to thievery, is the ſentence of excommunication pronounced againſt them by the prieſt at maſs.

The Mainots profeſs the Chriſtian religion according to the rites and tenets of the Eaſtern church, which acknowledges for its chief the patriarch of Conſtantinople. They ſcrupuloufly obſerve the commandments of their church, which have been handed down to them without innovation. They conſider the head of the Roman church as a ſchiſmatic, on account of the changes introduced into the Romiſh religion—changes, in conſequence of which it is no longer recogniſable. In particular, they cannot pardon the popes for having forbidden married men to exerciſe the eccleſiaſtic functions, and having ſold indulgences which were pretended to poſſeſs the virtue of releaſing ſouls from purgatory.

In Maina there is a biſhop, reſiding at Vitulo, but who has neither ſalary nor houſe. He lodges in a little convent with a ſmall number of monks, where he lives on the fruit of his perſonal labour, and the produce of his maſſes, for each of which he receives a ſtated price, amounting to four times the ſum paid for a maſs ſaid by a common prieſt. The prieſts are in general married, and obliged to work for their ſubſiſtence, having no other income than the caſual fees ariſing from the exerciſe of their functions. The cuſtom of paying to the church either tithes or any other ſtated contribution, is equally unknown to the Mainots as to the reſt of the Greeks.

It rarely happens that the prieſts accompany their maſſes with ſermons: they ſupply the place of the latter by their exemplary lives. Their modeſty, their mildneſs, their ſimplicity, gain for them the unbounded confidence of the people, whom they inſpire with equal attachment to their religion as to their native country. Hence that axiom, common to all the Greeks, "Fight for your religion and country"—an axiom ſo ſcrupuloufly reſpected at Maina, that the prieſts are ever among the foremoſt in flying to arms for the defence of the country, and that they never take up arms except in her cauſe.

In the Greek churches* there is but a ſingle altar; at that

* Different in this reſpect from the Romiſh churches; the latter containing numerous altars, at each of which, numerous maſſes are each day ſaid. In the *ci-devant* cathedral of *Notre Dame*, at Paris, not a ſingle minute elapſed, between the hours of ſix in the morning and twelve at noon, without the appearance of a prieſt paſſing or repaſſing, between the veſtry and ſome

altar no more than one maſs can be celebrated on the ſame day; and the celebration uſually takes place only on Saturdays and Sundays. On thoſe days, therefore, and on the feſtivals, not an individual is to be ſeen in the villages during the hour of divine ſervice, all the inhabitants being at church. At Maina there is no parochial rector: if there happen to be ſeveral prieſts in one village, each in rotation exerciſes his functions during a week; whence he is, for the time being, called the hebdomadary.—At church, the wives of the prieſts hold the foremoſt rank among the women.

When a Mainot woman is on the verge of puerperal labour, a midwife is called in, together with ſome of the female relatives or neighbours, who prepare every thing neceſſary for the occaſion. The woman places herſelf upright in the arms of her huſband, who alſo holds himſelf in a ſtanding poſition, but with his back leaning againſt the bed, that he may have more ſtrength. Nothing can be better calculated to facilitate the delivery than that poſture. The midwife attends for no other purpoſe than that of receiving the infant; her ſkill extending no further than to encourage the patient by her diſcourſe. If the child preſents itſelf in a wrong direction, the mother is laid on a ſheet, and rocked to and fro until that inconvenience be remedied.

As ſoon as the infant is come into the world, the midwife handles all his limbs, puts them into proper ſhape, carefully forms the nipples of the breaſt, and ſprinkles the babe from head to foot with finely powdered ſalt. After the expiration of three days ſhe waſhes him with a tepid decoction of aromatic plants, which preſerves him from all eruption either in the head or in any other part of the body. When the child is ſwathed, he is ſprinkled, particularly on the joints, with fine powder of myrtle-leaves.—With reſpect to the lying-in woman, ſhe is bound beneath with a girdle, and ſupplied with a bowl of good broth.

The birth of a ſon is announced by a muſket-ſhot fired by the father. At that ſignal, all his male relatives and friends teſtify their joy by a diſcharge of their fire-arms. During the firſt eight days from her delivery, the mother is viſited by her female relatives, who bring her preſents of food ſuited to her condition. So long as ſhe keeps her bed, ſhe takes the beſt of nouriſhment, and drinks nothing but wine, being expreſsly prohibited to uſe water. Hence ſhe acquires an abundance of milk.

Every mother ſuckles her own child; and, if a mother happen to die, each of her female neighbours is eager to ſupply, toward the orphan, the place not only of a nurſe but alſo of a mother. The babe receives baptiſm and confirmation together. The prieſt takes a ſmall bit of wax from each of the two candles uſed at the ceremony, cuts, on four ſides, ſome hairs from the child's head, faſtens them to the wax, and, together with it, throws them into the water in which he has been baptiſed.

The cradle uſed in Maina proves the ſimple and natural genius of the people. It is made of a ſheep-ſkin well tanned, and dyed with any colour, according to the fancy of the maker. It is three feet in length: its breadth at the head is three feet and half, at the foot only two. To each ſide is faſtened a ſtick, having at each end a ring, through which paſſes a cord. The child's head reſts on a pillow, which prevents the ſticks from meeting, and thus leaves a free acceſs to the air. At home, the mother hangs the cradle from a nail faſtened in the wall. Whenever ſhe goes abroad, ſhe ſlings it over her ſhoulder, and carries it as a ſoldier carries his cartouch-box. Nothing is more common than to ſee a Mainot woman returning from the fields with a faggot of wood on her back, and, on top of the faggot, her child in its cradle; the whole burthen ſo well adjuſted, that ſhe has her hands at liberty to ſpin cotton as ſhe walks along.

The male child continues till the age of ſeven years under the direction of his mother. She carefully inſtils into him a love for his country, reſpect for old age, diſcretion, fidelity to his friends, and, above all things, hoſpitality to the poor and the ſtranger. After the expiration of the ſeven years, the father takes charge of his ſon's education, teaches him to read and write, accuſtoms him to agricultural labours for the purpoſe of ſtrengthening his limbs, trains him to the handling of arms until he becomes capable of participating the exerciſes of youth, which conſiſt in wreſtling, lifting a weight and placing it on his ſhoulders, hurling ſtones of a certain ſize, leaping, and ſwimming.

The daughters are left to the care of the mother, who trains them to the labours of the houſhold. Their principal inſtruction has for its objects the ſpinning of cotton, and the rearing of ſilk-worms. Each woman has her loom in the houſe, and can weave cotton and ſilk ſtuffs, which ſerve for the raiment of both ſexes. The girls, conſtantly employed under the inſpection of their mother, never think of the ſports and amuſements ſuited to their age. It is only on holidays that they are allowed to quit the houſe, for the purpoſe of going to church, and to the dances, which are held only in the public market-places, and by-day:—there is no dancing by night.

At Maina the young men are robuſt; and though, at the age of eighteen, their bodies are hardened by laborious exerciſes, they do not, however, marry till five-and-twenty. That age is deemed neceſſary for the procreation of well-conſtituted children. Till that period their chief deſire is to ſignaliſe their proweſs in combat: and they find frequent opportunities of gratifying their wiſhes in that reſpect. There never comes a new pacha to the Morea, who is not ambitious to announce his arrival by an attack on the Mainots. Theſe, on the other hand, are all up in arms in an inſtant. The young men are the foremoſt in ſallying forth to meet the enemy. The only recompenſe which they covet is the approbation of the fair ſex. Nothing is more efficacious to fire their courage than encomiums from the lips of young heroines, who are ever ready to partake their dangers. Accordingly, notwithſtanding the enormous ſuperiority of the Ottoman force, the Mainots continue unſubdued.

Their gunpowder is excellent. Each man prepares it in his own family. This is one of the principal occupations of the young men. They take care, in the firſt inſtance, to reduce the ſaltpetre, the ſulphur, and the charcoal, ſeparately, to fine powder in wooden mortars; after which they blend the ingredients together, and work them to a proper conſiſtency. There are ſome ſpots of land in Maina which produce ſaltpetre in abundance; but the inhabitants are unacquainted with the art of extracting it.

If the Mainots have preſerved their innocence and their liberty, they are indebted for the enjoyment of thoſe bleſſings to the care with which they have retained that auſterity of manners which characteriſed their progenitors. Even in the age of infancy they breathe the pure air of virtue: in years of adoleſcence they triumph over the allurements of libertiniſm. Their parents are aware, that, in adding a new member to ſociety, they have done no more than acquit themſelves

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one of the many altars. And as many of thoſe gentlemen could *expedite* their maſſes in fifteen or twenty minutes, the reader may judge what a number were ſaid at each altar, and what ſums were paid for that commodity, even at a ſhilling per maſs, which was the very loweſt and pooreſt price.

of a debt which they owed to it: they know that they have a more important duty to fulfil—that of directing the firſt affections of their children, and as it were the firſt pulſations of their hearts, until they have taken their bent toward wedlock.

In Maina thoſe intrigues are unknown, which elſewhere ſerve as an introduction to the conjugal union, and which frequently prove favourable to love at the expence of matrimony. So ſoon as a young man has made the choice of a partner, he communicates the matter to his kindred, who then apply to hers, and aſk of them her hand in marriage: nor do the latter heſitate to grant the requeſt, if they approve the young man. The girl is next made acquainted with the choice of her future huſband, which ſhe ſanctions by her ſilence. Not having before laid her heart open to love, this firſt object preſented to her becomes the ſole poſſeſſor of her entire affection for the remainder of her life.

That affection is increaſed by an obſtacle which is not known in any other country. From the moment when the marriage has been decreed, the young man is expreſsly prohibited from entering the abode of his intended bride, or even ſpeaking to her, until the marriage have taken place. If he ſhould happen to contravene that prohibition, the ſpouſal contract would be broken. This privation tends to fan the ſoft flame in the boſoms of the young betrothed, and adds a new ſtimulus to their deſire of ſeeing themſelves bound in the hymenæal chain.

The wedding-day being arrived, the relatives of the party aſſemble—thoſe of the bride in her dwelling, where they remain—the others in the abode of the bridegroom, whence they ſet out with him, to go to the houſe of his betrothed wife. The young man preſenting himſelf at the door, one of her kindred ſtops him, and aſks what is the object of his viſit.

"My promiſed bride," he replies, "that I may go and be married to her according to the eſtabliſhed forms."

"Have you ſufficient means to ſupport the partner whom you deſire?"

"Would her family have conſented to give her to me, if I had not the ability to maintain her?"

Immediately the girl's father is called, and informed that his future ſon-in-law is at the door. The father advances to the youth, and ſalutes him in theſe terms—"Welcome, my ſon-in-law! May God grant thee happy days, peace and concord with thy partner, and every thing that thy heart deſires!" So ſaying, he embraces him.

After the father, comes the brothers of the bride, who hail the youth with the ſame prayer, make him a preſent in money proportioned to their faculties, and, having embraced him, depoſit their offering in the hands of a female appointed to receive it; for which office the bridegroom's ſiſter or couſin is always choſen.

The brothers are ſucceeded by the male relatives, who each in turn preſent ſimilar gifts, and in like manner embrace him. After them, come the females, preceded by the bride's mother and ſiſters.

The ſalutations and embraces which they beſtow are accompanied by preſents of a different nature; each of them places a handkerchief on the bridegroom's ſhoulders, where ſhe ſuffers it to remain.

This ceremony concluded, a little boy, brother or couſin-german to the bride, and not above ſix years old, takes the young man by the hand, and conducts him to the apartment which contains his deſtined wife. The betrothed pair ſalute each other, and remain together with the relatives of the bride. Immediately thoſe of the bridegroom being introduced, both parties unite, divert themſelves, eat ſome dried fruits, drink, and ſing hymns ſuited to the occaſion. After about an hour ſpent in this manner, the whole company walk forth; which is generally done at the ſetting-in of night. Foremoſt advance the relatives of the bridegroom, at whoſe ſide marches the brideman, appointed to the office of exchanging the rings and chaplets. Next follows the bride, attended by all the females.

In this order the proceſſion arrives at the church, in the middle of which riſes an altar erected for the occaſion, and diſplaying a croſs ſurrounded by ſix candles. The prieſt, arrayed in his ceremonial robes, aſſigns their ſtations to the young couple, placing the bride to the right of the bridegroom. Near to them ſtands the brideman and a young woman, who is attentive to wipe the perſpired moiſture from their faces with a white handkerchief.

The prieſt alternately aſks the youthful votaries of hymen whether they be ſatisfied to unite with each other according to the rules preſcribed by the church. Having received their ſeveral anſwers in the affirmative, he beſtows on them his benediction; and taking their right hands, puts them together, ſaying—"Theſe hearts, which God has united, let no man diſunite." He then bleſſes the two rings, and places one on the fourth finger of the right hand of each of the parties, ſaying, "God's faithful ſervant *A B* is united with God's faithful handmaid *C D*:" after which he turns to the altar, and bleſſes the chaplets, which are compoſed of vine-twigs ornamented with branches of lemon-tree and laurel.

During this time, the brideman exchanges the rings three times, finally leaving the ring of each party on the finger of the other. The prieſt now takes the chaplets, which he places on the heads of the new-married pair, ſaying, as he crowns the bridegroom, "I crown God's faithful ſervant *A B*, in uniting him with God's faithful hand-maid *C D*," and repeating a ſimular formula as he places the garland on the head of the bride: after which ceremony he wiſhes them a life of peace. The garlands being exchanged in the ſame manner as the rings, he directs the young couple to take from the ſame glaſs a morſel of bread and a few drops of wine: finally he walks forward with the bride and bridegroom, leads them three times round the altar, conducts them back to their former ſtation, beſtows on them a new benediction, and thus terminates the functions of his miniſtry.

The company retire from the church in the ſame order as they had repaired to it, firing muſket and piſtol-ſhots. While the new-married pair proceed along the ſtreets, the women, from the windows, ſprinkle the ground before their ſteps with wheat and millet, ſymbolic of fecundity. The proceſſion returns amid the ſounds of muſical inſtruments, to the bridegroom's dwelling, which the bride cannot enter with her attendant until ſhe have anſwered the ſame queſtions at the door as had been put to him when he preſented himſelf for admiſſion into her abode. Here alſo a little child is employed to introduce her into the houſe of her huſband. On her entrance, her mother-in-law, having diſrobed her of her veil, conducts her into an apartment, where ſhe ſeats her on a cuſhion placed upon a ſack of flour. By her ſide ſtands another ſack full of nuts, almonds, and other dry fruits, which ſhe diſtributes to the relatives who ſucceſſively approach and wiſh her every kind of proſperity.

The bridegroom's mother takes her ſtation at the window, whence ſhe throws fruits, and ſometimes money, to thoſe perſons who have followed the hymenæal train without invitation. The bride, having finiſhed her diſtribution, is conducted to the hall where the wedding-feaſt is prepared. The remainder of the evening is ſpent at table; the night is devoted to dancing; and—what will no doubt be conſidered as the moſt ſingular circumſtance in the whole buſineſs—the new-married pair are, by the traditionary uſage handed down from their anceſtors, debarred from all opportunity of *tête-à-tête* interview during this night.

Three days after the marriage, and it is always on a Wednesday, the bridegroom, accompanied by his bride, and preceded by a boy of the age of seven years, repairs to the house of his father-in-law, where he dines—having, however, taken care to bring with him every thing necessary for the meal. When they are preparing to return home, the mother presents her daughter with a distaff and spindle, emblems of the kind of occupation for which she is destined. The husband is presented with agricultural implements, which he accepts. Mutual embraces being exchanged, the new-married pair retire, and pass eight days without attending to any domestic business.

In the evening of the seventh day, the nearest relatives of the husband invite the kindred of both families to escort the young couple to church on the morrow, and to re-conduct them to the house of the husband's father-in-law. They all attend the summons: after having saluted the bride and bridegroom, they sing and dance until the moment of their departure for the church.

During that interval, the young man's father presents the father of the young woman with bread, cheese, wine, and other provisions, such as almonds, nuts, and figs, in sufficient quantity to supply a breakfast for the whole company.

After the celebration of divine service, the party go to the house of the bride's family, where the same kind of distribution is made as had taken place on the wedding-night. They dine, they dance, they sing. After dinner, the husband receives from his father-in-law his wife's portion, consisting of clothes and furniture, of which an inventory is drawn up, and signed by both parties. If perchance the woman die without issue, the marriage-portion is punctually restored to her family; on the other hand, if the husband happen so to die, his relict enjoys his property during her widowhood. No law-suit ever occurs on these occasions: any difficulty arising relative to such matters is immediately removed by the decision of arbitrators, whose judgment admits of no appeal.

The Mainots have a particular mode of dress for the marriage ceremony. The bridegroom wears on his head a small close-fitting red cap, from the top of which depends a silken tassel. His vest is scarlet, having all the seams covered with twist of the same colour; it has no collar, and is edged round with three rows of similar twist: its sleeves are open as far as the middle of the fore-arm. His jacket is of the same stuff: it is open in the fore part, and, from the neck to the bottom, is ornamented with five rows of gold or silk twist: a sixth serves, on the left side, to furnish loops, and on the right, to fasten twenty-four small round buttons, which lie close to each other. The vest and jacket are both fashioned to a point in front. The breeches are very wide, and descend six inches below the knee. He wears no stockings: his shoes are fastened with silken strings ascending half way up the leg, and are bordered before and behind with an edging to prevent the strings from hurting the foot.

The bride wears a veil of white gauze, two yards in length, which goes round the upper part of her head, passes under her chin, and falls behind, hanging down as low as her mid-leg. It is fastened on each side of the head with a pin. This veil is ornamented with fringes of the same stuff. Under it she wears a bonnet of scarlet cloth or of silk. From her ears hang two pendants of curious workmanship. Her under garment is of silk, without sleeves, and has three edgings, one red at the bottom, another of white lace, at a small distance above the former, and a third, blue or yellow, at equal distance from the second. Her breast is bound with an elegant girdle. Over the inner garment she wears an ample scarlet robe with very wide sleeves. Her shoes are flat, and she has no stockings.

Divorce is allowed at Maina, but that indulgence is rarely used. A separation seldom takes place, except in consequence of a notorious incompatibility of dispositions in the married pair, or of the husband's continuing seven years absent without sending any intelligence to his wife. No legal process is necessary: no expence is incurred: the parties simply present themselves before the bishop, who, after having ascertained the fact, pronounces their separation, and declares them at liberty to form new engagements. If there be any children from their union, they remain with the father.

At Maina there are no school-masters, in the proper acceptation of the term. It is by the priests that the children are taught to read and write: which two acquisitions constitute nearly all the knowledge possessed by the teachers themselves. They however form the heart at the same time that they instruct the mind. Their morality consists much less in precept than in good example.

The best policy of the Mainots is, that they are totally unacquainted with what we call policy. Justice is their guide, and jealous vigilance their safeguard. They are strangers to the art of printing, that art which enables designing impostors to deceive millions of men at once. They have scarcely any books, and exclusively devote their attention to agriculture, fishing, hunting, and practising with the weapons of war. Their martial exercises are considered as an object of prime importance. Hence it is common to see a boy running from school, and a priest from the altar, to oppose the enemy.

The Mainots have not among them either surgeons, or physians, or apothecaries. To the purity of the air they breathe, and more especially to their temperate mode of life, they are indebted for the preservation of their health. Their blood is not tainted with maladies imported from foreign lands. Fevers, indeed, of the putrid and intermittent classes, are not unknown in the country; but these prevail only on the frontier, toward Monenbasia, where low lands and marshes abound.

During the period of a continuous fever, the patient is surrounded by his relatives, who are attentive to afford him every aid which their knowledge or experience can suggest. They do not administer to him any internal medicines, through an apprehension of counteracting nature in her crisis, but suffer the disease to take its natural course. If the sick person have lost his appetite, they present him no food: but if he have retained an inclination to eat, they give him such aliment, of the lighter kinds, as he prefers; thus endeavouring to support his strength. Hence he frequently recovers.

It is from long experience that the Mainots have learned to distinguish the critical days in violent diseases. They then employ diet-drinks and gentle medicines internal and external, calculated to facilitate a perfect crisis. By the application of external medicaments they remove accidental pains, such as head-ach, nephritic colic, stitch in the side.

At Maina the physicians of the soul have also the additional advantage of acting as physicians for the body. A priest is stationed near the sick person, having one hand placed on his forehead, and holding in the other a book, from which he continually reads prayers with a loud voice until he have procured him some relief. He sometimes passes whole nights thus exorcising the fever.—The recovery of a patient is a triumph for religion, since the superstitious credulity of those good folks never fails to attribute the cure to the efficacy of the holy man's prayers.

Every Mainot acts as surgeon in his own family. They have learned by routine how to apply the first dressings, and to follow up the process by the use of medicaments suited to determine the suppuration. In cases of gun-shot wounds, they successively employ detersive and cicatrising applications, which are usually derived from plants. For wounds from

edged weapons, when there is no loſs of ſubſtance, they content themſelves with the aid of deſiccative plants, to prevent ſuppuration; by which method they ſpeedily cure them. With reſpect to luxations and fractures, there are particular men at Maina who are noted for their ſkill in treating them; and theſe are called in on ſuch occaſions.

The Mainots are not ſo raſhly haſty in drawing blood from ſick perſons, as people are in thoſe countries which are ſubject to the deſpotiſm of medicine. Before they have recourſe to that operation, the relatives, and particularly the old men, aſſemble, conſult the great book of experience, examine whether, under a ſimilar malady, phlebotomy has proved beneficial or injurious, and conformable to the reſult of their examination, adopt or reject the expedient. The Mainots are almoſt univerſally expert in opening a vein.

None of the nation has ever yet attempted to eſtabliſh a public pharmacy. Each individual poſſeſſes one at home, or carries it as it were in his head. They have a number of remedies generally adopted as ſpecifics for certain complaints. They purſue an equally ſingular and efficacious mode of treating ſores ariſing from a vitiated ſtate of the humours; they apply to them the leaves of a deterſive plant, adding, every four-and-twenty hours, a new leaf, without removing the former, or doing more than gently to preſs the ſore with the hand, for the purpoſe of ſqueezing out the purulent matter by the ſides. That matter becoming each day thicker, becauſe alſo, in our faculty phraſe, more "*laudable:*" and, when the ſore is cicatriſed, the leaves are dried by the heat of the fleſh, and detach themſelves from the part on being gently rubbed.

When a Mainot has expired his laſt breath, his deceaſe is announced by the lamentations of all around him. He is enwrapped in a ſheet, and placed in the middle of the houſe, under a white coverlit, with his face expoſed. The near relatives of the female ſex, their cheeks bedewed with the drops of ſorrow, and their hair diſheveled, ſtand round the corſe, ſinging mournful airs ſo tenderly affecting as to call forth ſympathetic tears from all who are preſent. The male relatives or friends who come to the mournful ſcene, ſo ſoon as they have reached the threſhold of the door, pronounce three times, in conformity to a very ancient cuſtom, the words, "Brother! ah! ſweet brother!" To theſe lamentations they generally add queſtions analogous to the connections which had exiſted between them and the defunct.—The widow, after having given a looſe rein to her grief, rehearſes all the good qualities of her deceaſed huſband. She pours forth in extemporaneous poetry the moſt pathetic ſpeeches, ſuited to the melancholy occaſion.

When the prieſts are come, attended by almoſt the entire population of the village, the wailings and tears are redoubled at the moment when the dead body is placed in the coffin; but, when the funeral proceſſion has commenced its march, they ceaſe. The prieſts advance ſinging in front; the men follow the coffin; and the woman cloſe the rear.

After their arrival at the church, when the clergyman in the courſe of the funeral-ſervice pronounces the words "Friends and brethren! weep my ſeparation!" the neareſt relatives of the deceaſed walk ſucceſſively in pairs, one on each ſide of the coffin, with their faces turned toward the altar, and, bowing in adoration, reſpectfully kiſs the image of Chriſt on his breaſt, and then his forehead. The interment being concluded, the company all return to the houſe of the defunct, teſtify their regret, and retire.

As ancient cuſtom hath forbidden the lighting of any fire in the houſe of a deceaſed perſon, on the day of his death, each of the relatives and friends carries from home a ready-cooked diſh to go and dine with the family of the defunct. The men firſt take their repaſt, ſeated on the floor or carpets, before a cloth which covers the whole length of the hall. At the head ſit the prieſts, next to them the old men, and after theſe the others in the order of ſeniority. This cuſtom of aſſigning the places according to age is ſo regularly obſerved at Maina, that no confuſion ever takes place in that reſpect. On beginning the meal, at the firſt morſel which they are preparing to eat, each of the company ſucceſſively exclaims, "God have mercy on his ſoul, and grant him a place among the juſt!" After the men have dined, the women come and take their places in the ſame order. The viſitors invite the near relatives of the deceaſed to take ſome food, and in the moſt affectionate language endeavour to conſole them. The whole company remain with them till dark: as ſoon as night has commenced, each of them embraces the family, and retires.

All the Mainot women wear trimmings at the bottom of their petticoats or gowns. Widows are known by the want of theſe, which they cannot replace until married again.

If a widow is burthened with children, her relatives and friends chooſe a holiday to cultivate her lands, but not without having previouſly obtained the biſhop's permiſſion for that purpoſe. A ſingle day is ſufficient for ſowing her field, or gathering in her harveſt.

MAINBURG, a town of Bavaria, ſituate on the Ambs, 18 miles E.S.E. of Ingolſtadt, and 32 N.N.E. of Munich. Long. 11. 21. E. Lat. 48. 40. N.

MAINEVILLE, a town of France, in the department of Eure, 24 miles E.S.E. of Rouen. Long. 1. 26. E. Lat. 49. 20. N.

MAINLAND, the principal of the Shetland Iſles, 60 miles long, but its breadth ſeldom exceeds ſix. The face of the country exhibits a proſpect of black craggy mountains, and marſhy plains, interſperſed with ſome verdant ſpots, which appear ſmooth and fertile. Neither tree nor ſhrub is to be ſeen, except the juniper and the heath. The mountains abound with various kinds of game. Lofty cliffs, impending over the ocean, are the haunts of eagles, falcons, and ravens. The deep caverns underneath ſhelter ſeals and otters; and to the winding bays reſort ſwans, geeſe, ſcarfs, and other aquatic birds. The ſeas abound with cod, turbot, and haddock; and, at certain ſeaſons, with ſhoals of herrings of incredible extent. They are viſited, at the ſame time, by whales, and other voracious fiſhes. Lobſters, oyſters, muſcles, &c. are alſo plentiful. The hills are covered with ſheep of a ſmall breed; the horſes are alſo of a diminutive ſize, but remarkably ſtrong and handſome, and are well known by the name of Shelties, from the name of the country. The rivulets and lakes abound with ſalmon, trout, &c. A mine of copper, and one of iron, near the ſouth extremity of the iſland, are ſaid to be extremely productive. There is an inexhauſtible ſtore of peat, but no coal. Lerwick is the capital.

MAINLAND, or POMONA, the principal of the Orkney Iſlands, 24 miles long and nine broad. The general appearance of the country is not very different from the Mainland of Shetland. The ſoil, however, is more fertile, and in ſome parts better cultivated. Kirkwall is the capital. See ORCADES.

MAINTENON, a town of France, in the department of Eure and Loire, with a caſtle, a late collegiate church, and a late priory. It is ſeated between two mountains, on the river Eure, five miles N. by E. of Chartres. Long. 1. 36. E. Lat. 48. 31. N.

MAINUNGEN, a town of Franconia, capital of a ſmall diſtrict belonging to the houſe of Saxe-Gotha. It is eight miles N. of Henneberg. Long. 10. 39. E. Lat. 50. 46. N.

MAISY, a town of France, in the department of Calvados, five miles N. of Iſigni, and 27 W.N.W. of Caen. Long. 1. 2. W. Lat. 49. 24. N.

MAIXANT, St. an ancient town of France, in the department of Two Sevres. It had lately a Benedictine abbey, and is one of the new biſhoprics created ſince the revolution of 1789. It carries on a trade in corn, ſtockings, and woollen ſtuffs; and is ſeated on the Sevre, 26 miles S.W. of Poitiers. Long. 0. 7. W. Lat. 46. 24. N.

MAIZE, or Indian Corn (ſee Zea); when properly cooked, a moſt excellent article of human ſuſtenance, happily introduced into Britain during the late ſcarcity. To be thoroughly acquainted with this valuable grain, and the means of making its uſe general among the poor, it is neceſſary to conſult Count Rumford's Eſſays, vol. I. See alſo the article Corn, *Supp.*

MAKAREV, a town of Ruſſia, in the government of Niznei Novogorod, ſituate on the Volga, 24 miles E.N.E. of Niznei Novogorod. Long. 44. 46. E. Lat. 56. 25. N.

MAKARIEF, or Makareu, a town of Ruſſia, in the government of Koſtrom. It is the capital of the province of Unſha, and ſituate on the river Unſha, 80 miles eaſt of Koſtrom. Long. 44. 14. E. Lat. 58. 50. N.

MAKOONDA, a town of Hindooſtan Proper, in the country of Allahabad, 66 miles S. of Allahabad, and 110 N.N.E. Gurrah. Long. 84. 37. E. Lat. 24. 33. N.

MALAMOCCO, a ſmall iſland and town in the Laguncs of Venice, five miles ſouth of Venice.

MALATHIA, an ancient town of Turkey in Aſia, capital of Leſſer Armenia, ſeated on the Arzu, with an archbiſhop's ſee. Long. 43. 25. E. Lat. 39. 8. N.

MALCHIN, a town of Lower Saxony, in the duchy of Mecklenburg, ſeated on the river Peene, where it falls into the lake Camrow, 10 miles N. of Wahren. Long. 13. 12. E. Lat. 53. 0. N.

MALDEN, a village in Surrey, two miles S.E. of Kingſton. Here are ſome gunpowder mills, on the ſtream that flows from Ewel to Kingſton.

MALESHERBES, a town of France, in the department of Loiret, 11 miles N.E. of Pluviers. Long. 2. 6. E. Lat. 48. 20. N.

MALESTROIT, a town of France, in the department of Morbihan, ſeated on the Ouſt, 37 miles E. of Port l'Orient. Long. 2. 23. W. Lat. 47. 45. N.

MALIO, Cape, or St. Angelo, a cape of the Morea, at the ſouth entrance of the gulf of Napoli, 15 miles E. of Malvaſia.

MALKAR, a town of the Deccan of Hindooſtan, in the country of Golconda, 22 miles S.E. of Calberga, and 54 W. of Hydrabad. Long. 77. 36. E. Lat. 17. 12. N.

MALLEVILLE, a town of France, in the department of Lower Loire, 15 miles N.W. of Nantes.

MALLING, West, a town in Kent, with a market on Saturday, ſix miles W. of Maidſtone, and 30 E. by S. of London. Long. 0. 33. E. Lat. 51. 20. N.

MALMEDY, a town of the Netherlands, in the biſhopric of Leige, with an abbey. It was taken by the French in 1794. It is ſeated on the Recht, nine miles S. of Limburg. Long. 6. 2. E. Lat. 50. 18. N.

MALMISTRA, an ancient town of Natolia, with an archbiſhop's ſee; ſeated at the mouth of a river of the ſame name, which divides it into the Old and New town. It is 30 miles S.E. of Teraſſo. Long. 36. 15. E. Lat. 36. 50. N.

MALMOE, a ſea-port of Sweden, in the province of Schonen, with a large harbour and a ſtrong citadel. It is ſeated on the Sound, 15 miles S.E. of Copenhagen. Long. 13. 7. E. Lat. 53. 38. N.

MALMSAS, a town of Sweden, in the province of Sudermania, 23 miles W.N.W. of Nikoping.

MALORIA, a ſmall iſland of Italy, on the coaſt of Tuſcany, 10 miles W. of Leghorn. Long. 10. 4. E. Lat. 43. 34. N.

MALPARTIDO, a town of Spain, in Eſtramadura, 14 miles S. of Placentia. Long. 5. 30. W. Lat. 39. 36. N.

MALSESENA, a town of Italy, in the Veroneſe, 18 miles N.N.W. of Verona.

MALT-KILN. Under the article Kiln we have given an account of the improved conſtruction of malt-kilns. We here preſent the reader with the deſcription of a Malt and Corn Kiln invented by Mr. Joſeph Coppinger, of Harbour View, near Cove, Ireland, which was communicated by him to the editors of the Repertory of Arts, &c.

"The encloſed plan of a malt and corn kiln," ſays Mr. Coppinger, "for which I have been favoured with the thanks of the Bath Society, at a general meeting, held in September laſt, is particularly adapted to the uſe of farmers, who, in wet ſeaſons, often loſe quantities of grain for want of ſuch convenience. The advantages it appears to me to poſſeſs above the kiln now in common uſe are many; *firſt*, it may be erected for one tenth of the expence, if you take in the value of the ſeparate buildings which are now almoſt invariably allotted for this purpoſe. *Secondly*, any kind of fuel may be uſed without prejudice to the malt or corn to be dried in it. *Thirdly*, the heat (by the conſtruction of the flues) will be more regularly and evenly diſtributed without any waſte, as at preſent. *Fourthly*, the health of the people attending will not, as at preſent, be expoſed to certain injury, by always breathing and ſleeping in heated and unwholeſome atmoſpheres, as their beds will be placed in a ſhed on the outſide of the building. This, in my mind, is the moſt important part of the plan, and highly worthy the attention of every humane and conſiderate employer in this way. *Fifthly*, this conſtruction of a kiln may be erected on a loft or ground floor. If in the latter ſituation, ſufficient elevation ſhould be given the fire-place, ſo as not to impede the draught. Theſe are the principal advantages that occur to me. If the experience of others confirm them, I ſhall be highly gratified.

In Plate 34: A, ſhews the main walls. B, the flues. C, the chimneys; in each of which may be placed a metal damper, to regulate the heat. It is recommended, in the caſe of a new building, to carry up the flues of the chimneys in the thickneſs of the walls. In a houſe already built, they may be carried up either inſide or outſide the building. D, the fire-place, which may be divided, or in one, juſt as deſired; by which the half or the whole may be heated.

"Kiln tiles, eighteen inches ſquare, and two inches thick in the ſolid, with a lapping of half an inch broad and one inch deep quite round the edge of each tile, are propoſed for covering the flues, which, if fairly caſt, may be laid dry, without mortar. If it ſhould be difficult, or too expenſive, to procure tiles of eighteen inches, nine inches can be made to anſwer. The flues are propoſed to be divided by a brick, on edge, ſo as that every eighteen-inch tile will cover two flues. The breadth of the flues may be ſix inches and a half, and ten inches high. This proportion, it is hoped, will be found to anſwer in moſt caſes; but it may be varied according to the better judgment of the party erecting. The ſides and bottoms of the flues ſhould be plaſtered. The platform of this kiln ſhould, in all caſes, be well rammed with earth, and made perfectly level before laying out the flues."

Iron grate doors are intended to be hung on hinges, in a

receſs, at the mouth of each flue, to prevent them being choked with large pieces of cinder, or other ſubſtances. It is propoſed that theſe doors ſhould ſhut and open at pleaſure, as may be found neceſſary.

MALTA, Melita, or Citta Vecchia, an ancient and ſtrongly fortified city of the iſland of Malta. It is the reſidence of the biſhop, and the cathedral is a very fine ſtructure. Near this city are the catacombs, which are ſaid to extend 15 miles under ground; and a ſmall church, dedicated to St. Paul, adjoining to which is a ſtatue of the ſaint, with a viper in his hand, ſaid to be placed on the ſpot where he ſhook the viper off, without having been hurt; and cloſe to it is the grotto in which he was impriſoned. Malta is ſeated on a hill in the centre of the iſland, and was formerly twice as large as at preſent; for the new city, Valetta, being more conveniently ſituate, has drawn away the greater number of its inhabitants.

MALTOY, a town of the Deccan of Hindooſtan, in the country of Berar, 58 miles N.W. of Nagpour.

MALVASIA, a ſmall iſland of Turkey in Europe, on the eaſt coaſt of the Morea, remarkable for its rich wine, called Malmſey. The capital is Napoli-di-Malvaſia.

MALUNG, a town of Sweden, in the province of Dalecarlia, 55 miles W. of Fahlun. Long. 15. 20. E. Lat. 60. 30. N.

MALWA, a province of Hindooſtan Proper, bounded on the W. by Guzerat, on the N. by Agimere, on the E. by Allahabad and Oriſſa, and on the S. by Candiſh. It is one of the moſt extenſive, elevated, and diverſified tracts in Hindooſtan; and is divided among the chiefs of the Poonah Mahrattas. Ougein and Indore are the principal towns.

MALZIEU, a town of France, in the department of Lozere, 20 miles N.N.W. of Mende.

MAMARS, an ancient town of France, in the department of Sarte, ſeated on the Dive, 14 miles W. of Belleſme. Long. 0. 16. E. Lat. 48. 22. N.

MANACHIA, or Magnisa, the ancient Magneſia, a town of Natolia Proper, with a biſhop's ſee, and a caſtle. It was formerly the capital of the Ottoman empire, and is ſeated at the foot of a mountain, on the river Sarabat, 22 miles N. of Smyrna. Long. 27. 25. E. Lat. 38. 45. N.

MANAR, an iſland of the Eaſt Indies, on the eaſt coaſt of the iſland of Ceylon. The Portugueſe got poſſeſſion of it in 1560; the Dutch took it from them in 1658; and the Engliſh took it from the Dutch in 1795. Long. 80. 45. E. Lat. 9. 0. N.

MANATOULIN, a chain of iſlands on the N. ſide of Lake Huron, in N. America, extending about 100 miles in length and eight in breadth. The name ſignifies a Place of Spirits; and they are held ſacred by the Indians.

MANBED, a town of Perſia, in the province of Irak, 150 miles E.S.E. of Iſpahan.

MANBONE, the capital of the kingdom of Sabia, ſituate on the ſea-coaſt, at the entrance of the channel of Moſambique. Long. 32. 19. E. Lat. 20. 55. N.

MANCESTER, a village in Warwickſhire, near Atherſtone and the river Anker. It was a Roman ſtation on the Watling-ſtreet, and here ſeveral coins have been dug up.

MANCHE, or Channel, a department of France, including part of the late province of Normandy. It is almoſt ſurrounded by the Engliſh Channel, and Coutances is the capital.

MANCHESTER, a town of Virginia, on James River, oppoſite to Richmond, with which it is connected by a bridge.

MANCIET, a town of France, in the department of Gers, 17 miles S.W. of Condom. Long. 0. 5. W. Lat. 43. 38. N.

MANDAL, a ſea-port of Norway, in the province of Chriſtianſand, at the mouth of a river of the ſame name, 19 miles W.S.W. of Chriſtianſand. Long. 7. 42. E. Lat. 58. 2. N.

MANDRIA, a ſmall deſert iſland, in the Archipelago, between Samos and Langos. It gives name to the ſea near it.

MANGALORE, a ſea-port of Canara, on the coaſt of Malabar, with an excellent road for ſhips. It is inhabited by Gentoos and Mahometans. The former, on their feſtival days, carry their idols in triumph, placed in a waggon, adorned on all ſides with flowers; and on the wheels are ſeveral ſharp crooked iron hooks, upon which the mad devotees throw themſelves, and are cruſhed to pieces. It is a place of great trade, and the Portugueſe have a factory here for rice, and a large church frequented by black converts. The adjoining fields bear two crops of corn in a year; and the higher grounds produce pepper, betel-nuts, ſandal-wood, iron, and ſteel. It is ſeated on a riſing ground, 100 miles N. by W. of Tellicherry. Long. 75. 24. E. Lat. 13. 8. N.

MANGANESE *(Encycl.)*. The following remarks on the decompoſition of the ſulphate of iron and copper by means of the natural calx of manganeſe, by Mr. Fiſcher, of Berlin, appears in Scherer's Chemical Journal.

"Accident," ſays the author, "led me to theſe experiments. I had, for a different purpoſe, let a ſolution of ſulphate of iron, to which I had added two parts of calx of manganeſe and half a part of muriate of natron, to one part of the cryſtalliſed ſalt of iron, ſtand for ſeveral days in a moderate temperature. After the mixture had ſtood for this ſpace of time, I found it conſiderably tinged with a reddiſh yellow colour, and a conſiderable quantity of calx of iron had ſeparated itſelf in a completely oxydated ſtate. My firſt idea was, that it had acquired oxygen from the calx of manganeſe, in conſequence of which it had been ſeparated in an inſoluble form. However, upon adding a quantity of carbonate of lime to the liquid, a precipitate was formed, which might almoſt have been miſtaken for a pure calx of iron; but, upon a more accurate examination, it was found to conſiſt, for the greater part, of imperfect calx of manganeſe, and a ſmall quantity of a perfect calx of iron. This unexpected phænomenon induced me to make the following experiments.

"One part of the vitriol of iron of commerce, containing copper, which had alſo been employed in the firſt caſe, with two parts of natural calx of manganeſe, and half a part of muriate of natron, were expoſed in a glaſs retort to a red heat. An extremely ſmall quantity of muriatic acid gas was extricated. After the extrication of gas had ceaſed, the retort was cooled and broken, and the maſs that had been melted together was boiled out with hot diſtilled water. The reſiduum was found to be calx of copper, iron, and magneſia; but the filtrated fluid, on the contrary, which was perfectly colourleſs, contained no calx of iron, as appeared by proving it with the ſolution of pruſſiate of kali, for a precipitate of a light red colour was formed, which was completely diſſolved by the addition of more water. It therefore contained pure calx of manganeſe, partly combined with ſulphuric acid, but for the greater part with muriatic acid, beſides which the ſolution contained ſulphate of natron.

"Theſe carbonates of kali and natron precipitated from this ſolution a perfectly white carbonated calx of manganeſe, which, however, in the courſe of time aſſumed a browniſh yellow colour. Carbonate of ammonia added to the fluid produced alſo the ſame effects.

" I became doubtful whether the calx of manganeſe, thus obtained, was entirely free from iron, as it appeared to become coloured by the contact of the air, which might eaſily proceed from the preſence of iron; however, I found, when the alkali was not added in exceſſive quantity, but in ſuch proportion as not to be able to precipitate the whole of the calx of manganeſe, that the precipitate, after having been edulcorated and dried, retained its white colour without alteration.

" I am much inclined to account for the firſt appearance, by ſuppoſing a complete oxydation of the calx of manganeſe, which perhaps obtained oxygen from the ſuperabundant addition of alkali; for that the alkalies really contain oxygen, ſeems to me to be proved by various facts, amongſt which I alſo reckon the great change which ſiliceous earths undergo in being heated with the alkalies.

" I further mixed one part of pure ſulphate of iron with four parts of calx of manganeſe, and expoſed this mixture, for the ſpace of half an hour, to a ſtrong red heat. A portion of the ſulphuric acid was, by this means, volatilized, but that which remained was found, after boiling out the torrefied pulverulent maſs, to be combined with calx of manganeſe, completely free from iron, in which the pruſſiate of kali produced a clean, light red, and eaſy ſoluble precipitate. The undiſſolved reſolved reſiduum was perfect calx of iron and manganeſe.

" Sulphate of copper, in the ſame proportion with calx of manganeſe, and treated in the ſame manner, afforded the ſame reſults. The reſiduum contained calx of copper, undecompoſed calx of manganeſe, and, in the latter, always an admixture of calx of iron.

" Poſſibly theſe experiments may procure us the advantage of being able to exhibit the calx of manganeſe free from iron, in an extremely cheap manner, and to employ it as a cheap and agreeable glaſs-flux for earthen-ware and china.

" By the method firſt mentioned, the ſulphate of iron is never completely decompoſed by the calx of manganeſe; for, by conſtant boiling for four hours, and afterwards digeſting for twelve days, I could effect no complete ſeparation of the iron, though, after this treatment, it is contained in the ſolution as completely oxydated iron. I have found, by repeated experiments upon this ſubject, that the decompoſition may be completely effected in the dry way, by the application of a red heat for the ſpace of fifteen minutes."

MANGEEA, an iſland in the South Pacific Ocean, five leagues in circumference. In the interior parts it riſes into ſmall hills, and Captain Cook repreſents it as a fine iſland; but the hoſtile appearance of its inhabitants obliged him to leave it ſoon. Long. 158. 16. W. Lat. 21. 27. S.

MANGLE, a valuable domeſtic machine, employed for the purpoſe of ſmoothing ſuch linen as cannot be conveniently *ironed*.

Various patents have been granted for improvements in this machinery: but, as they are not expired, and too complicated to be underſtood without very tedious details, we have annexed the figure in Pl. 35, repreſenting an improved mangle contrived by Mr. Jee, of Rotherham; to whom the Society for the Encouragement of Arts, &c. in 1798, voted their ſilver medal, for the ingenuity diſplayed on that occaſion.

The following is a deſcription of Mr. Jee's improved mangle:

A, points out the great wheel, which, in machines of a full ſize, is 15 inches in diameter. B, the arbor, on which the nut, C, is fixed. D, the handle of the winch. E, the crank, 21 inches in length. F, the rod of the crank. G G, repreſents the hollow ſtuds, by which the ends of the bed are lifted up. H H, the levers. I I I I, the four pullieys fixed on the moveable bed K. L L, the ends of the rollers.

Fig. 2, repreſents a front view of one of the hollow ſtuds G, to ſhow its form, when ſtanding at the end of the bed; and into which the levers enter alternately, as often as it becomes neceſſary to elevate the bed, in order to put in, or take out, the rollers.

Mr. Jee's mangle is ſo conſtructed, that the handle requires to be turned one way only, in conſequence of which the machine moves with greater facility, and with incomparably leſs injury to the linen, than by varying the turnings, and in a manner cutting the different folds. Beſides, it poſſeſſes the great advantage, that a woman and one boy are ſufficient to work it, and can perform as much labour in the ſame period of time, as three or four perſons with mangles of the common conſtruction.

MANGUSHLAK, a town of Turcomania, on the eaſt coaſt of the Caſpian Sea. Its commerce is conſiderable; the neighbouring Tartars bringing hither the productions of their own country, and even of Bokharia, ſuch as cotton, yarn, ſtuffs, furs, ſkins, and rhubarb. It is 37 miles S.W. of Aſtracan. Long. 48. 29. E. Lat. 44. 45. N.

MANHARTZBERG, the northern part of Lower Auſtria, ſeparated from the ſouthern by the river Danube, and bounded on the weſt by Upper Auſtria, on the north by Bohemia and Moravia, and on the eaſt by Hungary.

MANICA, or CHICANGA, an inland kingdom of Africa, bounded on the north by Monomatapa, on the eaſt by Sofala and Sabia, and on the ſouth and weſt by unknown regions. It is ſaid to abound with mines of gold, and to have a great number of elephants; but it is little known to the Europeans.

MANICKDURG, a town of the Decean of Hindooſtan, in the country of Berar, five miles S.E. of Chanda.

MANICKPOUR, a town of Hindooſtan Proper, in the country of Oude, 30 miles N.W. of Allahabad, and 68 S.S.E. of Lucknow. Long. 81. 45. E. Lat. 37. 26. N.

MANIEL, a mountain of St. Domingo, 20 miles in circumference, and ſo high and craggy, that it is almoſt inacceſſible.

MANNINGTREE, a town in Eſſex, with a market on Tueſday; ſeated on the river Stour, which is here called Manningtree-water, 11 miles W. of Harwich, and 60 E.N.E. of London. Long. 1. 12. E. Lat. 52. 0. N.

MANOSQUE, a populous town of France, in the department of the Lower Alps, with a caſtle. It is ſeated on the Durance, 10 miles S. of Forcalquier, and 350 S. by E. of Paris. Long. 5. 55. E. Lat. 43. 51. N.

MANPURRY, a town of Hindooſtan Proper, in the country of Dooab, 54 miles E. of Agra. Long. 77. 40. E. Lat. 27. 5. N.

MANRESA, an ancient town of Spain, in Catalonia, ſeated at the confluence of the Cardonero and Lobbregat, 15 miles S.E. of Cardona, and 20 N.W. of Barcelona. Long. 1. 56. E. Lat. 41. 36. N.

MANSAROAR, a lake of Thibet, from which the ſouthermoſt head of the Ganges is ſuppoſed to iſſue. It is 115 miles in circumference, and lies about 79° E. long. and 34° N. lat.

MANSILLA, a town of Spain, in Leon, 15 miles S.W. of the city of Leon. Long. 4. 55. W. Lat. 42. 30. N.

MANSOURA, a town of Egypt, which has a conſiderable trade in rice and ſal-ammoniac. Here are likewiſe vaſt chicken ovens. It is ſeated on the eaſt ſide of the Nile, 24 miles S.S.W. of Damietta, and 60 N. of Cairo. Long. 31. 36. E. Lat. 31. 10. N.

MANSURA, a town of Turkey in Aſia, in Irac Arabia, ſituate on the Euphrates, where it is joined by a branch of the Tigris, 110 miles W.N.W. of Baſſora.

MANTCHEW TARTARS, a branch of the Mogul Tartars, whoſe anceſtors conquered China in the 13th century, but were expelled by the Chineſe in 1368. They inhabit the three departments of eaſt Chineſe Tartary, called Leoa tong, Kirin, and Teitcicar. They retain the cuſtoms they brought from China.

MAOUNA, one of the Navigators Iſlands, in the South Pacific Ocean. Here, in 1787, M. de la Pérouſe, commander of the French ſhips the Bouſſole and Aſtrolabe, met with his firſt fatal accident; M. de Langle, captain of the Aſtrolabe, with 11 officers and ſailors, being maſſacred by the natives. Long. 169. 0. W. Lat. 14. 19. S.

MARAGAL, a town of Perſia, in the province of Aderbeitzan, 42 miles ſouth of Tauris. Long. 47. 52. E. Lat. 37. 36. N.

MARANS, a town of France, in the department of Lower Charente. The inhabitants carry on a conſiderable trade in ſalt, malt, corn, and meal. It is ſituate in the midſt of ſalt marſhes, 12 miles N.N.E. of Rochelle, and 21 weſt of Niort. Long. 1. 5. W. Lat. 46. 18. N.

MARANT, or AMARANT, a town of Perſia, in the province of Adirbeitzan, containing 2500 houſes, each with a garden, ſituate near a river, and watered by canals. Cochineal is found in the neighbourhood. The inhabitants ſay that Noah was buried here. It is 50 miles north of Tauris. Long. 47. 46. E. Lat 39 7. N.

MARASCH, a populous town of Natolia, encompaſſed by the mountains of Taurus and Anti-taurus, and the river Euphrates. Long. 38. 25. E. Lat. 38. 15. N.

MARAWINA, a river of Guiana, which ſeparates Surinam from the French colony of Cayenne. It is noted for a curious pebble, known by the name of the Marawina diamond; which, when poliſhed, is often ſet in rings, &c. It falls into the Atlantic in long. 53. 48. W. Lat. 5. 58. N.

MARBACH, a town of Suabia, in the duchy of Wirtemburg, ſeated on the Neckar. It was burnt by the French in 1693. It is 12 miles ſouth of Hailbron, and 13 north of Stutgard. Long. 9. 25. E. Lat. 48. 59. N.

MARCA, a ſmall iſland in the gulf of Venice, five miles from Raguſa, on which it depends. It had formerly a biſhop's ſee; but the town is now in ruins.

MARCELLIN, ST. a town of France, in the department of Iſere, ſeated on the Iſere, at the foot of a hill, in a country that produces excellent wine. It is five miles from St. Antoine, and 253 ſouth by eaſt of Paris. Long. 5. 32. E. Lat. 45. 14. N.

MARCELLINO, a ſmall river of Sicily, in Val-di-Noto, which falls into the ſea, two miles from Auguſta.

MARCHIENNES, a town of the Auſtrian Netherlands, in the county of Namur, ſeated on both ſides of the Sambre, four miles weſt of Charleroy, and 22 ſouth-weſt of Namur. Long. 4. 22. E. Lat. 50. 20. N.

MARCHIENNES, a village of France, in the department of the North, with a late abbey; ſeated in a moraſs, on the river Scarpe, between Douay and St. Amand.

MARCHPURG, a town of Germany, in the duchy of Stiria, with a ſtrong caſtle, ſeated on the Drave, 18 miles weſt of Pettaw, and 25 S.S.W. of Gratz. Long. 15. 19. E. Lat. 46. 44. N.

MARCIGLIANO, a town of Naples, in Terra di Lavoro, ſeven miles eaſt of Naples, between Nola and Acerra. Long. 14. 30. E. Lat. 40. 51. N.

MARCK, a territory of Germany, in the circle of Weſtphalia, bounded on the north by the biſhopric of Munſter, on the eaſt by the duchy of Weſtphalia, and on the ſouth and weſt by that of Berg. It is pretty fertile, and belongs to the King of Pruſſia. Ham is the capital.

MARCKECK, a town of the archduchy of Auſtria, ſituate on the Marſch, 14 miles north-weſt of Preſburg, and 24 E.N.E. of Vienna. Long. 16. 58. E. Lat. 48. 17. N.

MARCKOLSHEIM, a town of France, in the department of Lower Rhine, 26 miles ſouth of Straſburg. Long. 7. 27. E. Lat. 48. 10. N.

MARCO, ST. a town of Naples, in Calabria Citeriore, with a biſhop's ſee, ſeated on the Senito, 22 miles north of Coſenza. Long. 16. 20. E. Lat. 39. 41. N.

MARCOU ST. two iſlands in the Engliſh channel, near the coaſt of France, about ſeven miles ſouth-eaſt of La Hogue. Long. 1. 17. W. Lat. 49. 31. N.

MARDIKE, a village of France, in the department of the North, ſeated on a canal, to which it gives name, four miles weſt by ſouth of Dunkirk.

MAREB, a town of Arabia, capital of a diſtrict, in the province of Yemen. It is 88 miles eaſt of Sanaa. Long. 27. 30. E. Lat. 15. 44. N.

MAREE, LOCH, a freſh-water lake in Roſsſhire, 18 miles long, and in ſome parts, four broad. It contains many ſmall iſlands, and abounds with ſalmon, char, and trout.

MARENNES, a town of France, in the department of Lower Charente, remarkable for the green-finned oyſters found near the coaſt, and its ſalt. It is ſeated near the Atlantic, 32 miles north-weſt of Saintes, and 270 ſouth-weſt of Paris. Long. 0. 49. W. Lat. 45. 15. N.

MARETIMO, an iſland of Italy, on the weſt coaſt of Sicily. It is 10 miles in circumference, has a caſtle, with a few farm-houſes, and produces much honey. Long. 12. 35. E. Lat. 38. 5. N.

MARGARETTA, an iſland near Terra Firma, 40 miles long and 15 broad, diſcovered by Columbus in 1498. The continual verdure renders it pleaſant; but it is not conſiderable ſince the Spaniards retired thence to Terra Firma. The preſent inhabitants are mulattoes, and the original natives. It was taken in 1626 by the Dutch, who demoliſhed the caſtle. Long. 63. 12. E. Lat. 10. 46. N.

MARGOZZA, a town of Italy, in the Milaneſe, ſituate near a ſmall lake, to which it gives name, 40 miles N.W. of Milan.

MARICELLO, a town of Naples, in the province of Bari, ſix miles N.W. of Gravina.

MARIE-AUX-MINES, a town of France, in the department of the Voſges, divided into two parts by the river Leber. It is famous for its ſilver mines, and 25 miles N.W. of New Briſach. Long. 7. 24. E. Lat. 48. 16. N.

MARIENBURG, a town of Upper Saxony, in Miſnia, remarkable for its rich ſilver mines. It is ſeated among the mountains, on the confines of Bohemia, 28 miles S.S.W. of Dreſden. Long. 13. 35. E. Lat. 50. 49. N.

MARIENBURG, an ancient and ſtrong town of Weſtern Pruſſia, capital of a palatinate of the ſame name, with a caſtle. It is ſeated on a branch of the Viſtula, 30 miles S.W. of Elbing, and 30 S.E. of Dantzic. Long. 19. 15. E. Lat. 54. 9. N.

MARIENSTADT, a town of Sweden, in Weſt Gothland, ſeated on the lake Wenner, 35 miles S.E. of Carlſtadt, and 162 S.W. of Stockholm. Long. 14. 25. E. Lat. 58. 28. N.

MARIENWERDER, a town of Weſtern Pruſſia, with a caſtle. The cathedral is the largeſt church in the kingdom of Pruſſia, being 320 feet long; and by its ſtrong breaſt-works ſeems to have formerly ſerved as a fortreſs. The palace here is ſpacious, and built in the old Gothic taſte. Marienwerder is ſeated on the Viſtula, 20 miles S.S.W. of Marienburg. Long. 19. 5. E. Lat. 53. 49. N.

MARIGNANO, a town of Italy, in the duchy of Milan, remarkable for the defeat of the Swiſs, by the French, in 1515. It is ſeated on the Lambro, 10 miles S.E. of Milan.

MARINO, St. a town of Italy, in Campagna di Roma, with a caſtle, 10 miles E. of Rome. Long. 12. 46. E. Lat. 41. 54. N.

MARK, St. a ſea-port on the W. ſide of St. Domingo. The houſes are built of free-ſtone, which is abundant in the neighbouring country. It was taken by the Engliſh and royaliſts in 1794, and is 45 miles N N.W. of Port-au-Prince. Long. 72. 40. W. Lat. 19. 20. N.

MARKDORF, or Marchdorf, a town of Suabia, in the biſhoprie of Conſtance, nine miles N.E. of Conſtance, and 11 S.W. of Ravenſburg. Long. 9. 14. E. Lat. 47. 43. N.

MARKET-RASEN, a town of England, in the county of Lincoln, with a weekly market on Tueſday: ſixteen miles and a half N.N.E. Lincoln, and 151 N. of London.

MARMORA, a ſea between Europe and Aſia, which communicates with the Archipelago, by the ſtrait of Gallipoli on the S.W. and with the Black Sea, by the ſtrait of Conſtantinople, on the N.E. It is 120 miles in length, and 50 in breadth, and was anciently called the Propontis.

Marmora, a celebrated caſcade of Italy, in the duchy of Spoletto, three miles from Terni.

Marmora, a town of Naples, in Calabria Ulteriore, 16 miles W. of St. Severino.

MARNE, a department of France, including part of the late province of Champagne. It takes its name from a river which riſes near Langres, and flowing N.W. joins the Seine, a little above Paris. Rheims is the archiepiſcopal ſee, but Chalons is the capital.

Marne, Upper, a department of France, including part of the late province of Champagne. Chaumont is the capital.

Marne, a town of Perſia, in the province of Choraſan, 200 miles N. of Herat.

MARNHULL, a village in Dorſetſhire, on the Stour, five miles S.W. of Shaftſbury. The church is an ancient lofty building; the tower of which fell in 1710, in time of divine ſervice, but was handſomely rebuilt.

MARO, a town of Italy, on the coaſt of Genoa, in a valley of the ſame name, eight miles N.W. of Oneglia, and 48 W.S.W. of Genoa. Long. 7. 41. E. Lat. 44. 55. N.

MAROGNA, a town of Romania, with a Greek archbiſhop's ſee, ſeated near the Mediterranean, 70 miles S.W. of Adrianople. Long. 25. 41. E. Lat. 40. 59. N.

MAROTIER, a town of France, in the department of Lower Rhine, with a late Benedictine abbey, 18 miles N.W. of Straſburg. Long. 7. 33. E. Lat. 48. 38. N.

MARPACH, a town of Suabia, in the duchy of Wirtemberg, ſituate on the Neckar, eight miles N.N.E. of Stutgard, and 30 E.N.E. of Wildbad. Long. 9. 7. E. Lat. 48. 51. N.

MAR-FOREST, a diſtrict in Aberdeenſhire, conſiſting of vaſt woodland mountains, which occupy the weſtern angle of the country. The river Dee riſes among theſe mountains.

MARSICO NUOVO, a town of Naples, in Principato Citeriore, with a biſhop's ſee; ſeated on the foot of the Apennines, near the river Agri, 73 miles S.E. of Naples. Long. 15. 49. E. Lat. 40. 28. N.

MARSILLY, a town of France, in the department of Marne, 10 miles S. of Suzanne.

MARSTRAND, a rocky iſland of Sweden, in the Categate, lying N.W. of the mouth of the Gotha. It is two miles in circumference; and, on account of its ſtrength, is called the Gibraltar of Sweden. The town, which lies on the E. ſide, contains about 1200 inhabitants; and the harbour is ſecure and commodious, but of difficult entrance. Since the peace of 1783, its trade has declined; and the inhabitants ſubſiſt chiefly by the herring fiſhery, by the number of ſhips which in bad weather take refuge in the harbour, and by a contraband trade. It is 23 miles N.W. of Gotheborg. Long. 11. 30. E. Lat. 57. 59. N.

MARTA, a town in Italy, in the patrimony of St. Peter, and duchy of Caſtro; ſeated on a lake of the ſame name, called alſo Bolſena, 35 miles N. of Rome. Long. 12. 40. E. Lat. 42. 26. N.

MARTAGO, a town of Spain, in Leon, 10 miles S.S.E. of Cindad Rodrigo.

MARTEL, a town of France, in the department of Lot, ſeated near the Dordogne, 18 miles E. of Sarlat. Long. 1. 44. E. Lat. 44. 51. N.

MARTHALEN, a conſiderable town of Switzerland, in that part of the county of Kyburg, ſubject to Zurich. It is ſeated near the Rhine, ſix miles S. of Scaffhauſen.

MARTIGAO, a town of Portugual, in the Beira, 22 miles N.E. of Coimbra.

MARTIGNANA, a town of Piedmont, in the marquiſate of Saluzzo, ſeated near the Po, five miles W. of Saluzzo.

MARTIGNI, a town of Switzerland, and the ſeat of a government, in the Valais. It is 11 miles W. of Sion, and 38 E. of Geneva. Long. 71. E. Lat. 46. 5. N.

MARTORANO, a town of Naples, in Calabria Citeriore, with a biſhop's ſee, eight miles from the ſea, and 15 S. of Coſenza. Long. 16. 20. E. Lat. 39. 6. N.

MARTOREL, a town of Naples, in Catalonia, ſeated at the confluence of the Noya and Lobragal, 18 miles N.W. of Barcelona. Long. 1. 56. E. Lat. 41. 36. N.

MARTOS, a town of Spain, in Andaluſia, with a fortreſs on a rock, eight miles S. of Anduxar.

MARU, a town of Perſia, in Choraſan, celebrated for its ſalt-works, 150 miles E.N.E. of Meſched, and 190 N.N.E. of Herat.

MARVAO, a town of Portugal, in Alentejo, ſeven miles S.E. of Valença de Alcantara. Long. 6. 14. W. Lat. 44. 33. N.

MARVEJOLS, a commercial town of France, in the department of Lozere, ſeated in a valley, on the river Colange, 10 miles N.W. of Mende, and 300 S. of Paris. Long. 2. 23. E. Lat. 44. 36. N.

MARVILLE, a town of France, in the department of Meuſe, ſeated on the Oſhein, three miles N. of Jametz.

MARY's RIVER, St. a river of the United States, in Georgia. It is navigable for veſſels of conſiderable burthen for ninety miles; and its banks afford immenſe quantities of fine timber ſuited to the Weſt-India markets. It forms a part of the ſouthern boundary of the United States, and enters Amelia Sound, in lat. 30. 44. N.

MARY'S STRAIT, St. a ſtrait in North America, which forms the communication between Lake Superior and Lake Huron. It is about 40 miles long; and at the upper end is a rapid fall, which, when conducted by careful pilots, may be defeended without danger.

MARZA SIROCCO, a gulf on the ſouth ſide of the iſle of Malta. The Turks landed here in 1565, when they went to beſiege Valetta; for which reaſon the grand maſter ordered three forts to be built, two at the entrance of the gulf, and one on the point of land that advances into the middle of it.

MARZILLA, a town of Spain, in the province of Navarre, ſeated near the river Arragon, 30 miles S. of Pampeluna.

MASBATE, one of the Philippine Iſlands, almoſt in the

centre of the reſt. It is 75 miles in circumference, and the natives are tributary to the Spaniards. Long. 122. 25. E. Lat. 11. 36. N.

MASBROUGH, a village in Yorkſhire, on the river Don, adjoining the bridge of Rotherham. Here are conſiderable iron works, where all ſorts of hammered and caſt-iron goods are made, from the moſt trifling article to a large cannon, of which great quantities are exported.

MASCATE, a town of Arabia Felix, in the province of Oman. It has a caſtle on a rock, and is very ſtrong both by nature and art, though the buildings are mean. It was fortified, in 1650, by the Portugueſe; but afterwards taken by the Arabs, who put all the garriſon to the ſword, except 18, who turned Mahometans. The cathedral, built by the Portugueſe, is now the king's palace. There are neither trees, ſhrubs, nor graſs, to be ſeen on the ſea-coaſt near it, and only a few date-trees in a valley at the back of the town, though they have all things in plenty. The weather is ſo hot from May to September, that no people are to be ſeen in the ſtreets from ten in the morning till four in the afternoon. The bazars or market places are covered with the leaves of date-trees, laid on beams which reach from the houſe tops on one ſide to thoſe on the other. The religion of the inhabitants is Mahometaniſm, and yet, contrary to the euſtom of the Turks, they ſuffer any one to go into their moſques. The products of the country are horſes, dates, fine brimſtone, coffee, and ruinoſs, a root that dyes red. Maſcate is ſeated at the bottom of a ſmall bay, of the Arabian Sea, 68 miles S.E. of Oman. Long. 57. 26. E. Lat. 24. 0. N.

MAS-D'ASIL, a town of France, in the department of Arriege, with a late rich Benedictine abbey; ſeated on the rivulet Rife, eight miles S.W. of Pamiers.

MASHANGUR, a town of Hindooſtan Proper, in the province of Cabul, ſituate on the Seward, 48 miles N. of Attock, and 130 E.S.E. of Cabul. Long. 71. 7. E. Lat. 33 54. N.

MASKELYNE'S ISLES, a group of ſmall beautiful iſlands, in the South Pacific Ocean, lying off the S.E. point of Malicollo, one of the New Hebrides.

MASON (William), an eminent poet and diſtinguiſhed ſcholar, was born at Hull, where his father poſſeſſed the vicarage of St. Trinity. Where he received his ſchool education we have not been able to learn. At the proper time he was admitted into St. John's College, Cambridge; where he took the degree of B.A. and M.A. and in 1747 he obtained a fellowſhip in Pembroke-hall. It was there that he contracted an intimate friendſhip with Gray the poet, and with Mr. Hurd, now Biſhop of Worceſter. When the former of theſe gentlemen died, Mr. Maſon took upon himſelf the office of editor of his works and guardian of his fame; and upon the promotion of the latter to the ſee of Lichfield and Coventry, he expreſſed his ſatisfaction in ſome beautiful verſes.

In 1754 he entered into holy orders, and was patroniſed by the then Earl of Holderneſs, who obtained for him the appointment of chaplain to the king, and preſented him with the valuable rectory of Aſton in Yorkſhire. He was ſome time afterwards made precentor of York Cathedral, when he publiſhed a ſmall volume of church muſic, which has alternately met with oppoſition and applauſe. In our opinion ſome of his anthems are unrivalled.

It was natural for the precentor of a cathedral church, who was likewiſe a poet, to turn his attention to ſacred muſic; and Maſon had been a poet from his early years. His *Elfrida* and *Caractacus*, two tragedies on the Grecian model, were both publiſhed before the year 1757. Theſe two dramas, in the opinion of Dr. Hurd, do honour to modern poetry, and are, according to him, a ſufficient proof of the propriety of reviving the chorus on the Britiſh ſtage. In this ſentiment few critics, we believe, will agree with his lordſhip; but the tragedies have certainly great merit, and tranſcend perhaps every poem of the ſame caſt in our own or any other modern tongue. In the firſt, the language is elegant and ſweet; in the latter, it is daring and ſublime. The author himſelf always conſidered the former as the moſt perfect; and Johnſon, whoſe critical judgment will not be raſhly queſtioned, ſeems to have been of the ſame opinion.

Beſides his two tragedies, Mr. Maſon publiſhed many other poems. His Engliſh Garden is univerſally read and admired, being unqueſtionably the fineſt poem of the kind that has appeared ſince the days of Thomſon; though ſome have affected to conſider it as treating the ſubject rather with profeſſional ſkill than with poetical genius. That there are in it a few proſaic expreſſions we ſhall not controvert; for ſuch ſeem inſeparable from didactic poetry: but, taken as a whole, where ſhall we find its equal? His elegies, particularly that on the death of his wife, and that on the demiſe of Lady Coventry, have been generally read and extolled, though not more than they deſerve, as ſuperior in claſſical elegance to any thing of the kind in the Engliſh tongue, and expreſſing a manlineſs and tenderneſs of the pathetic, rarely found in the moſt poliſhed elegies of Roman writers. The ſplendor of genius, and accuracy of judgment, conſpicuous in his dramas, are equally diſplayed in his character as a lyric writer. His quarry was bold and impetuous, and he never ſwept the ground with an ignominious flight. In his Sappho and Phaon he has happily imitated the ſtyle of Dryden and Metaſtaſio; and at his death he was employed on a poem in which he propoſed to meaſure his ſtrength with Dryden.

It is ſaid, we know not how truly, that this ingenious man was the inventor of the faſhionable inſtrument the Pianoforte.

Poetry and muſic, and the duties of his office, might be ſuppoſed to have employed all his time; but, unfortunately, he caught the alarm which in 1769 was ſpread over the nation by the expulſion of Mr. Wilkes from the Houſe of Commons, and immediately enrolled himſelf among the ſupporters of the *Bill of Rights*.

Being leagued with the oppoſition, he joined in ſome violent clamours for a parliamentary reform. In the year 1779, when the city of London, and ſome other commercial towns, agreed to preſent their petition to parliament for a more economical expenditure of the public money, and a more equal repreſentation of the people, Mr. Maſon came forward, and took an active part in promoting theſe deſigns, as one who was convinced of their importance and neceſſity. Yet he ſhewed, by his ſubſequent conduct, that however earneſtly he might wiſh for what he doubtleſs conſidered as an expedient reform in the commons-houſe of Parliament, he was firmly attached to the Britiſh conſtitution. He was indeed a whig; but he was a whig of the old ſchool. In the beginning of 1794, when the reformers had betrayed the principles of French democrats, he deſerted them, and ranged himſelf under the banners of the ſervants of the crown; and for this conduct, which was certainly conſiſtent, he has been plentifully traduced by our Jacobin journaliſts as an alarmiſt, who not only deſerted his old friends, but aſcribed to them a certain degree of guilt and political depravity.

The death of this great and good man, which happened in April 1797, was occaſioned neither by age nor by inveterate diſeaſe. As he was ſtepping into his chariot, his foot ſlipped, and his ſhin grazed againſt the ſtep. This accident had taken place ſeveral days before he paid the proper attention to it; and on April the 3d a mortification enſued, which in the ſpace of 48 hours put a period to his life.

That he was a ſcholar and a poet of high eminence is univerſally acknowledged; and we are aſſured, that his poſthumous works, when publiſhed, will not detract from his living fame. In private life, though he affected perhaps too much the faſtidious manners of Mr. Gray, whoſe genius he eſtimated with a degree of enthuſiaſm amounting almoſt to idolatry, his character was diſtinguiſhed by philanthropy and the moſt fervid friendſhips; and he may be conſidered as a man who merits to be ranked with the ableſt ſupporters of Britiſh liberty and Britiſh morals.

MASOVIA, a province of Poland, containing the two palatinates of Czerſk, or Maſovia Proper, and Polotſk. By the laſt diſmemberment of the kingdom, it is annexed to the territories of Pruſſia. Warſaw is the chief city.

MASSA, a town of Italy, in the Sienneſe, with a biſhop's ſee; ſeated on a mountain near the ſea, 25 miles S.W. of Sienna. Long. 10. 48. E. Lat. 42. 40. N.

MASSACHUSETS BAY, a bay of North America, which ſpreads eaſtward of Bolton, and is comprehended between Cape Ann on the north, and Cape Cod on the ſouth. It is ſo named, as well as the whole ſtate of Maſſachuſets, from a tribe of Indians of the ſame name, that formerly lived round this bay.

MASSAFRA, a ſtrong town of Naples, in Terra d'Otranto, with a biſhop's ſee; ſeated at the foot of the Appennines, 16 miles N.N.W. of Tarento. Long. 17. 20. E. Lat. 40. 50. N.

MASSERANO, a town of Piedmont, capital of a ſmall principality of the ſame name, held by its prince as a fief of the church. It is ſeated on a mountain, 40 miles N.E. of Turin. Long. 8. 14. E. Lat. 45. 38. N.

MASSEUBE, a town of France, in the department of Gers, 14 miles ſouth of Auch. Long. 0. 28. E. Lat. 43. 25. N.

MASTICO, or CAPO MASTICO, a cape on the ſouth ſide Scio, one of the iſlands of the Archipelago.

MASUAH, a town of Abyſſinia, ſituate on an iſland on the coaſt of the Red Sea. The houſes, in general, are built of poles and bent graſs, as in the towns in Arabia; and a few are of ſtone, ſome of them two ſtories high. Long. 39. 36. E. Lat. 15. 35. N.

MATAGORDA, a fortreſs of Spain, at the entrance of the harbour of Cadiz.

MATALA, a town and cape of the S. coaſt of the iſland of Candia, 30 miles S. of Candia. Long. 24. 58. E. Lat. 34. 46. N.

MATALONA, a town of Naples, in Terri di Lavoro, eight miles N.W. of Capua, and 19 W. by S. of Benevento. Long. 14. 14. E. Lat. 41. 12. N.

MATCOWITZ, a ſtrong town of Upper Hungary, in the county of Scepus, ſeated on a mountain, 185 miles N.E. of Preſburgh.

MATELICA, an ancient town of Italy, in the marquiſate of Ancona, 15 miles S. of Jeſi.

MATTHEW, ST. an iſland of Africa, 420 miles S. by W. of Cape Palmas on the coaſt of Guinea. It was planted by the Portugueſe, but is now deſerted. Long. 6. 10. W. Lat. 1. 24. S.

MATTHEW, ST. a ſmall iſland in the Indian Ocean. Long. 123. 51. E Lat. 52. 3. S.

MATTSEE, a town of Bavaria, in the archbiſhopric of Saltzburg, 12 miles N. of Saltzburg. Long. 13. 3. E. Lat. 47 50. N.

MATUMAY, a ſea-port in the iſland of Jeſo, capital of a province of the ſame name, tributary to Japan. Long. 138. 55. E. Lat. 42. 0. N.

MATURA, a town of Hindooſtan Proper, in the province of Agra, 22 miles N.E. of Agra, and 70 S.S.E. of Delhi. Long. 78. 41. E. Lat. 27. 11. N.

MAUBAL, a town of Hindooſtan Proper, in the country of Candahar, 70 miles N.N.E. of Candahar.

MAULDAH, a city of Hindooſtan Proper, in Bengal, ſituate on a river that communicates with the Ganges. It aroſe out of the ruins of Gour, which are in its neighbourhood; and is a place of trade, particularly in ſilk, 190 miles N. of Calcutta. Long. 88. 28. E. Lat. 25. 10. N.

MAULEON, a town of France, in the department of the Lower Pyrenées, ſituate on the frontiers of Spain, 20 miles S.W. of Pau, and 40 S.E. of Dax. Long. 0. 31. W. Lat. 43. 10. N.

MAULEON, a town of France, in the department of Vendée, with a late famous Auguſtine abbey. It is ſeated near the river Oint, 52 miles N.E. of Rochelle, and 52 N.W. of Poitiers. Long. 0. 36. W. Lat. 46. 54. N.

MAURA, ST. an iſland of the Mediterranean, near the coaſt of Albania, 15 miles N.E. of the iſland of Cephalonin. Long. 20. 46. E. Lat. 39. 2. N.

MAURE, ST. a town of France, in the department of Indre and Loire, 17 miles S. of Tours, and 148 S.W. of Paris. Long. 0. 42. E. Lat. 47. 9. N.

MAURIAC, a trading town of France, in the department of Cantal, famous for excellent horſes. It is ſeated near the Dordogne, 27 miles S.E. of Tulles. Long. 2. 16. E. Lat. 45. 15. N.

MAURICE, ST. a town of Switzerland, in the Valais, ſituate on the Rhone, between two high mountains, 16 miles N.W. of Martigny. It guards the entrance into the Lower Valais.

MAURIENNE, a valley of Savoy, 50 miles in length, extending to Mount Cenis; which ſeparates it from Piedmont. St. John is the capital town.

MAXEN, a town of the electorate of Saxony, celebrated for a victory obtained by the Auſtrians, commanded by Count Daun, over the Pruſſians, in 1759, when 20,000 Pruſſians ſurrendered priſoners of war. It is eight miles S.W. of Pirna, and 10 S. of Dreſden.

MAXIMIN, ST. a town of France, in the department of Var. Before the revolution, here was a convent for Dominicans, who pretended to preſerve in it the body of Mary Magdalen, which brought them great riches by the reſort of ſuperſtitious viſitors. It is ſeated on the Argens, 20 miles N. of Toulon. Long. 5. 57. E. Lat. 43. 30. M.

MAY, or MAYO, one of the Cape de Verd Iſlands, 17 miles in circumference. The N.E. end is extremely low, and the land riſes gradually till it arrives at a volcanic mountain, to the S.W. of which is irregular ground, ſoon followed by a high diſorderly peak, much more lofty than the volcanic cone. The ſoil in general is very barren, and water ſcarce; but there are plenty of beeves, goats, and aſſes; as alſo ſome corn, yams, potatoes, plantains, figs, and water-melons. The chief commodity is ſalt, with which many Engliſh ſhips are freighted in the ſummer time. Pinoſa is the principal town, and has two churches. The inhabitants are negroes, who ſpeak the Portugueſe language, and many of them go naked. Long. 23. 5. W. Lat. 15. 10. N.

MAY, CAPE, a cape of North America, on the North ſide of the mouth of the Delaware. Long. 75. 4. W. Lat. 39. 0. N.

MAYAMBA, a town of the kingdom of Loango, capital of a diſtrict of the ſame name. Long. 13. 6. E. Lat. 3. 20. S.

MAYENCE. See MENTZ.

MAYENNE. See MAINE.

MAYORGA, a town of Portugal, in Eſtramadura, near

the Atlantic, 15 miles S.W. of Leria, and 51 N. of Liſbon. Long. 9 7. W. Lat. 39. 33. N.

MAZANDERAN, a province of Perſia, bounded on the north by the Caſpian Sea, on the weſt by Ghilan, on the ſouth by Irac Agemi, and on the eaſt by Aſtrabad. Ferabad is the capital.

MEACO, or Kio, a city of the iſland of Niphon, in Japan, of which it was formerly the capital. It is the great magazine of all the manufactures in Japan, and the principal place for trade. The inhabitants are ſaid to be 600,000. Long. 134. 25. E. Lat. 35. 30. N.

MEADIA, a town of Hungary, in the bannat of Temeſwar, ſeated on the north ſide of the Danube, 15 miles eaſt of Belgrade. It was diſmantled by the Turks in 1738. Long. 12. 0. E. Lat. 45. 0. N.

MEAO, a ſmall iſland, one of the Moluccas, in the Indian Ocean, with a good harbour. Long. 127. 5. E. Lat. 1. 12. N.

MEASURES *(Encycl.)*. The following is an account of the preſent French weights and meaſures:

Meaſures of length.	*Engliſh inches.*
Millimetre	.03937
Centimetre	.39370
Decimetre	3.93702
Metre	39.37023
Decametre	393.70226
Hecatometre	3937.02260
Chiliometre	39370.22601
Myriometre	393702.26014

	M.	*F.*	*Y.*	*Ft.*	*In.*
A decametre is	0	0	10	2	9.7
A hecatometre	0	0	109	1	1
A chiliometre	0	4	213	1	10.2
A myriometre	6	1	156	0	6

8 chiliometres are nearly 5 miles.

Meaſures of capacity.	*Cubic inch. E.*
Millilitre	.06102
Centilitre	.61024
Decilitre	6.10244
Litre	61.02443
Decalitre	610.24429
Hecatolitre	6102.44288
Chiliolitre	61024.42878
Myriolitre	610244.28778

A litre is nearly $2\frac{1}{8}$ wine-pints.
14 decilitres are nearly 3 wine-pints.
A chiliolitre is 1 tun, 12.75 wine-gallons.

Weights.	*E. grains.*
Milligramme	.0154
Centigramme	.1544
Decigramme	1.5444
Gramme	15.4440
Decagramme	154.4402
Hecatogramme	1544.4023
Chiliogramme	15444.0234
Myriogramme	154440.2344

A decagramme is 6 dwts. 10.44 gr. tr.; dr. iiis. gr. 4.44 apoth.; or 5.65 dr. avoird.
A hecatogramme is 3 oz. 8.5 dr. av.
A chiliogramme is 2 lbs. 3 oz. 5 dr. av.
A myriogramme is 22 lbs. 1.15 oz. av.
100 myriogrammes are 1 ton wanting 32.8 lbs.

Agrarian meaſures.

Are, 1 ſquare decametre, - 3.95 perches.
Hecatare, - 2 acres, 1 rood, 30.1 perches.

For Fire-wood.

Deciſtre, $\frac{1}{10}$ ſtere, - - 3.5315 cub. f. E.
Stere, 1 cubic metre, - 35.3150 cub. f.

MECAN, a large river, which riſes in Thibet, and flowing S.E. through Laos and Cambodia, falls by two mountains into the China ſea, forming an iſland below the city of Cambodia, which here gives name to the eaſtern branch.

MECHADEB, a town of Arabia Felix, in the province of Yemen, 72 miles S. of Sanaa. Long. 44. 15. E. Lat. 14. 7. N.

MECHLIN, a city of the Auſtrian Netherlands, capital of a diſtrict of the ſame name, with an archbiſhop's ſee. It conſiſts of ſeveral ſmall iſlands made by artificial canals, over which are a great many bridges; and its cathedral is a ſuperb ſtructure, with a very high ſteeple. Here is a great foundery for ordnance of all kinds; and it is famous for fine lace, and a ſort of beer, which is ſent into the neighbouring provinces. The territory of this town is a lordſhip, which comprehends two ſmall diſtricts containing nine towns of little conſequence, and ſome villages. It ſubmitted to the Duke of Marlborough in 1706, and was taken by the French in 1746, but reſtored in 1748. In 1792 the French again took it, evacuated it the next year, and re-entered it in 1794. It is ſeated on the Dender, 10 miles N.E. of Bruſſels, and 15 S.E. of Antwerp. Long. 4. 34. E. Lat. 51. 2. N.

MECHOACHAN, or VALLADOLID, a conſiderable town of New Spain, capital of the province of Mechoachan, with a biſhop's ſee. It is ſeated near a great lake, 110 miles W. of Mexico. Long. 102. 28. W. Lat. 20. 5. N.

MECKENHEIM, a town of Germany, in the archbiſhopric of Cologne, ſituate on the Erfft, ſeven miles S.S.W. of Bonn, and 18. S. of Cologne. Long. 6. 43. E. Lat. 51. 40. N.

MECKLEY, a province of Aſia, bounded on the N. by Aſſam, on the E. by China, on the W. by Bengal, and on the S. by Rothaan and Burmah, to which laſt it is ſubject.

MECRAN, a province of Perſia, bounded on the N. by Segeſtan and Candahar, on the E. by Hindooſtan, on the S. by the Indian Ocean, and on the W. by Kerman. The ſouthern part is dry, and little more than a deſert; the northern is leſs ſo; but animals are rare, and the ſoil far from fertile.

MECRINHOS, a town of Portugal, in Tra los Montes, 15 miles N.N.E. of Torre de Moncove, and 24 S.E. of Mirandela. Long. 6. 3. W. Lat. 41. 8. N.

MEDEBACH, a town of Weſtphalia, 32 miles W. of Caſſel. Long. 10. 1. E. Lat. 51. 4. N.

MEDELIN, a town of Spain, in Eſtramadura, remarkable for being the birth-place of Fernando Cortes. It is ſeated in a fertile country, on the river Guadiana, 22 miles E. of Merida. Long. 5. 38. W. Lat. 38. 41. N.

MEDELPADIA, a maritime province of Sweden, in Norland, on the gulf of Bothnia. It is full of mountains and foreſts. Sundſwall is the capital.

MEDEMBLICK, a town of the United Provinces, in North Holland, ſeated on the Zuider-Zee, with a good harbour. It is nine miles N. of Hoorn, and 22 N.E. of Amſterdam Long. 5. 0. E. Lat. 52. 47. N.

MEDICINE *(Encycl.)*. There is no art or ſcience in which a greater degree of penetration and of accuracy appears to be required than in medicine; for, involved in difficulty and uncertainty as it muſt, in general, be, its poſſeſſors ought, in order to combat them, to poſſeſs no ſmall ſhare of capacity and diſcernment. This is, perhaps, the reaſon that where the profeſſions have been ſeparate, phyſic has been generally eſteemed more reſpectable than ſurgery: although, in point of utility, it may juſtly be doubted whether a preference may

not be due to ſurgery. The almoſt inextricable obſcurity in which the nature of the animal functions, and the operations of medicines, are at preſent involved, are the more to be lamented, as the ignorant and impatient are, in general, more diſpoſed to commit themſelves to the care of pretenders, who do not deſerve the name even of empirics, than to be contented with the moderate degree of relief that can be promiſed them by the honourable practitioner; who, from the ſuppoſed depth and extent of his acquaintance with nature and its laws in general, has been denominated a phyſician;—an appellation once as uſual in France and Germany as it is ſtill in England.

Whether any great advances will ever be made in rendering the animal proceſſes as intelligible as thoſe of inanimate nature, is very much to be doubted; and indeed, to judge from general inferences, can ſcarcely ever be hoped: although the rapid advances which have been made within our recollection, and which are daily making, in many kindred ſciences, render it hazardous to pronounce an abſolute negative. Hitherto very little progreſs can be ſaid to have been made in the immediate ſubjects of medical ſpeculation; and the grand advantage of modern practice appears to conſiſt in a partial return to nature and ſimplicity. It is no longer the faſhion to irritate every wound by hot and ſtimulating balſams, nor to deprive it of the protection and aſſiſtance of the blood which coagulates round it: a fever is not oppreſſed with a miliary eruption, nor the ſmall-pox made confluent, by a forced accumulation of heat; and the natural inclination for cold liquids has been followed with the moſt ſalutary effects: a patient in a dropſy is not tormented with hunger and thirſt to produce the temporary relief of a ſymptom; and the ſupport of the whole ſyſtem is not prodigally waſted by unneceſſary veneſection. But all this has required time for its attainment; however natural and eaſy it might have ſeemed to compare at leaſt thoſe caſes in which nature had been uninterrupted and ſucceſsful, with others where art had been miſchievouſly active.

It may be enquired, then, how far the writings of the Greek phyſicians, ſo much extolled by medical writers of no ancient date, really deſerve their commendations: and if a man who has taken the pains to make himſelf maſter of their contents would be candid enough to diveſt himſelf of partiality for his purſuits, he would be obliged to confeſs, that he would in no caſe think himſelf juſtified in following in his practice an aphoriſm of Hippocrates, unſupported by modern experience, if it came in competition with a ſingle obſervation of a country apothecary, publiſhed in any medical journal of the preſent century. This being granted, it is difficult to conceive on what ground the moſt prejudiced can maintain the propriety of a man's ſpending a conſiderable portion of his time in endeavouring to deduce practical information from ſources ſo precarious. That the form of examining candidates for medical honours in the ancient medical writers ſhould be retained, is exceedingly neceſſary for the ſupport of the good education and literary reſpectability of the profeſſion. And it muſt alſo be allowed, that pathological ſtudies may be aſſiſted, and, perhaps, hints for experiments may often be derived from their works; but for every ſingle fact of practical importance known to the Greeks and Romans, it is probable that ten were diſcovered in the laſt century, and twenty in the preſent: and yet, for the mortification of human vanity, it muſt be confeſſed that the average period of human life does not appear to be perceptibly longer now than at the time of the oldeſt calculations. In phyſiology, the diſcovery of the nature of the circulation of the blood, of the change which this fluid undergoes in the lungs, of the proceſs of its coagulation, of the cauſe of the pleuritic coat, of the exiſtence and functions of the abſorbents, of the nature of the placenta; the exploſion of the notion of the origin of animal heat from friction, and of the exaggerated doctrines of the human pathology; all theſe improvements are of ſuch vaſt magnitude, that it is almoſt aſtoniſhing that they have not produced more conſpicuous effects on the practical treatment of all poſſible diſeaſes. Of the moſt powerful articles of our materia medica, opium and cantharides alone were known to the ancients; antimony, bark, ipecacuan, and mercurials, are entirely of modern invention; and, perhaps, the application of electricity may, in time, deſerve to be reckoned among the moſt efficacious, when its highly intereſting chemical properties and its effects in the animal economy ſhall have been more fully inveſtigated. On the other hand, we have to combat with many diſeaſes unknown to the ancients; it is ſingular enough, that almoſt all of theſe are curable with tolerable certainty, and yet ſometimes not without the greateſt riſk. The ſmall-pox, although in great meaſure deprived of its terrors by the practice of inoculation, is ſtill ſo formidable a diſorder, as to create a doubt whether more individuals do not annually die of it than before the introduction of that practice; and a more complete protection from its effects, which there is every reaſon to hope from the vaccine contagion, muſt ſtill be reckoned an invaluable addition to the expedients for the preſervation of the public health, and ſuch as will fairly entitle the man who firſt introduced inoculation for the cow-pox, both to honorary and to ſubſtantial tokens of public gratitude.

Suppoſing a preference to be decidedly granted to modern, beyond ancient medicine, it will be of conſequence to enquire into what countries of Europe the moſt rational practice in general prevails. And here, without being accuſed of partiality, we may be allowed by the concurring teſtimony of the majority, to give the preference to Great Britain, and, perhaps, in particular to that of the metropolis of England. One of the few who have diſputed the ſuperiority of the Engliſh practice, Dr. Fiſcher of Brunſwick, begins with accuſing his countrymen in general of a ſervile adoption of foreign innovations, and in particular of the medical anglomania. Undoubtedly the former part of the accuſation is well founded, and it is with reaſon that he aſſerts that they ſpend their whole time in amaſſing materials, without taking ſufficient pains to methodiſe, to digeſt, and to appropriate them; ſo that where this is the caſe we cannot expect to find a high degree of practical perfection: and the truth of the ſecond part of the charge is ſo well known, as to conſtitute a well-grounded compliment to this country; for if the Germans, who are ſo diligent compilers, are uſually in the habit of giving a decided preference to the Engliſh practice of phyſic, this is by no means the ſlighteſt recommendation that can be produced in its favour. The ſpecific objections that he makes to the practice in London are principally four; that it is too ſimple, too inappropriate, too bold, and too impatient; nor will our phyſicians have any objection to confeſſing that theſe characters may, in compariſon with continental medicine, be in ſome degree allowed to be juſt; and eſpecially in that limited kind of practice which a ſtranger can ſee in a few months in an hoſpital. The German practice would here, on the contrary, be called old womaniſh and fanciful; their inciding medicines, their decoction of graſs-root, their horrors of the rheumatic matter contained in a boiled potatoe and a pork chop, and of the inflammatory and antitraumatic powers of a cup of coffee, would here excite a ſmile. On the whole it may be fair to conclude, that the German phyſicians compile well, the Scotch reaſon well, and the Engliſh deſcribe well, and that the liberal and diligent ſtudent may derive from each of the ſchools information and inſtruction enough to repay him for his application.

MEDINA-SIDONIA, an ancient town of Spain, in Andaluſia, with a caſtle, 36 miles N.N.W. of Gibraltar, and 20 N.E. of Cadiz. Long. 5. 36. E. Lat. 36. 40. N.

MEDNIKI, a town of Poland, in the province of Samogitia, with a biſhop's ſee; ſeated on the Warwitz, 40 miles E. of Memel. Long. 22. 49. E. Lat. 55. 42. N.

MEDUA, a town of the kingdom of Algiers, ſeated in a country abounding in corn, fruits, and flocks of ſheep, 175 miles S.W. of Algiers. Long. 0. 13. E. Lat. 34. 45. N.

MEDUSA *(Encycl.)*. The animal now known among naturaliſts by the name of *meduſa*, was called by the ancients the *ſea nettle*, on account of its producing a ſenſation on the ſkin ſimilar to that which is excited by the plant, called *a nettle*. This animal was peculiarly called the *ſea* nettle, to diſtinguiſh it from another of the ſame ſpecies, which adheres to rocks. Linnæus, deſirous of avoiding theſe compound and equivocal denominations, aſſigned to the animal the name of *meduſa*: there is no obvious reaſon for this preference, except that, in many caſes, it is fortunate to find a name which diſtinguiſhes the given object, without exciting any other idea. See Pl. 1, Vol. VI. and Pl. 38 in this SUPPLEMENT.

The meduſa lives in the waves of the ſea, and ſwims with conſiderable ſwiftneſs. The body forms a ſegment of a ſphere, ſimilar to the head of a muſhroom. Though no muſcular fibre can be perceived, it poſſeſſes the faculty of contracting and dilating itſelf at will, either in parts, or in the whole. By increaſing or diminiſhing the concavity of its upper ſurface, it ſtrikes the water with ſufficient force to riſe to the ſurface; its own weight enables it, without exertion, to ſink to the bottom: and when deſirous of making an horizontal progreſs, the animal ſtrikes the water with a part of its edge, and thus proceeds with a rotatory motion.

Under the centre of the plane of the ſegment of a ſphere is a cylindrical or conical excreſcence, which is longer or ſhorter according to the ſpecies of the animal, repreſenting, in a manner, the ſtalk of the muſhroom, ſuppoſing the body to repreſent the head of the plant. In ſome kind of meduſas this excreſcence is terminated by a large opening, which is the mouth of the animal; but that which is here deſcribed has no mouth, or, to ſpeak more correctly, hundreds of mouths.

Although this ſpecies of the meduſa is moſt common on the coaſt of France, it has not been accurately deſcribed and delineated till the preſent time, except by Réaumur. At the ebb of the tide they are left in large quantities, motionleſs, on the ſand. They are of all ſizes, from about four fifths of an inch to eight or nine inches diameter; tranſparent, with a blueiſh reflection, producing an agreeable effect. Their ſubſtance is about the conſiſtency of the jelly of veal; and when they are ſuſpended for a ſhort time, they become reduced almoſt to nothing, as the water, which ſwells out their parenchyma, drops out, and nothing remains but their thin and fragile membranes.

The delicacy of their conformation has hitherto prevented all attempts to aſcertain their interior ſtructure by diſſection. It was alſo peculiarly difficult to inject them with ſucceſs. No heated ſubſtance, ſuch as melted wax, could be uſed, becauſe it would parch them up in an inſtant. Mercury, by its weight, tore all their veſſels; and liquids, as ink and coloured oil, eſcaped at the minuteſt aperture. At length Cuvier had the good fortune to ſucceed in diſplaying the vaſcular ſyſtem of the meduſa, and even to preſerve the injected animal for a long time in ſpirits of wine, by the uſe of a very fluid matter, which could be conſolidated at pleaſure, without changing its temperature. He injected the animal with milk, and, the moment the veſſels were ſufficiently diſtended, coagulated the milk, by pouring on a quantity of very ſtrong vinegar.

From this experiment, the following information was obtained:

Under the excreſcence above mentioned are eight leaves of fleſh, of conſiderable ſize, triangular, and indented at the edges. At each of the indentations of theſe leaves is a ſmall hole, which is only viſible when the animal is dilated by means of the injected liquor. Through theſe ſmall holes the meduſa imbibes the portion of fluid by which it is nouriſhed. Theſe ſmall orifices give birth to an equal number of minute veſſels, which, after uniting to the number of two or three, terminate in one greater veſſel, which occupies the centre of each leaf of fleſh.

Theſe eight veſſels alſo unite themſelves, two by two, in four large trunks, which deſcend into a cavity, the only one in the body, and which may be denominated either the heart or the ſtomach.

This cavity is ſituated in the baſe of the cylindrical excreſcence, before compared to the ſtalk of the muſhroom: this baſe, increaſing in ſize, extends itſelf between four pillars of fleſh, which terminate in the body, or part already compared to the head of the muſhroom. It is in the midſt of theſe four pillars that the cavity of the ſtomach is ſituated. The interſtices of the pillars would be ſo many orifices to this cavity; but they are cloſed by a thin folded membrane, the uſe of which, undoubtedly, is to extend itſelf in proportion as the ſtomach is filled: however this may be, ſixteen veſſels branch out from the ſtomach, which direct themſelves immediately to the circumference of the body, dividing its area into ſixteen equal partitions.

Four of theſe veſſels correſpond with the four pillars of fleſh; and there is, on the internal ſurface of each pillar, a groove which eſtabliſhes a direct communication between the correſponding veſſels, and one of the four grand veſſels of the ſtalk. The remaining twelve are diſtributed in diviſions of three in the interſtices of thoſe four, and terminate in thoſe parts of the ſtomach which are cloſed by the folded membranes.

The ſixteen veſſels in the body all communicate with each other by a circular veſſel, exactly concentric to the periphery of the animal.

The ſpace, or fillet, ſituate between this circular veſſel and the edge, is filled with an innumerable multitude of ſmall veſſels, which form a common net-work, exactly reſembling the moſt beautiful lace.

On the ſide oppoſite to the circular veſſel, that is to ſay, on the concave of the body, are ſixteen veſſels, forming a ſemicircle, one for each diviſion; they communicate with the greater veſſel, not only at their two extremities, but alſo by means of two or three ſhort veſſels, which go directly from the one to the other.

Theſe ſixteen ſemicircles appear to ſupply with nouriſhment thoſe parts of the body which are ſituate between the circular veſſel and the ſtalk; but this fact could not be demonſtratively aſcertained, as the injection could not be ſufficiently projected.

The following facts could, however, be ſafely inferred:—

1. That the nutritive juices reach the inſide by a multitude of ſmall apertures, and not through a ſingle mouth: this is an inſtance of approximation in this animal to the vegetable ſpecies never before inſtanced by the naturaliſts.

2. That the nutritive juices do not paſs into the veſſels until they have been depoſited in the great interior cavity: this circumſtance reſtores the meduſa to the order of animals.

3. That the veſſels which conduct theſe juices to all parts of the body branch out immediately from this great cavity.

This would alſo be a ſingularity, if theſe veſſels are to be conſidered as real arteries; but if they are ſuppoſed to be only elongations of the inteſtinal cavity, a kind of cœca, then the meduſa may, in this reſpect, be claſſed between the ſtar-fiſh and the polypus; for the ſtar-fiſh alſo produces cœca diſpoſed in rays, but floating in the cavity of the body, and not connected with it in a common maſs; and in the polypus the ſtomach produces no cœcum, but adheres to and incorporates with the reſt of the animal.

The meduſa, uniting in itſelf both theſe ſingularities, is alſo connected with both the ſpecies to which it appertains. If theſe inferences are correct, Cuvier, in his Elements of Zoology, and Lamark, in the tables annexed to his Lectures on Helminthology, have rightly placed it between the ſtar-fiſh and the polypus. In that caſe, the remarkable characteriſtic of this animal will conſiſt only in the multitude of its little mouths.

If, on the other hand, the interior cavity be conſidered as a heart, and the veſſels branching from it as arteries, the ſmall veſſels leading to it muſt be conſidered as veins, or as lymphatic veſſels, and we may ſay that the ſea ſerves it for a ſtomach, as the earth does to plants.

But the former is the more reaſonable ſuppoſition, conſidering that, in the animal ſcale, the heart diſappears much more early than the ſtomach.

This meduſa has no nerves, nor any particular organs of ſenſation; nor could Cuvier diſcover any organs of generation, or by what particular means the ſpecies was multiplied. The thin folded membranes ſurrounding the ſtomach, in the interſtices between the pillars of fleſh, may be conſidered as adapted for reſpiration, ſince the ambient element can pervade their ſubſtance to act on the nutritive fluid.

Such is the reſult of obſervations hitherto made on this extraordinary animal, whoſe ſingularity conſiſts in its having apparently no mouth, but nouriſhing itſelf like a plant, by means of ramified ſuckers, and in the circumſtance of its ſtomach fulfilling the office of the heart.

MEDWI, a town of Sweden, in E. Gothland, called the Swediſh Spa, on account of its waters, which are vitriolic and ſulphureous. The lodging-houſes form one ſtreet of uniform wooden buildings painted red. The walks and rides are delightful, particularly on the banks of the Wetter. It is three miles from Wadſtena.

MEDZIBOZ, a town of Poland, in the palatinate of Volhinia, ſeated on the river Bog, 20 miles S. of Conſtantinow.

MEGEN, a town of Dutch Brabant, ſeated on the Maeſe, 15 miles S.W. of Nimeguen. Long. 5. 26. E. Lat. 51. 49. N.

MEGESVAR, a town of Tranſylvania, capital of a county of the ſame name, remarkable for its good wines. It is ſeated on the river Koter. Long. 25. 20. E. Lat. 46. 50. N.

MEGIERS, a town of Tranſylvania, 28 miles N. of Hermanſtadt. Long. 24. 41. E. Lat. 46. 53. N.

MEHRAN, the principal of the channels into which the river Indus divides itſelf, near Tatta, in Hindooſtan Proper.

MEHUN-SUR-YEVRE, an ancient town of France, in the department of Cher. Here are ruins of a caſtle built by Charles VII. as a place of retirement; and here he ſtarved himſelf, in the dread of being poiſoned by his ſon, afterward Lewis XI. It is ſeated in a fertile plain, on the river Yevre, 10 miles N.W. of Bourges, and 105 S. of Paris. Long. 2. 17. E. Lat. 47. 10. N.

MEHUN-SUR-LOIRE, a town of France, in the department of Loiret, ſeated on the Loire, 10 miles S.W. of Orleans. Long. 1. 48. E. Lat. 47. 50. N.

MEILLERIE, a village of Savoy, in Chablais. It is ſeated on the S. ſide of the lake of Geneva, in the receſs of a ſmall bay, and at the foot of impending mountains, which in ſome parts are gently ſloping, and clothed to the edge of the water with dark foreſts, and in others are naked and perpendicular. Theſe dark and gloomy rocks lie S.W. of Clarens, which place and Meillerie are both intereſting ſcenes in the Eloiſa of Rouſſeau.

MEINAU, an iſland in the bay of the Bodmer Sea, or middle lake of Conſtance, one mile in circumference. It belongs to the knights of the Teutonic order, and produces excellent wine, which forms the chief revenue of the commander. It is five miles N. of Conſtance.

MEINUNGEN, a town of Franconia, ſituate amid mountains, on the river Werra, 14 miles N.W. of Hilburghauſen, and 21 N. of Schweinfurt. Long. 10. 26. E. Lat. 50. 36. N.

MEISSAU, a town of the archduchy of Auſtria, 14 miles S.S.W. of Znaim, and 34 N.W. of Vienna. Long. 16. 7. E. Lat. 48. 30. N.

MEISSEN, or MISNIA, a margravate of Germany, in the electorate of Saxony, 100 miles long and 80 broad; bounded on the N. by the duchy of Saxony, on the E. by Luſatia, on the S. by Bohemia, and on the W. by Thuringia. It is a very fine country, producing corn, wine, metals, and all the conveniences of life. The inhabitants ſpeak the pureſt language in Germany. The capital is Dreſden.

MEISSENHEIM, a town of Germany, in the duchy of Deux Ponts, ſituate on the Glan, 28 miles N. of Deux Ponts, and 30 W.S.W. of Mentz. Long. 7. 22. E. Lat. 49. 42. N.

MELAZZO, an ancient town of Natolia, with a biſhop's ſee, and ſome curious monuments of antiquity. It is ſeated on a bay of the Archipelago, 60 miles S. of Smyrna. Long. 27. 25. E. Lat. 37. 28. N.

MELCK, a ſmall fortified town of Lower Auſtria, with a celebrated Benedictine abbey, ſeated on a hill, 47 miles W. of Vienna. Long. 15. 20. E. Lat. 48. 11. N.

MELDELA, a town of Italy, in Romagna, belonging to its own prince, eight miles S.W. of Ravenna. Long. 11. 48. E. Lat. 44. 22. N.

MELDERT, a town of Auſtrian Brabant, 10 miles S.E. of Louvain. Long. 4. 41. E. Lat. 50. 45. N.

MELDORP, a town of Lower Saxony, in the duchy of Holſtein, ſeated near the Milde, 15 miles S. of Tonningen, and 45. W. of Hamburg. Long. 9. 6. E. Lat. 54. 10. N.

MELFI, a town of Naples, in Baſilicata, with a biſhop's ſee, and an ancient caſtle, ſeated on a rock, 16 miles N.E. of Conza, and 72 of Naples. Long. 15. 52. E. Lat. 41. 2. N.

MELIDA, an iſland of Dalmatia, in the gulf of Venice, and in the republic of Raguſa. It is 25 miles in length, and abounds in oranges, citrons, wine, and fiſh. It has a Benedictine abbey, ſix villages, and ſeveral harbours.

MELILITHUS; in foſſilogy, the honey-ſtone. The celebrated chemiſt, Mr. Klaproth, of Berlin, has enriched chemiſtry with a diſcovery of a new acid, which he obtained by the analyſis of this ſtone. It is not a ſimple mineral acid, but rather of the nature of a vegetable acid; and according to the properties it ſhews, it muſt be conſidered as a peculiar modification of thoſe elements which conſtitute vegetable acids, and conſequently as a ſpecific vegetable acid, and an acid of its own. The properties it poſſeſſes are the following:

1. It cryſtaliſes in ſmall fibrous and glomerated maſſes, and ſometimes in ſmall and ſhort columns. It does not appear to be able to cryſtaliſe at firſt, but gets the power

of cryſtaliſing by degrees, by imbibing more oxygen from the air.

2. Its taſte is ſweetiſh-ſour at firſt, but becomes afterwards a little bitter.

3. Poured upon a heated potſherd it quickly evaporates, ſpreading a dark grey ſmoke, which, however, does but little affect the ſmell; a ſmall quantity of yellowiſh light aſhes is left, which, moiſtened with water, are quite taſteleſs, and cauſe no change at all in blue colours.

4. Neutraliſed with kali, it forms a cryſtaline maſs of a fibrous, radiant texture.

5. Saturated with natron, or ſoda, it produces cubic cryſtaliſations, partly diagonal ſingle priſms, partly concrete in a ſtellated manner.

6. The neutral ſalt which it produces with ammonia, exhibits ſmall hexagonal priſms, that loſe their tranſparency when expoſed to the air, and get a ſilver-white appearance.

7. Diſſolved in water, and dropped into lime-water, into a ſolution of burned barytes in water, it cauſes a white precipitation, which diſappears again by dropping to it ſome nitric acid.

8. A ſimilar precipitation takes place when it is dropped into a ſolution of acetated barytes (acetate de baryte), that alſo diſſolves again in nitric acid.

9. No precipitation followed with muriated barytes; but, ſoon after, ſome ſmall needle-like cryſtals became viſible in the mixture.

10. A ſolution of ſilver in nitric acid remained clear in mixing it with the acid of the honey-ſtone.

11. A ſolution of nitrate of mercury mixed with it, let fall a frequent precipitation of a white colour, which was diſſolved again by putting more nitric acid to the ſolution.

12. Iron diſſolved in nitric acid, formed a yellow precipitation with it, and was made ſoluble by the addition of muriatic acid.

13. A ſolution of the acetate of lead is much precipitated by it, but clearly diſſolved again by nitric acid.

14. With a ſolution of the acetate of copper, a verdigriſe precipitation followed.

15. A ſolution of nitrate of copper ſuffered no change by it.

Theſe experiments ſhew, that this acid enters into a combination with ſeveral metallic calces, and that its affinity to them is greater than that of the acetous acid, though inferior to mineral acids. Similar effects are produced by its neutral ſalts, and the precipitation cauſed by them is in a great degree ſoluble.

As this acid is conſtituted by the carbon, oxygen, and hydrogen, and eaſily deſtroyed by fire; and as, at the ſame time, it agrees with none of the known acids in its properties and relations; it deſerves to be placed among the vegetable acids, as an acid of its own, to which the name of *Melilithic Acid* may be given.

The honey-ſtone, or Melilithus, from which it is obtained, is a foſſil found in Saxony amongſt the ſtrata of bovey-coal (braunkohle), and was firſt deſcribed by Mr. Werner. It is of a honey-yellow colour, ſometimes darker, ſometimes lighter, and is always found in a cryſtaliſed octaëdrous form, but ſeldom in a perfect ſtate. Its ſurface is generally ſmooth and ſhining, but ſometimes rough and eaten. It rarely is quite clear, but generally half tranſparent only, and it is ſoft, brittle, and eaſily reduced to a yellow grey powder. Its ſpecific weight is, according to Klaproth, 1550. Mr. Klaproth was induced to ſubject this mineral to a new analyſis, in conſequence of the different opinions of chemiſts and mineralogiſts about its nature and conſtituent particles. Some of them took it for a kind of amber, as Mr. Born; others, for a ſort of gypſum impregnated with petroleum. The chief particles are now, according to Mr. Klaproth, a peculiar acid combined with aluminous earth; and the proportion in 100 parts of it is, 16 parts of aluminous earth and 46 of acid, beſides the water of cryſtaliſation.

Prof. Lampadius, of Freyberg, in Saxony, found in 100 parts:

85½	carbon
3½	petroleum
1	ſiliceous earth
5	water of cryſtaliſation
96	

Mr. Abick relates its conſtituent particles as follow:

40	carbonic acid
28	water of cryſtaliſation
16	carbonic aluminous earth
5	benzoic aluminous earth
5½	benzoic acid
5	calx of iron
2½	reſin
100	

MELINDA, the capital of a kingdom of the ſame name, on the coaſt of Zanguebar. Here the Portugueſe have 17 churches, nine convents, and warehouſes well provided with European goods. It is ſurrounded by fine gardens, and has a good harbour, defended by a fort; but the entrance is dangerous, on account of the great number of ſhoals, and rocks under water. The inhabitants are Chriſtians and Negroes, which laſt have their own king and religion; and the number of both is ſaid to amount to 200,000. It is ſeated at the mouth of the Quilmanci. Long. 39. 38. E. Lat. 2. 15. S.

MELIPILLA, a town of Chili, in a juriſdiction of the ſame name, 200 miles N. of Conception. Long. 71. 39. W. Lat 33. 28. S.

MELISSAU, a town of Naples, in Calabria Citeriore, four miles N. of Strongoli.

MELITELLO, a town of Sicily, in Valdi Noto, eight miles W. of Leontini.

MELITO, a town of Naples, in Calabria Ulteriore, with a biſhop's ſee, 40 miles N. of Reggio. Long. 16. 30. E. Lat. 38. 40. N.

MELITOPOL, a town of Ruſſia, in the province of Tauris, about 12 miles from the ſea of Azoph, and 108 S. of Catharinenſlaf. Long 83. 10. E. Lat. 46. 22. N.

MELLDORF, a ſea-port of Lower Saxony, in the duchy of Holſtein, on the German Sea, 48 miles N.W. of Hamburg. Long. 9. 4. E. Lat. 54. 10. N.

MELLE, a town of Weſtphalia, in the biſhopric of Oſnaburg, 10 miles E. of Oſnaburg. Long. 8. 35. E. Lat. 52. 25. N.

MELLE, a town of France, in the department of the Two Sevres, 13 miles S. of St. Maixent.

MELLINGEN, a town of Switzerland, in the bailiwic of Baden, which, ſince 1712, depends on the cantons of Zuric and Bern. It is ſeated in a fertile country, on the river Reuſs, five miles S. by W. of Baden.

MELNICK, a town of Bohemia, ſeated at the confluence of the Elbe and Muldaw, 18 miles N. of Prague. Long. 14. 50. E. Lat. 50. 22. N.

MELOUE, a town of Upper Egypt, ſeated on the Nile, with a remarkable moſque. Long. 31. 55. E. Lat. 27. 30 N.

MELRICHSTADT, a town of Franconia, in the biſhoprick of Wurtzburg, remarkable for a battle fought near it,

between the emperor Henry IV. and Rodolph duke of Suabia. It is ſeated on the Strat, 20 miles N. of Schweinfurt.

MELUN, an ancient town of France, in the department of Seine and Marne, ſeated on the Seine 25 miles S.E. of Paris. Long. 2. 35. E. Lat. 48. 30. N.

MEMBRILLO, a town of Spain, in Eſtramadura, 14 miles S. of Alcantara. Long. 6. 0. W. Lat. 39. 12. N.

MEMMINGEN, a ſtrong town of Suabia, near which, in 1795, the French republicans defeated the emigrants under the Prince of Condé. It is ſeated in a fertile plain, 24 miles S.E. of Ulm, and 35 S.W. of Augſburg. Long. 10. 16. E. Lat. 48. 3. N.

MENAN, a large river of the kingdom of Siam, which runs through it from N. to S. paſſes by the city of Siam, and falls into the gulf of Siam, below Bancok. There are ſeveral ſingular fiſhes in it, beſide crocodiles, which are common in theſe parts.

MENANCABO, the capital of a ſmall kingdom of the ſame name, in the iſland of Sumatra; ſeated on the S. coaſt, oppoſite the iſle of Naſſau, 250 miles from the ſtrait of Sunda.

MENDE, an ancient town of France, capital of the department of Lozere, with a biſhop's ſee. The fountains, and one of the ſteeples of the cathedral, are remarkable, It is very populous; has manufactures of ſerges and other woollen ſtuffs; and is ſeated on the Lot, 35 miles S.W. of Puy, and 210 S. by E. of Paris. Long. 3. 35. E. Lat. 44. 31. N.

MENDICITY, that ſtate in which paupers frequently are; eſpecially in crowded cities, where the purſuit of pleaſure too much engroſſes *their natural guardians, the rich*, to attend duly to the charge which Providence has aſſigned them.

It is certainly a diſgrace to the metropolis of Britain, that, with all our charitable eſtabliſhments, no adequate proviſion has yet been made to prevent mendicity in London; but that our funds of charity are to be waſted on the indolent and drunken beggar, while modeſt indigence is often neglected and forgotten.—When the means of occupation, and the inducement to induſtry and exertion, are provided in London, there will be no further occaſion for *vagrant paſſes, and for orders of removal*. The idle and the profligate beggars will ſoon find that the air of the metropolis does not ſuit them; and will retire, as they have done from Edinburgh, to other more congenial climates, where liberal encouragement continues to be offered to idleneſs and profligacy.

It is no ſmall merit in the Edinburgh eſtabliſhment (ſee EDINBURGH, *Supp.*), that they have adopted the principle, ſo ſtrongly recommended by Count Rumford, of giving the poor the WHOLE ENTIRE of their earnings, and ALL the benefit of their induſtry. Thoſe earnings, it is true, are inconſiderable, and at the preſent period inadequate to their ſupport; and, indeed, whenever an eſtabliſhment of this kind ſhall be formed in London, it is probable that the produce of the induſtry of the poor, in the commencement at leaſt, will be comparatively ſmall. But if we could ſuppoſe only one half of the beggars of London to be uſefully employed (the other half having retired to other cities, where *ſpeculative idleneſs* is not *perſecuted*), the gain to the public in the poſitive produce* of labour, in the examples of induſtry, and in the comparative improvement of morals, would be of an importance beyond all calculation.

"I am aware," ſays Mr. Bernard, in the Reports of the Society for bettering the Condition of the Poor, "that I ſhall be told that the ſituation, the magnitude, and the circumſtances, of Edinburgh and London are very different. In like manner if I urge the example of Munich, I am anſwered, that "the ſcale is ſmall,—the difficulty leſs;—with the military under his orders, and the ſprings of government at command, the favourite miniſter of a deſpotic prince might do much:" —So, if I cite what Mr. Voght has done at Hamburgh;—Mr. Venn, at Clapham;—what Lord Winchelſea, at Burley; —Mr. Conyers, at Epping;—Mr. Eſtcourt, at Shipton Moyne; —or Mr. Gilpin, at Boldre;—ſtill I am told, theſe are all peculiar caſes, exempt from thoſe circumſtances, which are ever ready to prevent any thing of that kind being attempted by the projector.—I admit that the magnitude of Edinburgh is leſs, the education and domeſtic habits of the poor are better, and that they are free from the embarraſsments attending our complicated ſyſtem of poor laws: but I muſt obſerve, that thoſe circumſtances in London, which enhance the difficulty, do alſo increaſe the neceſſity of the meaſure; and that if we are incumbered by poor laws, we may receive from them funds more than adequate to the perfecting and continuing of ſuch a reform; as there can be little doubt that half the money which is now applied in our metropolis in making the poor helpleſs and idle, would be ſufficient for the encouragement of induſtry, and for the relief of poverty, to the extent that political wiſdom and general philanthropy would require; even if we can ſuppoſe that the benevolence of individuals would not afford any pecuniary ſupplies; and that Bridewell, and ſome other charities, originally intended to have been ſubſervient to this general object, ſhall remain for ever in their preſent condition.

"In ſhort, when we conſider the degree of diſtreſs which ſuch an eſtabliſhment may alleviate, the comfort it may beſtow, the induſtry it may promote, the productive labour it may create, the bad habits it may amend, the good habits it may form, the improvement in ſkill and dexterity of working it may produce, the benefit to be done to the metropolis by diminiſhing the number of beggars at the preſent, and by keeping down the poor rates in future, and the probable advantages to the country from ſuch an example leading to the erection of ſimilar eſtabliſhments in other parts of the kingdom,—I flatter myſelf we ſhall all ſpeedily unite in meaſures, for forming an inſtitution TO PROVIDE FOR THE BEGGARS OF LONDON, upon principles ſimilar to thoſe which have been adopted with ſuch ſucceſs and effect at Edinburgh."

After this account of what *ought* to be done to check the growing diſpoſition to mendicity among the poor, eſpecially in the metropolis, we may very properly ſtate what has been done. The following is extracted from an account of an attempt to aſcertain the circumſtances of the beggars of London, with obſervations on the beſt mode of relieving them, by Thomas Bernard, eſq.

In order to inform himſelf on this ſubject, Mr. Martin has, from the beginning of the year 1797, diſtributed tickets in London, to appoint ſuch of the beggars there, as ſeemed to merit and wiſh enquiry into their circumſtances, to come to him for that purpoſe. Of theſe as many as 120 have attended in conſequence;—21 men and 99 women.

Of the men the greater part were maimed, or diſabled by age or ſickneſs; and only two of them belonged to any place of legal ſettlement in London.

Of the women there were 48 widows; ſeven of them the

* Few perſons are fully aware of the extent of the loſs to the public by a certain number of perſons being unemployed.—The following paper was very lately diſtributed with good effect among the riotous colliers at Briſtol.—"Kingſwood, April 11, "1801.—The LOSS to EVERY IDLE MAN, for one day's work, is 2*s*; one week's ditto, 12*s*; and if five hundred men do not "work for a week, their wives and children will be deprived of the enormous ſum of THREE HUNDRED POUNDS!"

widows of ſoldiers; only one of them of a ſeaman. About a third of theſe conſiſted of aged women; ſome were crippled, and ſome diſtreſſed from want of work: many of them embarraſſed by ignorance of the mode of obtaining parochial aſſiſtance, or by the fear of applying for it.

Of the wives, in moſt caſes, the difficulty was the want of work, or the incapability of doing it on account of a child in arms. Theſe were caſes of very great diſtreſs. Above half of them had two or more children, who were ſome of them infants, and the greater part of the reſidue of an helpleſs age, too young for work.

With regard to the ſettlements of the women, twenty-four referred him to pariſhes in London and Weſtminſter; thirty-three to pariſhes in different parts of England; twenty-two belonged to Scotland and Ireland; and the remaining twenty ſaid they could not give, or at leaſt declined giving, him any account of their place of ſettlement.

By application, in moſt caſes to their pariſhes, and in ſome to their friends, he was enabled to obtain effectual relief for ſeveral of them: for others he is now uſing his endeavours. To all of them, the gift of a little food, and the hearing of their melancholy ſtory, afforded ſome comfort.

Upon this paper, extracted from Mr. Martin's account, Mr. Bernard adds the following obſervations:—As the parochial poor of the metropolis," ſays he, " though they are *in general* treated with kindneſs and attention, yet the overſeers in London have more room allowed for the operations of favour and prejudice, than in country pariſhes. The magiſtrates, in the city of Weſtminſter and its ſuburbs, interfere very little in queſtions of parochial relief; and the poor are, in conſequence, left almoſt entirely to the *diſcretion* or *caprice* of the pariſh officers; and frequently, by the want of relief, or by their not underſtanding the mode of applying for it, are induced to increaſe the number of beggars in London.

" In many of the inſtances, where perſons of this deſcription beg in the ſtreets, a neglect of duty is, in a certain degree, imputable to ſome of the pariſh officers of London. —But there is, in the metropolis, a more numerous claſs of mendicants, who belong to pariſhes in the country. By the preceding account it will appear, that, of the 120 beggars whoſe caſes have been enquired into, one third of the women, and the greater part of the men, belonged to country pariſhes; which, in ſome caſes, there is too much reaſon to believe, their pariſh officers, either by menaces or promiſes, had prevailed upon them to quit, in order to ſet up the trade of a London beggar. In this manner the poor and the helpleſs, by harſh treatment, or by a trifling preſent, are ſometimes ſeparated from their own connections, where they might live cheaper and earn ſomething, and where by law they are entitled to ſupport and protection, and are, in a degree, compelled to increaſe the maſs of vice and miſery in the metropolis.

" This is an abuſe which *ought* to be corrected.—Leſt, however, I ſhould be miſunderſtood, I muſt ſtate what has always been my ſentiment; that, in policy and juſtice, every individual ſhould be at liberty, while he can work, to carry his induſtry to that pariſh, in which he can exert it with moſt benefit to himſelf and the community; and I ſhould add that, in point of kindneſs and humanity, the aged and infirm, who want parochial aid, ſhould not be removed to a diſtant pariſh, that may have been their place of ſettlement, though not of reſidence; much leſs that they ſhould be driven, at the cloſe of a uſeful life, into a pariſh work-houſe, while they have friends and connections, with whom they may continue upon a parochial allowance, not more, and probably leſs, than they would coſt in a work-houſe. But the caſe of London beggars, with country ſettlements, is very different. Their connections are not in London. They have wandered from their pariſhes, from their friends, and from thoſe who are by law directed to maintain them, to a place new and unknown to them; where, by a diſplay of miſery, too frequently the genuine, though uncredited, repreſentation of real ſufferings, they draw *comfortleſs* and *ignominious* relief from the compaſſion of individuals, inſtead of receiving at home that parochial protection and ſupport, to which by law they are entitled.

" To theſe two claſſes is to be added a third, conſiſting chiefly of caſual poor, who are occaſionally out of employment, and either are not, or pretend not to be able to procure work. Of theſe ſome are ready and deſirous to be employed; and the greater part would work, if it were as eaſy for them to obtain employment, as it is to aſk alms. For the relief of them, we have only to follow the example of Count Rumford, in his great and excellent eſtabliſhment at Munich; or that of Lord Winchilſea, in his ſchool at Oakham, admirable in its ſimplicity and facility of execution: we have only to eſtabliſh work-rooms in different parts of the metropolis, where the poor ſhall have the option of attending or not, where they ſhall receive inviolably every penny of their earnings, and where they may, *if they prefer it*, partake of a comfortable and good meal at a cheap rate.

" I have deſcribed the three claſſes, of which the beggars of London do principally conſiſt:—1ſt. of aged and infirm perſons, belonging to pariſhes in or about the metropolis; pariſhes, which ought, and, with proper aſſiſtance, would pay more attention to them: 2d, of a ſimilar deſcription of perſons from country pariſhes, where they ſhould be received and maintained; ſomething being done, if an extraordinary caſe occurred, to prevent their ſending away their parochial poor: and 3d, of perſons who cannot procure employment, and of other caſual poor, for whoſe reſort and relief work-rooms ought to be opened.

" What is propoſed would have the merit of being capable of execution with little or no addition to the ſtatute book; as it would hardly require more than the enforcement of our preſent laws, in inſtances where the neglect of them has been attended with ſerious evils to the community. If, therefore, by the enforcement of thoſe laws, and by the aid of individuals, theſe three objects are attained;—the relieving of the aged and impotent of London pariſhes;—the aſſiſting of the country poor to return to their own pariſhes; —and the finding of employment for the caſual poor, who either cannot find work, or do not wiſh to find it;—begging will ſoon become, in London, an unneceſſary and unprofitable trade.

" A queſtion, however, may ariſe, whether this object, ſo far as it calls for the aid of the magiſtrate, can be attained by the preſent police offices; or whether it will not require a new and original office of its own.—Moſt of the police offices are already pretty fully employed; but even if they were not, yet a regular ſyſtem of relief, that is to pervade the whole of the metropolis—to provide work, and the means of maintenance for all who *can* labour, and for the aged and infirm (who *cannot*) comfort and relief, in the mode beſt for them, and leaſt burthenſome to ſociety;—a meaſure like this, I am perſuaded, could never be completed, and properly carried into effect in this great town, but by one office. It would otherwiſe be devoid of that ſingleneſs and uniformity of plan, which would be eſſential to its ſucceſs:—not that it ſeems neceſſary that any new appointment ſhould be made for the purpoſe; as a weekly board held at one of the now exiſting offices, or, which perhaps would be better, at a ſeparate office, by ſome of the moſt active and intelligent

magiſtrates, ſelected from the other offices, might be fully adequate to theſe important objects.

" Such an office, eſtabliſhed in the metropolis for the ſole purpoſe of attending to the poor, and forming and promoting plans for their employment and protection, if conducted with zeal, induſtry, temper, and diſcretion, would be attended with the moſt beneficial effects, not merely in the relief of the diſtreſſed and impotent poor, but in the reform of the idle and profligate. Whether the execution of the meaſure ſhould be conducted by the Society, the expences being defrayed from funds to be furniſhed by public contribution, or by any other mode, is matter for ſerious conſideration. In any event, it would produce an important diminution in the amount of miſery and vice in London; and it would be the means of aſſiſting and encouraging virtue and induſtry, and converting the benevolence of individuals into its proper and legitimate channel.

MENDIP-HILLS, a lofty tract, in the N.E. of Somerſetſhire, abounding in coal, calamine, and lead; the latter ſaid to be of a harder quality than that of other countries. Copper, manganeſe, bole, and red ochre, are alſo found in theſe hills. On their ſummits are large ſwampy flats, dangerous to croſs.

MENDLESHAM, a town in Suffolk, with a market on Friday, 18 miles E. of Bury St. Edmunds, and 82 N.E. of London. Long. 1. 12. E. Lat. 52. 24. N.

MENDRAH, a province of the kingdom of Fezzan, much of which is a continued level of hard and barren ſoil; but the quantity of trona, a ſpecies of foſſil alkali, that floats on the ſurface, or ſettles on the banks of its numerous ſmoking lakes, has given it a higher importance than that of the moſt fertile diſtricts. It has a town of the ſame name, 60 miles S. of Mourzook.

MENDRISIO, a town of Switzerland, the capital of an Italian bailiwic, containing about 16,000 inhabitants. It is ſeven miles W. of Como. Long. 8. 59. E. Lat. 25. 45. N.

MENEHOULD, St. an ancient and conſiderable town of France, in the department of Marne, with a caſtle advantageouſly ſituate; but its other fortifications have been demoliſhed. It was almoſt totally deſtroyed by a conflagration in 1719. It was here, in 1792, that the French gave the firſt check to the progreſs of the victorious Pruſſians, which in the end compelled them to a retreat. St. Menehould is ſeated in a moraſs, on the river Aiſne, between two rocks, 20 miles N.E. of Chalons, and 110 E. of Paris. Long. 4. 59. E. Lat. 49. 2. N.

MENGEN, a town of Germany, in Auſtrian Suabia, 33 miles S.W. of Ulm, and 45. S. of Stutgard. Long. 9. 13. E. Lat. 48. 1. N.

MENIN, a town of Auſtrian Flanders, ſeated on the Lis. In 1585 it was almoſt entirely deſtroyed by fire. It is conſidered as the key of the country; and in every war, from the middle of the 17th century, the poſſeſſion of it has been deemed of the utmoſt conſequence. It has, therefore, been often taken and retaken; the laſt time by the French in 1794, when the garriſon (in order to ſave the unhappy emigrants) bravely forced their way through the enemy. It is eight miles S.E. of Ypres, and 10 N. of Liſle. Long. 3. 9. E. Lat. 50. 48. N.

MENTON, a city of Italy, in the principality of Monaco, with a caſtle. It has a conſiderable trade in fruit and oil; and is ſeated near the ſea, five miles E.N.E. of Monaco, and eight W.S.W. of Ventimiglia. Long. 7. 35. E. Lat. 43. 46. N.

MENZALA, a town of Egypt, ſituate near a great lake to which it gives name, 20 miles S.S.E. of Damietta, and 73 N.N.E. of Cairo. Long. 32. 2. E. Lat. 31. 3. N.

MEPHITIS (*Encycl.*) The following communication on a method of preventing and deſtroying the mephitic taint with which walls become impregnated where a number of perſons, particularly ſick, are collected together, is inſerted in the Decade Philoſophique, &c.

" In my Memoir," ſays the author, " on milk-painting (ſee PAINTING, *Supp.*), I had conſidered it only as an object of domeſtic œconomy, ſo that I neglected to treat of the uſeful application of this method of painting to the demephetiſation of walls. Let me therefore ſupply the omiſſion.

" Wherever a great number of perſons, either healthy or ſick, are collected together, the walls are penetrated, and become inſenſibly ſurcharged with infectious effluvia, which they again exhale in conſequence of the motions of the atmoſpherical air; ſo that actual inhalation and exhalation take place in them. The currents of air which are conducted through ſuch places ſerve very well to renovate the atmoſphere, but they do not carry away with them the miaſmata that lurk in the pores of the walls, and which are retained there by the infectious moiſture proceeding from the perſpiration of the bodies, and which condenſes itſelf upon their ſurface.

" I have mentioned inhalation and exhalation: in fact, in the ſouthern climates, and particularly in Italy, where the phthiſis aſſumes a character of energy that renders it very contagious, experience has ſhewn that it is neceſſary, not only to burn all the clothes and furniture that have been in contact with the phthiſical perſon, but likewiſe to remove the ſuperficial layer of the walls and floors, in order to prevent the contagious miaſmata, which is concealed in them, and which they re-exhale, from taking effect. In my opinion, quick-lime might be ſubſtituted in the place of theſe means, and prove a ſufficient preventive of the contagion, as it has powerful demephitiſating properties.

" By waſhing with water and lime I entirely deprived a dead body, in a ſtate of putrefaction, which I was charged, by a decree of the parliament, to have dug out of the ground, of its ſmell, on account of the dangers that might ariſe from digging it out of ground.

" This mephitiſm is ſo inherent, that even time cannot diſſipate it, as was proved by the example of the Donjeon of Vincennes, when it ceaſed to be a ſtate priſon, under the adminiſtration of Maleſherbes. Curioſity attracted a great concourſe of people to the dungeon; and thoſe who had formerly inhabited the priſon being particularly curious to ſee it, they recogniſed the ſame ſmell in it with which they had been ſtruck upon entering it the firſt time: and yet the doors and windows had been removed, and the elevation of the building expoſed it to the free action of the air.

" Workſhops, manufactories, infirmaries, hoſpitals, priſons, and all ſuch buildings, have an atmoſphere peculiar to themſelves, an atmoſphere which ſhortens the lives of the individuals, or often becomes the ſource of epidemic; and ſometimes peſtilential maladies, as the hoſpital or priſon fever, &c. Plants, when deprived of air, languiſh and loſe their colour; the effects of this privation muſt be ſtill more powerful upon animals, whoſe lungs conſume ſo large a quantity of air.

" Citizen Guyton-de-Morveau has diſcovered a method, by means of muriatic, or preferably oxygenated muriatic gas, of purifying any atmoſphere impregnated with contagious and peſtilential miaſmata. It waſhes ſuch an atmoſphere, and deprives it of its miaſmata, which it ſeizes upon and deſtroys. This important diſcovery gives Citizen Morveau a claim to the title of one of the benefactors of humanity, and a right to the civic crown.

" This means, however, though it ſubdues the mephitiſm of the air, would, perhaps, not act with equal efficacy upon walls, which conceal, deep within their pores, the miaſmata

with which they are infected. The activity of time is ſufficient for the purpoſe.

" I find in my notes the reſult of an experiment which I ſhall relate. Wiſhing to aſcertain the power of lime as a means of demephitiſation, I had layers, to the thickneſs of nine lines, taken away from a wall, before I arrived at a layer that was not yet altered. The other portion of the ſame wall, which I reſerved for the comparative experiment, was completely deprived of its mephitic impregnation by three ſucceſſive applications of common white-waſh (pure water and quick-lime). See WHITE-WASH, *Supp.*

" Now lime enters into the compoſition of the milk-paint, and it may be made the baſe of it by ſubſtituting it inſtead of the Spaniſh white, or whiting.

" The painting will become ſtill cheaper by this ſubſtitution, on account of the cheapneſs of the lime, ſo that the toiſe of the painting will coſt only five centimes: as to the labour, there can be no want of hands in buildings where great numbers of individuals are collected together, and where every thing ought to be conducted as œconomically as poſſible.

" To be able to deſtroy the mephitiſm of the walls in the aſylums of induſtry, indigence, and misfortune, is certainly a great point gained; but the means of preventing the evil, ſo that there may be none that requires to be remedied, is a no leſs valuable acquiſition. Now milk-painting, with the baſe of lime, is the means of preventing the walls from becoming impregnated with infectious miaſmata.

" But of what advantage, it may be objected, is the addition of milk and of oil? It is not by a chemiſt that this objection will be made; however this is our anſwer to it. The addition is made becauſe lime has no adheſion to the walls: it cannot be applied in a thick layer; and the ſlighteſt contact cauſes it to come off; on which account walls white-waſhed in the common way ſoil the clothes that come into contact with them. The caſeous part of milk, the addition of the oil, which forms a ſaponaceous ſubſtance with the lime, afford, on the contrary, after the evaporation of the moiſture, a layer that poſſeſſes denſity and coheſion, and is capable of receiving thickneſs; it is a coating, in ſome meaſure varniſhed, which annihilates the poroſity of the ſtone, plaſter, brick, or wood, and from which we may wipe off the duſt, without laying bare the place which has been painted.

" Milk painting affords another advantage, which I have not mentioned in my memoir, namely, that of checking the nitrification of the walls, which is accelerated by painting in diſtemper.

" In fact, glue is an animal ſubſtance, of which one of the conſtituent principles is azot; now the decompoſition of the glue extricates this azot, which is alſo one of the conſtituent principles of the nitric acid, and enables it to combine with the oxygen, with which it forms this acid.

" As milk painting produces no extrication of azot, one of the aliments of the nitrification is removed; not that the caſeous part of milk does not alſo contain azot, but that it does not become decompoſed, nor give this principle the freedom requiſite to enable it to enter into a new combination. Moreover, this painting ſtops up the pores of the ſtone, and interpoſes itſelf between the walls and the nitrifying action.

" Supported by the theory which I have juſt explained, by the authority of two of our firſt chemiſts, Citizens Fourcroy and Deyeux, to whom I have ſubmitted my opinion, and, laſtly, by my own experience, I think myſelf juſtified in recommending to the adminiſtrators of hoſpitals, to adopt the *reſinous milk painting* (always ſubſtituting lime in the place of Spaniſh white) as the moſt efficacious, and at the ſame time the moſt œconomical means of deſtroying the mephitiſation of the walls, and preventing it for the future."

MEPPEN, a town of Weſtphalia, which depends on the Biſhop of Munſter. It is ſeated on the Embs, 15 miles N. of Lingen, and 50 N.W. of Munſter. Long. 7. 36. E. Lat. 52. 45. N.

MEQUINENZA, an ancient town of Spain, in Arragon, with a caſtle; ſeated at the confluence of the Ebro and Segra, in a fertile country, 39 miles N.W. of Tortoſa, and 180 N.E. of Madrid. Long. 0. 29. E. Lat. 41. 36. N.

MER, a town of France, in the department of Loir and Cher, 10 miles N.E. of Blois.

MERAN, a trading town of Germany, in the Tyrol, capital of Erſchland. It is ſeated on the Adige, 12 miles N.W. of Bolzano. Long. 11. 18. E. Lat. 46. 44. N.

MERAZION, or MARKET JEW, a ſea-port in Cornwall, with a market on Thurſday; ſeated on an arm of the ſea, called Mountſbay, three miles E. of Penzance, and 283 W. by S. of London. Long. 5. 30. W. Lat. 50. 12. N.

MERCURY (*Encycl.*). The following experimental enquiry concerning the ſolution and oxydation of mercury, by Mr. Schmidt, apothecary at Sondeſburg, appears in Scherer's Chemical Journal.

" In preparing," ſays the author, " the *red oxyd of mercury* (red precipitate of mercury), the idea had frequently occurred to me, whether the nitrous acid that paſſes over might not ſtill be employed for other ſimilar purpoſes, or more mercury employed for ſolution. Time and circumſtances did not at firſt permit me to enter upon the inveſtigation of this ſubject, which afterwards ceaſed to engage my attention, till the obſervations of Van Mons upon the oxydation of mercury, in this Journal, vol. II. p. 742, which ſo entirely coincided with what I had formerly ſuſpected, recalled my thoughts to it, and I now felt a more urgent impulſe to inſtitute a more accurate enquiry into the ſubject.

" I therefore firſt ſubjected, according to the old method commonly in uſe, one part of mercury, and two parts of the common aquafortis of the ſhops, to diſtillation, in order to examine, whether the acid, which is carried over, might not ſtill be employed once more, or perhaps oftener, for the ſame purpoſe. After the diſtillation, I found that the loſs of aquafortis amounted to no more than four ſcruples in the ounce. To this I added three drachms more of freſh mercury, and my expectations were completely fulfilled; the mercury was completely diſſolved, and the fluid that was carried over amounted to ſix drachms all but one ſcruple, which, as the acid did not yet ſeem to have entirely loſt its powers, I mixed ſtill with three drachms of mercury, in order to carry my experiments to this ultimate point. Here, however, my expectations failed: ſcarcely two drachms were diſſolved, and amongſt this ſalt I found globules of liquid mercury, which, being accurately weighed, amounted to ſixty-ſix grains; and the fluid that had paſſed over no longer exhibited any traces of predominant acidity.

" After having repeated theſe experiments ſeveral times, and always with the ſame reſult, I took equal parts of mercury and common aquafortis, as the former experiments clearly proved that this completely diſſolved, and conſequently oxydated the mercury, put both together into a retort, and ſubjected them to diſtillation. I again obtained a perfect nitrate of mercury, but the nitrous acid that was carried over was far leſs in weight than before, which was to be attributed to the greater quantity of mercury that had been employed. I then mixed the acid that had paſſed over once more with half the quantity of mercury; but now nine ſcruples remained undiſſolved in the retort out of one ounce of mercury.

" Theſe experiments ſufficiently convinced me, that the common aquafortis of the ſhops is able to diſſolve only a little more than an equal quantity of mercury: I therefore thought

proper to try the *double* aquafortis *(aquafortis duplex)*, and the concentrated fuming nitrous acid *(Acidum nitri concentratum)* But alſo the experiments which I made with thoſe afforded me little more diſſolved mercury than the common ſingle aquafortis had done: a drachm of fuming nitrous acid diſſolved only four ſcruples of mercury, all of which, under the extrication of a large quantity of nitrous gas, was converted into a dry ſaline maſs, to which no artificial heat could be applied. Double aquafortis was more convenient for my experiments, as it produced no conſtant extrication of vapours; however it diſſolved and oxydated no larger a quantity of mercury than had been done in the former proceſſes.

" It now therefore only remained for me to try the purified acid of nitre; and it was neceſſary for me to make the experiment alſo with this, in order that I might be able to draw certain inferences from my experiments. I therefore purified good common ſingle aquafortis again over dry ſaltpetre, put the fluid which firſt paſſed over apart, and employed only that which followed for my experiments. Their reſult was as follows:

" 1. Equal parts of mercury and purified acid of nitre, immediately diſſolved in the cold, under an extrication of nitrous gas, in a glaſs veſſel, and yielded a white ſalt, over which ſtill one ſcruple of fluid ſtood; this I poured anew upon half a drachm of mercury, which likewiſe was entirely converted into a ſaline maſs.

" 2. Half an ounce of purified aquafortis, and an ounce of mercury, were likewiſe completely diſſolved, without the application of artificial heat.

" 3. I then poured half an ounce more of this aquafortis, and two ounces of mercury, into a ſmall retort, in which I let them remain incloſed over night, and, on the following morning, I found that ſix drachms were diſſolved. I then fixed a receiver to the retort, and applied a gentle heat; however, no more mercury was diſſolved; I therefore poured the remaining crude mercury into the fluid that had paſſed over into the receiver, in which, upon the application of heat, two drachms were again diſſolved, ſo that in all an ounce of mercury remained undiſſolved *.

" After having made theſe experiments, I endeavoured to avail myſelf of the hints which Van Mons gives in the abovementioned article in Scherer's Journal, namely, " To perform the ſolution and oxydation of the mercury in an open veſſel, which enables us to ſtir the maſs, and divide the mercury." An evaporating diſh of porcelain was choſen for this purpoſe: I began the ſolution at a low temperature, and gradually increaſed the heat, at the ſame time keeping the maſs in conſtant motion by ſtirring it; however, all my labour was in vain. I obtained nothing more than what the preceding experiments had already exhibited, and the ſuppoſition of Van Mons, " That, by proceeding in this manner, it might be poſſible to oxydate at leaſt fifty parts of mercury with twenty parts of moderately concentrated nitrous acid," was proved to be groundleſs. I obtained, indeed, a very good oxyd; but the mercury that was not diſſolved had eſcaped in increaſing the temperature.

" However, if we take the proper proportions of acid and mercury, and manage the fuel properly, this mode of proceeding is the moſt convenient, eaſy, and advantageous. By conſtant ſtirring, every part of the mercury is expoſed to the action of the acid; the whole proceſs is completed in a few hours, and a conſiderable ſaving of fuel is made.

" From all the experiments hitherto mentioned, I deduce the following *inferences:*

1. " That the common, not purified, aquafortis of the ſhops, both ſingle and double, can diſſolve and oxydate well only equal quantities of mercury; but that one part of purified aquafortis can diſſolve and oxydate two parts of mercury.

2. " That conſequently purified aquafortis, free from all admixture of muriate and ſulphuric acid, is the beſt adapted for the ſolution of mercury.

3. That the ſolution or oxydation of mercury, performed in open veſſels, effects nothing more than that which is performed in cloſe veſſels; but that, for the reaſons already adduced, it is more advantageous to perform the operation in open veſſels †.

4. " That it is advantageous, when this operation is performed in cloſe veſſels, to reſerve the acid that paſſes over from the mercurial oxyd, for new ſolutions of mercury; or alſo to make uſe of this fluid in preparing the white precipitate of mercury, as always a portion of diſſolved mercury paſſes over together with it, which affords a white precipitate with muriate of ammonia and carbonate of kali.

5. " When too much mercury was employed, I did not obſerve that it paſſed over into the receiver in the metallic ſtate, but it was always at firſt covered by the mercurial ſalt; and upon increaſing the temperature, it was raiſed indeed, but it depoſited itſelf in a half-calcined ſtate upon the upper part of the retort, in the form of a greyiſh-white ſublimate. The very trifling quantity of metallic mercurial globules that paſſed over was immediately diſſolved by the diſtilled acid contained in the receiver.

MERDIN, a town of Turkey, in Diarbeck, with a caſtle, and an archbiſhop's ſee. The country about it produces a great deal of cotton. It is 45 miles S.E. of Diarbekar. Long. 39. 59. E. Lat. 36. 50. N.

MERE, a town in Wiltſhire, with a market on Tueſday, 28 miles W. of Saliſbury, and 100 W. by S. of London. Long. 2. 25. W. Lat. 51. 6. N.

MERECZ, a town of Lithuania, ſeated at the confluence of the Berezino and Merecz, 30 miles N. of Grodno. Long. 24. 10. E. Lat. 50. 0. N.

MERGENTHEIM, a town of Franconia, ſubject to the grand maſter of the Teutonic order; and ſeated on the Tauber, 16 miles S.W. of Wurtzburg. Long. 8. 50. E. Lat. 49. 30. N.

MERGUI, the capital of a province of the kingdom of Siam, ſituate on an iſland near the coaſt, with an harbour, which is ſaid to be one of the beſt in the Eaſt Indies. Long. 98. 28. E. Lat. 12. 6. N.

MERINDOL, a village of France, in the department of the Mouths of the Rhone, whoſe inhabitants were maſſacred on account of their religion, in 1545, by virtue of an arret of the parliament of Aix. It is nine miles E. of Cavaillon.

MERITZ, MERITCH, or MERRICH, an important fortreſs and city of the Deccan of Hindooſtan. It was taken by Hyder Ally, in 1778; and is ſituate near the N. bank of the river Kiſtna, 70 miles S.W. of Viſiapour.

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* " It is not yet entirely clear to me (ſays Mr. Schmidt in a note), from whence it proceeded, that the whole of the nitrous acid did not at firſt ſaturate itſelf with mercury, and that the fluid that paſſed over ſtill diſſolved a portion of mercury, as was the caſe in all the proceſſes before mentioned. Perhaps the nitrous ſalt of mercury that had ſeparated itſelf from, and covered, the metallic mercury, prevented the nitrous acid, that was now left in a weak ſtate, from acting upon it."

† *Note of Prof. Scherer.* " In the ſame manner I alſo diſſolve the ſulphate of mercury, complete the operation in a few hours, which, when performed in cloſe veſſels, occupies ſeveral days, on account of the difficulty with which the concentrated ſulphuric acid paſſes over, and nevertheleſs obtain Turpeth mineral of the fineſt yellow colour."

MERK, a river of Auſtrian Brabant, which running N. by Breda, afterward turns W. and falls into one of the months of the river Maeſe, oppoſite the iſland of Overflackee, in Holland.

MERO, a ſtrong town of the kingdom of Pegu, 140 miles S.W. of the town of Pegu. Long. 98. 36. E. Lat. 16. 0. N.

MEROU, a town of Perſia, in Chorafan, ſeated in a fertile country, which produces ſalt, 112 miles S.W. of Bokhara. Long. 64. 25. E. Lat. 37. 40. N.

MERRIMACK, a town of the United States, in New Hampſhire, ſituate on a river of the ſame name, 35 miles N.W. of Boſton.

MERSEBURG, a town of the electorate of Saxony, in Miſnia, with a biſhop's ſee; ſeated on the Sala, 10 miles S. of Halle, and 56 N.W. of Dreſden. Long. 12. 6. E. Lat. 51. 28. N.

MERSPURG, a town of Suabia, in the biſhopric of Conſtance, and the biſhop's uſual place of reſidence. It is ſeated on the N. ſide of the lake of Conſtance, 11 miles from the town of that name. Long. 9. 26. E. Lat. 47. 45. N.

MERTOLA, a ſtrong town of Portugal, in Alentejo, ſeated near the Guadiano, 60 miles S. of Evora, and 100 S.E. of Liſbon. Long. 7. 40. W. Lat. 37. 30. N.

MERTON, a village near Oxford, ſituate near two military ways. There were intrenchments in the neighbouring woods, ſuppoſed to be thrown up by King Ethelred, or the Danes, whom he defeated in 871.

MERTON, a village in Surrey, ſeated on the Wandle, ſeven miles S.W. of London. It had a celebrated abbey, founded in the reign of Henry I. in which ſeveral important tranſactions took place; particularly, at a parliament held here, in 1236, were enacted the proviſions of Merton (the moſt ancient body of laws after Magna Charta), and the barons gave that celebrated anſwer to the clergy, *Nolumus leges Angliæ mutari*—We will not change the laws of England. Nothing remains of this abbey, but the E. window of a chapel; and the walls that ſurround the premiſes, which are built of flint, are nearly entire, and include about 60 acres. Upon the ſite of this abbey are two calico manufactures, and a copper-mill; and about 1000 perſons are now employed on a ſpot, once the abode of monaſtic indolence.

MERVE, the north branch of the river Maeſe, in Holland, on which the city of Rotterdam is ſeated.

MERVILLE, a town of France, in the department of the North, ſeated on the Lis, 10 miles S.E. of Caſſel, and 24 S.W. of Menin. Long. 2. 43. E. Lat. 50. 57. N.

MESEN, a ſea-port of Ruſſia, in the government of Archangel, capital of a diſtrict of the ſame name. It is ſeated on the river Meſen, on the E. coaſt of the White Sea, 160 miles N. of Archangel. Long. 44. 45. E. Lat. 65. 50. N.

MESKIRK, a town of Suabia, in the county of Furſtenburg, 15 miles N. of Uberlingen.

MESSA, a town of Morocco, on the river Sus, not far from the Atlantic, at the foot of Mount Atlas. Near it is a moſque, in which are the bones of a whale, which the inhabitants conſider as the bones of the whale that ſwallowed Jonah. It is 165 miles S.W. of Morocco. Long. 10. 46. W. Lat. 29. 58. N.

MESSING, a town of Franconia, in the biſhopric of Aichſtatt, 14 miles N.N.E. of Aichſtatt.

MESTRE, a town of Italy, in the dogado of Venice, 16 miles N.E. of Padua. Long. 12. 2. E. Lat. 45. 26. N.

MESURATA, a ſea-port of Tripoli, and the reſidence of a governor. Caravans travel hence to Fezzan and other interior parts of Africa, with which they carry on a great trade. It is 100 miles E.S.E. of Tripoli. Long. 15. 2. E. Lat. 31. 55. N.

METELEN, a town of Weſtphalia, in the biſhopric of Munſter, 19 miles N.W. of Munſter. Long. 6. 59. E. Lat. 52. 18. N.

METERISCH, a town of Moravia, in the circle of Iglau, 17 miles E. of Iglau, and 76. S.E. of Prague. Long. 15. 58. E. Lat. 49. 6. N.

METHODISTS *(Encycl.)*. We have already given a general account of this religious body, but it may not be diſagreeable to the reader to have their preſent ſtate in England more particularly deſcribed. The moſt trivial cauſes have oftentimes effected the greateſt changes in ſociety. Syſtems have been overturned by caſual incidents, apparently of no ſignificance; and widely-extended corruptions have been purged away, by means the moſt inadequate, and through the inſtrumentality of perſons from whom different deſigns might have been expected. The reformation of the church, and the ultimate deſtruction of the papal power, may be attributed to the preference given by Leo X. to the Dominicans, and the conſequent reſentment of the Auguſtine monks, who encouraged their brother *Luther* to a ſpirited oppoſition of the papal indulgences.

The great change which has evidently taken place in the proteſtant churches within the preſent century, and the ſpread of religious knowledge in various parts of the earth, not long ſince obſcured with ignorance and ſuperſtition, may be traced to the chambers of a private fellow of a college in Oxford. The ſentiments of John Weſley, upon the neceſſity of a living Chriſtianity, ſeated in the hearts and commanding the practice of men, in oppoſition to a mere formal profeſſion, led him to aſſociate with others of the ſame ſerious diſpoſition. The remark made to him by a good man, whom he went many miles to ſee, affected him not a little: "Sir (ſaid he), you wiſh to ſerve God and to go to heaven. Remember, you cannot ſerve him alone. You muſt, therefore, *find* companions, or *make* them: the Bible knows nothing of a ſolitary religion." Soon after this, which was about the year 1729, Mr. Weſley formed a ſmall ſociety at Oxford, of ſerious ſtudents, as his brother Charles, a Mr. Morgan, the exemplary Mr. Harvey, the celebrated George Whitfield, and others. Theſe pious young men met together, to promote one another's ſtudies, and to read the ſcriptures for mutual edification. Finding the benefit of this courſe, they proceeded, in the next place, to render themſelves more conſpicuous in a work of love; namely, to viſit the priſoners in the caſtle, and the ſick poor in the town. Being increaſed to the number of fifteen, they were ſtrengthened in their minds, and encouraged in their pious labours. At this time, when prejudice is ſo much ſoftened down, and religious intolerance has been driven away by a ſpirit of liberality, the man of enlarged mind, whatever may be his principles, cannot ſee any thing to diſcommend in this conduct: it was, on the contrary, ſuch as highly became perſons deſtined for the moſt ſacred of profeſſions, and ought to be held up as an example to all candidates for the miniſtry. Thus far, candour muſt approve the riſe of what is called *Methodiſm*, which term was applied to theſe ſerious young men by a fellow of *Merton* college, in alluſion to an ancient ſect of phyſicians at Rome, who were remarkable for putting their patients under regimen, and were therefore called *Methodiſts*. But religious zeal is a delicate thing, and requires to be tempered with much diſcretion. Meſſrs. Weſley and Whitfield were fired with the ſpirit to ſuch a degree, that no limits could contain them. Though ordained in an epiſcopal church, the canons of which are very ſevere againſt all irregularities, they ventured to break the barriers, and went forth as miſſionaries to convert the world.

The churches being ſoon ſhut againſt them, they adopted the novel method of field-preaching, which produced much diſorder, and, it muſt alſo be confeſſed, much good. The next irregular ſtep of theſe good men, for ſuch they undoubtedly were, was the authoriſing laymen, and thoſe in general of the loweſt occupations, to preach the goſpel. Nothing can prove the tenderneſs of our national eſtabliſhment more effectually than the indulgence which was ſhewn to theſe clergymen: no eccleſiaſtical cenſure was ever paſſed upon their conduct, although ſuſpenſion might naturally have been expected. The churches, it is true, were in general ſhut againſt them; but this was the private act of individuals, with which the biſhops could have no concern. But to return: the ſocieties of methodiſts increaſed rapidly, and were multiplied throughout the kingdom. At length the two great leaders, John Weſley and George Whitfield, ſeparated from each other, and a grand breach was made between their followers. The former held univerſal redemption and free will, while the others ſtrenuouſly adhered to abſolute election and free grace. The heats occaſioned by this difference ſubſiſted for many years, and produced much violent and indecent controverſy: at preſent there is more unity between them, and they appear to be aſhamed of the intemperance which diſgraced their once favourite diſputants. Mr. Weſley preſerved an admirable economy in his numerous ſocieties, which were held together, during his life-time, by a ſimple, but firm, diſcipline. Since his death, they have ſuffered conſiderably from a ſpirit of diſſenſion. Mr. Weſley always preſerved a great regard for the church of England; and never ſuffered his ſocieties to have religious worſhip in the hours of church ſervice, or the ſacrament to be adminiſtered by lay-preachers. Since his death, both theſe reſtrictions have been broken, and moſt of his ſocieties have become complete diſſenters. Many, however, from their veneration for Mr. Weſley, diſapprove theſe meaſures, and refuſe to hold communion with their brethren—calling themſelves, with an honeſt pride, *Church Methodiſts*. Mr. Weſley, it is ſaid, about the year 1765, was ſo imprudent as to accept of conſecration from a perſon calling himſelf a Greek biſhop, who alſo ordained ſeveral of the lay-preachers. This was a ſcandalous violation of the canons, and a pitiful ſubterfuge at the very beſt. It is generally concluded that the man was an impoſtor. Mr. Weſley afterwards took upon him, with the aſſiſtance of ſome other preſbyters, to ordain preachers, and even conſecrated, after a manner, Dr. Coke to be a ſuperintendant, or biſhop, of the methodiſts in North America. This gentleman is now at the head of the Weſleyan, or Arminian methodiſts, and is indefatigable in following the ſteps of his great leader. He has made ſeveral voyages to America and the Weſt-Indies, where the ſocieties are very numerous; and it is ſaid that their labours among the negroes have been exceedingly ſucceſsful. No leſs than ten thouſand are regular members of claſſes in the Weſt-India iſlands, where there are alſo many black preachers. The methodiſts of Mr. Weſley's eſtabliſhment are more numerous than thoſe of the Calviniſtic perſuaſion, and appear to be better ſubjects of the government.

METHVEN, a town of Scotland in Perthſhire, with an ancient caſtle. It has manufactures of broad and narrow linen; with two paper and ſome other mills. King Robert Bruce, ſoon after his coronation in 1306, was defeated here by the Engliſh troops under the earl of Pembroke, and found himſelf forſaken by the greater part of his army. It is ſix miles W.N.W. of Perth.

METHWOLD, a town in Norfolk, with a market on Tueſday, 15 miles N.W. of Thetford, and 86 N.N.E. of London. Long. 0. 40. E. Lat. 52. 34. N.

METLING, a ſtrong town and caſtle of Germany, in the duchy of Carniola, ſeated on the Kulp, 40 miles S.E. of Laubach. Long. 15. 10. E. Lat. 46. 2. N.

METRO, a river of Italy, which riſes in the territory of the church, runs into the duchy of Urbino, and falls into the gulf of Venice, near Fano.

MEUDON, a village of France, where was a magnificent royal palace on the Seine, ſix miles S.E. of Paris.

MEULAN, an ancient town of France, in the department of Seine and Oiſe. It is built in the form of an amphitheatre, on the river Seine, over which are two bridges, 20 miles N.W. of Paris. Long. 1. 57. E. Lat. 49. 1. N.

MEURS, a town of Germany, in the duchy of Cleves, ſeated on the Rhine, 15 miles N.W. of Duſſeldorf. Long. 6. 41. E. Lat. 51. 25. N.

MEURTHE, a department of France, including part of the late province of Lorrain. It is ſo called from a river that riſes in the department of the Voſges, and watering Luneville and Nanci, falls into the Moſelle. Nanci is the principal ſee of this department.

MEUSE, a department in France, including the late duchy of Bar. It takes its name from the river Meuſe, or Maeſe. Bar-le-Duc is the capital. See MAESE.

MEWARI, a conſiderable town of Japan, in the iſland of Niphon, with a royal palace. It is ſeated on a hill, at the foot of which are vaſt fields of wheat and rice, with fine orchards, full of excellent plums.

MEWAT, a hilly and woody tract of Hindooſtan Proper, lying on the S.W. of Delhi, confining the low country, along the W. bank of the Jumna, to a comparatively narrow ſlip, and extending weſtward 130 miles. From N. to S. it is 90 miles. Although ſituate in the heart of Hindooſtan, within 25 miles of its former capital (Delhi), its inhabitants, the Mewatti, have been ever characteriſed as the moſt ſavage and brutal; and their chief employment has been robbery and plunder. In 1265, 100,000 of theſe wretches were put to the ſword; but they are ſtill ſo noted as thieves and robbers, that parties of them are taken into pay by the chiefs of Upper Hindooſtan, in order to diſtreſs the countries that are the ſeat of warfare. Mewat contains ſome ſtrong fortreſſes on ſteep or inacceſſible hills, and was almoſt entirely ſubject to the late Madajee Sindia, a Mahratta chief.

MEWAT-ALI, a town of Perſia, in Irac-Arabia, not ſo conſiderable as formerly, but famous for the ſuperb and rich moſque of Ali, to which the Perſians go in pilgrimage from all parts. It is 100 miles S.W. of Bagdad. Long. 42. 57. E. Lat. 32. 0. N.

MEXAT-OCEM, a conſiderable town of Perſia, which takes its name from a moſque dedicated to Ocem, the ſon of Ali. It is ſeated in a fertile country, on the river Euphrates, 70 miles N. of Mexat-Ali. Long. 42. 57. E. Lat. 33. 0. N.

MEXICANO, or ADAYES, a river of Louiſiania, which empties itſelf into the gulf of Mexico.

MEXICO, the capital of the province of Mexico Proper, of the audience of Mexico, and of all New Spain. It was a flouriſhing place before the Spaniards entered the country, and was ſeated on ſeveral iſlands, in a ſalt-water-lake, to which there was no entrance, but by three cauſeways, two miles in length each. It contained about 80,000 houſes, with ſeveral large temples, full of rich idols, and three palaces where the emperor of Mexico reſided. The abbé Clavigero ſays, that when the Mexicans were ſubjected to the Colhuan and Tepanecan nations, and confined to the miſerable little iſlands on the lake of Mexico, they ceaſed for ſome years to cultivate the land, becauſe they had none, until neceſſity taught them to form moveable fields and gardens, which floated on the waters of the lake. The method which they purſued to make theſe, and which they ſtill practiſe, is extremely ſimple. They

plait and twiſt willows and roots of marſh plants or other materials together, which are light, but capable of ſupporting the earth of the garden firmly united. Upon this foundation they lay the light buſhes which float on the lake; and over all, the mud and dirt which they draw from the bottom of the ſame lake. Their regular figure is quadrangular; their length and breadth various; but generally they are about eight perches long, and not more than three in breadth, and have leſs than a foot of elevation above the ſurface of the water. Theſe were the firſt fields which the Mexicans owned after the foundation of Mexico; and there they firſt cultivated the maize, great pepper, and other plants neceſſary for their ſupport. In progreſs of time, as theſe fields grew numerous from the induſtry of the people, there were among them gardens of flowers and odoriferous plants. Every day, at ſunriſe, innumerable veſſels, loaded with various kinds of flowers and herbs cultivated in theſe gardens, are ſeen arriving by the canal, at the great market-place of the capital. The mud of the lake is an extremely fertile ſoil, and requires no water from the clouds. In the largeſt gardens there is commonly a little tree, and even a hut, to ſhelter the cultivator and defend him from rain or the ſun. When the owner of a garden wiſhes to change his ſituation, he gets into his little veſſel, and by his own ſtrength alone, if the garden is ſmall, or with the aſſiſtance of others, if it is large, he tows it after him, and conducts it wherever he pleaſes. Mexico was taken by Cortez, in 1521, after a ſiege of three months. As the Mexicans defended themſelves from ſtreet to ſtreet, it was almoſt ruined, but afterward rebuilt by the Spaniards. The ſtreets are ſtraight, and ſo exactly diſpoſed, that in point of regularity it is the fineſt city in the world; and the great cauſeways leading to it, with the want of walls, gates, and artillery, render Mexico extremely remarkable. The great ſquare in the centre of the city, and the public buildings, are magnificent. There are 29 cathedrals and churches, and 22 convents; of the riches of which an idea may be formed from the revenues of the grand cathedral, amounting to 80,000l. a-year, of which the archbiſhop has 15,000l. There is alſo a tribunal of the inquiſition, a mint, and an univerſity. This city contains above 200,000 inhabitants. The goldſmiths here are immenſely rich, and it carries on a great trade to Europe by St. Juan de Ulhua, and to Aſia by Acapulco. This place was overflowed by an inundation in 1629, in which 40,000 perſons were drowned. This obliged the Spaniards to make a great conduit through a mountain, in order to empty the lake; which being done, part of the town became ſeated on dry land. Mexico is ſupplied with freſh water by an aqueduct three miles long. It is 200 miles E.N.E. of St. Juan de Ulhua, and 250 N.E. of Acapulco. Long. 100. 34. W. Lat. 20. 2. N.

MEXICO, GULF OF, that part of the Atlantic Ocean, on the coaſt of N. America, bounded on the S. and W. by Mexico, and on the N. by W. and E. Florida; the entrance lying to the E. between the S. coaſt of E. Florida, and the N.E. point of Jucatan.

MEYENBERG, a town of Upper Saxony, in the marche of Pregnitz, 21 miles N.E. of Perleberg, and 60 N.N.W. of Berlin. Long. 12. 19. E. Lat. 53. 20. N.

MEYENFELDT, a town in the country of the Grifons, ſeated on the Rhine, in a pleaſant country, fertile in excellent wine, 15 miles N.E. of Coire. Long. 9. 36. E. Lat. 47. 2. N.

MEYRVEIS, a town of France, in the department of Loziere, 23 miles S. of Mende, and 27 W. of Alais. Long. 3. 18. E. Lat. 44. 10. N.

MEZANA, a town of Naples, in Baſilicata, 17 miles S.S.W. of Turſi.

MEZEMNA, a ſea-port of Fez, on the coaſt of the Mediterranean, 80 miles E. of Tetuan. Long. 4. 1. W. Lat. 35. 22. N.

MEZEN, a ſea-port of Ruſſia, in the government of Archangel, near the White Sea, at the mouth of a river of the ſame name, 128 miles N.N.E. of Archangel. Long. 43. 34. E. Lat. 66. 30. N.

MEZIN, a town of France, in the department of Lot and Garonne: ſeated in a country that abounds in wheat; with vines, from which is principally made brandy: and with the cork-tree, which is ſold both in its natural ſtate, and in corks. It is nine miles N.W. of Condom.

MIA, or MIJAH, a large town of Japan, ſeated on the S. coaſt of the iſle of Niphon, with a fortified palace. Long. 130. 40. E. Lat. 35. 50. N.

MIANA, a town of Perſia, in the province of Aderbeitzan. Here the celebrated traveller M. Thevenot died, on his return from Iſpahan. It is 57 miles S.E. of Tauris.

MICHA, a cape of Dalmatia, which advances into the gulf of Venice, near the town of Zara.

MICHAEL, ST. the moſt fertile and populous of the Azores or Weſtern Iſlands. Its two principal harbours are Punta Guda and Villa Franca: the former is the capital of the iſland. Long. 25. 42. W. Lat. 37. 47. N.

MICHAEL, ST. a town of France, in the department of Meuſe, remarkable for its hoſpital, and the rich library of a late Benedictine abbey. It is ſeated on the Meuſe, 20 miles N.E. of Bar-le-Duc, and 165 E. of Paris. Long. 5. 38. E. Lat. 48. 51. N.

MICHAEL, ST. a ſea-port of New Spain, in the province of Guatimala, ſeated on a ſmall river, 180 miles S.E. of New Guatimala. Long. 87. 45. W. Lat. 12. 25. N.

MICHAEL, ST. a town of Peru, in the province of Quito. It was the firſt Spaniſh colony in Peru, and is ſeated near the mouth of the Piura, 225 miles S. by W. of Quito. Long. 80. 50. W. Lat. 5. 0. S.

MICHAEL DE IBARRA, ST. a town of Peru, in the province of Quito, 60 miles N.E. of Quito.

MICHAEL, GULF OF ST. to the E. of Panama, that part of the Pacific Ocean, which was firſt diſcovered by the Spaniards, after their march acroſs the iſthmus of Darien.

MICHELONIA, a country of Pruſſia, which is part of the circle of Culm, and ſeparated from the other part by the river Dribents. It takes its name from the caſtle of Michelow.

MICHIGAN, a conſiderable lake of N. America, whoſe N.E. extremity communicates with the N.W. end of Lake Huron, by the ſtrait of Michillimackinac.

MICHILLIMACKINAC, a ſtrait of N. America, which unites the lakes Michigan and Huron, and lies in 85° W. long. and 46° N. lat.

MIDDLEBURG, a large and ſtrong commercial city of the United Provinces, capital of the iſland of Walcheren, and of all Zealand. The ſquares and public buildings are magnificent. The Dutch took it from the Spaniards, in 1574, after a ſiege of 22 months. The inhabitants are computed at 26,000. The harbour is large and commodious, and has a communication with the ſea by a canal, which will bear the largeſt veſſels. It is 20 miles N.E. of Bruges, 30 N.W. of Ghent, and 72 S.W. of Amſterdam. Long. 3. 39. E. Lat. 51. 32. N.

MIDDLEBURG, a town of Dutch Flanders, which belongs to the prince of Iſenghein. It is five miles S.E. of Sluys. Long. 3. 26. E. Lat. 51. 15. N.

MIDDLESEX, a county of the ſtate of Maſſachuſets. Charleſtown, Cambridge, and Concord, are the chief towns.

MIDDLESEX, a county of the ſtate of Connecticut, which,

with the county of Tolland, has been recently formed from that of Hartford. Middleton and Haddam are the county towns.

MIDDLESEX, a county of the ſtate of New Jerſey. New Brunſwick is the chief town.

MIDDLETON, a commercial town of the ſtate of Connecticut, ſeated on the river Connecticut, 15 miles S. of Hartford. It is one of the county-towns of Middleſex.

MIDDLETOWN, a town of the ſtate of New Jerſey, and adjoining Shrewſbury, in the county of Monmouth. Sandy Hook (ſo called from its ſhape and ſoil) is included in this townſhip. On the point of the Hook ſtands the light-houſe, 100 feet high, built by the city of New York. Middletown is 30 miles S.W. of New York, and 50 E. by N. of Trenton.

MIDWIFE (*Encycl.*). The following extract from an account of the mode of ſupplying a country pariſh with a midwife, by the Rev. Mr. Dolling, late Vicar of Aldenham, Herts, appears in the Reports of the Society for bettering the Condition of the Poor.

" Fifteen years ago (ſays Mr. Dolling), there being then no midwife living in the pariſh of Aldenham, I ſelected a poor widow, who had three children ſupported by the pariſh, and ſent her up for inſtruction, to the Lying-in Hoſpital in Store-ſtreet, near Tottenham-court-road; where Dr. Oſborn permitted her to continue for three months, at a very ſmall expence. Though without any preparatory education, ſhe returned ſo well inſtructed, as to exerciſe her calling in the pariſh ever ſince, without a ſingle accident, or ever having occaſion to call in medical aſſiſtance*. She has been enabled thereby to ſupport herſelf and her children comfortably: and is now living, and in the enjoyment of the confidence due to her ſkill. She attends all the day-labourers' wives, at the ſtipulated ſum of half-a-crown.

" The expence of her inſtruction and ſetting up, was collected in the pariſh by ſubſcription; part of which paid for her board in the hoſpital; and the reſt of the money was applied for her journey and incidental expences.—She has been the cauſe of a conſiderable ſaving in the medical bills of the pariſh, beſides being a very great comfort † and relief to the poor."

The expence and trouble of the above was trifling; its benefit, both to the poor and to the pariſh, conſiderable: whenever, therefore, a pariſh is diſtant from medical aid, and unprovided with a midwife of its own, the above may be recommended to its conſideration.

MIECHAU, or MIEZAVA, a town of Poland, in Cujavia, ſeated on the Viſtula, 10 miles S. by E. of Thorn. Long. 18. 46. E. Lat. 52. 58. N.

MIGLIANO, a town of Naples, in Principato Ulteriore, 15 miles N.N.E. of Conza.

MIKALIDI, a town of Turkey in Aſia, in Natolia, with a fort, ſituate on a river, which runs into the ſea of Marmora, 35 miles W. of Burſa. Long. 28. 24. E. Lat. 40. 10. N.

MILAZZO, a ſtrong ſea-port of Sicily, in Val-di-Demona. It is divided into the upper and lower town; the upper is very ſtrong, and the lower has a fine ſquare, with a ſuperb fountain. It is ſeated on a rock, on the W. ſide of a bay of the ſame name, 13 miles W. of Meſſina. Long. 15. 34. E. Lat. 38. 12. N.

MILETO, an ancient town of Naples, in Calabria Ulteriore, with a biſhop's ſee, five miles from Nicotera.

MILETS, anciently MILETUS, a town of Turkey, in Aſia, in Natolia, 64 miles S. of Smyrna. Long. 27. 14. E. Lat. 38. 22. N.

MILFORD, a town of the ſtate of Delaware, in the county of Suſſex, ſeated at the ſource of a ſmall river, 15 miles from the bay of Delaware, and 150 S. of Philadelphia.

MILHAUD, a town of France, in the department of Aveiron. It was diſmantled in 1629, and is ſeated on the Tarn, 50 miles N.W. of Montpellier, and 142 S. of Paris. Long. 3. 11. E. Lat. 44. 3. N.

MILIANE, a town of the ſtate of Algiers in Tremeſen, with a caſtle. It is ſeated in a country fertile in oranges, citrons, and other fruits, the beſt in all Barbary. Long. 2. 35. E. Lat. 35. 15. N.

MILK (*Encycl.*). In the village of Barton-under-Needwood, Staffordſhire, the principal number of the poorer inhabitants were deſtitute of all means of procuring this moſt uſeful ſpecies of FOOD for their families. The benefit which would reſult, if they could be furniſhed with that article of food, appeared of ſo much importance, that, nearly three years ſince, a ſpecific plan for providing a ſupply was adopted. A reſpectable tradeſman in the pariſh expreſſed his readineſs to take a quantity of his land into his own hands, and to employ it in keeping cows, for the purpoſe of ſelling their milk to the poor. He mentioned, however, two obſtacles, as neceſſary to be removed. He ſtated the impracticability of diſtributing the milk at his own houſe; as the crowd, which would frequent it for a conſiderable time every morning and evening, together with the conſequent noiſe and trouble, would be equally unpleaſant and inconvenient. And he apprehended that he ſhould receive from the purchaſers a quantity of copper coin, larger than he ſhould be capable of circulating again, either in the way of change to them, or in his own buſineſs. It was therefore ſettled, that the milk ſhould be regularly carried from the field to the houſe of another inhabitant of the village, and ſold there: and a friend of the undertaking engaged to pay this perſon annually for his trouble. The tradeſman had alſo an aſſurance, that copper coin, to the amount of ſome guineas annually, ſhould be taken off his hands, if he thought proper. Theſe points being adjuſted, the meaſure was carried into effect at Candlemas, 1795; and it has been continued without interruption to the preſent

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* In the Mancheſter Infirmary, upon the ſuggeſtion of Mr. Simmons, a ſurgeon of eminence there, a plan for the relief of poor lying-in women has been adopted, which may deſerve the attention of other medical hoſpitals. Upon notice of any difficult caſe of delivery, the infirmary ſurgeon of the diſtrict, or in his abſence the one next in rotation, immediately attends gratis, and aſſiſts the poor woman at home; and the Infirmary provides medicines if wanted. The caſes that have occurred have been very few, but they were caſes of difficulty, and moſt of them would have been of extreme danger without ſuch medical aid.

† It ſeems much better for the wives of the poor, that they ſhould be attended at home, and receive a little pecuniary or other aſſiſtance, than that they ſhould be moved into a lying-in hoſpital; in which caſe the woman is uſually abſent from home for a month, her family neglected during her abſence, ſome parochial charge incurred, and ſhe returns home with habits of life not ſuitable to her ſituation. If ſhe is attended at home ſhe is generally capable of managing and aſſiſting in her family in a very few days, and the relief is given her at about a tenth part of the expence that would have attended her lying-in at an hoſpital.

time. The advantages which have accrued from it to the poor, have completely anſwered the expectations previouſly formed.

The following brief ſtatement will ſufficiently ſhew the detail of the ſcheme.

Nineteen acres of land, which might be let to good tenants at 2l. 10s. per acre, are wholly employed in furniſhing graſs and hay for the cows, and in rearing two or three calves. The ſtock of cows conſtantly kept is ſeven. Four of them calve at different periods in the ſpring and ſummer, and three in the autumn and winter.—The price, at which the milk is ſold, is three halfpence per quart, from the beginning of Auguſt until the time of turning out to graſs in the ſpring; and one penny, during the remainder of the year. It is always paid in ready money.

The quantity furniſhed to each poor family is regulated by the number of children in the family, and by other ſimilar circumſtances. Some of the purchaſers generally attend to ſee the milk carried from the field to the place of ſale: and they are all ſatisfied that the quality is unadulterated, and the meaſure ample.

If the milk had been ſold at two pence a quart, during the three winter months, and at three halfpence the reſt of the year, the account would have been in profit: but, at a penny a quart for the ſummer half year, there was a deficiency of about 5l. *as will appear by the following ſtatement, made by the tradeſman who ſells the milk, of the receipts and expences, for one year, ending the 17th of September, 1797.

Receipts.	£.	s.	d.
One year's receipts for milk	70	8	5
Milk kept for the tradeſman's family	12	5	9
Sale of young calves	3	6	0
Value of three rearing calves	8	10	0
Lattermath of part of the land	2	1	6
	96	11	8

Expences.	£.	s.	d.
A year's rent of nineteen acres of land, at 50s. per annum	47	10	0
Taxes, &c.	3	16	6
Mowing, getting hay, &c.	6	12	6
Straw for dry cows and litter	6	0	0
Rent of croft at home; yards, and ſhed	2	10	0
Decreaſe in value of ſtock from age	3	10	0
N. B. If young cows, they may improve.			
Hazard in ſtock, drugs, &c.	6	5	0
Intereſt of the value of ſtock	4	4	0
Loſs in changing ſtock, to keep a regular ſupply, and expences	3	10	0
James Harding, for care of cows and extra wages to ſervant	8	17	0
Carrying dung and ſoil, mixing and carrying compoſts	5	5	0
Hedging, ditching, ſpreading, &c.	1	10	0
Cultivation of cabbages	1	6	0
Uſe of bull	0	17	6
	101	13	6

To the foregoing, which appear in the Reports of the Society for bettering the Condition of the Poor, Mr. Bernard annexes the following obſervations: he ſays, "I do not mean to intimate that this plan is preferable to others which have been adopted elſewhere; that object, univerſally moſt deſirable, may in different places be beſt attained in different ways; and in ſome places it may be attainable by that method only which has been deſcribed. When this mode is ſelected, to provide for the permanence of the meaſure, will generally prove more beneficial, than to require *extreme* cheapneſs in the price of the article. To be able daily to purchaſe milk, though at its full value, is a very important advantage to the poor †. A local ſubſcription, however, for the purpoſe of reducing the price, will frequently be an eligible mode of charity. But, if the ſeller be urged to diſpoſe of the milk at a rate ‡, that will not allow him to draw from

* There are many parts of England, in which milk may be had at leſs coſt, than in this part of Staffordſhire. Mr. Manſell, of Lathbury Hall, near Newport Pagnell, aſſerts, that in his neighbourhood, cows may be kept with more advantage and leſs expence, than in that of Mr. Giſborne. This information is of importance, as it ſhews that Mr. Giſborne's example may be imitated with great advantage in other parts of England. Mr. Manſell thinks that the lattermath ſhould be kept; and that, where the ſupply of milk is the object, calves ſhould not be reared; as they conſume the richeſt milk, which ſhould be mixed with the other: he conceives that, in his own neighbourhood, the cutting of hedges will pay the expence of fences; and that nothing need be allowed for changing cows; as an intelligent farmer would make ſome benefit by buying and ſelling.

† It would be a great benefit and comfort to the poor, if farmers would generally, or even occaſionally, ſell them, for ready money, ſmall quantities (as half a buſhel) of corn, and ſingle cheeſes. The *trouble* of ſmall dealings, which is the objection alleged, would be trifling, if one or two ſtated hours, on a fixed day in each week, were aſſigned for the purpoſe. By being thus reſcued from the impoſitions too prevalent among millers, bakers, and huckſters, the poor would ſave, perhaps, two pence in every ſhilling, not to mention other important benefits.

‡ Milk is an article of very great importance to the poor; it is eſſential to the nouriſhment of children, and extremely uſeful to the economy of families. Where the cottager can be ſupplied with the means of keeping his cow, his benefit will be very conſiderable: where he cannot, the mode adopted by Mr. Giſborne is very deſerving of attention and imitation. There may, however, be parts of England (particularly where a good deal of butter, or rich cheeſe, is made) in which the poor cannot in general have new milk: but, in thoſe places, if they could be ſupplied, either as a gift or by purchaſe, with ſkim-milk, even that would be of great uſe to them; eſpecially as it would come at a very cheap rate. Where the poor can purchaſe ſkim-milk, they get it very cheap; it coſts them about a halfpenny a quart. To aſcertain its utility to a cottager, who has children, try the following ingredients:

Two quarts of ſkim-milk	1d.
Half a pound of rice	1d.
Two ounces of treacle	0½
	2½d.

Theſe,

his fields a profit equal to the rent for which he could ſet them, or to the common returns from other modes of huſbandry in the neighbourhood, he will probably continue the plan with reluctance, or will ultimately abandon it. In Barton, the price was originally fixed at one penny per quart, from Lady-day to Michaelmas; and at three halfpence, during the reſt of the year. But experience proved it to be too low; and the more ſo, as of late the prime coſt of cattle has been very high, and the advantage reſulting from raiſing butchers' meat, cheeſe, and butter, proportionally large.

"The tradeſman has not had occaſion to apply to be relieved from a ſuperabundance of copper coin; a circumſtance which ſuggeſts the hope that in other places, where the plan now detailed may be inſtituted, difficulties, apprehended at firſt, may be found on trial to be of little moment."

The following is extracted from an account of a ſupply of milk for the poor at Stockton, in the county of Durham, by Robert Clarke, eſq. publiſhed in the ſame work.

In October, 1800, upon a farm at Stockton, of 173 acres, belonging to the epiſcopal demeſne of Durham, the biſhop, in order to relieve the diſtreſs of the poor in that place, on account of the want of milk, eſpecially in the winter ſeaſon, gave directions for the farm being let upon the old rent, provided that (in addition to the uſual ſtipulations applicable to a farm, conſiſting partly of arable land, and partly of dairy land) it ſhould be held upon the following terms: that the tenant, Mr. *John Robſon*, ſhould undertake to keep upon the farm, during his leaſe, fifteen cows of the beſt breed and ſize in the country, over and above the number neceſſary for his own family; not leſs than twelve of which ſhould be at one time in milk, and the remainder in calf. The tenant was to ſell the milk, unadulterated, and without any cream being taken from it, *to the poor of Stockton* indiſcriminately, whether pariſhioners or not, at one halfpenny per pint, beer meaſure in ſummer, and wine meaſure in winter. The tenant has engaged to produce for ſale in Stockton, and in clean and proper veſſels, the milk of theſe 15 cows twice a-day in ſummer, and once a-day in winter; every poor perſon applying, being to be entitled, without any preference, except that which is due to the aged and infirm, to one quart of milk in ſummer, and one pint of milk in winter; and as to the reſidue not ſo diſpoſed of, a preference to be given to cottagers having families of young children.

The mode of ſelling the milk may be varied by the biſhop or his agent; and to prevent any doubts as to the fair diſpoſal of the milk, the tenant is not to ſell any milk whatever, except to the poor; nor to ſell any butter or cheeſe to any one; nor is he to make more butter or cheeſe than may be wanted for the ſupply of his own family.—In conſideration of the preceding ſtipulations on the part of the tenant, it has been agreed on the biſhop's part, that upon the punctual performance of the tenant's agreement to the ſatisfaction of the biſhop's ſteward, the annual ſum of 30l. ſhall be diſcounted and allowed the tenant out of his rent.

In letting this farm, a particular attention has been paid to the character of the tenant, in reſpect of integrity, induſtry, and regularity. In conſequence of what the biſhop has done, and in order to incorporate upon his charity a gratuitous ſupply of milk for thoſe families which cannot earn the means of purchaſing it for themſelves, the town of Stockton has been ſince divided into nine diſtricts; in each of which five or ſix of the moſt reſpectable inhabitants have undertaken the office of viſitors, and to attend the houſes of the poor, ſo as to aſcertain their ſituations and characters, and their means of livelihood. The conſequence is, that upon any application for parochial relief, or for private charity, in the town of Stockton, the viſitors may be referred to, and the relief to be granted may be proportioned in manner, and in degree, to the *induſtry*, the *neceſſity*, and the *character* of the object. By theſe means, coals alſo have been delivered to the poor, with a great attention to juſtice, as well as to effect; and milk is diſtributing, at preſent, to the moſt neceſſitous and deſerving, by means of tickets iſſued by the inſpectors of the diſtrict; ſo as, in ſome degree, to confine the benefit of the biſhop's charity to thoſe for whom it is peculiarly intended.

In order to give a ſimilar accommodation to the tradeſmen and other inhabitants of Stockton *, and thereby to promote the effect and ſucceſs of this plan for the benefit of the poor, the biſhop has applied a further part of his eſtate, in providing a cow paſture, and incloſed fields, for the other inhabitants. Four fields, containing together twenty-four acres, have been laid together as a ſummer paſture; and a number of incloſures are to be ſubdivided and fenced, and to have cow-houſes built in them at his lordſhip's expence; each of theſe ſubdiviſions will contain from two acres and a half to three acres, and will be ſufficient for hay and winter paſturage for two cows.

It will often come within our notice, that *the country poor* are more thankful for employment kindly offered, with the occaſional aid of a little *ſkim milk* or ſpare vegetables for their family, than for any thing that benevolence can give in the way of alms. There is, indeed, hardly any circumſtance which does more eſſential prejudice to the cottager's domeſtic ſyſtem of economy, and to the health and well-being of his children, than the difficulty under which he labours, in his endeavours to procure a ſupply of milk. With that variety of information upon this ſubject, that has for ſome time engaged the attention of *the Society for bettering the Condition of the Poor*, and with the zeal which its preſident poſſeſſes on this and on every other object of the ſociety, it is not to be wondered that he ſhould have given an early and beneficial example, of the means by which this inconvenience may be removed. For the ſubſiſtence of children, there is perhaps nothing ſo excluſively uſeful as milk; no other food which aſſimilates and co-operates with every kind of grain of this, and of every other country, and with almoſt every ſpecies of vegetable and animal food; ſo as to correct and ameliorate our general means of life.

Until the cottager can be ſupplied with milk, it can hardly

Theſe, either boiled or baked, will produce four pounds of pudding; and, at the expence of hardly more than *a halfpenny each*, will give a plentiful and wholeſome dinner to four children. But it is not unuſual for perſons in many parts of England, inſtead of *giving* or even *ſelling* their refuſe ſkim-milk to their poorer neighbours, to *throw it to their hogs*.

* This town has been fortunate in the attention not only of the biſhop, but of Mr. Burdon, one of the members for the county, who has the merit of eſtabliſhing another milk farm at Stockton for a ſimilar purpoſe, and with the following covenants:—that the leſſors ſhould keep upon the ground ten milch cows, and ſell all the milk (except what ſhall be uſed in their own families) pure, unmixed, and unadulterated, and without having any cream taken from the ſame, to the inhabitants of the town of Stockton, for the time being, at or under the price of one halfpenny per pint, and in quantities not exceeding three gallons per day to any one perſon or family; and on performance of this covenant, Mr. Burdon agrees that the annual ſum of twenty pounds ſhall be allowed out of the rents.

be expected that his preſent thriftleſs and comfortleſs table of diet of dry bread, ſhould be changed for a more healthful and economical ſyſtem of food. But with the full advantage of ſuch a ſupply as is provided for the poor of Stockton, it is hardly poſſible but that the cottager will eventually become ſenſible of the advantages of milk dreſſed with rice, as a nouriſhing and palatable food for his children. And whatever prejudices may have exiſted againſt rice as a food for the labouring man (prejudices which will not, however, bear the teſt of experience), no one can doubt of rice, prepared with milk, being a pleaſant, nutritious, and economical food for children.

Charity is meritorious, not merely in reſpect of its motive and principle, but in proportion as it is extenſive in its influence, and unexceptionable in its effect; particularly in that of not diminiſhing or prejudicing the virtue, or energy, of the perſons for whoſe benefit it is applied. As to the ſums annually devoted in this inſtance by the founders of the milk charities at Stockton, it is not eaſy to ſay how they could have been otherwiſe directed with any proportionable advantage; or how any funds can be applied with leſs riſk of impairing the induſtry and the prudence of thoſe, who come within the ſcope of its influence.

For an account of the benefit of the arrangement of diſtricts, and of the diviſion of attention in the care and conduct of the intereſts of the poor, we muſt refer the reader to the Biſhop of Durham's narrative and obſervations, in the beginning of the ſecond volume of the Reports of the ſociety. With regard to the latter plan, for encouraging the keeping of cows by the tradeſmen and other inhabitants of the place, we have only to obſerve, that it removes every poſſible degree of odium or jealouſy, to which, in ſome minds, the poor might have been ſubjected, by the extenſive benefits provided for them; and that the additional number of cows thereby kept in the neighbourhood of the town, increaſes conſiderably the general ſupply of milk for that place; thereby diminiſhing the price, and leaving a ſurplus to be diſpoſed of among their dependents and poorer neighbours.

MILK-HOUSE, a building deſigned for the reception and preſervation of milk, previouſly to its undergoing the various proceſſes of the dairy. In Pl. 35, we have given a repreſentation of a milk-houſe, upon an improved plan, by Dr. Anderſon, of Aberdeen.—Fig. 1, repreſents a plan of the whole ſtructure. A, the dairy in the centre, ſurrounded by an open paſſage; B, the entry to the dairy from the north; C, the ice-houſe; D, the ſcullery, or waſh-houſe, with the door or entrance from the ſouth, and benches placed beneath; *f*, a door, which communicates with the milk-houſe, &c.; *h*, the fire-place.—Fig. 2, is an elevation of the milk-houſe A. In this, B B, ſhew the paſſages round it; *c*, the interior window; *d*, the ventilator or air-pipe; *g*, the exterior window.—Fig. 3, is a delineation of the ventilator; *i*, repreſents the valve at the top; *k*, another valve at the bottom, which communicates with the milk-houſe; *n*, a ſimilar valve, with the paſſage. The whole of this ſtructure ought to conſiſt of a range of narrow buildings, as in the ſection firſt delineated, where the middle diviſion marked A, repreſents the *milk-houſe*, properly ſo called. Dr. Anderſon directs it to be built with a double wall, ſo that a current of air may continually paſs, for the purpoſe of preſerving a regular, cool temperature; the inner wall being conſtructed with lath or bricks, doubly plaſtered on both ſides; and the outer one, conſiſting of plaſtered lath: both being carefully worked, ſo as to render them perfectly air-tight.

The entrance to the dairy ought to be on the north-ſide B; but it will be requiſite, for greater convenience, to make another communication through the door *f*, into the front-room, eſpecially during the winter, when the outer door, B, ſhould be kept continually ſhut. The external roof ought to be conſtructed with tiles, or ſlate, while the inner one ſhould be made of plaſter, cloſely applied. Between both, it will be neceſſary to leave a vacant ſpace, at leaſt four feet wide, for the free paſſage of air, as delineated in the elevation above given; in which the letter A repreſents the inſide of the *milk-houſe*. The letters B B deſignate the area between the two walls, that gradually diminiſhes towards the top, till it terminates in the ventilator or wooden chimney *d*; which ought to be conſtructed, on three ſides, with planks or boards lined with plaſter; the fourth, or ſouth front, ſhould conſiſt wholly of glaſs, carefully cloſed with putty, ſo as to render it completely air-tight. Its dimenſions may vary at pleaſure, from one to two feet in diameter, internally; but it ſhould be elevated at leaſt ſix or eight feet above the roof; as its effects will be more or leſs powerful, according to its length.

This tube is furniſhed at the top with a valve *i*, placed immediately beneath the air-holes, which may be cloſed when required; and at the bottom is a ſimilar valve *k*. The lower pipe, which communicates with the milk-houſe, is conſiderably ſmaller than the upper tube juſt deſcribed. The opening *m*, is cloſed on one ſide; and at *n* is a valve, which, when ſhut, prevents any communication between this pipe and the external area. Further, the top of the ventilator is covered with boards, placed in the form of a roof, ſo that the rain may be thrown off, without impeding the current of air; while, by means of the valves above mentioned, the air, heated by the action of the ſun through the outer wall, will immediately eſcape, thus conſtantly preſerving a due temperature; and, by the ſame means, all damp and confined air, which is extremely pernicious in dairies, will be conſtantly expelled.

The building is furniſhed with a window placed along the ſlanting interior roof at *c*, and which is cloſed down with putty, to prevent it from being opened. Another window, *g*, is fixed over it in a ſimilar manner on the external roof ſo as to tranſmit the light, without impeding the current of air between the two glaſſes.

The paſſage round the milk-houſe ought to communicate with the external air below, only at the threſhold of the door B. But it will be neceſſary to make a ſmall aperture on every ſide, about one foot in height from the floor, in order that ſuch area may be occaſionally ventilated. Each of theſe apertures ſhould be ſecured with a piece of thin wire-work, in order to prevent the approach of inſects, or other vermin; and ought likewiſe to be furniſhed with a door, or cover, by which it may be opened, or cloſed, according to circumſtances. Further, if this paſſage be furniſhed with ſhelves, and lighted by a glazed window from the inner apartment, ſo as to admit *light only*, it may be advantageouſly converted into a pantry for keeping butter, cheeſe, &c. perfectly cool, independently of its uſe for preſerving the temperature of the milk-room.

The whole of the interior apartment ſhould be finiſhed with hard plaſter neatly ſmoothened, and totally devoid of ornament, ſo that it may be cleaned as often as becomes neceſſary. In its centre, Dr. Anderſon directs a large ſtone table to be placed, being about 2½ feet high, 3 feet wide at the leaſt, and of a breadth proportioned to the length of the room. Beneath the table is to be fixed a ſtone trough, correſponding to the length and breadth of the former, and being about one foot deep, that is, ſix inches above and below the floor of the milk-houſe. From the bottom of the trough, a pipe is to be conducted, for the purpoſe of carrying off the water: and, in caſe it be ſupplied by a running ſtream, it will be requiſite to make one ſide of ſuch trough ſomewhat lower, that the water may run over, and thus be carried out

of the houſe. The floor of the building ſhould be conſtructed with ſtones neatly laid; and, if theſe be eaſily attainable, the ſhelves, delineated in the elevation above given, ſhould be hewn out of the ſame materials: otherwiſe, they may conſiſt of wooden planks.

If the milk-houſe be ſituated near a large town, where ice could be vended during the ſummer, Dr. Anderſon is of opinion, it would be very beneficial to the owner, to erect an ice-houſe contiguous to this dairy, as repreſented at the letter C, in the plan, fig. 1, in the plate. He recommends it to be ſurrounded by a double wall on three ſides, with a paſſage or area intervening, as in the dairy. The receptacle for the ice ought to be formed of upright poſts, lined with wattled-work of wands, or with cloſe rail-work, but ſo as to leave a walk two feet and a half wide every way; round which a gutter ſhould be made to carry off ſuch water as may drain from the ice. This is, in his opinion, the cheapeſt method of building an ice-houſe in any ſituation; and is far preferable to the uſual mode of making vaults, which are not only more liable to be damp, and become mouldy, but are alſo far more expenſive, and by no means ſo well calculated to preſerve a gentle coolneſs, and an equal temperature, at every ſeaſon.

The apartment, marked with the letter D, is deſigned as a repoſitory for the utenſils of the dairy, in which they may be cleaned and arranged. For this purpoſe, it will be adviſable to place ſhelves round the walls, together with tables, and ſuch other articles as may be found neceſſary. Its entrance ſhould be from the ſouth, where the roof projects about two feet over the wall, as at *f*, which door communicates immediately with the milk-houſe, and may be occaſionally opened in the ſummer; but which alone ought to be uſed during the winter, when the chief entrance, B, ſhould be conſtantly ſhut. At one end of this apartment is a fire-place, on which a cauldron, proportioned to the ſize of the dairy, ought to be fixed; in order that there may be a continual ſupply of warm or hot water.

Such is the outline of Dr. Anderſon's ingenious plan, which appears to be well calculated to enable attentive dairy-men to keep their milk of an equal temperature at all ſeaſons, while they may, at the ſame time, carry on the neceſſary operations with little trouble or expence. Thoſe of our readers who wiſh to become more intimately acquainted with the whole economy of the milk-houſe, will not without inſtruction peruſe Dr. Anderſon's *Practical Remarks on the Management of the Dairy*, which were originally publiſhed in the 5th vol. of the *Letters and Papers of the Bath Society;* but which have been conſiderably enlarged in the 3d vol. of the new ſeries of his valuable miſcellany, entitled *Recreations in Agriculture, &c.*

MILL (*Encycl.*). The following account of a family-mill, invented by Mr. Thomas Ruſtall, was preſented to the Society for the Encouragement of Arts, &c. who voted him a premium of forty guineas, in 1800.

In Pl. 35, fig. 1, A, is the handle of the mill; B, one of the mill-ſtones, which is about 30 inches in diameter, and 5 inches in thickneſs, moving with its axis C; D, is the other mill-ſtone, which, when in uſe, is ſtationary; but which may be placed near r to, or at a diſtance from, the moveable ſtone B, by means of three ſcrews paſſing through the wooden block E, that ſupports one end of the axis C; after it has been put through a hole or perforation in the bed-ſtone. The grain likewiſe paſſes through this perforation from the hopper F, into the mill; F, repreſents the hopper, which is agitated by two iron pins on the axis C, that alternately raiſe the veſſel containing the grain, which again ſinks by its own weight. In conſequence of this motion, the corn is conveyed through a ſpout, that paſſes from ſuch hopper into the centre of the mill behind, and through the bed-ſtone D. G, a paddle, regulating the quantity of corn to be delivered to the mill; and, by raiſing or lowering which, a larger or ſmaller proportion of grain may be furniſhed: H, the receptacle for the flour, into which it falls from the mill-ſtones, when ground: I, repreſents one of the two wooden ſupporters on which the bed-ſtone, D, reſts. Theſe are ſcrewed to the block E, and likewiſe mortiſed into the lower frame-work of the mill at K, which is connected by means of the pins or wedges L, L, L, that admit the whole mill to be eaſily taken to-pieces: M, a fly-wheel, placed at the furtheſt extremity of the axis C, and on which another handle may be occaſionally fixed; N, a ſmall rail, ſerving to keep the hopper in its place; the furtheſt part of ſuch hopper reſting on a ſmall pin, which admits of ſufficient motion for that veſſel, to ſhake forward the corn: O, a ſpur-rail, for ſtrengthening the frame-work of the mill; P, the front upright, that is mortiſed into the frame-work, and ſerves as a reſt for the end of the iron axis C, which is next to the handle. On each extremity of ſuch axis, there is a ſhoulder, which keeps it ſteady in its place. Laſtly, there is a cloth-hood fixed to a broad wooden hoop, and which is placed over the ſtones while working, to prevent the finer particles of flour from eſcaping.

Fig. 2, repreſents the bolter, with its front removed, in order to diſplay its interior ſtructure; the machine being 3 feet 10 inches in length, 19½ inches in breadth, and 18 inches in depth. A, is a moveable partition, ſliding about four feet backwards or forwards, from the centre of the box, upon two wooden ribs, which are fixed to the back and front of the box, and one of which is delineated at the letter B; C, the lid of the bolter repreſented open; D, a ſlider, which is moveable in a groove made in the lid, by means of two handles on the back of ſuch lid; E, a forked iron, fixed in the ſlider D, and which, when the lid is ſhut, takes hold of the edge of the ſieve F, and moves it backwards and forwards on the wooden ribs B, according to the agitation of the ſlider; G, repreſents a fixed partition in the lower centre of the box, which it divides into two parts, in order to ſeparate the fine from the coarſe flour; from this partition, the ſlider A moves each way about four inches, and thus affords room for working the ſieve: H, a board that is parallel to the bottom of the bolter, and forms part of the ſlider A; this board ſerves to prevent any of the ſifted matter from falling into the other partition: I, repreſents two of the back feet, which ſupport the bolter.

Fig. 3, of the plate above mentioned, is a view of the top, or upper part of the lid of the bolter; K, the ſlider that moves the lengthwiſe of the bolter; L, L, the handles by which the ſlider is worked; M, a ſcrew, ſerving to hold the fork, which imparts motion to the ſieve.

Fig. 4, repreſents the forked iron, E, ſeparately from the lid. Both the mill and bolter may be conſtructed at a moderate expence, and they occupy only a ſmall ſpace of ground. The former may even be worked in a public kitchen, or within a room in a farm-houſe, without occaſioning any great incumbrance.

The particular excellence of the mill conſiſts in this circumſtance, that, from the vertical poſition of its ſtones, it may be put in action without the intervention of cogs or wheels. It may be employed in the grinding of malt, the bruiſing of oats for horſes, and for making flour, or for all theſe purpoſes: it may likewiſe be eaſily altered, ſo as to grind either of thoſe articles to a greater or leſs degree of fineneſs.

Another advantage peculiar to Mr. Ruſtall's contrivance is, that one man is ſufficient to work it; though, if two perſons, namely, a man and a boy, be employed, they will be able to produce, in the courſe of two hours, a quantity of flour ſufficient to ſerve a family, conſiſting of ſix or eight perſons, for a whole week:—repeated ſatisfactory trials have proved, that

this mill grinds the corn completely, and at the rate of one buſhel of wheat within the hour. Beſides, the induſtrious farmer will thus be enabled to make comparative experiments on the quality of his grain, and may furniſh himſelf, at a trifling expence, with flour from his own wheat; without apprehending any adulteration; or without being expoſed to the impoſitions, or caprice, of fraudulent and avaricious millers.

Laſtly, though Mr. R.'s bolter be more particularly calculated for ſifting flour, it may alſo be applied to various other uſeful purpoſes, and eſpecially with a view to obviate the inconveniences neceſſarily attendant on the levigation of noxious ſubſtances, and to prevent the waſte of their finer particles.

The original mill may be inſpected in the Repoſitory of the Society for the Encouragement of Arts, &c. Adelphi; and we underſtand from Mr. Taylor, the ſecretary to this patriotic aſſociation, that the inventor of the machinery, Mr. Thomas Ruſtall, wheelwright, of Purbrook-heath, near Portſmouth, engages to furniſh the whole apparatus, and to deliver it free of carriage, in London, for the moderate price of *twenty guineas*.

MILL-REEK, a dreadful diſeaſe, cauſed by the poiſonous fumes of melted lead, which affect not only thoſe who are employed in the ſmelting or preparing of that metal, but likewiſe all who reſide near the mines whence it is dug, or contiguouſly to the furnaces, &c. where it is worked.

On the firſt attack of this diſeaſe, the patient feels a weight and uneaſineſs in the region of the ſtomach, and a ſlight degree of colic in the bowels: the pulſe is low; the appetite impaired; the legs become feeble, and the whole body is debilitated. Sometimes theſe ſymptoms abate in conſequence of a ſlight diarrhœa; though, if the latter continue for ſome time, it is always attended with danger.

At firſt, however, the patient is not prevented from following his uſual occupations; but, if the diſorder progreſſively increaſe, and he neglect to apply for relief, the next ſymptoms will be, obſtinate coſtiveneſs, violent pain in the inteſtines; a troubleſome giddineſs, inſenſibility, and delirium. The extremities become convulſed; the pulſe intermits; and, at length, the higheſt degree of palſy, or apoplexy, cloſes the diſtreſſing ſcene.

The *mill-reek* is of a ſimilar nature and origin with the *Devonſhire-colic*, of which we have already treated. We cannot, however, conclude this article, without recommending the following precautions, which the editor of the Domeſtic Encyclopedia takes from the firſt vol. of the Edinburgh *Eſſays and Obſervations, phyſical and literary*, &c. It is certainly a duty incumbent on all thoſe perſons who are in any manner connected with the manufacture of lead, or who reſide in the vicinity of lead mines, to ſpread and inculcate the means of refcuing many induſtrious members of ſociety from a moſt painful death; or, if a perſon be attacked by this terrible diſeaſe, to contribute their ſhare towards preſerving them from feeling its extenſive horrors.

1. No labourer ſhould be ſuffered to repair to his work, *faſting*; his food ought to be fat and oily; and it would be very beneficial, if he were to drink a glaſs of ſweet oil, either pure, or mixed with a little brandy, every morning.

2. It will be adviſable to take ſome aperient phyſic, not only in the ſpring and in autumn, but likewiſe, as often as any ſymptoms of the mill-reek, however ſlight, are perceived.

3. No ſpirituous liquors ſhould be allowed, or, at leaſt, be very ſparingly uſed, eſpecially while the labourer is at work, or immediately after it.

4. No workman in a ſtate of perſpiration muſt expoſe himſelf to the cold air; but he ſhould retire to his home, as ſpeedily as poſſible; and, after having changed his clothes, cool himſelf gradually.

5. Immediately after the labourer returns from his work, he ought to take ſome nouriſhing aliment, which ſhould principally conſiſt of fat broths, or ſimilar liquids.

6. The diet ſhould be wholeſome and nouriſhing; becauſe ſcanty or poor food diſpoſes ſuch perſons to be more frequently affected, and renders them too feeble to undergo a complete cure.

Laſtly, as often as their employment will permit, they ought to viſit an open country, where they may breathe an untainted air, and find proviſions free from the noxious fumes of lead. Particular care muſt, however, be taken not to venture upon long journeys; becauſe ſuch perſons will be more fatigued, and reduced, by travelling one day, than by labouring two days in the lead-mines.

MILTENBERG, a town of Franconia, in the electorate of Mentz, ſeated on the Maine, 20 miles S.E. of Aſchaffenburg. Long. 9. 19. E. Lat. 49. 46. N.

MILTON ABBEY, a town in Dorſetſhire, with a market on Tueſday. It is famous for a ruinous abbey, built by king Athelſtan, and for a magnificent Gothic church. It is 14 miles N.E. of Dorcheſter, and 112 W. by S. of London. Long. 2. 32. W. Lat. 50. 50. N.

MINCIO, a river of Italy, which riſes in the lake Garda, and paſſing by Peſchiera, forms the lake which ſurrounds the city of Mantua, and afterward runs into the Po.

MINCKENDORF, a town of the archduchy of Auſtria, ſituate on the Trieſſing, ſix miles E.N.E. of Baden.

MINEHEAD, a borough in Somerſetſhire, with a market on Wedneſday. It has a good harbour on the Briſtol Channel, for ſhips of large burthen; and carries on a trade in wool, coal, and herrings. It ſends two members to parliament, and is 31 miles N. of Exeter, and 161 W. by S. of London. Long. 3. 34. W. Lat. 51. 12. N.

MINER, a workman or labourer in the mines. The following general view of the ſituation of the miners, compared with that of ſome other claſſes of the poor, by the Reverend Thomas Giſborne, is publiſhed by the Society for bettering the Condition of the Poor, with the hope of awakening the attention of the higher orders of the community to the abject ſtate of this uſeful claſs of men. He very juſtly obſerves, that the reſpective occupations of the different claſſes, into which the poor of this country may be divided, are found to produce important effects, not only on the habits of life, but alſo on the moral character of each claſs. To ſtate with brevity the principal of theſe effects, as they ſeverally appear exemplified in two or three of the moſt numerous claſſes, together with ſome practical remarks, may not be uſeleſs; ſince, from ſuch a ſtatement, perſons who are ſolicitous to befriend and improve the poor in their vicinity, may derive occaſional ſuggeſtions as to the particular channels, in which their exertions are likely to be the moſt needed, and moſt beneficial.

It would be deſirable to ſpeak ſucceſſively of the ſituation of miners, of fiſhermen, and of manufacturers; illuſtrating each by incidental references to that of labourers in huſbandry. The preſent paper will be confined to the caſe of miners.

Miners are commonly exempted, by the nature of their work, from the ſuperintending inſpection of their employer. The latter, in conſequence, finds the mode of paying them a certain ſum per day unadviſable. He fets them their taſk by the great, fixing the mode to prevailing cuſtom and other local circumſtances. In Derbyſhire, the workmen frequently take a mine, or bargain for a determinate period, as three months, on the terms of receiving a ſettled price for each meaſure of ore which they ſhall produce: or occaſionally, on the condition of being themſelves allowed to purchaſe all the

ore at a ſtipulated rate. In Cornwall, the eſtabliſhed courſe of proceeding is not ſubſtantially different. Hence there is a fundamental diverſity between the gains of the miner and thoſe of the huſbandman. The huſbandman, in general, earns a fixed ſum per week. If he ſometimes undertakes taſk-work, the amount of his earnings may ſtill be foreſeen with tolerable accuracy; and it has a known limit in the ſtrength of his body, and in his ſkill in the particular ſort of work. But the pay of the miner depends upon chance. The working miner is almoſt always in ſome meaſure a gambler, and embarks in the adventure of the mine. The ore may be found depoſited in ample or in ſcanty veins; may be with eaſe, or with great difficulty, detached from its bed; it may ſtretch far and wide in an unbroken range, or it may be ſuddenly removed many yards to a higher or a lower level. Even in breaking up ground which does not contain veins of ore, the miner is ſtill a gambler. The work is put up to a kind of auction; and the perſon who will undertake it on the cheapeſt terms is preferred. His bargain proves good or bad, according to circumſtances. He may find himſelf engaged upon a maſs of ſoil, which yields readily to his ſpade, and pick-axe; or retarded in his progreſs by rocky ſtrata, whoſe ſtubborn oppoſition muſt be overcome by gunpowder.

The earnings, however, of the miner, though precarious, are on an average great; and in many inſtances very far exceed all proſpects of gain which a labourer in huſbandry can propoſe to himſelf. Thoſe miners who are induſtrious, and at the ſame time frugal, often make a conſpicuous uſe of the opportunities which they poſſeſs, of improving their ſituation. With the ſurplus of their gains they purchaſe little ſpots of property (in Cornwall, chiefly on leaſehold tenures), and cultivate them in their hours of leiſure.

But, in common, the miner is not diſpoſed to adjuſt the ſcale of his expences to the *average* of his earnings. Being accuſtomed to the occaſional receipt of conſiderable ſums of money; money too which has flowed in ſuddenly upon him, rather from good fortune than from proportionate exertions; he often raiſes his expenditure and mode of living to a pitch, to which the labourer in agriculture ventures not to aſpire. He feeds on better diet, and wears clothes of finer materials, than the huſbandman. And, in general, he perſiſts in this manner of life, in ſpite of a change of circumſtances. He is buoyed up with the ſanguine hopes of a gameſter; and, for what he cannot pay to-day, draws on the favourable luck of to-morrow. This natural propenſity is cheriſhed and aggravated by the eaſe with which he obtains credit, in compariſon of thoſe claſſes of labourers, whoſe gains, though ſteady, are limited. If he happens to be unſucceſsful, he is truſted nevertheleſs at ſhops, and permitted to run up long ſcores at public-houſes; through the hopes entertained by the ſhopkeeper and the publican, that a day will come, when fortune will ſmile on the debtor. Thus the habits of the miner are ſeldom interrupted by any rubs and difficulties, which may teach him caution. He has leſs occaſion than moſt other men to dread the immediate inconveniences of poverty; and does not willingly learn the neceſſity of frugality and foreca ſt.

Miners very frequently work and live in large companies. Hence naturally ariſes the communication and the encouragement of vice. In Derbyſhire it is obſerved, and the caſe is probably the ſame elſewhere, that, when only two or three miners work together, they are frequently much more ſober and orderly than the reſt of their claſs. Among the vices of miners, thoſe are naturally prominent, which are uſually aſſociated with rudeneſs of character; as riotous diſpoſitions, impatience of ſuppoſed grievances, and diſcontent inflamed by the contagion of turbulence and clamour, and filling with juſt alarm the adjacent country.

Drunkenneſs is a vice, to which particular claſſes of workmen are allured, in an eſpecial manner, by the nature of their employments. Blackſmiths, glaſs-makers, and they who labour in other ways at the forge and the furnace, are led, by intenſe thirſt and exhauſtion of ſtrength, firſt to the uſe, and then to the abuſe, of ſtrong liquors. The cold and dampneſs of ſubterranean ſituations, and in ſome meaſure the powerful exertions of ſubterranean labour, produce a ſimilar effect on the miner. Several other cauſes concur; numerous and unprincipled ſociety, large gains, and, in many caſes, much vacant time. In Derbyſhire and Cornwall, the miners frequently do not work above ſix hours—and, in the former county, ſometimes even but four hours—in a day. The eaſe, too, with which a miner has obtained credit, often proves a temptation to exceſs. He who has met with a friend in the time of need, in the keeper of an alehouſe or of a brandy ſhop, will feel inclined, when he has money, to ſpend it freely at the houſe of his friend, partly from gratitude, and partly from the hope of obtaining credit hereafter. Another inducement to drunkenneſs remains to be mentioned; namely, the cuſtom which prevails in ſome few places, of paying the miners, on Saturday evening, by a bill, for a ſum which is to be divided among them. Theſe men, however diſpoſed to depart home with their wages entire in their pockets, are abſolutely forced to go for change to the neighbouring public-houſe: the maſter of which is known regularly to provide himſelf with caſh, to anſwer the demand. During the diviſion ſomething muſt be ſpent. From this cuſtom many miners, once ſober and well diſpoſed, have probably had to date the commencement of habits of ebriety.

The labourer in induſtry is commonly attached to ſome particular family, either of a private gentleman, or of a farmer. In the former caſe, it generally happens that he receives from his employer many little favours. In the latter, he is perhaps furniſhed with corn at a price lower than that of the neighbouring market, or enjoys ſome ſimilar advantage. Hence the maſter acquires an influence over the conduct of his workmen; and is often ſeen to exert it in promoting their comfort, and guarding them from extravagant and profligate courſes. The connection, which ſubſiſts between the proprietor of a mine and the working miner, is comparatively ſlight. The latter conſiders himſelf as independent; frequently ſhifts his quarters; and is little under the control of authority, or of perſuaſion.

Another circumſtance in the ſituation of miners, which is unfavourable to domeſtic frugality and good management, is to be traced in the ſort of women which they often chooſe for wives. At almoſt every mine, there is a number of women, daughters in general of the mining poor, who earn their livelihood by picking and waſhing the ore, and performing other operations of the ſame nature. In theſe employments they have been buſied from their childhood. A young mining labourer takes a haſty liking to one of theſe young women, and marries her, without thinking about conſequences. This is the hiſtory of a multitude of marriages among miners; and, circumſtanced as the parties are, it is natural that the caſe ſhould be ſo. The wife, however, is not likely to have found the mine an excellent ſchool, either of virtue, or of economy. Nor is it, in conſequence, very ſurpriſing that waſte, profligacy, and dram-drinking, ſhould be almoſt among the ordinary habits of a miner's family. The daughters of the huſbandman are commonly brought up much more under the eye of their mother. They help her in nurſing and ſpinning, and other occupations at home; and when they go out

to work in the field, it is frequently in her company. They ſtand, therefore, a better chance of being trained in morality and religion, and the arts of female induſtry; and become habituated to that economy, and thoſe various contrivances, which actual neceſſity forces on the wife of a day labourer. They of courſe will, in general, make more virtuous and more prudent wives, than young women who have been accuſtomed, from an early age, to the company and example of the mixed crowd of their own ſex and of the other, which is uſually aſſembled at the mine and the ſtamping mill.

The colliers in the vicinity of the Tyne form ſo large a body of men, and ſhew ſo ſtrongly marked a character, that ſome diſtinct account of them ſeems proper to be ſubjoined.

Few undertakings open the door ſo ſoon to the employment of the young, and few operate ſo powerfully to impreſs durable habits on the mind of youth, as the coal trade.

Boys enter the ſubterranean workings at the age of ſix or ſeven, in the character of *trap-door keepers*, an employment ſuited to their years; the labour being little more than to open and ſhut doors, fixed for conducting air round the various works, when the coals are paſſing through them from the workmen to the ſhaft.

In this ſituation they remain four or five years, with little intercourſe during the hours of labour (which are from 12 to 18 out of the 24), either with their equals in years, or with their ſuperiors; and hear little that can influence their minds, except the noiſe of imprecations ſpreading through the works, from the pitman contending with his overſeer, down to the half-grown youth, employed in leading the coals from the workmen, and impoſing upon his younger partner in the labour, a diſproportionate ſhare of the work, to procure eaſe to himſelf. When they reach the age of ten or twelve years, a more laborious ſtation is allotted to them.

They then become what are termed *lads* or *foals;* ſupplying the inferior place at a machine called a tram, where two are employed in drawing the coals from the workmen to the ſhaft. In this ſituation they are ſubject to the moſt harſh uſage from their ſuperior in the work, who frequently forces upon them, with profane and abuſive language, followed by blows, a greater ſhare of the labour than they are able to perform. Hence, in order to avoid puniſhment, they ſoon learn habits of deceit and evaſion; and ſcruple not to practiſe them, whenever they ſeem expedient, at the expence of truth and honeſty. And when the period arrives, which places them in the ſtation from which they have received ſo much abuſe, they ſeldom fail to retaliate on thoſe, whom progreſſive advancement from the trap-door to the tram brings into their power.

In every ſubſequent ſtep towards manhood, they conſider it as a merit to deceive and over-reach. In their next ſtage of occupation they are employed, during one half of their time, *in putting and drawing* the coals: and, during the other half, in raiſing the coal from its bed. Here a wider field opens itſelf to the diſplay of their ingenuity in the art of evaſion; and new incentives impel them to the exerciſe of it. Let looſe from even that ſmall degree of reſtraint, under which they conſidered themſelves as held by the authority of their parents (for at this period they generally become their own maſters, having the full diſpoſal of the product of their labour), and inflamed with the growing paſſions of youth, they indulge themſelves, with the moſt vicious emulation, in the ſcenes of intemperance and profligacy. If they are, at any time, without the means neceſſary to procure thoſe indulgences, they ſtudy to avail themſelves, in their reſpective departments, of every artifice (however injurious to the intereſt of their employer) to complete their purpoſe. Thus, by ſlow but perceptible degrees, the mind becomes poiſoned with wicked principles and guilty habits.

The hours devoted to what they term their amuſement, are not leſs prejudicial to the moral character. At a very early period in life they attend the haunts of their fathers at public-houſes; where their growing fondneſs for ſtrong liquors is encouraged, rather than checked, by their parents; and the child ſoon becomes a man in the frequency of intoxication. To gratify this paſſion for intemperance, which is a leading characteriſtic of pitmen, they endeavour to enhance the price of their labour by every art in their power; and in this, as well as in every other tranſaction with their employers, eaſily ſacrifice the principles of rectitude, to promote their ſelfiſh deſigns.

The early age, at which the child is ſeparated from the parent, and the little communication which they have with each other afterwards, viſibly impair thoſe affectionate feelings, which conſtitute parental happineſs.

They ſeem to conſider their children chiefly in the light of ſervants and dependents, from whoſe labour they expect to reap advantage; and are little ſolicitous to impreſs on their minds, habits of ſobriety, honeſty, and truth; and thus to train them in the paths of religion.

For the purpoſe of inculcating Chriſtian principles, Sunday ſchools have been eſtabliſhed. While the inſtitution was novel, they were numerouſly attended. As ſoon as that impreſſion loſt its influence, they became far leſs frequented. And no repreſentations of the good effects of ſuch inſtitutions, have been ſufficient to prevail upon the parents to enforce attendance by their authority. Even where daily ſchools have been eſtabliſhed by ſome of the opulent coal-owners, the pitmen frequently do not give their children the advantage of that little education, which might there be obtained, antecedently to the period when they enter the pit.

When the principles are thus habitually depraved, it is not to be expected that much attention will be paid to the duties of religion. By moſt, even external forms are diſregarded; and the time, which ought to be ſpent in attendance on divine worſhip, is generally diſſipated in frivolous purſuits, vulgar athletic exerciſes, or in drinking at public-houſes. Where attention to religion prevails, the good effects are manifeſt. Colliers of that character are uſually ſober, induſtrious, honeſt, and frugal, both in themſelves and in their families.

Another trait in the character of a collier, is his predilection to change of ſituation. Whatever may be the comfort and conveniences reſulting from his connection with any particular employ, he ſacrifices them all to his love of variety, and the hope of ſuperior advantage; ſo that annual changes are almoſt as common with the pitman, as the return of the ſeaſons; and, not unfrequently, the ſucceeding year finds him in the ſame ſituation, which he quitted twelve months before. And whatever favours he may have received, he is diſpoſed to conſider them as all cancelled by the refuſal of a ſingle requeſt.

It is to high wages, that many of the criminal habits, ſo often attached to the character of a collier, may in part be aſcribed. He is furniſhed with the power of obtaining more than the neceſſaries of life; and being deſtitute of the principles, which would teach him to apply the ſurplus to proper purpoſes, he ſquanders it in the gratification of groſs ſenſuality. To economy he is, in general, an utter ſtranger. It is no unuſual thing to ſee a man and his family, during the firſt week after they receive their wages (which are commonly paid to them once a fortnight) indulging themſelves in the uſe of animal food three times a-day; and in the ſucceeding week living on a little rye bread, with oatmeal and

water, until the next receipt of their wages enables them to return to a courſe of luxury. The contraſt between the pitman and the labourer in huſbandry is very ſtriking. The latter, with 9s. a-week, is ſeen keeping himſelf, his wife, and ſeveral children, from whoſe labour he reaps little advantage, with all the appearance of decency and frugality; and even allowing out of his wages ſomething for the education of his children: while the former with 16s. a-week, and often more, together with the labour of his family (which, if it conſiſt of three or four boys, brings him in from 20 to 30s. a-week in addition to his own gains), paſſes half of his time in luxury and riot, and the remainder in filth and poverty. The manners of the pitman are ſaid evidently to have altered, within a few years, materially for the worſe.

"As the preceding account of the colliers (ſays Mr. Giſborne), does not repreſent them in an attractive light, it is the more incumbent on me to ſay, that I ſpeak from concurrent information, derived from different ſources, each of high authority. Many exceptions to the general deſcription undoubtedly exiſt.

"The preceding ſtatement contains facts of ſuch a nature, that the peruſal of it will probably ſuggeſt to the reader ſeveral practical remarks. There are, however, ſome points, on which it may be uſeful to add a few words.

"The firſt evil, in the ſituation of miners, which ought to be remedied, is the very little education and religious inſtruction, which their children in general receive. How are theſe children, when they compoſe in their turn the next generation of the mining poor, to diſcharge their duty to God and man, if they are not impreſſed early with the principles, from which the ſenſe of religious and moral obligation flows? The inſtitution of Sunday-ſchools is one excellent mean for the attainment of the object in queſtion. Every poſſible encouragement ought to be given to them, and perſuaſion and little premiums and all other fit inducements ſhould be employed, to ſecure the regular and cheerful attendance of the ſcholars. Another method of improving the parents, as well as the children, has been recently and deſervedly recommended by an eminent prelate; namely, the erection of additional chapels in populous diſtricts. Let it here be generally obſerved, that, in every plan for improving the character of the mining poor, the proprietor of the mine and the clergyman of the place ought cordially and actively to co-operate. Each has it in his power to contribute to that improvement; and, in proportion to his power, each is reſponſible.

"The predominant vice of drunkenneſs calls for the moſt vigilant counteraction.—Let the number of public-houſes be reduced within as narrow limits as convenience will permit: and the conduct of publicans be carefully obſerved by the gentlemen and magiſtrates of the country. Let the very pernicious cuſtom, of paying miners by a bill to be changed at the public-houſe, be immediately aboliſhed. The temporal diſtreſſes, which reſult from ebriety, afford arguments proper to be urged to individuals, in proportion to their intrinſic force. But I know no method of recalling guilt to the paths of rectitude, either in public or in private life, likely to be durably efficacious, except this: firſt to impreſs the mind with a conviction of the truth and aweful import of Chriſtianity; and then, to point out the bearings of Chriſtian commands and prohibitions on the particular ſubject, with reſpect to which you wiſh to accompliſh a reformation. He who, under the impulſe of brutiſh appetite, diſregards all conſiderations of injured health, wafted property, a heart-broken wife, and ſtarving children, may pauſe, tremble, and be reclaimed, when he ſees that the "*drunkard*" has his place in the dark catalogue of thoſe, who "*ſhall not inherit the kingdom of God!*".

"The uſe of profane language may be in a great degree repreſſed by care, on the part of the proprietor, to appoint conſcientious agents and ſuperintendants over his works. I could name more than one inſtance of captains of men-of-war, who, by ſuitable penalties and perſonal exertions, have almoſt eradicated that vice from their ſhips. Why ſhould it be more difficult to be ſubdued in a coal-mine?

"Deceit appears to be among the general faults of miners. It is ſtated as one of the characteriſtics of the Neweaſtle colliers: and a ſimilar reproach is applied to the miners in Derbyſhire, who are ſaid by practice to have attained great adroitneſs in disfiguring the ſides of a mine, when the time, for which they have taken it, is expiring, that the owner may be entrapped into a new bargain advantageous to the workmen. By a due choice of agents, let the tyranny of the elder partner over his colleague at the tram, one principal ſource of deceit, be prevented. And, univerſally, let the love of truth be habitually encouraged, and traced up to Chriſtian motives.

"In oppoſition to the ſpirit of mutiny and diſcontent, it may eaſily be ſhewn, and it ought to be inculcated, that no principles are, on the one hand, more adverſe to turbulence and anarchy, nor, on the other, more favourable to genuine freedom, than thoſe of the religion which we profeſs; and that correſponding praiſe belongs to thoſe of the conſtitution under which we live.

"The propenſity to change of ſituation, which prevails among miners, to the detriment of themſelves and their employers, will be beſt encountered, by ſolicitude, on the part of the proprietor, to attach his workmen to himſelf, by rendering their condition comfortable. Let him make their cottages neat, and moderately commodious; adding to them ample gardens, and affording to each family an opportunity, as far as may be practicable, of keeping a cow, or of purchaſing milk: let him ſtudy to allure them to habitual cleanlineſs, when above ground. Let him invite them to forecaſt, by encouraging the eſtabliſhment of friendly ſocieties; the advantage of which to miners is the greater, on account of the frequent accidents to which they are expoſed; and let him promote ſimilar inſtitutions for the benefit of widows and orphans. Let him ſet up ſchools, where the girls may be inſtructed in ſewing, knitting, and ſpinning, and thoſe little domeſtic arts, which will be of the utmoſt utility, when they become wives and mothers. By abundant ventilation, and other ſuitable contrivances, let him render the different ſubterranean occupations ſalubrious, and as free from diſagreeable circumſtances of every kind, as the nature of the caſe will admit."

From the pen of the ſame benevolent writer we have the following account of the proviſions made for the benefit of the Duke of Bridgewater's colliers, near Manchester.

The Duke of Bridgewater pays his colliers, in the neighbourhood of Manchester, monthly. He has eſtabliſhed ſhops, and a little market for them; and when his agents pay the wages, the ſhop-keepers bring in their monthly bills. Theſe the agents diſcharge, and give to each collier his ſurplus. Thus the collier always has credit for neceſſaries and reaſonable comforts; and, at the ſame time, is not able to ſquander the maſs of his gains, to the injury of himſelf and his family. Debts at public-houſes are not allowed to be brought in. The butchers and other tradeſmen, being the duke's tenants, dare not be exorbitant in their charges, or fraudulent as to the weight of their commodities. The duke lets to his colliers their houſes at a low rent, and nearly at a price. To the beſt and pleaſanteſt of theſe houſes, he prefers thoſe colliers who have been the longeſt time in his ſervice, if they have behaved well. They are, however, all tenants at will. Theſe

circumſtances operate as ties and encouragement to good conduct. All the workmen are bound to contribute to a general ſick-club. The duke's colliers are ſtationary with him: a neighbouring magiſtrate informs me, that he hears few complaints from either ſide; and that the colliers there are more moral than the weavers who are ſpread over the adjacent country. Some of the duke's agents are men of a religious caſt; and have eſtabliſhed Sunday ſchools for the inſtruction of the children.

What has been done in this inſtance is worthy of attention and imitation, as tending to diminiſh the evils and inconveniences, to which the claſs of men under conſideration is peculiarly expoſed. Colliers and miners, however, are ſo numerous in ſome parts of England, and are ſubject to ſo many and ſo great diſadvantages, that they merit more attention than they have yet received. No perſons ſtand more in need of the advantages of a religious education, and none are ſo little favoured in that reſpect, or poſſeſs ſo few means of correcting the vices and infirmities to which they are peculiarly liable.

Of miners and colliers it is to be obſerved, that living in large companies, without favourable examples of conduct before them, and being, through the circumſtances and mode of their employment, little ſubject to the control or influence of their employers, they are naturally turbulent, paſſionate, and rude in manners and character.—Their gains are large and *uncertain*; and their employment is a ſpecies of taſk-work, the profit of which can very rarely be previouſly aſcertained. This circumſtance gives them the waſteful habits of a gameſter, leading them to truſt, without forethought or apprehenſion, to the extraordinary ſucceſs of to-morrow, for the ſupport of their families. Their labour being under ground, liable to ſubterraneous damps, and attended with ſtrong exertions, they are, almoſt of neceſſity, led to the uſe, in a certain degree, of ſtrong liquors; and thence by a natural progreſs, too often proceed to habitual drunkenneſs.

The firſt and beſt corrective of theſe evils, would be a religious education. It is obvious to every one, who viſits the counties where colliers and miners abound, that their children have not the fair and ordinary advantages of inſtruction: that, placed in a ſituation of life in which they can have very little hope of improving by domeſtic example, they are ſo diſunited from the other claſſes of the community, as to be, in a great degree, though living in a Chriſtian and civiliſed country, excluded from the common benefits of religion and civiliſation.

This obſervation applies to a numerous claſs of our fellow-ſubjects: a claſs, to which education and early habits of religion are particularly neceſſary; as nothing can have ſo efficacious a tendency to improve the conduct of men thus circumſtanced, as a juſt ſenſe of revealed religion, and of the rewards and puniſhments of a future ſtate.

It is likewiſe of great importance, that colliers and miners, particularly, ſhould be habituated to the deſire of acquiring permanent property; and, with the ſurplus of their profits, be enabled and induced to purchaſe little ſpots of ground, as objects of cultivation, and employment for their leiſure hours. Thoſe miners, who do this in Cornwall (and there are many who in that county, with the ſurplus of their gains, purchaſe little ſpots of ground, chiefly on a leaſehold tenure), are in every reſpect a better claſs of men.—They are kept from ale-houſes, by finding, in their own little property, amuſement and occupation for their vacant time; they acquire habits of fore-thought, becauſe they enjoy the benefit of it; and become orderly and civiliſed in ſome meaſure, becauſe they derive an additional motive to behave aright, and conſider their conduct as more ſubject to obſervation, in conſequence of their being poſſeſſed of property.

MINERALOGY (*Encycl.*). As the pleaſing and inſtructive ſcience of mineralogy, after having made ſuch rapid ſtrides upon the continent, for theſe ten years, is daily making more and more progreſs in this iſland, where our gentlemen farmers, and manufacturers, begin to think it a ſhame to be ignorant of ſubſtances under their eyes, of which a proper knowledge may often turn to good account; we have little doubt but the following directions for the mineralogical traveller, by the celebrated Sauſſure, author of the Journey to the Alps, in 4 vols. 4to. will be acceptable to our readers.

1. The moſt neceſſary inſtrument to take with you, is a miners' hammer. You muſt have it of at leaſt two ſizes: one ſmall, to break the little pieces, and the pebbles, holding them in your left hand, while you ſtrike them with your right; the weight ought to be, including the handle, about 10 oz.: the other, to ſtrike fragments out of the rocks, and to break large pieces, ought to be four times the ſize of the former. When I travel on horſeback I have theſe two hammers put in my ſaddle-bows.

2. Two chiſſels uſed by ſtone-cutters: one ſmall, about a line or a line and a half broad at the point, to detach little cryſtals, or other minute objects; the ſecond ſhould be about ſeven or eight lines, that is, three quarters of an inch, in breadth.

3. To try the hardneſs of foſſils, you muſt have a *ſteel* briquet; a triangular file, rather fine; and a ſtrong point or needle of tempered ſteel.

4. Nitrous acid, and the boxes with re-actives (*boîtes à réactifs*) of M. de Morveau.

5. An artificial magnet in a caſe, with a pivot of ſteel, upon which it is placed, to try the magnetiſm of foſſils.

6. A magnifying glaſs of three inches focus, in order to form a general idea of a foſſil; another of one inch, to ſtudy its ſeparate parts; and one of five or ſix lines, for a more accurate examination. Theſe three magnifiers ought always to be in the pocket of the traveller; but, beſides theſe, for the cabinet, and any laſting reſidence, he ought to have a microſcope with a micrometer.

7. Perſpective glaſſes to obſerve the inacceſſible heights, and the diſtant mountains.

8. A pocket-book with leaves of prepared paper, on which to write with a pencil of tin-ſolder (ſoudure d'etaim, *qr.* etain?) which one is not obliged to be always mending, and the writing is not ſo eaſily effaced as of black-lead. In this pocket-book muſt be entered, on the very ſpots, the ſketch of one's journals, and notes of any obſervations that may ariſe; but every evening theſe notes ſhould be copied with the pen, preſerving, nevertheleſs, the originals, which have always a character of truth, to which one is glad to recur.

9. Some quires of brown paper, of which ſome ſheets ſhould be carried in the pocket, to wrap up, and mark, one by one, and on the ſpot, the pieces of ſtone which are collected; they muſt afterwards be packed with hay in a bag for this purpoſe, till there be enough to fill a packing caſe, to be ſent home by the carriers as occaſion may ſerve. But in the midſt of the journey, as it is fatiguing to load one's pockets, and as the guides often loſe them on purpoſe to get rid of the trouble, I have behind my ſaddle two leather bags, in which I put them till I come to a reſting-place, where I have time to wrap them in hay, and put them into my canvas bag. M. Beſſon recommends to voyagers to write the tickets with China ink, if the minerals be to be ſent from afar, becauſe many accidents may diſcolour common ink.

10. The blow-pipe and its accompaniments. As I make much uſe of it, which is fatiguing, though I know very well

to uſe my cheeks only, without blowing from the bottom of my breaſt, I make uſe of portative bellows, *à deux vents*, each ſide being ſixty-two ſquare inches in ſurface. Theſe bellows may be hung on the ſide of any table; and I put them in motion by preſſing the handles betwixt my knees, which again ſeparate by a ſpring. This apparatus is eaſily carried, and very convenient.

11. A ſemicircle, traced, and graduated, upon a thin plate of copper, of a form exactly rectangular, with a plummet hung in the centre of the ſemicircle. This is the moſt commodious inſtrument to meaſure the inclination of beds, veins, and ſlopes; and may eaſily be carried in the pocket-book.

12. A compaſs, with an *alidade*, to take the direction of mountains, chains, and beds of foſſils.

13. A pocket-barometer, with two thermometers, both mercurial; one fixed to the barometer, to meaſure the temperature of its mercury, the other with a naked bowl, to meaſure the temperature of the air. Thoſe who are ſtudious of meteorology ſhould alſo have a hygrometer, and an electrometer; thoſe who underſtand geometry ought to be provided with a ſextant, with its artificial horizon, and a chain to meaſure a baſe, and then take the height of an inacceſſible peak, of the breadth of a river, &c. With the ſextant, latitudes may be taken; but the longitude requires much practice and acquaintance with aſtronomy.

14. It is neceſſary to have ſome tools to repair an inſtrument, in caſe it be deranged; as pincers, files, vice, compaſſes, gimlets, wire, needles, thread, packthread.

15. Some good map, paſted on canvas, of the country propoſed to be examined; which muſt be often compared with the itinerary, and the ſituation aſſigned by the compaſs.

The other obſervations of M. Sauſſure, relate ſolely to the clothing and food, &c. &c. neceſſary in viſiting the higheſt Alps.

MINERAL WATERS (*Encycl.*). The following account of the factitious mineral waters of Citizen Goldſchmidt is extracted from the '*Recueil Periodique de la Societé de Médecine de Paris, of Ventôſe*; *An. vii. February*, 1799; tranſlated in the Medical and Phyſical Journal.

Citizens Bouillon La Grange, and Chauffier, reported to the Medical Society of Paris, that they examined three diſtinct ſpecies of artificial mineral waters; namely, thoſe of Seltz, Spa, and Sedlitz.

Their firſt care was to aſcertain the phyſical properties; they found them very clear and tranſparent, having a ſtrong acid flavour; and that they gave the tincture of turnſol a deep red colour. By putting them in contact with different re-agents, they obtained, firſt, by cauſtic alkalies, neutral ſalts; ſecondly, by lime water, an abundant carbonate of lime; thirdly, poured on filings of very pure iron, the artificial waters, in a ſhort time, acquired a ferruginous taſte, which, after the properties already diſcovered, confirmed the preſence of the carbonic acid and its action on the iron.

They then proceeded to examine the nature of the ſalts employed, and the quantity of carbonic acid which each bottle might contain. The methods followed to aſcertain the compoſition of theſe waters, afford no novelty; the ſaline ſubſtances, however, employed, were ſimilar to thoſe deſcribed by Bergmann. Upon the whole it appeared that the author had completely ſucceeded, and produced an exact imitation of nature.

As to the carbonic acid which theſe waters poſſeſs in ſolution, experience ſhews, they have a greater quantity than the natural waters. But in order to aſcertain this quantity with the greateſt exactneſs, Citizen Goldſchmidt has invented a very ingenious apparatus. (See Pl. 39.) By this apparatus (which may ſerve to obtain any other gas, and aſcertains with the moſt ſcrupulous exactneſs, the quantity of gas held in a liquid in ſolution) it was diſcovered, that the waters contained twice and a half their volume of carbonic acid. The author even went ſo far as to aſſert, that he could ſeparate three times their volume. But this ſuperabundant quantity eaſily diſengages itſelf, not only by being agitated, but by an elevation of temperature. Such an exceſs of acid is therefore uſeleſs, eſpecially in medical practice.

The Medical Society alſo deſired the Citizens Bouillon La Grange, and Chauſſier, to examine the differences which exiſted between the artificial mineral waters of Goldſchmidt, and thoſe of Citizen Goſſe, of Geneva; but from the impoſſibility of procuring thoſe of the latter as recently prepared as thoſe of the former, they were unable to make a fair trial. It is certainly very eaſy to conceive, that water which has been agitated by travelling, or which has been prepared any length of time, whether in a cellar or any other place, will not bear a compariſon with water which has been ſaturated only a few days. The two commiſſioners, therefore, had recourſe to the report made by their colleague, Deyeux, to the School of Medicine, who had carefully examined the artificial water of Citizen Goſſe.

"Two pounds," ſays that chemiſt, "of this water, placed under mercury, afforded twice and a half their volume of carbonic acid, the half of which was ſeparated ſpontaneouſly, and the other half by plunging the bottle into hot water."

It is evident from this, that there exiſts a great analogy in the reſult of the two experiments, ſince each of the waters contain twice and a half their volume of carbonic acid; and it is alſo evident, that there is no difference between the mineral waters of Goldſchmidt and thoſe of Goſſe; for, beſides the equal quantity of carbonic acid, the chemical examination of the ſalts in diſſolution, afforded the ſame reſults as thoſe mentioned in the report of Citizen Deyeux.

This compariſon muſt nevertheleſs be of great advantage to thoſe who preſcribe or make uſe of theſe artifical mineral waters, as it will enable them to obtain them of a proper degree of acidity; for it is evident from the experiments of Citizen Goldſchmidt, that it is poſſible to ſuperſaturate the water with the acid.

It appears that theſe artificial waters have been employed with great ſucceſs in different maladies by ſeveral French phyſicians; and Bouillon La Grange, and Chauffier, conclude their report by recommending the eſtabliſhment of a manufactory for them in Paris, in order to inſure their being accurately and faithfully prepared, and alſo by declaring Citizen Goldſchmidt deſerving both of attention and encouragement.

To this accoun tis annexed the following explanation of the *Gaſolitre*, by Citizen Goldſchmidt.

"The method hitherto uſed," ſays he, "to aſcertain the quantity of carbonic acid gas by lime water, appeared to me very troubleſome, not only becauſe it at the ſame time precipitates the iron, the magneſia, and other earthy ſubſtances, which we are afterwards forced to ſeparate, and becauſe the operation of filtering always occaſions a certain waſte, but becauſe the acceſs of atmoſpheric air contributes, in a great degree, to form carbonate of lime.

"The pneumato-chemical apparatus with mercury, which is at preſent in uſe, has the diſadvantage of being always in equilibrium with the preſſure of the atmoſpheric air; and is conſequently obedient to the laws of the barometer.

"Theſe ſeveral difficulties urged me to an endeavour at avoiding thoſe obſtacles, which I have overcome by the invention of the Gaſolitre: this apparatus being fully adapted to calculate with accuracy, and in a ſhort time, the gaſeous

parts contained in any body whatever, and to ſhew the preſſure.

" Fig. P is a glaſs meaſure containing two centilitres, or two drachms fifty grains: in fitting it with its cock for a double current of air, to the tube G, the cylinder C being full of mercury, the cock B ſhut, and the apparatus deprived of all poſſibility of admitting the atmoſpheric air, we ſhall find, in opening the cock H, that no vacuum is occaſioned in the cylinder C beſides that which is formed of the bubbles of air between the glaſs and the mercury, in filling the cylinder under the preſſure of the atmoſphere of ſeventy-five centimeters, or about twenty-eight inches, and that which the difference of the column of mercury in the cylinder C and the volume of air in the meaſure P under a preſſure of ſeventy-five centimetres, reduced to zero, can produce.

" We ſhall find this ſtatement accurate in opening the cock Q to communicate the preſſure of the atmoſpheric air into the meaſure P: in then ſhutting it oppoſite Z it will not produce a greater vacuum in the cylinder C than the preſſure of the volume of air in P has been able to effect.

" The little pump O, placed on the ſtand F, ſerves to graduate the cylinder C. We fill the bladder of gas, which we intend to meaſure, and open the cock S and T to draw a volume of gas, at all times equal, into the pump; we open the cock T oppoſite U, ſhutting it at the ſame time oppoſite S, and puſh forward the piſton to introduce the gas into the cylinder C filled with mercury, and ſhut by the cock B: when the cock H does not ſupply more mercury, we continue in this manner to introduce at intervals the ſame volume of gas into the cylinder C, in order to graduate it.

" We ſhall obtain the firſt time a greater vacuum on account of the preſſure of ſeventy-five centimetres, where the mercury meets; this preſſure ceaſes the ſecond and following times, when it will be of an equal volume.

" The operation will never be attended with ſucceſs, if the external air can penetrate: it is, however, eaſy to aſcertain this by the cock H, which, when the hole is well adjuſted and ſhut, does not furniſh more mercury, after the effort of the preſſure before explained.

" To know the quantity of gas which the gaſeous waters contain, we thus diſpoſe the apparatus:

" We ſhut the cock H and fill the cylinder C with mercury; we ſhut the cocks B and K, and open the cock A, to aſcertain the ſtate of the apparatus; if the apparatus be in proper order, it will not make a vacuum in the cylinder C, further than the firſt mark; we fill the matraſs up to the neck with the water we intend to analyſe, and carefully fit the matraſs to the cock K, by a ſcrew provided with a little ſhield of leather: the whole being well ſecured, we open the cocks K and H, and heat the water to the boiling point."

The following is an explanation of the figures in the plate:

A is a glaſs funnel to pour in the mercury; B, iron cock; C, glaſs cylinder, graduated, ſhut by the cock, and cemented on the plate D; D, delft plate; E, wooden ſtand; F, ſtand to ſupport the apparatus; G, glaſs tube, the cavity of which is of the diameter of one millimetre, about half a line, and which communicates with the cylinder C; H, tube, of the ſame diameter, communicating with the cylinder C, and returning into the bottle J by an iron cock; J, bottle and funnel to receive the mercury; K, cock for a double current of air; L, matraſs containing about twelve centilitres of water (four ounces), ſecured to the cock by a ſcrew; M, ſand bath; N, furnace; O, pump, the cylinder of which is glaſs, ſecured by two ſcrews to the ſtand F; P, glaſs meaſure of two centilitres, or ſix drachms twenty-eight grains; Q, cock for a double current of air; R, bladder to contain the gas; S, cock; T, cock for a double current of air; U, glaſs pipe coming from the cock T to K; X, pump; Y, ſtand on which to fix the pump; Z, index of the ſecond current of air.

MINFELD, a town of Germany, in the duchy of Deux Ponts, eight miles S. of Landau.

MINIATO, St. an epiſcopal town of Tuſcany, ſeated on the Arno, 20 miles S.W. of Florence. Long. 10. 45. E. Lat. 43. 40. N.

MINORBINO, a town of Naples, in Terra di Bari, with a biſhop's ſee, 26 miles N. of Cirenza. Long. 16. 19. E. Lat. 41. 8. N.

MINORI, a town of Naples, in Principato Citeriore, with a biſhop's ſee. It is ſeated on the gulf of Salerno, between the town of that name and Amalfi.

MINSFELDEN, or Mensfelden, a town of Germany, in the archbiſhopric of Treves, 25 miles E. of Coblentz. Long. 7. 57. E. Lat. 50. 26. N.

MINSINGEN, a town of Suabia, in the duchy of Wirtemburg, with a caſtle. Long. 9. 35. E. Lat. 48. 32. N.

MINSKI, a town of Lithuania, capital of a palatinate of the ſame name, with two citadels. The country is pretty fertile, and has foreſts containing vaſt numbers of bees, whoſe honey makes part of its riches. Minſki is 65 miles N. of Sluczk, and 100 S.E. of Wilna. Long. 26. 48. E. Lat. 54. 11. N.

MIOLANS, a fortreſs of France, in the department of the Lower Alps, ſeated on a craggy rock, in the valley of Barcelonetta, ſix miles N.E. of Montmelian. Long. 6. 20. E. Lat. 45. 35. N.

MIOSS, a lake of Norway, in the province of Hendemarke, 80 miles in circumference. It is divided by a large peninſula, and contains a fertile iſland 10 miles in circumference.

MIRA, a town of Portugal, in Beira, 16 miles N.W. of Coimbra. Long. 8. 25. W. Lat. 40. 20. N.

MIRANDELA, a town of Portugal, in Tra-los-Montes, 30 miles S.W. of Braganza, and 28 N.E. of Lamego. Long. 6. 9. W. Lat. 41. 25. N.

MIRABEAU, a town of France, in the department of Vienne, famous for the beauty and ſtrength of the aſſes which its environs produce. It is 16 miles N. of Poitiers, and 175 S.W. of Paris.

MIRECOURT, a town of France, in the department of the Voſges, famous for its violins and fine lace. It is ſeated on the river Modon, 27 miles S. of Nanci, and 30 S.E. of Toul. Long. 6. 4. E. Lat. 48. 15. N.

MIREMONT, a town of France, in the department of Dordogne. Near it is a remarkable cavern, called Cluſeau. It is ſeated near the Vizere, 15 miles E. of Bergerac.

MIREPOIX, a town of France, in the department of the Upper Pyrenées. It was lately an epiſcopal town, and is ſeated on the Gers, 15 miles N. of Foix.

MISAGNO, a town of Naples, in Otranto, nine miles S.S.E. of Oſtuni.

MISENO, a cape of Italy, W. of the bay of Naples, between Puzzoli and Cuma. On it are the ruins of the ancient Miſenum.

MISERDEN, a village in Glouceſterſhire, ſix miles N.W. of Cirenceſter. Here is a park, ſeven miles in circumference, in a valley of which is a mount of a circular form, now overgrown with trees. This was the ſite of an ancient caſtle, built in the reign of King John; and part of the moat, which encompaſſed the building, is ſtill to be ſeen.

MISITRA, a celebrated town of Greece, capital of the

Morea, with a Greek archbiſhop's ſee, and a caſtle. It is divided into four parts, the caſtle, the town, and two large ſuburbs. The church is one of the fineſt in the world, and the Turks have turned it into a moſque, near which is a magnificent hoſpital. There is a great number of Chriſtians, and ſo many Jews, that they have three ſynagogues. It was taken by the Venetians in 1687; but the Turks retook it. It is ſeated on the Vaſilipotamo, 100 miles S.W. of Athens, and 90 N. by E. of Lepanto. Long. 22. 30. E. Lat. 37. 6. N.

MISSOURI, a river of North America, whoſe ſource is unknown. It joins the Miſſiſippi in lat 39° E. but is a longer, broader, and deeper river, and is, in fact, the principal ſtream. It has been aſcended by the French traders upwards of 1200 miles, and from its depth and breadth at that diſtance, appeared to be navigable much higher.

MISTRETTA, a town of Sicily, in Val di Demona, with a biſhop's ſee, 50 miles E.S.E. of Palermo, and 64 W. of Meſſina. Long. 24. 22. E. Lat. 38. 55. N.

MITCHAM, a village in Surrey, eight miles S.W. of London. It is ſeated on the Wandle, on which are ſome ſnuff-mills, and two calico-printing manufactures.

MITTENWALDE, a town of Upper Saxony, in the Middle March of Brandenburg, 12 miles S. of Berlin. Long. 13. 28. E. Lat. 52. 19. N.

MITTERBURG, a town of Auſtrian Iſtria, the capital of a county, with a caſtle ſituate on a rock, 15 miles W. of Fiume, and 30 S.E. of Trieſt. Long. 14. 19. E. Lat. 45. 41. N.

MOCAUMPOUR, a town of Hindooſtan Proper, in Napaul, ſituate on the eaſt ſide of the Napal, 40 miles S.S.E. of Catmandu, and 120 N. of Patna. Long. 85. 27. E. Lat. 27. 35. N.

MODBURY, a town in Devonſhire, with a market on Thurſday. It is ſeated in a bottom, between two hills, 36 miles S.S.W. of Exeter, and 208 W.S.W. of London. Long. 3. 54. W. Lat. 50. 23. N.

MODICA, a town of Sicily, in Val-di-Noto, on a river of the ſame name, 25 miles S.W. of Syracuſe. Long. 15. 9. E. Lat. 36. 48. N.

MODON, a ſtrong town of the Morea, with a ſafe harbour, and a biſhop's ſee. It is ſeated on a promontory, projecting into the ſea of Sapienza, 15 miles E. of Coron, and 95 S.W. of Napoli-di-Romania. Long. 21. 35. E. Lat. 36. 56. N.

MODZIR, a town of Lithuania, capital of a diſtrict of the ſame name. It is ſeated on the river Prypec, in a fertile country, 85 miles S.E. of Sluczk. Long. 29. 10. E. Lat. 52. 5. N.

MOESKIRCH, a town of Suabia, belonging to the princes of Furſtenburg, 18 miles N. of Conſtance, and 52 S. of Stutgard. Long. 9. 11. E. Lat. 47. 56. N.

MOFFATT HILLS, the higheſt mountains in the S. of Scotland. They occupy the N. part of Annandale; and from theſe deſcend, in different directions, the Tweed, Clyde, and Annan, whoſe ſources are but little diſtant from each other.

MOGADOR, an iſland and caſtle of Africa, in the kingdom of Morocco, near Cape Ozem. There are mines of gold and ſilver in one of the mountains. Long. 9. 55. W. Lat. 31. 38. N.

MOHATZ, a town of Lower Hungary, in the county of Baraniwar. Here Louis, the laſt king of Hungary, in 1526, was defeated by the Turks under Soliman II. with the loſs of 22,000 men, and after the battle ſuffocated by the fall of his horſe in a muddy brook. In 1687, another battle was fought here, between the Chriſtians commanded by Prince Charles of Lorrain, and the Turks, who were defeated with the loſs of 10,000 men, their cannon and baggage. It is ſeated at the confluence of the Danube and Coraſſe, 17 miles N.W. of Elſeck. Long. 19. 56. E. Lat. 45. 46. N.

MOHAWK RIVER, a river of the ſtate of New York, which riſes to the north of Fort Stanwix, paſſes by that fort and Skenectady, and empties itſelf by two mouths, into Hudſon's River, eight miles above Albany. About two miles above its junction with that river it has a cataract, where the ſtream, 100 yards wide, falls perpendicularly about ſeventy feet.

MOHILEF, or Mogilev, a government of the Ruſſian empire, part of Lithuania, diſmembered from Poland in 1772.

MOHRUNGEN, a town of Pruſſia, in the province of Oberland, ſituate on a lake of the ſame name, which almoſt ſurrounds it. Here is an old caſtle, formerly a convent, belonging to the knights of the Teutonic order, in conſequence of whoſe wars the town has frequently ſuffered. It is 56 miles S.S.W. of Konigſberg, and 56 S.E. of Dantzic.

MOISSAC, an ancient town of France, in the department of Lot. It has a great trade in corn and flour, and is ſeated on the Tarn, near the Garonne, 13 miles N.W. of Montauban. Long. 1. 17. E. Lat. 44. 6. N.

MOLA DI BARI, a town of Naples, in Terra di Bari, on the coaſt of the gulf of Venice, 12 miles E. of Bari.

MOLA DI GAETA, an ancient town of Naples, in Terra di Bari, ſeated on the gulf of Venice, 14 miles E. of Bari.

MOLD, a town in Flintſhire, where the aſſizes are held. It is five miles S. of Flint.

MOLE, a mountain of Savoy, which, from its height and fine ſloping peak, is an object of great beauty, when ſeen from the lake of Geneva. At its foot is the town of Bonneville, 20 miles S. of Geneva.

MOLFETTA, a town of Naples, in Terra di Bari, with a biſhop's ſee, ſeated on the gulf of Venice, 10 miles N.W. of Bari. Long. 16. 52. E. Lat. 41. 28. N.

MOLIERES, a town of France, in the department of Lot, 11 miles N. of Montauban, and 16 S. of Cahors. Long. 1. 30. E. Lat. 44. 10. N.

MOLINA, a ſtrong town of Spain, in New Caſtile, ſeated on the Gallo, in a territory abounding in paſtures, 35 miles S.E of Siguenza, and 88 E.N.E. of Madrid. Long. 1. 53. W. Lat. 40. 50. N.

MOLISE, a territory of Naples, in the form of a triangle, whoſe ſides are 39 miles long, lying between Terra di Lavoro, Abruzzo Citeriore, Capitaneta, and Principato Ulteriore. It is a mountainous country, but fertile in corn, wine, ſaffron, and ſilk.

Molise, a town of Naples, capital of a territory of the ſame name, but not populous. It is 50 miles N. of Naples. Long. 14. 43. E. Lat. 41. 36. N.

MOLSHEIM, a town of France, in the department of Lower Rhine, ſeated on the Bruſch, 10 miles W. by S. of Straſburg, and 228 E. of Paris. Long. 7. 35. E. Lat. 48. 32. N.

MONASTER, an ancient town of the kingdom of Tunis, ſeated near the ſea, 70 miles S.E. of Tunis. Long. 11. 6. E. Lat. 35. 50. N.

MONCALLIER, a town of Piedmont, ſeated on the Po, five miles S.E. of Turin. Long. 7. 48. E. Lat. 45. 2. N.

MONCALVO, a ſtrong town of Italy, in Montferrat, ſeated on a mountain, 12 miles S.W. of Caſſel. Long. 7. 19. E. Lat. 45. 10. N.

MONCHABOU, a city of the kingdom of Burma, which, in 1755, was the reſidence of the king. It is 39 miles N. of Ava, the preſent capital.

MONCONTOUR, a town of France, in the department of Ifle and Vilaine, 39 miles S.W. of St. Malo. Long. 2. 36. E. Lat. 48. 15. N.

MONDEGO, a river of Portugal, which has its fource near Guarda, and croffing Beira, paffes by Coimbra, and falls into the Atlantic, near a cape of the fame name.

MONDIDIER, a town of France, in the department of Somme, where the kings of France formerly had a palace. It is feated on a mountain, 24 miles S.E. of Amiens, and 57 N. of Paris. Long. 2. 34. W. Lat 49. 39. N.

MONDONEDO, a town of Spain, in Galicia, with a bifhop's fee; feated in a fertile country, on a fmall river, 60 miles N.E. of Compoftella. Long. 7. 10. W. Lat. 43. 30. N.

MONDOUBLEAU, a town of France, in the department of Loir and Cher, with a caftle, 13 miles N. of Vendôme.

MONDRAGON, a town of Spain, in Guipufcoa, in the neighbourhood of which are fome medicinal fprings, and a mine of iron of fuperior quality. It is 24 miles S.S.W. of St. Sebaftian. Long. 2. 4. W. Lat. 43. 9. N.

MONDRAGON, a town of France, in the department of Tarn, 12 miles N.N.W. of Caftres.

MONDRAGONE, a town of Naples, in Terra di Lavoro, celebrated for its medicinal waters. It is near the fea, 13 miles N.W. of Capua.

MONFORTE, a town of Portugal, in Beira, 30 miles N. by E. of Portalegra. Long. 7. 21. W. Lat. 39. 32. N.

MONFORTE, a town of Portugal, in Alentejo, 20 miles S. of Portalegra. Long. 7. 31. W. Lat. 38. 47. N.

MONGEARTS, a people of Africa, of whom, and the Mouſelemines, we have the following account in Saugnier's travels to the coaft of Africa, Morocco, Senegal, Goree, Galam, &c.

The travels of Sparmann, Gordon, Vaillant, Maffon, Bruce, and Mungo Park, in different parts of Africa, have made us acquainted with only a fmall portion of the immenfe kingdoms of that continent; and it may be truly averred, that, though neareft to Europe, the anterior is as yet almoft entirely unknown. To become completely acquainted with it, two great journeys muft be undertaken; the firft to Tombuet, in Abyffinia, either by traverfing the Bildulgerid, or by afcending to the fource of the Niger; the fecond would be from Tombuet to the Mofambique, thus traverfing the whole interior of Africa. No doubt the fociety eftablifhed in London will have intrepidity enough to vanquifh all the obftacles which may prefent themfelves either in the climate, or the inhabitants; and from their indefatigable obfervations, will be derived an acquaintance with countries hitherto only known by incorrect maps, and peopled by nations whofe names are uncertain as their exiftence is doubtful.

The narrative before us is rather an account of Saugnier's misfortunes than a difplay of difcoveries, which he might have made in traverfing at large a country entirely new to the obferver: but being unfortunately a flave to the Moors, on whofe coaft his veffel was wrecked, he expected nothing but death, and had to contend with infinite difficulties. Yet his narrative contains many particulars relative to the manners, cuftoms, and character, of the various Arabian hordes among whom he refided.

The horde of Mongearts, who alone were on the coaft when he was caft away, did not obtain undivided poffeffion of the wreck: they were obliged to fhare it with the Moors of the Biledulgerid, a warlike nation, known by the name of Mouſelemines. One of thefe Arabs obtained Saugnier in his partition of the fpoil: he made his efcape, but fell into the hands of other Moors, who brought him, after a march of thirty days acrofs the defert, to their camp; for thefe people are all wanderers. Content in their poverty, and unacquainted with want, they live in a ftate of perfect tranquillity. The men are occupied in hunting or tending flocks; the women in fpinning or cookery; both fexes cover themfelves with the fkins of goats, or with pieces of cotton when they are able to obtain them from Guinea. The finery of the men conſifts in carrying handfome arms, fuch as daggers, fabres, firelocks, and in a wreath of large white cryftals: that of the women is in necklaces of amber, coral, and all kinds of glafs beads; in ear-rings either of gold or filver, according to the wealth of the individuals; and in a very ample cotton covering, one half of which is red.

Saugnier was employed in fupplying the tent with wood, and in keeping the flocks of goats and camels, and faw no probable end of his misfortunes. He was fucceffively fold to different Arabs, and inferred from his own fufferings that the more men are civilifed the more cruel they become: every new maſter treated him with increafed feverity, and every day brought him nearer to the ftates of Morocco.

By the courfe of fucceffive tranſfers he arrived at Cape Nun, where the French and Engliſh merchants at Mogador, having learned the misfortunes of thefe fhipwrecked people, directed a purchafe to be made of all who furvived that event. Saugnier was among the number. Being brought to Mogador, he fondly hoped that all his fufferings were at end, and that he fhould be reftored to liberty, when the emperor, enraged that the Chriftians had been more fpeedily obeyed than himfelf in his own dominions, broke out in threats, ordered the ranſom to be reftored to the merchants, and Saugnier and his companions were again made flaves, but they were flaves to the emperor, which entitled them to high confideration among his fubjects. On their arrival at Morocco they were well treated, dreffed in the French faſhion, and difcharged from all labour. The emperor, to whom they were prefented, received them graciouſly; he promifed they fhould fpeedily be fent to France, and in a few days reftored them to that liberty which they had not hoped fo fpeedily to enjoy. At Tangiers, by the help of the French vice-conſul, they obtained a paſſage in a Spaniſh fhip, and arrived in fafety at Cadiz.

In the journeys which Saugnier made with his various maſters in the interior of Africa, he faw all the wandering nations which inhabit the great defert *Saara*, to the Niger; they are indifferently called Nars, Moors, or Arabs. They are divided among themfelves: the moſt conſiderable tribes are the Mongearts, Traſſarts, Bracnarts, and Mouſelemines: the laſt, accuſtomed to murder and pillage, are the fcourge of the neighbouring people. It is impoſſible but that a people always wandering, always fugitive, and compoſed of a collection of various nations, fhould imbibe fome of the cuſtoms and fuperſtitions of their neighbours; they are Mahometans only in appearance and name. They diſplay in their cuſtoms, the principles of natural law; it is imprinted on almoſt all their actions. The fimple impulſe of unaſſiſted nature and the effects of example are the only education they receive.

In the Saara, hoſpitality is exerciſed without reſtraint; every traveller, on his arrival, is conducted to the tent of the chief, and treated with all the complaiſance and attention which can be expected from a half-ſavage race. The Jew alone muſt not venture on the territory of the Mongearts; all religions are tolerated except his, but he would be burned alive. The Jews are eaſily recogniſed, not only by their features, but by the diſtinguiſhing dreſs they are compelled to

wear in all parts of Barbary, where they form a numerous nation. Among the Arabs, the old are reſpected in an equal degree with the prieſts, and with thoſe who have been at Mecca. The aged, like the heads of hordes, are the judges of the people. They are only reſtrained from pronouncing the puniſhment of death; ſeveral chiefs muſt be aſſembled to decide on the nature of a crime and its penalty. War is leſs terrible, and leſs ſanguinary, among them than predatory attempts, which are, in a certain degree, ſanctioned by law. To ſucceed with impunity depends on the care which is taken not to be caught in the fact: the theft is only a crime if committed by day, in the night the law authoriſes it, intending, no doubt, to excite a greater degree of vigilance in tending the flocks.

The only mechanics employed among the Mongearts, are farriers and gold-ſmiths; the people are too indolent to apply to theſe occupations. The workmen who travel through the Saara, come from the Biledulgerid, and find ample employment. The Mongearts go in ſearch of things abſolutely neceſſary to the Traſſarts, who inhabit the northern ſhore of the Niger. Theſe people are entirely occupied with the care of their cattle; they live on the produce of the dairy, and on grain which they obtain from their neighbours; they are ſtrangers to agriculture, and ſo indolent, that they do not get their victuals ready till nature requires it, by which means they are often unprovided. The women are engaged in houſehold concerns; the negro ſlaves and children take care of the flocks; the men go to the places of aſſembly of the hordes, to market, or to the chace. The wives of the Mongearts are held in a greater degree of conſideration than thoſe of their neighbours; yet they are kept in a ſtate of ſubjection bordering on ſlavery. Houſehold affairs, ſpinning the hair of the camels and goats, the providing of wood, and the preparation of victuals, are their concerns: thoſe who have negro-women for ſlaves have no trouble but that of iſſuing orders.

Although polygamy is allowed by their religion, few Arabs have more than one wife; when ſhe no longer pleaſes her huſband, or is diſpleaſed with him, they ſeparate; the woman retires to her parents: if ſhe reſiſts the ſolicitations of her huſband to return, ſhe is free, and may marry any one elſe; but if ſhe has a child, eſpecially a boy, ſhe cannot remain ſeparated from her huſband more than eight days upon pain of death. When a man beats his wife, it is an unequivocal proof of his affection, and that he does not wiſh to be ſeparated from her; but if he only reproaches, without beating her, ſhe thinks herſelf contemned, and retires to her parents. Theſe proofs of friendſhip, and even of love, though ſtill in uſe among the lower claſſes in Ruſſia, would not accord with the taſte of females in civiliſed nations. The fidelity of the Arab women is inviolable; they hope for an equal immortality with their huſbands, but expect to attain it by conſtancy alone; in this they differ widely from the Mahometans. They make frequent viſits to each other, and the mode of ſhewing reſpect is to permit the gueſt to do all the work in the tent; ſhe prepares the food, churns the butter, while her friend or relation talks to her on private or public affairs. The cordiality of the reception is eſtimated according to the quantity of occupations the viſitor is permitted to fill.

All theſe cuſtoms are pretty generally prevalent among the inhabitants of the northern bank of the Niger, the variations are ſo few and trifling as to claim very little notice. The Mouſelemines, who are a mixture of real Arabs and fugitive Moors from the empire of Morocco, occupy one part of the Biledulgerid. Their government is republican: more civiliſed than the other Moors, they are united in ſocieties, and inhabit ſmall towns; more induſtrious and laborious than their neighbours, they employ themſelves in agriculture, and treaſure their grain, half-winnowed, in large holes made in the earth, in the ſhape of obtuſe cones, which they prepare by filling them with wood, and burning it. When they have depoſited their grain in theſe excavations, they cover them with ſtrong planks laid cloſe together, and cover the planks with earth.

This country is very populous, and would be ſtill more ſo but for the continual wars in which they are engaged with the Emperor of Morocco. The liberty they enjoy encourages them to endure the greateſt fatigues; they look upon it as their greateſt good, and will fight, even to death, to preſerve it. They are rich, becauſe they alone carry on all the commerce of Barbary with the Saara. The women are not more enſlaved than in the interior; every man has as many as he can maintain: thoſe are moſt reſpected who have the good fortune to bear male children, who are educated with the greateſt care.

Theſe people have a general head of their religion, who is reſpected even to adoration: he is the moſt powerful individual in Africa; his authority is unlimited; he declares war, makes peace, and though he has no territory of his own, enjoys a moſt extenſive power. He does not, like the Emperor of Morocco, fancy himſelf inſpired by the prophet, nor does he impoſe ſuch a belief on his people; on the contrary, he avowedly forms his judgment from conſultations with wiſe and experienced men. His authority extends over all the inhabitants of the Biledulgerid and the Saara; and the emperor, powerful as he is, has never dared to attempt a diminution of his influence.

The country of the Mouſelemines is very fertile; it produces all the neceſſaries of life, almoſt without cultivation; it abounds in palm-trees, dates, fig and almond trees, and produces great quantities of oil, wax, and tobacco, which are carried to Mogador. This plenty occaſions the people to be better fed than thoſe in the deſert, but the inhabitants of the country are often reduced to a ſtate of rigid frugality.

The ſubjects of the emperor of Morocco are much more unhappy even than thoſe who want the neceſſaries of life. The prejudices and deſpotic power of their princes, the plunder to which they are inceſſantly expoſed, the neceſſity they are under of concealing their property that it may not be forcibly taken from them, theſe circumſtances render them unhappy and barbarous. They plunder and pilfer wherever they have an opportunity; and ſo abject is their ſubmiſſion to the will of a deſpotic ſovereign, that they dare not even utter a complaint. This Mooriſh nation, which occupies one of the fineſt ſpots on the globe, is always miſerable, and often in want of the neceſſaries of life. So great is their ſlavery, that they have no characteriſtic manners, the caprice of their prince is their only law; they are acquainted with no other.

Plurality of wives is allowed among the Moors; they may have four who bear that name, the reſt are called ſlaves. Theſe women are cloſely ſhut up, and have no enjoyment but at the caprice of their lords. When a barbarous huſband is diſpleaſed with his wives, he maltreats them according to the prevalence of his brutal paſſion, and they are without hope of redreſs; often, after a long ſeries of ill uſage, he kills them to ſave the expence of their maintenance: the more humane get rid of them by exchange or ſale: the lot of theſe unhappy perſons admits of no ſolace, unleſs they are ſo fortunate as to bear male children.

All Moors are by birth equal; they are diſtinguiſhed only by offices: when out of place, they return to the ordinary rank. The education of children is very much neglected till they are ſeven or eight years old: it is not till after circun-

ciſion that they are fixed either in the ſtudy of the Alcoran, in arts, or in arms: the military are favoured by the emperor; they are placed in the horſe or foot according to their expertneſs, and they continue in the corps where they were firſt admitted, till the emperor is pleaſed to diſmiſs them. The ſovereign diſpenſes juſtice in perſon, but no one is admitted to an audience unleſs he comes with a preſent proportioned to his fortune: the ſmalleſt gifts, even two eggs, are not refuſed. The Moors ſpeak boldly to their ſovereign; baſhfulneſs is conſtrued as a ſymptom of guilt, and the perſon ſhewing it would be ſure to loſe his cauſe.

The emperor of Morocco, as a deſcendant of Mahomet, by his pretended relationſhip with the family of the Sherifs, is the interpreter of the law. The prieſts, called *Talbes*, are always friendly to him; and his ſubjects believe him to be inſpired by the prophet, and infallible. The reſpect with which he is regarded is ſo great, that his people conſider it a happineſs to die by his hand; it is a favour done to a religious Moor; he is ſure to go immediately to Mahomet's boſom, and there enjoy everlaſting felicity. Hoſpitality is partially exerciſed: the traveller is obliged to pay for his food, but if reſorted to as an aſylum, the houſe of a Moor is inviolable.

It is a general belief, that the ſouls of good men, and zealous obſervers of the law, are immortal; others ſuffer for a limited period, and are then annihilated: they conſider the doctrine of eternal puniſhments repugnant to the divine goodneſs. As to the women, thoſe only are immortal who have been inviolably faithful to their huſbands; the others utterly periſh. According to their principles, man is not a free agent, every thing having been predeſtined from all eternity; therefore, if any one commits a crime, he is not the leſs eſteemed: when a Moor is in adverſity, he bears it with an heroic courage.

The preſent reigning prince, according to Saugnier's account, might be taken for one of the Mouſelemine nation, for his love of money is equally ardent with theirs. Commerce is an object of his excluſive attention, and procures him immenſe ſums; all nations have liberty to eſtabliſh commercial houſes in his ſtates, but he takes one twelfth part of their cargoes as his right. He often levies immenſe ſums on the merchants, which they are forced to pay or relinquiſh their trade: the Jews are not ſpared; the induſtry of that wandering race is one of the chief reſources of the emperor; he gives them every facility in trading, and even advances them a capital, but he knows how to reſume it with uſury. The Arabs, acquainted with the morality of this ſovereign, will not deliver up their priſoners on his word, and the Chriſtians are ſufferers by it. The merchants dare not treat for a ranſom, till they have purchaſed the emperor's permiſſion; but on the ſimple word of theſe merchants, the inhabitants of the Biledulgerid part with their ſlaves; they have no fear of loſing the ſtipulated ranſom, for there is no example of a Chriſtian at the head of a commercial houſe breaking his engagement; this makes the Moors obſerve, that the Chriſtians never lie, becauſe it is forbidden by their religion.

All the dangers which Saugnier had incurred, and all the evils he had undergone, did not diſcourage him; he ventured to undertake a ſecond voyage, to try whether fortune would be more favourable; he arrived at Senegal without accident. This iſland is a mere bank of ſand in the middle of the river, at three miles diſtance from its diſcharge into the ſea: ſterility is its ſmalleſt inconvenience; the air is extremely impregnated with ſalt, the heat exceſſive, and increaſed by the reflection of the ſand. Inſects abound in ſuch a degree that it is impoſſible to defend one's ſelf againſt their ſtings; the water is bad, meat ſoon becomes tainted, and fiſh has a bad flavour. A more dreadful ſituation cannot be found, nor a place where it is more difficult to procure the firſt requiſites of life; yet this country has been deſcribed by Meſſieurs Adanſon and Dumanet as the abode of enjoyment and delight. "Theſe writers," Saugnier obſerves, "have given the rein to their imagination; but I, who have traverſed the greateſt part of it, found it in every particular more or leſs deteſtable. But when one is heartily tired, it is eaſy to find a termination of exiſtence without ſuicide; it is enough either to remain there, or, if the ſufferer is not endowed with ſufficient patience, let him make a voyage to Galam."

This voyage Saugnier himſelf undertook, not appriſed perhaps of the ills he thus announces, or, perhaps, confiding in the ſtrength of his conſtitution. Galam is the place known as the depot of African commerce, ſo far as it conſiſts in articles of exchange. To arrive there he was obliged to aſcend 325 leagues up the Niger, and to brave the dangers of a moſt laborious navigation, the ill effects of a moſt deſtructive clime, the hoſtilities of a moſt inhoſpitable race who inhabit the banks of the river, the oppreſſions of numerous petty ſovereigns who govern theſe people, and finally the inſubordination and the robberies of the crew he was obliged to employ. Nothing but the avidity of gain, and an inſatiable thirſt after riches, can induce a man to face and conquer all the hazards of ſuch a voyage: it requires that gold ſhould be preferred to life.

It is neceſſary to read the work itſelf to learn in the detail all the dangers of this perilous commerce. The articles of exchange are guns, gun-powder, coarſe cloth manufactured for the purpoſe, ſalt, iron, piſtols, ſabres, woollen and linen cloth, ſmall ſilver bells, coral, cryſtals, and all kinds of glaſs; theſe are bartered for ſlaves, gold, ivory, and elephant's teeth. The hardy traveller has given a preciſe and circumſtantial account of the articles uſed in theſe negociations, but an extract which muſt neceſſarily be mutilated, would be of little uſe.

At length, after a voyage of five months, conſtantly annoyed with fatigue and illneſs, and haraſſed with a multiplicity of accidents, Saugnier returned from Senegal, having completed only one half of the purpoſe which cupidity had induced him to undertake. Cheated by white men, cheated by the blacks, exhauſted by mental and bodily infirmities, he reſolved to return to his country. He notices Goree only to ſay, that it is merely a melancholy rock, which can produce nothing, and is deſtitute of water. The air is more wholeſome than at Senegal; the inhabitants are a colony of the ſame nation, called Yoloſ; there are more inhabitants than the trade of the place requires, for there are not above a hundred negroes ſold in a year, and it is neceſſary to ſearch a ſpace of thirty or forty leagues to obtain even thoſe.

Notwithſtanding all the difficulties which Saugnier has encountered, the injuries he has received from men, and the inſalubrity of the climate; the knowledge he has acquired, and the ſacred character of ſlave of the emperor, which is equally reſpected among his numerous ſubjects at a remote diſtance as by thoſe near the capital, have influenced him to propoſe to the French government to undertake, at a very ſmall expence, one of the moſt extenſive journeys ever yet made by land. Seven obſtacles of conſiderable importance preſent themſelves, but he feels in himſelf ſufficient reſources to ſurmount them all.

MONGHIR, a town of Hindooſtan Proper, in Bahar, with a fort. It is generally made a ſtation for part of the Engliſh troops, and is ſeated on the Ganges, 110 miles E. by S. of Patna, and 275 N.W. of Calcutta. Long. 86. 30. E. Lat. 25. 20. N.

MONHEIM, a town of Germany, in Bavaria, eight miles N. of Donawert. Long. 11. 12. E. Lat. 48. 58. N.

MONICKEDAM, a ſea-port of the United Provinces, in North Holland. In 1515, the whole town (the church of St

Nicholas excepted) was deſtroyed by fire. It is ſeated at the entrance of the Monick into the Zuider Zee, eight miles N.E. of Amſterdam. Long. 4. 56. E. Lat. 52. 29. N.

MONJOY, a town of Weſtphalia, in the duchy of Juliers, 19 miles S. of Juliers. Long. 6. 7. E. Lat. 50. 39. N.

MONISTROL, a town of France, in the department of Upper Loire, 14 miles S.W. of St. Etienne. Long. 4. 6. E. Lat. 43. 17. N.

MONOMUGI, a region of Africa, lying near the equator, between Abyſſinia on the N. Zanguebar on the E. Monomotapa on the S. and Congo on the W. This country is very little known to the Europeans.

MONONGAHELA, a river of North America, which riſes in Virginia, and running N. into Pennſylvania, meets the Allegany at Fort Pitt, where their united ſtreams aſſume the name of Ohio. It is deep and gentle, and navigable for barges 50 miles from its mouth.

MONOPOLI, an epiſcopal town of Naples, in Terra di Bari, ſeated on the gulf of Venice, 28 miles S.E. of Bari. Long. 17. 37. E. Lat. 41. 20. N.

MONPAZIER, a town of France, in the department of Dordogne, 18 miles S.W. of Sarlat. Long. 0. 47. E. Lat. 44. 46. N.

MONREALE, a town of Sicily, in Val di Mazara. It was erected into a biſhopric in 1183, which has been ſuppreſſed, and the revenues appropriated to the marine, and the defence of the iſland againſt corſairs. It is three miles W.S.W. of Palermo.

MONSANTO, a ſtrong frontier town of Spain, in Eſtramadura. Long. 5. 50. W. Lat. 39. 40. N.

MONSARAZ, a town of Portugal, in Alentejo, ſeated on the Guadiana, 25 miles S.W. of Elvas. Long. 7. 32. W. Lat. 38. 26. N.

MONSTERBERG, or MUNSTERBERG, a town of Sileſia, in a province of the ſame name, 20 miles N.E. of Glatz, and 27 S. of Breſlaw. Long. 17. 16. E. Lat. 50. 37. N.

MONTABOUR, a fortified town of Germany, in the electorate of Treves, between Coblentz and Limbourg. Long. 7. 50. E. Lat. 50. 30. N.

MONTAGNIAC, or MUDANIA, a town of Natolia, on the ſea of Marmora. It carries on a great trade, eſpecially in fruits, and is ſeated on a bay of the ſame name, 70 miles S.S E. of Conſtantinople. Long. 29. 10. E. Lat. 40. 0. N.

MONTAGUE ISLAND, one of the New Hebrides, in the South Pacific Ocean, near Sandwich Iſland. Long. 168. 31. E. Lat. 17. 26. S.

MONTAGUE (Mrs. Elizabeth), a lady highly eſteemed in the circles of faſhion, and of conſiderable celebrity in the republic of letters, was daughter of Matthew Robinſon, eſq. of Weſt-Layton, in the county of York, and of Horton in Kent; deſcended of an ancient and reſpectable family, nearly allied to Richard, firſt Lord Rokeby, which title, for default of male iſſue in the original poſſeſſor, devolved to Matthew Robinſon, eſq. Mrs Montague's brother. Her mother was Elizabeth, daughter of Robert Drakes, of the town of Cambridge, eſq.

The care of Miſs Robinſon's education was aſſumed by Dr. Conyers Middleton, the celebrated author of the life of Cicero, and ſeveral philoſophical and theological works. The pupil was worthy the attention of ſo great a maſter, as ſhe joined to an ardent love of literature, and a zealous deſire of inſtruction, a perſeverance which alone can inſure extenſive information, or permanent acquiſition; of this quality ſhe is ſaid to have given a remarkable inſtance by tranſcribing, before ſhe had completed her eighth year, all the Spectators: there are many reaſons to doubt the truth of this ſtory in its utmoſt extent; but granting ſhe copied thoſe papers which were beſt worth the labour, namely, Addiſon's Contributions, the effort is entitled to applauſe and admiration.

About the year 1742, ſhe married Edward Montague of Allerthorpe, in the county of York, eſq. ſon of Charles, fifth ſon of Edward, firſt earl of Sandwich. By him ſhe had one ſon, who was born in 1743, and died before he had completed his ſecond year. Mrs. Montague was early left a widow, with an ample fortune, and extenſive and honourable connections.

When the celebrated Pultney, earl of Bath, and his lady, made a tour in Germany and other parts of Europe, Mrs. Montague was of the party: ſhe maintained an epiſtolary correſpondence with ſome of the moſt eminent literary characters of the country, and particularly with the late Dr. Monſey, phyſician of Chelſea College. Her letters are praiſed by thoſe who have ſeen them, as abounding in wit, obſervation, judgment, and learning; and in thoſe reſpects are ſaid to excel the letters of her celebrated name-ſake Lady Mary Wortley Montague.

George, lord Littleton, was a warm admirer of Mrs. Montague; he was aſſiſted by her in the compoſition of his Dialogues of the Dead, ſome of the beſt of which, according to his acknowledgment, were her productions,

In 1769, Mrs. Montague publiſhed her only avowed literary compoſition, An Eſſay on the Writings and Genius of Shakſpeare, compared with the Greek and French dramatic Poets; with ſome Remarks on the Miſrepreſentations of M. de Voltaire. This work obtained a great reputation: it was well received in the firſt literary circles, and paſſed through ſeveral editions. Voltaire's talent in decrying whatever is great, admirable, or venerable, was never ſhackled by the reſtraints of truth or morality; his arrogant pretenſion to triumph over the unrivalled bard of Avon merited reprehenſion, and his fallacies were completely detected and expoſed by Mrs. Montague. Yet, as an eſſay on the genius and writings of Shakſpeare in the moſt extended ſenſe of the term, her production was not ſatisfactory: as an apology it was complete, becauſe it demonſtrated the futility of the critic; but as an independent homage to the bard, it was not ſufficiently copious or forcible to obviate the attacks of future caviliers, or to prove the claims of her favourite author to univerſal ſuperiority. Dr. Johnſon, who, with great force and inimitable preciſion, appreciated the extent, and marked the failings of Shakſpeare's genius, was not ſatisfied with Mrs. Montague's eſſay, of which he always ſpoke with diſreſpect, and expreſſed ſurpriſe that Sir Joſhua Reynolds honoured it with his admiration. Dr. Johnſon conceived that Mrs. Montague's acquaintance with the ancients was not ſufficiently profound or extenſive to juſtify the pretenſions of her title page; but, whatever faults may, in this reſpect, be diſcovered in her eſſay, it had at leaſt the good effect of diſcrediting the preſumptuous gabble of the foreign critic and his inane and ignorant echoes. The ſtyle is remarkably elegant, and characteriſtic of a pen formed in the ſchool of Addiſon.

Mrs. Montague was in habits of friendſhip with the firſt wits and ſcholars of the age, and was the reputed founder of a ſociety known by the name of the *Blue Stocking Club*. This aſſociation was founded on the liberal and meritorious principle of ſubſtituting the rational delights of converſation for the abſurd and vapid frivolities of the card table. No particular attention or reſpect was paid to her, but the converſation was general, cheerful, and unreſtrained: far different from what is inſinuated reſpecting the company by a ſatiriſt who accuſes them of going

"To barter praiſe for ſoup with Montague."

The name of this club is ſaid to be derived from the follow-

ing circumſtance. One of their moſt diſtinguiſhing characters in the early days of the ſociety was Mr. Stillingfleet, who always wore *blue ſtockings*: his converſation was diſtinguiſhed for brilliancy and vivacity, inſomuch that when, in his abſence, the ſtock of general amuſement appeared deficient, it was a common exclamation, *we can do nothing without the blue ſtockings*: thus was the appellative acquired which is now become frequently in uſe for a learned and witty lady, even though ſhe never drank tea in Portman-ſquare.

Mrs. Montague was noticed for another peculiarity; that of giving an annual dinner to the chimney-ſweepers of the metropolis. This innocent exerciſe of charity has not eſcaped animadverſion from thoſe who atone for giving nothing themſelves by affecting to prove that the donations of others are not ſo wiſe and benevolent as they ought to be. Yet, if the feſtive treat is now diſcontinued, the ſooty ſons of labour will undoubtedly look forward with leſs delight than uſual to the calends of May.

This excellent lady died at her houſe in Upper Berkeley-ſtreet, Portman-ſquare, London, on the 25th of Auguſt, 1801. In private life, ſhe is ſaid to have been an example of liberal diſcretion and rational benevolence. Her hand was always extended to the protection of genius and the relief of diſtreſs; but ſhe was careful to diſtinguiſh the objects, and not to laviſh her bounty upon falſe pretenſions. Her magnificent manſion was the reſort of the moſt diſtinguiſhed characters of her time; and all were emulous to teſtify their eſteem, and pay homage to the endowments of her mind and the amiable qualities of her heart.

MONTAIGU, a town of France, in the department of Vendée, 24 miles weſt of Mauleon. Long. 1. 30. W. Lat. 47. 0. N.

MONTALVAS, a town of Portugal, in Alentejo, on the borders of Spain, 32 miles N.E. of Liſbon. Long. 6. 24. W. Lat. 39. 30. N.

MONTARGIL, a town of Portugal, in Eſtremadura, 28 miles S.E. of Santarem, and 33 N.N.W. of Evora. Long. 8. 11. W. Lat. 38. 48. N.

MONTARORO, a town of Naples, in Principato Citeriore, nine miles north of Salerno.

MONTDAUPHIN, a town of France, in the department of the Upper Alps, ſeated on a craggy mountain, almoſt ſurrounded by the Durance, eight miles N.E. of Embrun. Long. 6. 45. E. Lat. 44. 40. N.

MONT-DE-MARSAN, a town of France, capital of the department of Landes, ſeated on the Midouſe, 30 miles N.E. of Dax. Long. 0. 30. W. Lat. 43. 55. N.

MONTE-CASINO, a mountain of Naples, in Terra di Lavoro, on the top of which is a Benedictine abbey. Long. 13. 44. E. Lat. 41. 39. N.

MONTE-LEONE, a town of Naples, in Calabria Ulteriore. It was ruined by an earthquake in 1638, and is 12 miles N.E. of Nicotera.

MONTELIMAR, a commercial town of France, in the department of Drome, with an ancient citadel. The inhabitants, in the 16th century, were the firſt to embrace the reformed religion. It is ſeated in a fertile plain, 25 miles ſouth of Valence, and 325 S. by E. of Paris. Long. 4. 55. E. Lat. 44. 33. N.

MONTE-SANTO, a town of Portugal, in Beira, ſix miles north of Idanha a Velha.

MONTE VELINO, a mountain of Italy, ſuppoſed to be the moſt lofty part of the Apennines, and 8397 feet above the level of the Mediterranean. It is 46 miles N.E. of Rome.

MONTESQUIEU, a town of France, in the department of Upper Garonne, 15 miles S.S.E. of Toulouſe.

MONTESQUIOU, a town of France, in the department of Gers, 11 miles W.S.W. of Auch.

MONTGOMERY, a county of Pennſylvania, 33 miles long, and 16 broad. In 1790, it contained 22,929 inhabitants. Norriſtown is the capital.

MONTGOMERYSHIRE, a county of North Wales, 36 miles long, and nearly the ſame broad; bounded on the north by Merionethſhire and Denbighſhire, on the N.E. and E. by Shropſhire, on the S. by Radnorſhire, on the S.W. by Cardiganſhire, and on the W. by Merionethſhire. It contains five market-towns and 47 pariſhes, and ſends two members to parliament. Though barren and mountainous in many parts, it has a greater mixture of fertile vale and plain, than ſeveral of the Welſh counties. Its riches proceed from its ſheep and wool, the hilly tracts being almoſt entirely ſheep-walks; and the flocks, like thoſe of Spain, are driven from diſtant parts to feed on them during the ſummer. This county alſo affords mineral treaſures, particularly lead; and it abounds with ſlate and lime; but there is no coal. Its principal rivers are the Severn, Vyrnew, and Tannat, which are remarkable for ſalmon.

MONTIEL, a town of Spain, in New Caſtile, formerly the ſee of a biſhop. It is 18 miles W.S.W. of Alcaraz.

MONTILLA, a town of Spain, in Cordova, 18 miles S.S.E. of Cordova, and 51 N. of Granada. Long. 3. 28. W. Lat. 37. 48. N.

MONTJOY, a town of France, in the department of Lot and Garonne, eight miles S S.W. of Agen. Long. 0. 49. E. Lat. 44. 11. N.

MONTIVILLIERS, a town of France, in the department of Lower Seine, 95 miles N.W. of Paris. Long. 0. 20. W. Lat. 49. 35. N.

MONTLOUIS, a town of France, in the department of the Eaſtern Pyrenées. It is the capital of the French part of Cerdagna, and has a regular fortreſs, on a rock, at the foot of the Pyrenées, built in 1680, by Lewis XIV. for the protection of the frontiers. It is 40 miles W.S.W. of Perpignan, and 430 ſouth of Paris. Long. 2. 5. E. Lat. 42. 30. N.

MONTLUET, a town of France, in the department of Ain, ſeated on the Seraine, 12 miles N.E. of Lyons, and 205 S.E. of Paris. Long. 5. 8. E. Lat. 45. 49. N.

MONTLUCON, a town of France, in the department of Allier, ſeated on the Cher, 35 miles S.W. of Moulins, and 150 ſouth of Paris. Long. 2. 45. E. Lat. 46. 22. N.

MONTMELIAN, a town of Savoy, with a caſtle; taken by the French, in 1705, who demoliſhed the fortifications. It is eight miles S.E. of Chamberry, and 27 N.E. of Grenoble. Long. 6. 15. E. Lat. 45. 30. N.

MONTMORILLON, a town of France, in the department of Vienna, ſeated on the Gartempe, over which is a bridge, 24 miles S.E. of Poitiers.

MONTPENSIER, a town of France, in the department of Puy de Dome, ſeated on a hill, 20 miles N.E of Clermont, and 210 S E. of Paris. Long. 3. 14. E. Lat. 46. 4. N.

MONTREUIL, a ſtrong town of France, in the department of the Straits of Calais, with a caſtle; ſeated on a hill, near the river Canche, 10 miles N.W. of Heſdin, and 117 north of Paris. Long. 1. 52. E. Lat. 50. 27. N.

MONTREUIL-BELLAY, a town of France, in the department of Maine and Loire, ſeated on the Touet, 12 miles S.S.W. of Saumur, and 155 S.W. of Paris. Long. 0. 9. W. Lat. 47. 6. N.

MONTRICHARD, a town of France, in the department of Loir and Cher, and late province of Blaſois, with a caſtle. It is ſeated near the Cher, 12 miles S.E. of Amboiſe, and 112 S.W. of Paris. Long. 1. 22. E. Lat. 47. 22. N.

MONT ST. MICHEL, a ſtrong town of France, in the department of the Channel, built on a rock in the ſea, which is aſcended at low water. Its late Benedictine abbey ſerved at once for a caſtle of defence, and a ſtate priſon, and was alſo much frequented by pilgrims. The prior of the abbey was governor of the town, and the keys were brought to him every evening. This place gave name to the late military order of St. Michel, founded by Lewis XI. in 1479. It is 10 miles S.W. of Avranches, and 180 weſt of Paris. Long. 1. 30. W. Lat. 48. 37. N.

MONTSAUJEON, a town of France, in the department of Upper Marne, 15 miles S.S.W. of Langres, and 145 S.E. of Paris. Long. 5. 16. E. Lat. 47. 36. N.

MONZA, a town of Italy, in the Milaneſe, ſeated on the Lambro, eight miles N.E. of Milan. Long. 9. 20. E. Lat. 45. 33. N.

MONZINGEN, a town of Germany, in the circle of Upper Rhine, 12 miles weſt of Creutznach, and 42 E. of Treves. Long. 7. 14. E. Lat. 49. 50. N.

MOON, MOUNTAINS OF THE, mountains of Africa, extending between Abyſſinia and Monomotapa. They are higher than thoſe of Atlas.

MOORSHEDABAD, a city of Hindooſtan Proper, the capital of Bengal before the eſtabliſhment of the Engliſh power. It is ſeated on the weſtern arm of the Ganges, 120 miles north of Calcutta. Long. 88. 28. E. Lat. 24. 15. N.

MOOTAPILLY, a town of the peninſula of Hindooſtan, in the Guntoor Circar, at the mouth of the Gondegama. Long. 80. 10. E. Lat. 15. 45. N.

MORA, a town of Spain, in New Caſtile, 18 miles S.E. of Toledo. Long. 3. 4. W. Lat. 39. 36. N.

MORANT, POINT, the moſt eaſterly promontory of Jamaica. Long. 75. 56. W. Lat. 17. 56. N.

MORATALAZ, a town of Spain, in New Caſtile, 22 miles eaſt of Ciudad Real. Long. 3. 4. W. Lat. 40. 32. N.

MORATALLA, a town of Spain, in Murcia, 34 miles S.S.W. of Chinchilla. Long. 1. 50. E. Lat. 38. 31. N.

MORAVO, or MORAW, a river of Germany, which has its ſource on the confines of Bohemia and Sileſia. It croſſes Moravia, where it waters Olmutz and Hradiſch, and receiving the Teya, from the confines of Lower Hungary and Upper Auſtria, ſeparates theſe two countries as far as the Danube, into which it falls.

MORBACH, or MURBACH, a town of France, in the department of Lower Rhine, 42 miles ſouth-eaſt of Straſburg. Long. 8. 25. E. Lat. 48. 0. N.

MORBEGNO, a town of the country of the Griſons, in the Valteline, where the governor and the regency reſide. It is the handſomeſt and moſt commercial town in the Valteline, and ſeated on the Adda, 12 miles S.E. of Chiavenna, and 20 N.E. of Lecco. Long. 9. 31. E. Lat. 46. 10. N.

MORBIHAN, a department of France, including part of the late province of Bretagne. Vannes is the capital of this department, which takes its name from a ſmall bay between that town and the iſland of Belleiſle. Its entrance is narrow; but it expands within, and contains about 30 little iſlands.

MORCONE, a town of Naples, in the Moliſe, 19 miles S.S.E. of Moliſe. Long. 14. 54. E. Lat. 41. 24. N.

MORELL (Sir Charles), the ſuppoſed author of the Tales of the Genii. See RIDLEY.

MORELLA, a town of Spain, in Valencia, which was almoſt deſtroyed, in 1705, by the army of Philip V. It is ſeated among high mountains, 80 miles north of Valencia.

MORET, an ancient town of France, in the department of Seine and Marne, with a caſtle, ſeated on the Loire, 35 miles S.E. of Paris. Long. 2. 52. E. Lat. 48. 25. N.

MORETTA, a town of Piedmont, ſituated on a ſmall river, which runs into the Po, 16 miles ſouth of Turin. Long. 7. 44. E. Lat. 44. 48. N.

MORINGEN, a town of Suabia, in the principality of Furſtenberg, 14 miles N.N.E. of Schaffhauſen, and 26 N.W. of Conſtance. Long. 3. 46. E. Lat. 47. 48. N.

MORINGEN, a town of Lower Saxony, in the principality of Calenberg, ſituate on the Mohr, 12 miles N.N.W. of Gottingen. Long. 9. 49. E. Lat. 51. 40. N.

MORLAIX, a ſea-port of France, in the department of Finiſterre, with a caſtle and a tide harbour. The church of Notre-Dame is a ſingular ſtructure, and the hoſpital very handſome. The inhabitants carry on a conſiderable trade in linen, hemp, and tobacco. It is ſeated on the river of the ſame name, 30 miles N.E. of Breſt, and 45 W. of St. Brieux. Long. 3. 46. W. Lat. 48. 33. N.

MORLENBACH, a town of Germany in the electorate of Mentz, ſeven miles S.E. of Heppenheim.

MORLUNDA, a town of Sweden, in the province of Smoland, 41 miles north of Calmar. Long. 16. 24. E. Lat. 57. 20. N.

MOROTOI, one of the Sandwich Iſles, ſeven miles W.N.W. of Mowee. Yams are its principal produce; but it has little wood. The coaſt, on the ſouth and weſt ſides, forms ſeveral bays. Long. 117. 14. W. Lat. 21. 10. N.

MORRISTOWN, a town of the United States, in New Jerſey, 100 miles N.E. of Philadelphia. Long. 74. 28. W. Lat. 40. 45. N.

MORSONA, a town of Naples in Moliſe, 14 miles N.E. of Moliſe.

MORTAGNE, a town of France, in the department of Orne, famous for its ſerges and tanneries. It is 19 miles eaſt of Seez, and 70 weſt of Paris. Long. 0. 40. E. Lat. 48. 33. N.

MORTAGNE, a town of France, in the department of the North, ſeated at the confluence of the Scarpe and Schelde, eight miles S.E. of Tournay. Long. 3. 30. E. Lat. 50. 29. N.

MORTAIN, a town of France, in the department of the Channel, ſeated on the rivulet Lances, almoſt ſurrounded by craggy rocks, 20 miles eaſt of Avranches. Long. 0. 54. W. Lat. 48. 37. N.

MORTARA, a ſtrong town of Italy, in the Milaneſe, ſubject to the king of Sardinia. It is 15 miles N.E. of Caſal, and 22 S.W. of Milan. Long. 8. 40. E. Lat. 45. 22. N.

MORTLAKE, a village in Surrey, ſeated on the Thames, ſix miles weſt of London. Great part of this pariſh is incloſed in Richmond Park; and his majeſty has a farm here of 80 acres in his own occupation.

MORTLICH, a village in Banffſhire, ſix miles S.W. of Keith. Here Malcolm II. in memory of a victory gained over the Danes, founded a biſhopric, which was tranſlated to Aberdeen by David I.

MORTON, or MORTON HAMPSTEAD, a town in Devonſhire, with a noted market for yarn on Saturday. It is ſeated on a hill, near Dartmoor, 14 miles S.W. of Exeter, and 185 W. by S. of London. Long. 3. 46. W. Lat. 50. 39. N.

MORTON, or MORTON IN MARSH, a town in Glouceſterſhire, with a market on Tueſday, ſeated on a foſſway, 29 miles E.S.E. of Worceſter, and 83 W.N.W. of London. Long. 1. 36. W. Lat. 52. 0. N.

MORVEN, a diſtrict in Argyleſhire, whoſe mountains are celebrated in the ſongs of Oſſian.

MORVIEDRO, a town of Spain, in Valencia, on the ſite of the ancient Saguntum, with the ruins of a Roman amphitheatre. It is ſeated on a river of the ſame name, 15 miles north of Valencia. Long. 0. 10. E. Lat. 39. 38. N.

MOSA, a town of Arabia Felix, 25 miles N.E. of Mocha.

MOSAMBIQUE, a ſtrait or channel of the Indian Ocean, between the eaſt coaſt of Africa and the iſland of Madagaſcar, and between 11 and 25° ſouth latitude. It is narroweſt in the middle, where it is 240 miles over; and in this part, on the coaſt of Zanguebar, is a kingdom, iſland, and town of the ſame name.

MOSBACH, a town of Germany, in the palatinate of the Rhine, with a caſtle, ſeated on the Necker, 26 miles E.N.E. of Heidelburg. Long. 9. 21. E. Lat. 49. 28. N.

MOSBRUNN, a town of the archduchy of Auſtria, eight miles ſouth of Vienna.

MOSBURG, a town of Germany, in the duchy of Carinthia, ſix miles N.W. of Clagenfurt.

MOSBURG, a town of Germany, in Bavaria, ſeated at the confluence of the Iſer and Ambert, nine miles weſt of Landſchut. Long. 11. 55. E. Lat. 48. 30 N.

MOSCHEL, or OBER MOSCHEL, a town of Germany, in the duchy of Deux Ponts, 10 miles N.E. of Weiſſemburg, and 32 N.E. of Deux Ponts. Long. 7. 29. E. Lat. 49. 46. N.

MOSELLE, a department of France, including part of the late province of Lorrain. It takes its name from a river, which riſes in the Voſges, waters Epinal, receives the Meurthe below Nanci, and paſſing by Metz, Thionville, and Treves, falls into the Rhine at Coblentz. Metz is the capital.

MOSENIA, a town of Perſia, in the province of Chuſiſtan, 22 miles S.W of Suſter.

MOSS, a town of Norway, in the province of Aggerhuys, on the eaſt ſide of Chriſtiana Bay, 15 miles north of Frederickſtadt, and 28 ſouth of Chriſtiania. Long. 10. 48. N. Lat. 58. 38. N.

MOSTAGAN, an ancient town of the kingdom of Algiers, with a caſtle and a good harbour, 50 miles N.E. of Oran. Long. 0. 30. E. Lat. 36. 20. N.

MOSTAR, a ſea-port of Turkiſh Dalmatia, with a Greek archbiſhop's ſee, 20 miles N.E. of Narenta. Long. 18. 37. E. Lat. 43. 48. N.

MOTANA, a town of Naples, in Terra d'Otranto, with a biſhop's ſee, 15 miles N.W. of Taranto. Long. 17. 14. E. Lat. 40. 46. N.

MOTRICO, a ſea-port of Spain, in Guipuſcoa, on the bay of Biſcay, 18 miles weſt of St. Sebaſtian.

MOTRIN, a ſea-port of Spain, in Granada, with a good harbour, ſeated on the Mediterranean, 37 miles S.E. of Granada. Long. 2. 28. W. Lat. 36. 32. N.

MOTTA, a town of Italy, in the Treviſano, ſituate at the confluence of the Mottigano and Nivenza, 18 miles E.N.E. of Treviſo. Long. 12. 34. E. Lat. 45. 54. N.

MOTTA, a town of Naples, in Capitanata, three miles E.S.E of Voltumara.

MOTYR, an iſland, one of the Moluccas, of great value to the Dutch, on account of its ſpices. Long. 128. 20. E. Lat. 0. 10. S.

MOUAB, a town of Arabia Felix, capital of Yemen, ſeated in a fertile country, 80 miles ſouth of Sanaa. Long. 46. 35. E Lat. 16. 20. N.

MOUDON, an ancient town of Switzerland, capital of a bailiwic of the ſame name, in the Pays de Vaud, and formerly of all that part of the country which belonged to the Duke of Savoy. The bailiff, appointed by the canton of Bern, reſides in the caſtle of Lucens, built on the ſummit of a mountain. It is 12 miles north by eaſt of Lauſanne. Long. 6. 58. E. Lat. 46. 41. N.

MOULINS-ENGILBERT, a town of France, in the department of Nievre, ſeated at the foot of the mountains of Morvan, five miles S.W. of Chateau-Chinon.

MOULTAN, a province of Hindooſtan Proper, bounded on the north by Lahore, on the eaſt by Delhi and Agimere, on the ſouth by Guzerat, and on the weſt by Perſia and Candahar. Its products are cotton, ſugar, opium, gall, ſulphur, &c. It was ſubject to the Selks; but its capital, Moultan, has been garriſoned by the King of Candahar, ever ſince 1779.

MOULTAN, one of the moſt ancient cities of Hindooſtan Proper, capital of a province of the ſame name. It is of ſmall extent for a capital, but ſtrongly fortified, and has a Hindoo temple of great celebrity. Here is a particular ſect of Hindoos, called Catry; a tribe of warriors ſuppoſed to be the Catheri or Cathei, with whom Alexander warred on the banks of the Malli. Moultan is ſeated on one of the branches of the Indus, 210 miles S.W. of Lahore, and 310 S E. of Candahar. Long. 70. 40. E. Lat. 29. 52. N.

MOUNTAINEERS, a name given to the inhabitants of wild and mountainous diſtricts, where civiliſation is ſcarcely expected by travellers, and therefore not ſuppoſed to exiſt.

Among thoſe touriſts who have given the world their obſervations on Ireland, we do not find one who has explored and deſcribed the mountainous regions of that iſland. The following ſketch is intended to give the reader a diſtinct idea of the unciviliſed Iriſh mountaineers, who, like the Scotch Highlanders, retain and adhere to the cuſtoms of their anceſtors.

Theſe people have ever been miſrepreſented by the prejudice of illiberal travellers, who, too indolent to climb mountains, or explore remote valleys, adopted the erroneous accounts of others. To reſcue this ſingular claſs of human beings from undeſerved calumny, and repreſent them in a fair point of view, ſhall be the object of this article.

A vaſt range of mountains riſes in the county of Louth and province of Leinſter, on the north-eaſt coaſt of Ireland. Theſe mountains extend along the weſtern ſide of Newry-bay, about ten miles from north to ſouth, and terminate in a promontory above the town of Carlingford. Their high and broken curves preſent a majeſtic and ſublime ſcene; they are generally barren, covered with heath, and ſhort graſs intermixed with moſs, and ſeveral pure ſtreams of "living water from the rock" flow down their ſides to fertiliſe the plains below.

The valleys which interſect theſe majeſtic piles are inhabited and cultivated by the deſcendants of the ancient Iriſh, who fled to theſe remote regions as an aſylum from the perſecution of Oliver Cromwell during his deſolating progreſs through the iſland.

By perſevering toil they built ſeveral villages, where, after ſuffering many inconveniences, they cultivated and fertiliſed the ſoil; and the wild ſcenes to which the firſt ſettlers were driven by neceſſity, are now inhabited from choice by their poſterity.

The moſt remarkable of theſe villages is called *Glenmore*, or the great valley. It is ſurrounded by very high mountains of various forms, which, with their groteſque hanging cliffs, the ſheep and goats that graze on graſſy ſpots among the rocks, and the ſprightly and inceſſant flow of ſeveral ſtreams that iſſue from the pureſt fountains and deſcend to the valley, exhibit a pleaſing ſcene of peaceful ſolitude.

Eaſtward of the village the confluence of the ſtreams forms

a rivulet, which glides with gentle murmurs amid the valley. On its banks about 100 cottages are built, irregularly, and environed with potatoe-gardens and corn-fields. The population amounts to about 500.

In this remote ſociety, the manners to the ancient Iriſh are ſaid to have been preſerved to the preſent day, and preſent to the reflecting mind an intereſting portraiture of ruſtic ſimplicity.

The glen is about two miles long from eaſt to weſt, and nearly a mile wide: it produces ſufficient potatoes, flax, and corn, for the inhabitants; and their black cattle, ſheep, and goats, are fed on the adjacent mountains. The villagers yearly ſell a conſiderable number of ſheep and cows in the fairs of Dundalk and Newry, which, with the profits ariſing from the manufacture of coarſe linen, and the ſale of butter and poultry, enables them to pay their rents and live in their own plain way. Their houſes are ſmall, and, like the Scotch ſheilties, very durable. They are chiefly employed in carrying their linen, butter, &c. to market in panniers; for their rugged, ſteep, and almoſt impaſſable paths prevent the uſe of carriages of any kind. Indeed even their agriculture is moſtly effected by the ſpade, for the ſoil is ſo ſtony that in many places they cannot uſe the plough.

With reſpect to the appearance of Glenmore, the village conſiſts of cabins, the walls of which are commonly about ten feet high, built with ſtone cemented by tough clay, which the rains having waſhed from between the ſtones, you would think, on approaching, that the walls were ready to fall, being apparently formed of looſe ſtones; but they are found by experience to be ſtrong enough to reſiſt the winter's ſtorms. The windows are ſmall, being moſtly only apertures in the walls, which are occaſionally filled with ſtraw to reſiſt the weather, or opened to admit the light and air. A framed glaſs window moveable in a groove is conſidered as a mark of elegance in Glenmore, and a few of the richeſt peaſants have white-waſhed their cabins as a mark of diſtinction. The roofs of thoſe cottages are compoſed of rafters interwoven with hazle boughs or branches of the pliant willow. They are very neatly thatched with ſtraw, ſimilar to the barns in England.

Their fuel is peat, or, as they call it, *turf*, which is cut into ſmall oblong ſquares on the ſummits of the mountains, dried in the ſun, and conveyed home on their horſes in panniers.

This fuel gives a ſtrong and durable heat, but from the unſkilfulneſs of the peaſants in the conſtruction of their chimneys, or rather the action of the wind from the circumjacent hills, the cabins are moſtly infeſted with ſmoke, which is condenſed on the inſide of the roof into ſoot, and ſometimes, in wet weather, is diſſolved and falls in what the peaſants call *ſoot-drops*, which ſtain their clothes and utenſils.

The furniture of a cabin is commonly one or more bedſteads of fir, containing a bed of chaff with coarſe ſheets and blankets; two or three old cheſts and boxes; a few wicker or ſtraw chairs, and low ſtools. Their utenſils are an iron pot, cups of earthen ware, three or four crocks, half a dozen trenchers, the ſame number of noggins, a clumſy knife, a few horn ſpoons, a gridle, or circular plate of caſt-iron, on which they bake their oat-cakes over the fire, and laſtly the ancient and ever-venerated *mather*. This curious veſſel is made of wood, its form is an oblong ſquare, it has four handles, and contains two quarts. When a perſon drinks out of the mather he takes it up by two of the handles, and he muſt be a very thirſty mortal indeed who cannot be ſatisfied with the contents. The mather has been uſed by the Iriſh mountaineers time immemorial, before the introduction of metal or earthen utenſils.

Such are the elegances of an Iriſh mountain-cottage, and indeed many of them are not ſo well furniſhed. It is only the more opulent that can boaſt of ſuch accommodations; for in ſeveral of the wretched huts, the beds of the inhabitants are merely ſtraw ſpread out on the earthen floor, with ſcarcely any bed-clothes.

Let it be remembered, however, that this faithful picture of almoſt ſavage ruſticity is not to be confounded with the comfortable habitations of the Iriſh who live in the fertile plains, where every neceſſary that contentment can deſire is abundantly ſupplied by the hand of induſtry, and the polite arts of civiliſation poliſh and adorn a happy people.

This ſketch will be principally confined to the mountain villages, and the reaſons will be given why their inhabitants have continued ſo long in a ſtate of indigent but contented ignorance.

The cabins are moſtly divided into two apartments; a kitchen, where the women ſpin, nurſe their children, and dreſs the proviſions, and a room appropriated to repoſe.

Let us enter one of theſe lowly dwellings. At the further ſide of the kitchen ſit a number of lively young women buſy at their ſpinning wheels, while they ſing in concert one of the favourite love ſongs of Carolan, or ſome other Iriſh bard. How ſimple and affecting are thoſe ſoothing ſounds! which are rendered ſtill more harmonious by the hum of the ſpinning wheels that, like the baſſoon or baſſ-viol, ſoftens the clear notes of the female voice. It is now evening, and the labour of the day being finiſhed, the peaſant enters his cabin, lays down his ſpade, and after welcoming us, ſits down at a reſpectful diſtance. Emboldened by our freedom of converſation, and our enquiries reſpecting the village, his awe ſoftens into that good-natured air of frankneſs, which evinces that man was intended to be a ſocial being. Proud of the honour we do him he is deſirous to amuſe his viſitors, and diverts us with his legendary tales of the Iriſh giants, and the miracles of St. Patrick. Supper is now brought forward; it conſiſts of potatoes, bread, and milk, and we are earneſtly invited to participate the homely fare.

Thus, the inhabitants of Glenmore and the other mountain villages, though a diſtinct and detached people, are not averſe to their lowland neighbours, but ſeem proud of a viſit from ſtrangers. Their characteriſtic hoſpitality has remained unimpaired through the lapſe of ages; and notwithſtanding the pains taken by their prieſts to prejudice their minds againſt the heretical proteſtants as they are called, the mountaineers in general are remarkably officious to their more refined viſitors, and appear good-natured and cheerful.

Indeed their contentment is the conſequence of their ignorance; and though ſome of their young men leave their native mountains and mingle in the more active ſcenes of civiliſed ſociety, yet by far the greater number voluntarily remain at home.

The mountaineers are ſomewhat lower in ſtature than the natives of the low-lands. The men are generally of the middle ſize; they are well formed, active, and hardy. Their viſage is round, their hair black, ſometimes long, but moſt inclined to curl, and their complexion brown, or rather ſwarthy. The women are more graceful; their complexion is brown, though a few are delicately fair; their eyes are black or brown, and their hair long; they are ſo plump as to border on corpulence: and their faces are moſtly round, ſmooth, and unintereſting, being rather the image of good-nature than of ſenſibility. There are a few

exceptions among them—girls whofe fymmetry of form and beauty of countenance would induce a poet to imagine them the female deities of their native mountains. Thofe girls are flender, with fair complexions, light brown hair, and eyes of a moft enchanting light blue, beaming with the luftre of youthful health. Yet thefe charming creatures are inſenſible of their own attractions; and though their unmeaning fimplicity of air may delight for a moment, yet on a more intimate acquaintance, the man of refinement is diſguſted with the vulgarity of their manners.

" Full many a flow'r is born to bluſh unſeen,
And waſte its ſweetneſs on the deſert air."

Many of the young women have an amorous archneſs in their looks, which probably ariſes from the familiar intercourſe of the ſexes This is attended with no immoral effects, for they are remarkably chaſte. Perhaps the ſimplicity of their manners, vegetable diet, and induſtrious habits, tend to ſuppreſs that ardor which in more civiliſed ſocieties is too often productive of ſeduction, infamy, diſeaſe, and all the dire concomitants of licentiouſneſs. Till within theſe few years the mountain villagers were unacquainted with the Engliſh language, but a circumſtance happened, which, fortunately for them, was the introduction not only of that excellent vehicle of knowledge, but of a more lucrative kind of induſtry than they had practiſed.

The river of Ravenſdale, which flows along in the plains near the weſtern ſide of the mountains before mentioned, invited enterpriſing men from Ulſter about thirty years ago. They built bleach mills, and by introducing the linen buſineſs into the country, they prevailed upon the neighbouring mountaineers to work for a ſhilling a-day, wages which to them appeared a treaſure. Thus by an intercourſe with the proteſtants, the mountaineers gradually learned to converſe in Engliſh, and many of them can now communicate their ideas in that language with perſpicuity.

Their ignorance is owing to the want of education, and the cunning of their prieſts, who have gained ſuch an aſcendancy over their ſuperſtitious minds, that they believe whatever nonſenſe is ſubſtituted inſtead of the pure precepts of Chriſtianity.

Every ſpring they receive abſolution from the prieſt. On this ſolemn occaſion they exert their recollection to the utmoſt, in order to render up a faithful account of all the ſins they have committed during the laſt year. Very young boys and girls are exempted from this farcical ceremony, but all thoſe who are arrived at maturity, aſſemble with the moſt ſolemn and penitential looks before the holy father, who gravely hears the confeſſion of each in private, and gives them abſolution and his benediction for ſix pence or a ſhilling each. The cheerfulneſs and alacrity with which they return from confeſſion is inexpreſſible. They have cleared off the old account, and may lay in a new ſcore as ſoon as they pleaſe! Such opinions would have a moſt pernicious effect in a luxurious community, but in the quiet valleys above mentioned they rather promote the contentment of the ignorant peaſant.

During Lent the mountaineers abſtain from animal food, and would conſider it a crying ſin to let it touch their lips

The mountaineers are accuſtomed to hardſhip from their infancy. Their children run barefoot among the tufts of heath, and the rocky mountains, even amid the rigor of winter. This gives them a callofity of nerve, and tends to ſtupify their mental faculties. The poets may expatiate on the efficacy of trotts in bracing the nerves and clearing the brain, but the experience of mankind proves, that mild climates, genial ſuns, and odorous breezes, are more conducive to genius and expanſion of mind.

At a very early period, perhaps ſeven years of age, the boys are employed in leading horſes at the plough or harrow, in weeding the potatoes and corn, and ſeveral of them are ſhepherds. The girls are taught to knit, ſew, card, and ſpin. Whatever ideas the children of both ſexes acquire from the traditionary tales of their parents and neighbours conſtitute the whole of their knowledge, except the " palpable obſcure" of religion, which their prieſts think proper to impart. Hence their ideas, like their wants, are few: they are healthy, and the pure air of their native hills gives them a charming vivacity of ſpirits.

The dreſs of the mountaineers is coarſe and plain. The men are clothed in frieze coats, waiſtcoats, and breeches, coarſe woollen-yarn ſtockings, brogues (a kind of clumſy ſhoes), coarſe linen ſhirts, and felt hats. Some of the young men, however, imitate their low-land neighbours by a finer dreſs, and the women have progreſſively increaſed their finery, inſomuch that the plain woollen hood, worn about twenty years ago, is laid aſide, and cloaks of good ſcarlet broad cloth, or in ſummer of white dimity, are uſed in their ſtead. The young women are particularly partial to variegated ribbons, and the more glaring the colours the more they are prized. Their gowns are linſey-woolſey or ſtriped linen, of home manufacture. It is a curious fact, that the fair ſex among the moſt uncivilifed nations are fond of brilliant colours, witneſs the tartan ribbons and petticoats of the highlanders of Scotland; and a ſimilar predilection is ſhewn by the women of Ruſſia and Tartary for the party-coloured ſhawls of Kiſhmyre and India.

Hoſpitality may almoſt be ſaid to be inſtinctive among the mountaineers; and they carry this amiable virtue to ſo great a height, that there is always a little couch appropriated to the wandering beggars who often viſit them. Indeed, the ſociality and contentment of their lives have been very naturally pourtrayed by the poet, in the following lines:

" Though poor the peaſant's hut, his feaſt though ſmall,
He ſees his little lot the lot of all.
Cheerful at morn he wakes from ſhort repoſe,
Breathes the keen air, and carols as he goes;
At night returning, every labour ſped,
He ſits him down the monarch of a ſhed;
Smiles by his cheerful fire, and round ſurveys
His children's looks that brighten with the blaze;
While his lov'd partner, boaſtful of her hoard,
Diſplays her cleanly platter on the board.
And haply, too, ſome pilgrim, thither led,
With many a tale repays the nightly bed."

Their ſummer amuſements conſiſt of annual feſtivals, which they call *patrons*, being holidays in honour of tutelar ſaints. The principal meeting of theſe mountaineers is held on Midſummer-day. On this occaſion the people firſt hear maſs in the morning, and ſpend the remainder of the day in dancing, drinking, and other amuſements. There are booths erected where they aſſemble, and a multitude of toys brought thither for ſale. The young men buy ribbons and gloves, which they preſent to their ſweethearts; and the feſtival reſembles the Engliſh country wake.

Beſides this amuſement, the young people often aſſemble on Sunday afternoon on ſome little green plain or mount, where they form a circle, around which the lads and laſſes purſue each other alternately, and whoever is taken forfeits a kiſs, ſimilar to the ſports of Yorkſhire and other northern counties of England. In winter they amuſe themſelves with dancing,

in barns; or when the young women ſpin, the young men divert them with ſtories, or with the muſic of the flute or violin. Some of them are very expert at playing on the jews-harp, and commonly uſe two at a time, which they play with their little fingers. It is almoſt impoſſible to conceive the cheerfulneſs which illumines their faces at theſe ſocial meetings. Their penury, the wintry ſtorms that howl without, and the rumbling torrents that bear fragments of the rocks impetuouſly along, are unheeded by the lively train. We may well ſay of the Iriſh mountaineer, as the poet does of the Swiſs—

"——Every good his native wilds impart,
Imprints the patriot paſſion on his heart;
And ev'n thoſe ills that round his manſion riſe,
Enhance the bliſs his ſcanty fund ſupplies.
Dear is that ſhed to which his ſoul conforms,
And dear that hill which lifts him to the ſtorms:
And as a child, when ſcaring ſounds moleſt,
Clings cloſe and cloſer to the mother's breaſt;
So the loud torrent and the whirlwind's roar,
But bind him to his native mountains more."

With reſpect to ſuperſtition, the mountaineers retain a belief in the exiſtence of fairies, whoſe power they dread. They recount many feats performed by the fairies, or, as they call them, *the gentry*. Tradition has conveyed down the fable of the *banh ſhea*, an apparition like an old women, dreſſed in the ancient Iriſh habit, with a hood on her head, bound with a kerchief; this ſpectre was ſaid always to appear under the window where any perſon lay on the death-bed, and to expreſs ſeveral mournful cries as a token of approaching diſſolution. The exiſtence of familiar ſpirits is alſo believed by this credulous people; and an impoſtor, called Roger Mulhern, who lived near Carlingford for many years, is yet mentioned by them with the greateſt reverence. This man pretended, that by the aid of his inviſible friend he could tell the ſtate of the dead. Several people, anxious to know how their relatives fared in the other world, flocked to the houſe of this ſage, who gave them a night's lodging free of expence, and by artful enquiries drew from his viſitors a knowledge of ſuch circumſtances in the life of the departed friends, as enabled him to decide whether he was happy or miſerable. His fame increaſed, and the prieſts became alarmed leſt his impoſture ſhould circumvent theirs. They forbade their pariſhioners to viſit Mulhern, whom they affirmed to be under the influence of the devil. But though the prohibition deterred the people from going publicly to the houſe of the impoſtor, yet they viſited him, with the greateſt ſecrecy, under the veil of night; and he, as a reward for their faithfulneſs, preſented each perſon with a ſhilling, beſides giving them the moſt ſatisfactory information reſpecting the deceaſed. This act of beneficence was ſo different from the practice of the prieſts, who always demanded money for any of their good offices, that if death had not removed Mulhern, it is not improbable but he might have produced another hereſy in the holy mother-church.

As the young mountaineers approach maturity, the ſoft paſſion predominates. The neareſt relations of the enamoured pair aſſemble, and after adjuſting the portion to be given with the young woman (commonly two or three cows, and a few ſheep), the marriage is ſolemniſed. This is the moſt expenſive feſtival of the mountaineers. It is common for forty or more perſons to be entertained at the expence of the bridegroom; or if the father-in-law is generous, he ſometimes defrays the expence of the wedding dinner.

This feaſt conſiſts of a ſuperabundance of bread, meat, poultry, butter, and whiſkey punch.

Within theſe few years tea in the afternoon has been introduced; but in general, only the favourite cordial, whiſkey*, is circulated with joy-inſpiring influence. A muſician attends, and the feſtive party dance till midnight.

When the bride retires, a number of young people of both ſexes throng into her bed-chamber, till ſhe complies with the old cuſtom of throwing the ſtocking. She throws her ſtocking over her right ſhoulder, and whoever is ſo happy as to be hit with it, is ſuppoſed to be the next of the company who will be married. This ceremony is accompanied with loud burſts of laughter, after which the lively party retire.

A chriſtening is alſo attended with much expence in regaling friends, but as the people become more enlightened they will probably be more economical

By frequent intermarriages in the ſame village, the mountaineers think that they keep their property among themſelves, and are unwilling to form any connubial engagements with others.

On the deceaſe of any perſon, the fire is inſtantly extinguiſhed, as ſymbolical of the extinction of life. If this event happens in ſpring or ſummer, flowers are gathered and ſtrewed around the body, which is laid out on a little ſtraw. It is covered to the chin with a ſheet, and the face remains bare. For two nights a large table is placed over the corpſe, with ten candles upon it; this is called the night-wake, and is emblematic of immortality. A baſon filled with cut tobacco, with a number of pipes, are placed for the accommodation of the neighbours, who throng to the houſe, fill it with the ſmoke of tobacco, and talk as gaily as if they were at a chriſtening. Nay, ſeveral of the young people join in ſuch amuſements as hunt the ſlipper, or blind man's buff; and even courtſhip makes no inconſiderable progreſs in this houſe of mourning. The cheerfulneſs of the viſitors is interrupted at intervals by the exclamations of the mourners.

A female orator begins this ceremony. She recites the former happineſs of the deceaſed; deplores his death in a kind of ſong, and is joined in different parts of this monody by a chorus of mourners: thoſe who feel leaſt are ever the moſt noiſy, while the neareſt female relations prove, by their ſighs and tears, that their ſorrow is unaffected.

"Alternately they ſing, alternate flow
Th' obedient tears, melodious in their woe;
While real ſorrow ſwells in each full heart,
And nature ſpeaks at every pauſe of art."

This ancient cuſtom might excite riſibility in a mind unaccuſtomed to reflect or feel: but moſt people are melted by its ſolemn ſimplicity. It is difficult to ſee the geſtures of ſorrow exhibited by thoſe mourners, and to hear their ſweet plaintive voices, without ſympathiſing; and the writer of this account has on many ſuch occaſions felt the tear of ſenſibility bedew his cheek.

After theſe ceremonies the corpſe is carried on a bier to the place of interment, where the prieſt prays for the repoſe of the departed ſoul, and urges his hearers to give him ſome money for praying the deceaſed out of purgatory. The credulous people

* The author cannot ſuppreſs a wiſh that the wiſdom of the legiſlature may deviſe ſome other mode of taxation, and put an entire ſtop to the diſtillation of this pernicious liquor. By this chemical proceſs, nutritious grain is changed into a liquid poiſon, which ruins the health, and depraves the morals, of myriads of our fellow-ſubjects.

have paid their clergy for this nonſenſical mummery for many ages, but ſome of the moſt intelligent among them are beginning to queſtion its efficacy, and it probably will ſoon be "a tale of the times of old."

The moral character of the mountaineers has often been miſrepreſented by ſatiriſts, who, as Churchill ſays, "judged the many by the raſcal few." On an impartial and philoſophic inveſtigation of their qualities of head and heart, it will be found that they are naturally acute; warm in their reſentment and affection; hoſpitable, credulous, and inquiſitive; paſſionately fond of the marvellous in deſcription; very ſuperſtitious, and paſſive to their clergy; communicative and unſuſpicious; indolent till ſtimulated by the hope of gain or a proſpect of pre-eminence; boaſtful and fond of praiſe; warmly attached to their relatives and friends, and ferocious to their enemies. Such is the Iriſh mountaineer in his natural ſtate; but their prieſts have abſolutely perverted this people, by inculcating a deteſtation of the proteſtants, whom they ſtigmatiſe with the name of *heretics*. This hatred is further increaſed by the idea that they have been diſpoſſeſſed of their heritage by the firſt ſettlers from England and Scotland. Conſequently the mountaineers conſider themſelves as the true proprietors of the iſland, who have been deprived of their rights by the invaſion of others. In conſequence of this opinion, many of them hate the proteſtants; and as in their intercourſe they are obliged to behave civilly, nay ſubmiſſively, they are early taught the low arts of diſſimulation, and can diſguiſe their ſentiments with wonderful addreſs.

This perverſion of the human heart has been productive of the moſt dreadful effects, witneſs the maſſacre of 1641; but as ſuperſtition is gradually declining, and a ſpirit of enquiry is become univerſal throughout Europe, it is to be hoped that even the Iriſh mountaineers will ſoon adopt the benign precepts of Chriſtianity, which teaches us to "love our neighbour as ourſelves." The idea that "faith was not to be kept with a heretic," has long prevailed among the mountaineers; hence they were prone to defraud their low-land neighbours, whenever they could do it with impunity; and in their bargains they are yet too cunning for more enlightened dealers.

One virtue of the moſt amiable kind they practiſe with unremitting zeal—filial piety. No nation, not even the Chineſe, can pay more reſpectful attention and implicit obedience to their parents. As there are no pariſh workhouſes in Ireland, except in ſome of the principal towns, conſequently the country would abound with deſtitute old people, were it not for the gratitude of their progeny. The Iriſh peaſant, but eſpecially the mountaineer, protects his parents in the decline of their years. The mothers aſſiſt in nurſing, carding, or ſpinning; the fathers hobble about the farms, directing the young men at their work. At night, the beſt and eaſieſt ſeat is appropriated to the ancient father and mother, and the moſt nutritious food in the houſe is ſerved up to them. It really is an edifying and lovely ſight to behold the reſpectful attention paid by thoſe peaſants to their aged parents, while the grandchildren are taught to addreſs them in the moſt endearing language, nay to crave their bleſſing, and ſupplicate the Deity for them in prayer.

Nor does the filial love of the Iriſh mountaineer expire with his parents. He cloſes their eyes, attends their remains to the tomb with grateful ſorrow, and occaſionally viſits the grave of thoſe who gave him being, and bedews it with his tears. From ſuch a diſpoſition, what excellent virtues might be produced with proper cultivation! but, alas! ignorance and ſuperſtition contract thoſe faculties with lethargic torpor, and many an excellent mind is buried in thoſe remote regions, like the diamond in the mine.

Let us for a moment turn our attentinn from theſe wild ſcenes, to another that approaches nearer to the elegance of civiliſed ſociety, and conclude this account with a ſhort deſcription of the ſubjacent country.

Ravenſdale is a fertile valley, about ſeven miles north-weſt of Carlingford. It lies at the bottom of the great chain of mountains whoſe inhabitants we have deſcribed. This lofty and majeſtic range ſhelters the vale from the north and eaſt winds. Ravenſdale lies open to the ſouthern and weſtern breezes, and is beautified by a large river, which runs from north to ſouth, ſkirting the fields with the livelieſt verdure along the weſtern ſide. This river empties itſelf into Dundalk bay, which is about two miles diſtant.

An excellent road has been made along the bottom of the mountains, on the eaſtern ſide of the vale; and there are five bleach-mills on the banks of the river, with ſeveral acres around, each covered with whitening linen: here a number of bleachers at work enliven the landſcape, and give an air of buſineſs to the ſcene, while ſeveral handſome manſions, adorned with gardens and ſhrubberies, exhibit a charming variety.

This cheerful ſcene is contraſted by the wild ſublimity of the mountains, which ſwell in natural grandeur, empurpled by the blooming heath, and brightened by the yellow bloſſoms of furze. Tranſlucent ſtreams flow in many cafcades down the ſides of the mountains, and appear with peculiar beauty and luſtre when the evening ſun ſhines upon them.

Towards the north, Ravenſdale-park diſplays a beautiful aſſemblage of pictureſque objects. A variety of trees, particularly fir, oak, and laurel, bloom along the ſloping ſide of the higheſt mountain, with viſtas at different intervals, which give a view of the river winding along amid the level meadows below. A caſcade, which falls over a rock, is precipitated about forty feet perpendicular into a baſon, where it foams and murmurs away in a ſtream that joins the river. Several gravel walks conduct the rambler through the mazes of the wood; and ſeats painted green, placed at different diſtances, invite to reſt and contemplation. The peak of the mountain above Ravenſdale-park is crowned with a vaſt pyramidical cairn or heap of ſtones, probably raiſed to perpetuate ſome great event. This cairn is diſcoverable at the diſtance of many miles, and adds greatly to the magnificence of the airy ſteep.

The rural grandeur of this mountain ſcene, and the ſofter features of natural beauty ſmiling in the ſunny meadows, and ſparkling on the gliding river below, is contraſted by an oppoſite mountain, which is ſo barren that it preſents nothing but an irregular maſs of rocks and looſe ſtones, which appear in broken curves, with here and there a ſtunted thorn, vegetating on the ſurface of the ſteril ſoil.

Such are the primitive manners of the Iriſh mountaineers of Leinſter; and ſuch the rich and pictureſque country adjacent, which is inhabited by an induſtrious and refined race of people, as diſtinct from the former as if they lived in a diſtant region of the globe.

MOUNTMELLICK, a town of Ireland, in Queen's County. The wool combing, malting, and tanning buſineſſes; with the cotton manufacture, and bleaching, are carried on here. It is five miles north of Maryborough, and 42 W.S.W. of Dublin.

MOUNTRATH, a town of Ireland, in Queen's County. Iron forges and furnaces have been long erected in its neighbourhood; but from the ſcarcity of charcoal have not been in regular uſe: the woollen manufacture forms the principal trade. It is ſix miles W.S.W. of Maryborough, and 23 north of Kilkenny. Long. 6. 54. W. Lat. 53. 2. N.

MOUNTSBAY, a bay on the ſouth coaſt of Cornwall, between the Land's End and the Lizard Point. It is ſo named

from a lofty peninſulated rock, called Mount St. Michael, which riſes within it. Among the rocks, on this part of the coaſt, breeds the Corniſh chough, or red-legged crow, noted for ſtealing and carrying away whatever it finds. In Mountſbay is a conſiderable pilchard fiſhery.

MOURA, a town of Portugal, in Alentejo, with an old caſtle; ſeated at the confluence of the rivers Ardita and Guadiana, 87 miles S.E. of Liſbon. Long. 5. 59. W. Lat. 38. 0. N.

MOURZOOK, the capital of Fezzan, ſituate on a ſmall river, and ſupplied with water from a multitude of ſprings and wells. The medley which it preſents to the eye, of the vaſt ruins of ancient buildings, and the humble cottages of earth and ſand that form the dwellings of its preſent Arab inhabitants, is ſingularly groteſque and ſtrange. It is ſurrounded by a high wall, with three gates, at which is collected a tax on all goods (proviſions excepted) that are brought for the ſupply of its people. A caravan arrives annually from Meſſurata at this place; and hence the Fezzaners diſpatch, every year, a caravan to Caſhna, and another to Bornou. Mourzook is 262 miles ſouth of Meſſurata, 650 N.W. of Bornou, and 710 north by eaſt of Caſhna. Long. 15. 5. E. Lat. 27. 20. N.

MOUSELEMINCS. See MONGEARTS, *Supp.*

MOUSSY, a river of Hindooſtan, which croſſes the country of Golconda, and runs into the Kiſtnah, on the borders of the circar of Palnaud.

MOUSTIERS, a town of France, in the department of Lower Alps. It is noted for a manufacture of fine porcelain, and for a once famous pilgrimage, called Our Lady of Beauvezer, ſeated between two lofty and craggy mountains It is five miles N.E. of Riez, and 47 W.N.W. of Nice.

MOUTIER, or MONSTIER, a town of Savoy, capital of Tarenteſia, with an archiepiſcopal palace. It is ſeated on the Iſere, 62 miles N.W. of Turin. Long. 6. 23. E. Lat. 45 30. N.

MOUZON, an ancient town of France, in the department of the Ardennes, with a late rich Benedictine abbey; ſeated on the Meuſe, eight miles S.E. of Sedan, and 110 N.E. of Paris. Long. 5. 10. E. Lat. 49. 37. N.

MOYENVIC, a town of France, in the department of Meurthe, remarkable for its ſalt pits. It is three miles from Vic, and 10 S.S.E. of Nanci.

MOZCISLAW, a ſtrong town of Lithuania, capital of a palatinate of the ſame name. It was almoſt ruined by the Ruſſians in 1660, but is rebuilt. It is ſeated on the Sofz, 22 miles ſouth of Smolenſko. Long. 32. 32. E. Lat. 54. 28. N.

MUCHELN, a town of Upper Saxony, in Thuringia. It was burned, in 1621, by the imperialiſts, under the command of Count Tilly. It is ſix miles north of Freyburg, and eight S.W. of Merſburg. Long. 11. 39. E. Lat. 51. 15, N.

MUCHELNEY, a village in Somerſetſhire, two miles ſouth by eaſt of Langport. Here are the remains of a rich and ancient abbey, part of which is now converted into a farm-houſe.

MUCIDAN, a town of France, in the department of Dordogne, ſeated on the river Iſle, 18 miles S.W. of Perigueux.

MUCKENBERG, a town of Upper Saxony, in the margravate of Meiſſen, 28 miles north of Dreſden, and 22 N.E. of Meiſſen. Long. 13. 52. E. Lat. 51. 20. N.

MUEHR, a river of Germany, which riſes in the archbiſhopric of Saltzburg, croſſes Stiria, paſſing by Judenburgh, Luben, Muehr, and Gratz, and falls into the Drave, near Kaniſca, in Hungary.

MUEHR, or MUEHRAU, a conſiderable town of Germany, in the duchy of Stiria, on the river Muehr, 25 miles N.W. of Gratz, and 40 S.W. of Neuſtadt. Long. 15. 4. E. Lat. 47. 16. N.

MUGGIA, or MUGGLIA, a town of Italy, in Venetian Iſtria, with a caſtle, ſeated on a gulf of the ſame name, five miles S.E. of Trieſt. Long. 14. 2. E. Lat. 45. 52. N.

MUHLBERG, a town of Upper Saxony, in the margravate of Meiſſen, with a caſtle, ſituate on the Elbe, 19 miles N.W. of Meiſſen, and 32 N.W. of Dreſden. Long. 13. 9. E. Lat. 51. 25. N.

MUHLROSE, a town of Upper Saxony, in the middle marche of Brandenburg, ſituate on a navigable canal, which forms a communication by water from Hamburg to Breſlaw, nine miles S.W. of Frankfort on the Oder.

MUIRKIRK, a town in Ayrſhire, ſeated on the river Ayr, and noted for a conſiderable iron-work.

MULDAU, or MOLDAU, a river of Bohemia, which riſes on the confines of Moravia, and running by Budweis and Prague, falls into the Elbe, at Melnick.

MULDORE, a town of Germany in the archbiſhopric of Saltzburg, ſeated on the Inn, 37 miles N.W. of Saltzburg, and 40 eaſt of Munich. Long 12. 25. E. Lat. 48. 10. N.

MULHEIM, a town of Germany, in the electorate of Cologne, ſeated near the Rhine, three miles from Cologne. Here the few proteſtants in Cologne are obliged to go to perform divine ſervice.

MULHEIM, a town of Weſtphalia, in the duchy of Berg, ſituate on the Ruhr, 14 miles north of Duſſeldorf. Long. 6. 51. E. Lat. 51. 26. N.

MULL OF GALLOWAY, a rocky promontory, the moſt ſoutherly point of Scotland, in the county of Wigton.

MUNDEN, or GEMUNDEN, a town of Lower Saxony, in the principality of Calenberg, ſituate at the confluence of the Werra and the Fulda, where they join to form the Weſer. No one who is not a freeman of Munden, is to trade beyond this town, but muſt conſign his goods to a factor here; and whatever is brought in a veſſel, muſt, by virtue of the ſtaple-right granted and confirmed to this town, be unladen and laden again. The Werra may be navigated by Munden and Heſſian veſſels, but the latter, on coming to Munden, are not to proceed, without a licence, and even then they muſt have a Munden maſter and pay a duty to the town. It is 10 miles N.N.E. of Caſſel, and 13 S.W. of Gottingen. Long. 9. 47. E. Lat. 51. 40. N.

MUNDER, a town of Lower Saxony, in the principality of Calenberg, ſituate on the Hammel, 18 miles E.S.E. of Munden. Long. 9 25. E. Lat. 51. 38. N.

MUNDERKINGEN, a town of Suabia, ſeated on the Danube, 25 miles S.W. of Ulm. Long. 9. 43. E. Lat. 48. 15. N

MUNDU, a city of Hindooſtan Proper, in the province of Malwa, of which it was anciently the capital. It was then a prodigious city, 22 miles in circuit, and contained many monuments of ancient magnificence; but it is fallen much to decay. It occupies the top of a large and lofty mountain, 46 miles ſouth of Ougein, and 454 N.E. of Bombay. Long. 75. 47. E. Lat. 22. 50. N.

MUNGATS, or MUNKATS, a town of Upper Hungary, with a biſhop's ſee, and an impregnable caſtle, ſeated on a high rock, 50 miles N.E. of Tockay. Long. 22. 0. E. Lat. 41. 30 N.

MUNGLORE, a town of Hindooſtan Proper, in the county of Cabul, 125 miles weſt of Caſhmere, and 135 eaſt of Cabul. Long. 71. 15. E. Lat. 34. 15. N.

MUNIA, or MENIE, an ancient and conſiderable town of Egypt, ſeated on the Nile. The veſſels that go down the river are obliged to ſtop here and pay certain duties. There

are ſeveral moſques and a great number of granite pillars. It is 140 miles ſouth of Cairo. Long. 31. 20. E. Lat. 27. 45. N

MUNNERSTADT, a town of Franconia, in the biſhopric of Wurtzburg, ſituate on the Lauer, 28 miles N.N.E. of Wurtzburg, and 31 N.W. of Bamberg. Long. 10. 9. E. Lat. 50. 7. N.

MUNNYPOUR, a town of the province of Meckley, in Aſia, 264 miles N.N.E. of Aracan. Long. 95. 0. E. Lat. 24. 40. N.

MUNSINGEN, a town of Suabia, in the duchy of Wurtemberg, 20 miles weſt of Ulm, and 26 S.S.E. of Stutgard. Long. 9 20. E. Lat. 48 23. N.

MUNSTER, a town of France, in the department of Upper Rhine, with a late rich Benedictine abbey, 30 miles S.W. of Straſburg. Long. 7. 5. E. Lat. 48. 8. N.

MUNSTER MEINFELD, a town of Germany, in the electorate of Treves, 12 miles S.W. of Coblentz. Long. 7. 18. E. Lat. 50. 19. N.

MURANO, an iſland and town of Italy, a mile from Venice, formerly a very flouriſhing place, and has ſtill ſome palaces that bear the marks of former magnificence, though now in a ſtate of decay. The iſland is ſaid to contain 20,000 inhabitants. The great manufacture of looking-glaſs is the only inducement for ſtrangers to viſit this place, which formerly ſerved all Europe with looking-glaſſes. Long. 12. 5. E. Lat. 45. 26. N.

MURET, a town of France, in the department of Upper Garonne, ſeated on the Garonne, 10 miles ſouth of Toulouſe. Long 1. 18. E. Lat. 43. 26. N.

MURHART, a town of Suabia, in the duchy of Wurtemburg, with a Benedictine abbey. It is ſeated on the river Mur, eight miles ſouth of Halle. Long. 9. 51. E. Lat. 49. 14. N.

MURO, an epiſcopal town of Naples, in Baſilicata, ſeated at the foot of the Apennines, 12 miles S.E. of Conza. Long. 15. 45. E. Lat. 40. 46. N.

MURRAY FRITH, a conſiderable inlet of the ſea, on the eaſt coaſt of Scotland, between Tarbetneſs, in Roſsſhire, on the north, and Brough Head, in Murrayſhire, on the ſouth.

MUSA, a town of Arabia, in the province of Yemen. It is populous, and ſurrounded with walls: 18 miles eaſt of Mocha.

MUSACRA, a ſea-port of Spain, in Granada, with a ſtrong caſtle, ſeated on a mountain, 27 miles N.E. of Almeria, and 62 S.W. of Carthagena. Long. 1. 36. W. Lat. 37. 11. N.

MUSIC (*Encycl.*). To what we have already offered under this head we are induced to lay before the reader, from the pen of a ſcientific and truly ingenious writer who aſſumes the title of the LEPTOLOGIST in the Britiſh Magazine for 1800, the following obſervations on muſic in general:

The agreeable effect of melodious ſounds, not only on the human ear, but on the feelings and on the paſſions, is ſo univerſal and ſo powerful, as deſervedly to excite the attention of the pſychological philoſopher. For what ultimate end a ſuſceptibility for this peculiar pleaſure has been implanted by nature in the mind, is not eaſy to be aſcertained; but, ſetting aſide the well-known pleaſing ſenſation of a delicate titillation, wherever the nerves are poſſeſſed of great ſenſibility, and the aſſociations of an intereſting voice, giving expreſſion to poetical and impaſſioned diction, it is probable that the taſte for all complicated and ſcientific muſic is wholly acquired.

1. Muſic may be conſidered as conſiſting of three component parts, rhythm, melody, and harmony. Rhythm is an agreeable ſucceſſion of ſounds conſidered with reſpect to the time of their whole duration. Melody is an agreeable ſucceſſion in reſpect to the pitch, or the frequency of vibrations of each ſound. Harmony is an agreeable combination of ſeveral ſounds at the ſame time. It is evident that rhythm and melody are almoſt inſeparable; but that harmony is by no means neceſſary to the exiſtence of muſic. In the firſt place, it is eaſy to conceive that a love of rhythm, or of the periodical recurrence of the ſame or ſimilar ſenſations at equal intervals of time, may be derived from the habit of a certain equality and recurrence in the motions of the body, ſuch as walking, or, in children who cannot yet walk, from the paſſive motion of geſtation. this predilection for the return of cuſtomary ſenſations appears to be an innate and fundamental tendency of the human ſyſtem, to which phyſiologiſts and metaphyſicians have been obliged ultimately to refer many properties both of body and mind. But be this as it may, the love of rhythm, which is, perhaps, the loweſt ingredient in muſical taſte, is, if poſſible, ſtill more univerſal than the love of harmony and melody. Poetry, or rather metrical compoſition, is diſtinguiſhed from proſe only by the regularity of its rhythm; and the knowledge of metre and proſody, however high it may rank in the critic's eſtimation, is a ſubordinate and comparatively inſignificant branch of muſical ſcience. The natural fondneſs for rhythm is the principal foundation of the pleaſure of dancing, an amuſement intimately connected with muſic, and no leſs popular. The rhythm of a muſical compoſition is almoſt always at leaſt twofold, often three or fourfold, conſiſting of ſubordinate diviſions or bars, and periodical returns of larger members, either phraſes or ſtrains, containing equal numbers of theſe diviſions. All this is perfectly natural, but, perhaps, not ſo neceſſary to muſic as Mr. Walter Young, in his excellent eſſay, printed in the Edinburgh Tranſactions, appears to imagine; for thoſe who are already experienced muſicians are generally obſerved to delight in recitative, where the rhythm is almoſt entirely loſt; and ſtill more in fugues, where two or three ſeries of rhythms, almoſt independent of each other, are carried on at the ſame time, one part beginning its ſubdiviſions when another has made ſome progreſs, and a third is ſtill to follow. But the pleaſure derived from ſuch compoſitions, is, as Kirnberger has obſerved, more intellectual than ſenſual, ariſing in great meaſure from the conſciouſneſs of being able to comprehend that which is "caviar to the general." Rhythm is generally marked in performance by a ſlight increaſe of force at the beginning of each ſubdiviſion or bar; ſometimes, and in ſome inſtruments always, the change of ſounds, in point of acuteneſs and gravity, or the interruption of the ſame ſound, is a ſufficient diſtinction; and ſometimes, after the rhythm has already been firmly impreſſed on the mind, neither change of ſound nor of ſtrength is perpetually repeated; the imagination alone being ſufficient to conceive the continuation of the rhythm: but this conſtitutes a kind of *tempo rubato*, where the perception of meaſure is intentionally weakened or ſuſpended. The Æolian harp pleaſes indeed without rhythm, but the pleaſure would ſoon be exhauſted by repetition.

2. The next conſtituent part of muſic is melody. Melody may in ſome ſenſe be ſaid to pleaſe on the ſame principle as rhythm, the partiality of the mind to a regular recurrence of intervals: for though we have it not in our power to count the ſingle vibrations of muſical ſounds numerically, yet we are evidently able to compare with eaſe ſuch ſounds as are related to each other in the ſimpleſt numerical ratios. For inſtance, if a treble and a tenor voice ſing the ſame part, there is ſcarcely an ear ſo inaccurate as not to perceive their reſemblance, which is produced by the recurrence of two vibrations of the treble note at the ſame interval of time with one of the tenor. The ſame love of order may eaſily be extended to the compariſon of fifths and fourths, where the proportions are as two to three, and as three to four. This is enough to account in

ſome degree for the pleaſure derived from melody, or the ſucceſſion of ſounds bearing certain proportions to each other, in reſpect to gravity and acuteneſs: beſides, that the ſame intervals which are moſt melodious in ſucceſſion, are found alſo to form the moſt pleaſing combination of harmony when contemporary; for ſince the preceding ſound is very frequently continued by reflection from ſurrounding objects, ſo as to become contemporary with the ſucceeding, and perhaps always remains fixed in the imagination, it is obvious that ſounds, in order to be perfectly melodious, muſt alſo be harmonious. Add to this, the impreſſion generally made in infancy by the more or leſs melodious ditties of the nurſe's voice, and the connection of refined and chromatic melodies with the natural expreſſion of the moans of grief, or the exclamations of joy; and from the union of all theſe cauſes it may eaſily be conceived from whence the love of melody, as an acquired faculty, may, without much difficulty, be derived.

3. The pleaſure ariſing from harmony is not ſo ſimple and univerſal as that which is produced by a combination of rhythm and melody. Harmony requires for its execution and perception a greater degree of cultivation both in the performer and the hearer than melody alone. Contemporary ſounds may, from the due proportion of the times of their vibrations, give a ſimilar pleaſure to that of melody, when the mind, conſidering them in ſucceſſion, finds them capable of a ready compariſon. But the characteriſtic of harmony is the regular, and at the ſame time diverſified, motion of the air, which ariſes from the combined vibrations, and which appears to be well calculated to produce the pleaſure that the mind derives from the perception of ſymmetry. In this point of view, a concord may be conſidered as a ſingle ſound diſtinguiſhed from a diſcord by a ſuperior quality of tone; in the ſame manner as the tone of the harmonica is more agreeable than that of a newſman's horn, as the note of a nightingale is ſweeter than that of a frog, and a ſmooth rich voice more pleaſing than a hoarſe and natal croaking. Thus the harſhneſs and diſagreeable quality of a ſingle ſound may alſo, on a more nice examination, be ſometimes found to conſiſt in a want of harmonious proportion in thoſe ſecondary notes which generally enter into its compoſition. This quality of ſound, ſometimes called its tone, regiſter, colour, or *timbre*, might be conſidered as a fourth component part of muſic; it depends on the law by which the parts of the ſounding body, and the particles of the air, are governed, with reſpect to the velocity of their progreſs and regreſs in each vibration, or in different ſucceſſive vibrations. No doubt, much of the pleaſure derived from muſic depends on it; but as it is capable of little diverſity on the ſame inſtrument, it is ſeldom conſidered in treating of the theory of muſic. The various combinations of the ſtops of the organ and harpſichord, the uſe of the harmonies of the harp and violin, the bowing nearer to or further from the bridge, the application of muffles of various kinds, the change of the aperture of the lips in wind inſtruments, the choice of vowels and conſonants more or leſs adapted to the powers of the voice; and, in full pieces, the judicious introduction of different voices and inſtruments as ſubſervient to the general effect: all this relates to the quality of ſound, and whoever adequately reliſhes the works of the great modern maſters will be fully competent to judge of its practical importance.

Be the cauſes what they may, natural or habitual, ſimple or complicated, it is certain that a very great majority of mankind experiences pleaſure from muſic: this pleaſure is a ſocial pleaſure, and, connected as it is with ſentiment and paſſion, it is a rational pleaſure. The purſuit of muſical excellence, if properly conducted, amply exerciſes the faculties, at the ſame time that it forms a deſirable variety when intermixed with literary or profeſſional employments. To call it an amuſement only, betrays an ignorance of the nature and difficulty of the ſtudy; ſo far is the ſcience of muſic from being of a light and ſuperficial nature, that, in its whole extent, it is ſcarcely leſs intricate or more eaſily acquired than the moſt profound of the more regular occupations of the ſchools: and even practical perfection in muſic requires ſo much intenſe and laborious application, ſuch a minute accuracy of perception, and ſo rapid an aſſociation of various ſenſitive ideas with other ideas and mechanical motions, that it is inconceivable how men who have no appearance of ſuperior brilliancy in any other accompliſhment, ſhould be able to attain a conception and execution which ſeem almoſt to require the faculties of a ſuperior order of beings. An intemperate and diſſipated attachment to muſic may indeed often be productive of evils; but probably the ſame individuals would have been equally idle and irregular if they had been deſtitute of this accompliſhment. A conſiderable ſhare of the pleaſure of practical muſic ariſes from cauſes perfectly diſtinct from the ſenſual perceptions: the conſciouſneſs of having overcome difficulties, the laudable ſatisfaction of entertaining others, and the intereſt and emulation produced by a concurrence of others in the ſame purſuits: all theſe entirely outweigh the temporary amuſement of the ear, and wholly remove the objection which might be made to the enervating effect of a continual devotion to pleaſurable ſenſations. The ancient philoſophers, with all the manlineſs and dignity of character to which they aſpired, were not aſhamed to conſider muſic as an indiſpenſable part of a liberal education; and Plato devotes three of the earlier years of his young citizens entirely to the ſtudy of the lyre: nor are we without examples in modern times, of philoſophers, and princes, and heroes, who have excelled as much in muſical performances, as in literature and in arms.

Origin of the ſcale.—The firſt lyre, with three ſtrings, is ſaid to have been invented in Egypt by Hermes, under Oſiris, between the years 1800 and 1500 before Chriſt. The ſecond and third ſtring were, perhaps, the octave and fifth of the firſt, or more probably its fifth and fourth, as it would be eaſy to ſing the octave with the accompaniment of the primitive note only. The melody might be either always in uniſon with one of the ſtrings, reſembling a very ſimple modern baſs part; or the intervals might be occaſionally filled up by the voice without accompaniment. We have in modern muſic, a ſpecimen of a pleaſing air, by Rouſſeau, formed on three notes alone, the key note with its ſecond and third; but there can be little doubt that the earlieſt melodies muſt have had a greater compaſs than this. The trumpet is ſaid to have been invented about the ſame time: a little experience might have taught the Egyptians to produce from it the octaves, the 12th, 17th, 23d, and other harmonics of the primitive ſound, which are related to it in the ratio of the integers from 1 to 9, and the ſame ſounds might have been obſerved by a delicate ear among the ſecondary notes of a long chord; and then by deſcending three octaves from the 23d, and two from the 17th, they might have added to their lyre, the ſecond and major third of the principal note. But it does not appear that this method ever occurred to the ancients: they ſeem rather to have attended to the intervals of the notes within the octave, than to the union of ſimilar notes in the natural harmonics; and, beſides, the ſeries of natural harmonics would never have furniſhed a true fourth or ſixth. It is uncertain when, or by whom, the fourth ſtring was added; but the merit of increaſing the number to ſeven, is attributed to Terpander, about the year 700 before Chriſt; two centuries after Homer; although ſome perſons aſſerted that he only brought the improvement from Egypt, and that Hermes was alſo the inventor.

of the lyre with ſeven ſtrings. Pythagoras, or Simonides, about the year 500, added an eighth, and Timotheus a ninth ſtring: the number was afterwards extended to two octaves; and Epigonus is ſaid to have uſed a lyre of forty ſtrings, or rather a harp, as he played without a plectrum: but the theory of the ancient muſic ſoon became more intricate than intereſting. The lyre of eight ſtrings comprehended an octave, correſponding pretty accurately with the notes of our natural ſcale beginning with *e*: the key note was *a*, ſo that the melody appears to have borne uſually a minor third, which has alſo been obſerved to be the caſe in the airs of moſt uncultivated nations: but there was a conſiderable diverſity in the manner of tuning the lyre, according to the great variety of modes and genera that were introduced. Theſe modes were of a nature totally different from the modern modulations into various keys, but they muſt have afforded a more copious fund of ſtriking, if not of pleaſing melodies, than we have at preſent. In ſome of the genera, intervals of about a quarter tone were employed; but this practice, on account of its difficulty, was ſoon abandoned; a difficulty which is not eaſily overcome by the moſt experienced of modern ſingers; although ſome great maſters have been ſaid to introduce a progreſſion of quarter tones, in pathetic paſſages, with ſurpriſing effect. The tibia of the ancients, as it appears evidently from Theophraſtus, although not from the miſinterpretations of his commentators and of Pliny, had a reed mouth-piece about three inches long, and therefore was more properly a clarionet than a flute; and the ſame performer generally played on two at once, and not in uniſon. Pollux, in the time of Commodus, deſcribes, under the name of the Tyrrhene pipe, exactly ſuch an organ as is figured by Hawkins, compoſed of braſs tubes and blown by bellows: nor does he mention it as a new diſcovery: it appears from other authors, to have been often furniſhed with ſeveral regiſters of pipes; and it is ſcarcely poſſible that the performer, who is repreſented by Julian as having conſiderable execution, ſhould have been contented without occaſionally adding harmony to his melody. That the voice was accompanied by thorough baſs on the lyre, is undeniably proved by a paſſage of Plato: and that the ancients had ſome knowledge of ſinging in three parts, is evident from Macrobius. Martini, who is one of the ſtrongeſt opponents of that opinion, which attributes to the ancients a knowledge of counterpoint, obſerves, that "they allowed no concords but the octave, fourth, and fifth, or at moſt very rarely the third; yet they were not without a knowledge of concord of harmonious parts. It is known with certainty, that two parts, whether vocal or inſtrumental, or mixed, beſides uniſon, performed at the ſame time the ſame melody, either always in octaves, or probably always in fifths, or always in fourths; which was called a ſymphony: perhaps alſo, they changed in the courſe of the performance from one interval to another, and this might be done by more than two parts at the ſame time." It is not improbable that this ſtatement may be accurate: nor is it neceſſary to ſuppoſe a very exquiſite and refined ſkill in the intricacies of compoſition, to produce all the effects that have with any probability been attributed to muſic. It is well known that Rouſſeau and others have maintained, that harmony is rather detrimental than advantageous to an intereſting melody, in which true muſic conſiſts; and it may eaſily be obſerved, that an abſolute ſolo, whether a paſſage or a cadence, is univerſally received, even by cultivated hearers, with more attention and applauſe than the richeſt modulations of a powerful harmony.

The minor ſcale being the moſt commonly uſed by the ancients, it was natural for Pope Gregory, who in the year 600 is ſaid to have marked the notes by the Roman letters, to begin with A, the key note of that ſcale: although if, as there is ſome reaſon to ſuppoſe, that B was originally flat, A was not the key note, but its fifth, until the B natural was introduced, and denoted by a ſquare b inſtead of a round one. By degrees the chromatic ſcale was filled up, and the five added intervals were denoted by the letter belonging to the note above them, with the addition of the round b, or by the note below, with the addition of four lines croſſing each other, implying a half note, as compoſed of four commas. A ſimple croſs would, however, at preſent, be much more convenient, as more readily diſtinguiſhable from the ſquare b, which is uſed to ſignify a natural note in oppoſition to theſe flats and ſharps. This is the hiſtorical account of the origin of the ſcale; but, according to the modern theory and practice of muſic, the ſubject may be more eaſily underſtood, by beginning with an explanation of the major ſcale.

Practical application of the ſcales.—The ſimpleſt proportions of two ſounds to each other, next to uniſon, is when the frequency of their vibrations are related as one to two: ſuch ſounds bear ſo ſtrong a reſemblance to each other, that when named, they are denoted by the ſame letter, and are only diſtinguiſhed by the appellations in alt, in altiſſimo, on the one ſide, and double double, on the other. The Germans, with great propriety, make uſe of ſmall letters or capitals with one, two, or more lines over them. The note marked by tenor cliff is called $\bar{c}$, the octaves above $\bar{c}$, $\bar{\bar{c}}$, as far as ſix lines, which is, perhaps, the higheſt note uſed in muſic: the octaves below $\bar{c}$, are c, $\bar{C}$, $\bar{\bar{C}}$, $\bar{\bar{\bar{C}}}$: C is probably not audible, vibrating but eight times in a ſecond. C with ſix lines, would denote a ſound, of which the complete vibrations ſhould laſt preciſely a ſecond. The ſeries of natural notes is thus—$\bar{A}$, $\bar{B}$, C, D, E, F, G, A, B, c, a,... b, $\bar{c}$, $\bar{d}$.—The ſubjoined table will ſhew the abſolute frequency and the dimenſions of each vibration of the octaves of c, and the length of the ſimpleſt organ pipe that produces it; but according to the different temperature of the air, and the pitch of the inſtruments, theſe numbers may vary ſomewhat from perfect accuracy; and it muſt be obſerved, that the uſual pitch of concerts in London, is higher than this ſtandard; and in Germany, perhaps a little lower.

Sound moves in a ſecond 1130 feet.		
Note.	Vibrations in a ſecond.	Length of open pipe in feet.
C^6 . .	1	565.00
C^5 . .	2	282.50
C^4 . .	4	141.25
C^3 . .	8	70.62
C^2 audible	16	35.31
$\bar{C}$	32	17.66
C	64	8.83
c	128	4.41
$\bar{c}$	256	2.21
$\bar{\bar{c}}$	512	1.10
c^3	1024	.55
c^4	2048	.28
c^5 . .	4096	.14
c^6 . .	8192	.07

New P. Forte.

Any ſound may be aſſumed at pleaſure for the primitive or ſtandard note of a piece of muſic, and is then denominated the key note; and the idea of this note is perpetually in-

preſſed on the mind in all ſimple compoſitions, both from its frequent recurrence, and from the relation that all the other ſounds bear to it. C being the key note of the ſcale called natural, we ſhall conſider it as the foundation of the ſcale. The next in importance is the fifth, G, which for various reaſons is intimately connected with the key note. The firſt reaſon is, that it conſtitutes the moſt perfect melody and harmony with C, ſince every other vibration of C coincides with every third of G; the ſecond is, that an attentive ear may almoſt always diſtinguiſh this fifth, at leaſt its octave, the 12th, whenever any inſtrument ſounds C; it being one of thoſe ſecondary ſounds which are called natural harmonics, and which may generally be obſerved in the proportion of the natural numbers, as far as twenty or more, but which have not hitherto been completely explained: thirdly, a ſtopped pipe, if blown forcibly, ſprings immediately from C to g, and an open pipe firſt to c, and then to g, the interval between C and G, is moſt naturally divided by the note E, which anſwers to the number of 5, when C and G are repreſented by 4 and 6, and which is found among the natural harmonics both of chords and pipes. Theſe three notes conſtitute the harmonic triad, or common accord in the major ſcale, which is the moſt perfect, or rather the only perfect harmony. But the intervals are ſtill much too large for melody, and require a further ſubdiviſion; we now therefore take the fifth below inſtead of above the key, or its octave, the fourth above F, which is to C as 4 to 3: this ſound is no-where found among the natural harmonics of C, but C is the moſt diſtinguiſhable of its harmonics, and therefore the relation is nearly the ſame. The ſcale is completed by filling up the perfect triads of G and F: the fifth of G furniſhing D, the ſecond of the key, which is alſo the ninth natural harmonic of C; the third of G, the ſeventh, B, which is the fifteenth harmonic of C; and the third of F being the ſixth of the key, A, which is neither among the harmonics of C, nor has c among its harmonics. Hence we have a ſecond table, in which the proportions of the length of a chord, or pipe, producing the various ſounds are detailed, and the place among the principal natural harmonics of the key annexed.

Notes.	Proportions.	N. lt.
Key C	1	1, 2, 4
2d D	$\frac{8}{9}$	9,
3d E	$\frac{4}{5}$	5, 10
4th F	$\frac{3}{4}$	0, $(\frac{1}{3})$
5th G	$\frac{2}{3}$	3, 6, 12
6th A	$\frac{3}{5}$	0,
7th B	$\frac{8}{15}$	15,
8th c	$\frac{1}{2}$	2, 4, 8, 16

Now when two or more perfectly harmonious parts are performed together, they muſt neceſſarily be found all in the ſame triad, C, E, G; G, B, D; or F, A, C; and the ſucceſſion of theſe triads in various forms, is ſufficient for the accompaniment of any ſimple melody. A regular melody always terminates by an aſcent or deſcent of one degree to the key note: the laſt note but one muſt therefore be always B or D; and both of theſe being in the triad of G, G is called the governing note, or the dominant of C; and F, being in the ſame manner governed by C, is called its ſubdominant. And it is uſual, in all regular compoſitions of any length, to depart for a ſhort time from the principal harmony of the key note, and to modulate into the key of the dominant, then to return, and to modulate for a ſtill ſhorter time into the ſubdominant, before the final cloſe in the tonic or key note. It is neceſſary therefore, for greater variety, to complete the ſcale of the dominant, as well as that of every other note which may be occaſionally introduced as a principal key note; but to do this with mathematical accuracy in the ſame proportion as has been explained, would be practically impoſſible, and even theoretically inconvenient: hence ariſes the neceſſity of tempering ſome intervals to make the others more tolerable, without too much increaſing the number of ſounds. It has been found ſufficient in practice, to add five notes to the ſeven which have been enumerated; but the beſt proportions of theſe have not yet been abſolutely determined: ſome have made all the twelve intervals equal: others have left the whole ſcale of C perfect: others again have taken a middle path, and have introduced a ſlight imperfection into this key, in order to make the neighbouring ones the leſs diſagreeable. The leaſt circuitous introduction of theſe notes is ſhewn in the third table, together with the proportion that they bear to C when thus conſidered. They are denominated nearly in the German manner -is ſignifying what the Engliſh call ſharp, and the French *diſe*, and -es, flat, or *bemol*.

Notes.	Relations,	Proportions.
Fis	as 7th of G	$\frac{32}{45}$
Bes	as 4th of F	$\frac{9}{16}$
Cis	as 7th of D	$\frac{128}{135}$
Ees	as 4th of Bes	$\frac{27}{32}$
Gis	as 3d of E	$\frac{16}{25}$

But a ſtill greater variety being required than theſe major ſcales afford, it has been found that the interval of a fifth may be agreeably, though ſomewhat leſs harmoniouſly, divided, by placing the minor third below, inſtead of above, the major; ſo that C may be to E as E was to G, and conſequently E to G as C was to E. The E thus depreſſed to $\frac{5}{6}$, differs but by a comma, or the ratio of 80 : 81, from the Ees found above, as the 4th of Bes; therefore the ſame ſtring ſerves for both notes; and the ſcale becomes C, D, Ees, F, G, A, B, C; which is the aſcending minor ſcale, the A and B being retained as leading beſt towards the key note, and the major triad of the dominant being therefore neceſſary to the cadence. But in deſcending, the triad of the ſub-dominant F may conform to the character of the minor mode, and Aes is ſubſtituted for A; and moſt frequently Bes for B, as dividing the interval from C to Aes more equally and more melodiouſly.

Thus, we have a pretty comprehenſive view of the moſt uſual practical relations of all the notes to each other. Their uſe as diſcords is ſomewhat more complicated, and would lead further into the ſcience of muſic than is conſiſtent with the nature of ſo ſummary a view. But it may be remarked in general, that by far the moſt common diſcord is the note which conſtitutes the diſtinction of the ſcale of the key from that of its dominant; for inſtance, F with the triad of G, which is called the accord of the flat ſeventh of G; and F not being in the ſcale of G, is conſidered as a regular preparative to the final accord of C; in which that part or inſtrument by which the F is introduced, muſt neceſſarily deſcend to E, the third of the key. The ſecond kind of diſcords are ſuſpended diſcords, when one or more notes of any preceding accord are continued after the commencement of a different harmony in other parts of the compoſition. The third, which is rare, and leſs univerſally adopted, conſiſts in an anticipation of a ſubordinate note of an accord which is to follow, as in the caſe of the added ſixth of the French ſchool. The fourth kind are paſſing diſcords, where a note forming only a melodious ſtep between two others, is inſerted without any regard to its harmonious relations.

Terms expreſſive of time.—The notation of muſic, as it has been eſtabliſhed for more than two centuries, is in general admirably adapted for its purpoſe: but there is one great deficiency, which might be very eaſily remedied, and that is, the total omiſſion of any character expreſſive of the abſolute duration of each note, however accurately the relative value of

the notes may be preſcribed. 'Tis true, ſome little allowance muſt be made for the execution of the performer, and for the habits of the audience; but this is no reaſon why time might not be much more accurately noted, than by the vague terms which are uſually adopted. It would be eaſy to prefix to each movement a number, ſignifying how many bars are to be performed in a minute, which might at firſt be aſcertained by the help of a ſtop-watch, and would ſoon become perfectly familiar both to compoſers and performers, even without this aſſiſtance. According to Quanz, the number which ſhould be ſubſtituted for *Allegro aſſai* in common time, is about 40; for *Allegretto*, 20; for *Larghetto*, 10; and for *Adagio aſſai*, 5. But it is uſual to perform modern muſic much more rapidly than this; or at leaſt the ſtyle of compoſition is ſo changed that the terms are very differently applied. An allegro, or even an allegretto, in common time, without ſemiquavers, is often performed as faſt as 60, ſeldom ſlower than 30.

A very ſuperficial attempt to affix a determinate meaning to the words denoting muſical time, may be ſeen in the table ſubjoined; which, if it were more completely and accurately filled up, might be of conſiderable uſe to young muſicians; although it will appear from inſpection, that compoſers have hitherto employed thoſe terms in very indefinite ſignifications. But it muſt be confeſſed, that much latitude muſt neceſſarily be left for the ear and taſte of a judicious performer, and that it is impoſſible for human art to deſcribe on paper every delicacy of finiſhed execution.

Terms.	C	2/4	3/4	6/8	3/8
Preſtiſſimo	As faſt	as	you	can	
Preſto		100		80, H.	
Preſto ma non troppo		90, H.			
Allegro aſſai	40, Q.	80, Pl.	70, H.		
Allegro molto		100, H.			
Allegro vivace			60, Pl.	50, Pl.	
Allegro	25, Ha. / 45, M. 40. / 50, 60. Pl.	100, 120 / H. 75. / 80, Pl.	65, Pl.		
Allegro non troppo		60, Pl.		50, Pl.	
Allegro moderato	40, H.	70, M.			
Vivace aſſai		100, H.		60, H.	
Vivace			60, H.		
Spiritoſo		90, H.			
Menuetto allegro molto			75, H.		
——— allegro			70, H. Pl.		
——— allegretto			55, H.		
——— moderato			50. H, M.		
Allegretto	20, Q.				45, Pl.
Allegret. grazioſo	50, M.				
Moderato					
Maeſtoſo	19			30, Pl.	
Larghetto	10, Q.				
And. graz.				30, M.	
Andante		35, H. Pl. / 50, Pl.		30, M.	
And. cantab.					
Largo cant.			20, 25, M		
Adag. n. tr.	20, H.				
Adagio	17, H. / 7, Cor.	27, 30, Pl.	14 H.	10, 12, M.	20
Adagio molto	15, Scoz.			10, Pl.	

N. B. In this Table, Cor. denotes Corelli. Ha. Handel. Q. Quanz. H. Haydn. M. Mozart. Pl. Pleyel.

Indian Music. Of the melodies called *Raugs* and *Raugnees*, the primary and ſubordinate modes or tunes of Hindooſtan, many equal in ſweetneſs the moſt favourite Scotch or Italian airs. Sir William Jones derives the word *raug* from a Sanſcrit root, ſignifying *a paſſion, or affection of the mind*. The *raugs* are ſix in number; to each belong five Raugnees. The moſt extraordinary and preternatural powers are aſcribed to ſome of theſe tunes by the Indians: one has the property of occaſioning a fall of rain; another cauſes a conflagration, &c.; and ſeveral ſtrange anecdotes are recorded of raſh muſicians who ſuffered the moſt dreadful agonies, as a puniſhment for having violated all muſical decorum by ſinging a *night raug* in the day-time, or a *morning raug* in the evening.

Theſe melodies are perſonified by the Hindoos; and repreſented in allegorical paintings, the ſeries of which is denominated *Raugmala*: the beſt account we have yet ſeen of theſe perſonifications is given by the ingenious Mr. Gilchriſt in his very excellent and uſeful *Grammar of the Hindooſtanee Language*, *p.* 276; from which work, as it is unfortunately ſo rare in this country as not to be procured for any price, we have not heſitated to extract the following deſcriptions, taken by that learned orientaliſt from a Perſian treatiſe, called the *Tohfut al Hind*, compoſed by *Mirza Khan*.

I. First Raug, called Bhyroon.—This muſt be ſung at the dawn of day, in the autumnal ſeaſon only; it is repreſented under the figure of the god *Mahadeo*, or *Jupiter Olympius*: face comely, but covered with aſhes, and long lank hair; from which the river Ganges flows. The *raug* iſſues from the mouth of the deity, who holds a trident in his hand, and has a bull by his ſide, with other emblems of divinity familiar to the Hindoos.

The *raugnees* belonging to *Bhyroon* are,

1. *Bhyrouwee*, repreſented as a beautiful damſel, dreſt in ſcarlet and white, with a garland of *chumpa* flowers round her neck. She is ſeated on a hill amidſt lilies, worſhipping the *Mahadeo* (or ſymbol of Jupiter Genitor), ſinging a love ſong, and playing on the cymbal. Time; morning. Seaſon; autumn.

2. *Eyraree*. A handſome nymph, black locks, bracelets on her arm, adorned with leaves; dallying with her lover, and fanning flies from his face. Time; evening. Seaſon; autumn.

3. *Madehmadh*. A nymph dreſt in yellow, with ſtreaks of ſaffron on various parts of her body, in dalliance with her lover. Time and ſeaſon as the laſt.

4. *Sindhuwee*. Time; evening. Seaſon; autumn. A lovely female, clothed in red, and armed with a trident; her ears ornamented with noon flowers. She ſits complaining, and expecting her lover, while ſhe runs over her roſary in honour of *Mahadeo*.

5. *Bungal*. Time and ſeaſon as the laſt mentioned. A female, with a beautiful face, but obſcured by aſhes rubbed over it, like that of a *Jognee*, or female mendicant. Her hair coiled up. In her left hand a trident; in the right, a waterlily; her drapery ſaffron colour, and her body marked with ſtripes of ſandal wood: on her forehead a line of muſk.

II. Second Raug, named Malkous, is adapted to the ſecond winter, and the laſt watch of the night. It proceeds either from the mouth of *Mahadeo* or *Kanh*, the Indian Apollo. The figure is a robuſt, florid, ſtately man, in blue garments, armed with a club; his neck adorned with a ſtring of pearls, or human ſkulls, and he ſeems in dalliance with many damſels.

The *raugnees* belonging to *Malkous* are,

1. *Tooree*. Time; forenoon. Second winter. A fair and gentle maid, clothed in violet and white; her body covered

with ſtreaks of ſaffron and camphor: ſhe plays on the *beena*, or Indian lyre, in a verdant plain, where the wild deer are captivated by her melody.

2. *Gouree.* Time; late in the afternoon. Second winter. A charming brunette, dreſſed in white robes, ſinging with a voice which faulters from the juice of the grape. She has pendants and mango bloſſoms in her ears, and her ſongs are amorous.

3. *Goonkulee.* Dawn of day: ſecond winter. A woman, who, in the abſence of her lover, by grief and lamentation, has reduced herſelf to an emaciated ſtate. She is weeping with diſhevelled hair at the foot of a *kudum*, or *ball-flower* tree.

4. *Khumbhawatee.* After midnight: ſecond winter. An airy, graceful nymph, ſinging conſtantly, dancing and playing on muſical inſtruments; clad in green and ſcarlet, with jewels.

5. *Kokubu.* A plump female, with wanton looks and glances, having juſt left her bed-fellow; her garments are partly rent, and her garland of flowers diſcompoſed.

III. Third Raug, named Hindoul, is intended for the gay ſeaſon of morning and ſpring: he is ſaid to have emanated from the navel of *Brahma*, and ſeems a handſome youth of radiant hue: he is ſeated on a ſwing, with lovely nymphs, who toy and dally with him; ſinging ſongs of love, and playing on various inſtruments.

The *raugnees* which belong to him, are,

1. *Ramkulee.* Seaſon; ſpring. Time; dawn of day. A lovely female; bright complexion, clad in blue, ornamented with jewels; her lover falling at her feet entreats forgiveneſs for paſt infidelities.

2. *Deſakh.* Morning: ſpring. A fair Amazon, with a drawn ſword; her arms and breaſts covered with aſhes; her lover cloſe at her ſide.

3. *Lulit.* Seaſon as above. A beautiful damſel, clad in ſcarlet, and richly ornamented with jewels: on her neck a garland of flowers.

4. *Bilawul.* Time; morning in ſpring. A jetty nymph, of ſlender make, and clad in crimſon, decorated with jewels; ſhe ſits in expectation of her lover.

5. *Putmunjuree.* Spring: midnight. A forlorn, deſerted, love-ſick damſel, grieving in the abſence of her lover. A garland of withering flowers hangs on her boſom.

IV. Fourth Raug, called Deepuck *, is to be ſung in the hot weather at noon exactly. He is the offſpring of the ſun, and of a flame or orange colour, with crimſon garments, and a ſtring of large pearls round his neck, riding upon a furious elephant, attended by many females. Others deſcribe him as extinguiſhing a taper, and darkening his chamber, that the eye of curioſity may not put him to the bluſh on account of his amours.

The *raugnees* ſubordinate to him are,

1. *Deſee.* Summer ſeaſon: forenoon. A handſome ruddy young woman, in green robes, decorated with precious ſtones, &c. She amorouſly approaches the couch of her lover.

2. *Kamod.* Time as the laſt. A graceful female, clad in white above and red below, weeping in the abſence of her lover.

3. *Nut.* Afternoon. Summer ſeaſon. A roſy nymph adorned with jewels, mounted on a ſteed in a riding habit, with a drawn ſword, hewing down her enemies in battle.

4. *Kidara.* Summer: midnight. A mendicant with long matted hair, in pink-coloured garments. A ſnake entwined in his locks, whence iſſues the river Ganges. His brow is adorned with a creſcent, and he worſhips *Mahadeo* with cloſed eyes.

5. *Kanhra*, or *Kurnotee.* Summer evening. A handſome fair man, with a ſword in his right hand, the left extracts the tooth of an elephant; a bard ſtands before him repeating his praiſes: on his forehead is a line of camphor.

V. Fifth Raug, named Sreeraug, is reſtricted to winter's afternoon: he proceeds from the womb of the earth, and is a florid graceful man clothed in white, or red, adorned with a necklace of amethyſts and falſe diamonds. He holds the lotos flower in his hand, and ſits on a ſplendid throne, before which muſicians are ſinging to amuſe him.

The *raugnees* belonging to him, are,

1. *Maljuree.* Winter ſeaſon: forenoon. A roſy dame, with graceful figure, clad in yellow, with a groupe of damſels, under the ſhade of a mango grove.

2. *Marwa.* Winter; towards evening. A damſel in gorgeous apparel, with a garland of flowers round her neck, expecting the arrival of her lover.

3. *Dhunaſree.* Winter; forenoon. A love-lorn female, in red garments, weeping alone under a *Moulſuree* tree.

4. *Buſunt.* Forenoon: winter. A handſome man, dreſſed in ſcarlet; crowned with peacocks' feathers; holding mango bloſſoms in his hand; intoxicated with paſſion; a garland of flowers hangs from his neck, and he ſports in a garden with ſinging and dancing girls; in his left hand he holds a pan of *betel*, whilſt he plays on a pipe or lyre, ſurrounded with his nymphs.

5. *Uſawuree.* Winter; forenoon. A dark-coloured, delicate damſel, in white garments, her legs and arms entwined by ſeveral large ſnakes. She is ſeated in water, on a plain at the top of a mountain: according to ſome, ſhe is quite naked, or only wears an apron of leaves.

VI. Sixth Raug, called Megh, is adapted to the wet or rainy ſeaſon, and the laſt watch of night. He is ſaid by ſome to proceed from the head of *Brahma*, and by others from the ſky; he is of a dark complexion, but comely. His hand is armed with a ſword, and his hair gathered into a knot, and tucked up behind.

The *raugnees* belonging to *Megh*, are,

1. *Tunk.* Midnight: rainy ſeaſon. A damſel diſtracted by the abſence of her lover; ſpreading a bed of lotos leaves.

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* On the ſubject of this raug, we ſhall extract a curious paſſage from Sir William Ouſeley's Eſſay on Indian Muſic (Oriental Collections, vol. I. p. 73.) "There is a tradition, that whoever ſhall attempt to ſing the raug Depuk, is to be deſtroyed by fire. The emperor Akber ordered Naik Gopaul, a celebrated muſician, to ſing that raug. He endeavoured to excuſe himſelf, but in vain; the emperor inſiſted on obedience; he therefore requeſted permiſſion to go home, and bid farewel to his family and friends. It was winter when he returned, after an abſence of ſix months. Before he began to ſing, he placed himſelf in the waters of the Jumna, till they reached his neck. As ſoon as he had performed a ſtrain or two, the river gradually became hot; at length began to boil, and the agonies of the unhappy muſician were nearly inſupportable. Suſpending for a moment the melody thus cruelly extorted, he ſued for mercy from the monarch, but ſued in vain. Akber wiſhed to prove more ſtrongly the powers of this raug. Naik Gapaul renewed the fatal ſong. Flames burſt with violence from his body, which, though immerſed in the waters of the Jumna, was conſumed to aſhes!!!"

2. *Mular.* Same ſeaſon: midnight. A lovely maid, pining in the abſence of her beloved. Adorned with jeſſamine flowers, and playing a mournful air on the lute.

3. *Gooree,* Morning: rainy ſeaſon. A beautiful damſel, ſlender waiſted, and ſkilled in ſong; the upper part of her drapery is orange coloured; the lower, ſcarlet; ſtudded with jewels, &c.

4. *Bhopalee.* Evening: rainy ſeaſon. A charming roſy female, in white garments; her body ſtreaked with ſaffron; ſhe has a garland of flowers round her neck, and is wholly covered with rich ornaments; ſhe leans upon her lover, and her hands are tinged with *hinna.*

5. *Deſkar.* Laſt watch of the night: rainy ſeaſon. A beautiful fair woman, with a fine mole on her face, which is oval; her breaſts rival the pomegranate, and her ſkin the lily; ſhe wears a ſtring of pearls round her neck, and is adorned with jewels. She ſports and amorouſly dallies with her lover.

Muſical Games. The following is a ſpecification of the patent granted to Ann Young, of the city of Edinburgh, for an apparatus conſiſting of an oblong ſquare box, which, when opened, preſents two faces or tables; and of various dice, pins, counters, &c. contained within the ſame, by means of which ſix different games may be played, which, beſides being amuſing and intereſting, and ſuch as children of eight years old may be taught to play, are at the ſame time an improving exerciſe upon, and ſerve to render familiar, and to impreſs upon the memory, the fundamental principles of muſic, particularly all the keys or modulations, major and minor, both with the common and uncommon ſignatures, muſical intervals, chords, diſcords, with their revolutions, and the moſt uſeful rules of thorough baſs. It is dated March 16, 1801.

The box is compoſed of two equal pieces or frames of cabinet-work, united by hinges like backgammon tables. When it is opened, or ſpread out, the two pieces exhibit different faces. The one preſents at each end two muſical ſtaves or ſyſtems of five lines. In each line and ſpace of theſe ſtaves, a number of ſmall holes are drilled, in which are occaſionally ſtuck the pieces of turned ivory and wood, which are deſigned to repreſent the ſharps and flats, that ſeverally belong to the different keys or modulations of muſic. Under each of theſe ſtaves there is a drawer, in one of which are contained the dice, pins, &c. which are uſed in playing with ſharps; and, in the other, the correſponding dice, pins, &c. uſed in playing with flats. Theſe drawers are pulled out from the ends of the frame, and, when in their places, are kept firm by braſs pins running through the edge. In the middle ſpace betwixt them are contained two dice boxes; when theſe are taken out and the game is to be played, this vacant ſpace is covered by a moveable lid, which at other times reſts upon one of the ends. The ſurface of the table is by that means rendered complete and uniform. Upon the outer part of the border round it are written the fundamental letters of all the twelve major keys, according to the order of ſucceſſion by flats; and, immediately below or within each of theſe, the fundamentals of their relative minor keys. At each letter there is a ſmall hole for receiving a pin. The other face or table is of one piece. At each end is a delineation of the clavier or finger touches of a piano-forte, in every one of which there is a ſmall hole. Above theſe are two muſical ſtaves, on which are written in crotchets the whole ſcale of natural notes. In the round head of each crotchet, there is a ſmall hole, for receiving pins or moveable notes; and alſo immediately below each of them, there is another ſmall hole for receiving the pins, on the heads of which are the characters of ſharp, double ſharp, double flat, and natural. Around this table there is a border ſimilar to that which ſurrounds the other table, on which are marked the fundamental letters of the twelve major keys, according to the order of ſucceſſion by ſharps, with their relative minors below or within each. In the drawer which contains the apparatus for ſharps, there is at one end in front a ſquare compartment, in which is an uncovered box or moveable frame, divided by a partition in the middle into two cells, in one of which are contained fourteen pieces of turned ivory, and in the other, ten ſuch pieces of a different ſhape; the former intended to repreſent ſingle ſharps, and the latter to repreſent double ſharps, and deſigned to be ſtuck into the holes in the lines and ſpaces of the ſtaves upon the table firſt deſcribed, for the purpoſe of exhibiting the ſignatures of all the keys of muſic with ſharps. Behind this compartment are two ſmall ſquare cells, in each of which is a cylindrical box, the one containing twelve larger, and the other twelve ſmaller ivory counters. The remaining part of the front of the drawer is a range, divided into four ſmall ſquare compartments, marked 1, 2, 3, 4, in each of which are four dice, and a ſmaller one at the end marked 5, in which lie two ivory pins. The firſt pair of dice in the compartment 1, have upon their faces, the one, the capital letters G, D, A, E, B, F𝄪 being the fundamentals of ſix major keys with ſignatures in ſharps; the other, the ſmall letters e, b, f𝄪, c𝄪, g𝄪, d𝄪, being the fundamentals of ſix relative minor keys with ſignatures in ſharps. The ſecond pair in the compartment 1 have upon their faces, the one, the capitals C𝄪, G𝄪, D𝄪, A𝄪, E𝄪, B𝄪, being the fundamentals of the ſix remaining major keys, with uncommon ſignatures, or according to the order by ſharps continued from ſix to twelve; the other the ſmall letters a𝄪, e𝄪, b𝄪, fX, cX, gX, the fundamentals of the ſix remaining minor keys with uncommon ſignatures. The four dice in the compartment 2, have each upon their faces reſpectively in order the very ſame fundamentals of the keys major and minor with the former, repreſented in muſical notes baſs ſtaves, with the ſignatures proper to each. In the compartment 3, there is 1ſt, a die having upon its faces C, the ſame note on a muſical ſtave, A, the ſame note on a muſical ſtave, and two baſs ſtaves without ſignatures; 2dly, a die having on its faces baſs ſtaves, with ſignatures of 1, 2, 3, 4, 5, and 6 ſharps, but without any notes; 3dly, a die having upon three of its faces the letter T, and upon the other three the letter S; 4thly, a die having upon its faces the characters of treble, baſs, and tenor cliffs. In the 4th compartment are dice with various numeral figures. The ſpace behind this range is divided into two compartments. In one of theſe, upon a raiſed ſurface, are ſtuck fourteen ivory pins, with ſmall flat heads, on ſeven of which are marked the muſical character 𝄪, or ſharp, on five the character X, or double ſharp, and on two, the character ♮, or natural. Upon the ſunk ſurface beſide theſe are ſtuck three ivory plates, bearing the marks of the treble, tenor, and baſs cliffs. In the other compartments are ſtuck eight black, and two white pins, with ſmall round heads, which are uſed as muſical notes. The other drawer, which contains the apparatus for flats, is, in its diviſions and compartments, exactly ſimilar to the one now deſcribed. The fourteen and the ten pieces of turned work contained in the divided box, or moveable compartment, which repreſent ſingle and double flats, are exactly of the ſame form with thoſe for ſharps, but for the ſake of diſtinction are made of dark coloured wood. The counters are of ivory ſtained red. The firſt pair of dice in the compartment 1, have, the one, the capitals F, B♭, E♭, A♭, D♭, G♭, the fundamentals of ſix major keys, according to the order by flats; and the other, the ſmall letters d,

g, c, f, b♭, e♭, the fundamentals of the reſpective minor keys. The ſecond pair have, the one, C♭, F♭, B♭♭, E♭♭, A♭♭, D♭♭, the fundamentals of the other ſix keys with uncommon ſignatures, or according to the order by flats continued up to twelve; the other, a♭, d♭, g♭, c♭, b♭♭, their reſpective minors. The four dice in the compartment 2, have the very ſame fundamentals, repreſented in muſical notes upon baſs ſtaves, with the proper ſignatures of one, two, three, four, five, and ſix flats, but without notes; 2dly, a die having upon its faces one line, one line and a half, two lines, two lines and a half, three and four lines: thirdly and fourthly, a pair, having upon their faces various thorough baſs cyphers, and chords upon muſical ſtaves. In the compartment 4, there is, firſt, a die having upon one of its faces the character ♮, upon two, the character ♯, and upon the other three, numeral figures: ſecondly, a die having upon one of its faces the character ♮, upon two, the character ♭, and upon the remaining three, numeral figures. Laſtly, a pair bearing upon their faces the fundamental letters of all the keys major and minor of the firſt circular ſyſtem.

Several games are inſerted by way of illuſtration; but as they extend to too great a length, we muſt refer for further particulars to the Repertory of Arts, &c. vol. XVI.

MUSICAL-INSTRUMENTS. Theſe have been ſpoken of under their proper names. It is neceſſary however to notice the patent lately granted to Mr. Becker of Princes-ſtreet, Soho, for improvements in the conſtruction of harps and piano-fortes.

Mr Becker ſays his invention conſiſts in the following improvements in the harp and piano-forte. Of the harp, he obſerves as follows:—"I produce," ſays he, "ſharps, flats, quarter notes, or any intermediate variation deviating from the natural notes, by cauſing (what are commonly called) the wreſt pins (I mean the pins by which the ſtrings are extended and tuned) to move partly round their centres, and thereby increaſe or decreaſe the tenſion of the ſtrings, more or leſs, as may be required, to anſwer the deſired change of the notes. To this purpoſe the ſaid wreſt pins are connected with the pedals by an apparatus hereby deſcribed, and more clearly expreſſed by the annexed drawing (ſee Pl. 39); fig. 1, *a*, *a*, repreſents the wreſt pin paſſing through a ſocket *b*, with a lever *c c*, on which ſlides a quadrant *d*; on this quadrant are fixed the link *c e*, kept ſtationary by a regulating ſcrew *f*. Theſe links communicate with the pedals by the interpoſition of a crank *g*, fig. 2, where are ſeen all the quadrants *d*, with levers and wreſt pins belonging to their reſpective ſtrings of the ſame denomination. On the ſaid crank *g* is alſo a regulating ſcrew *f*, to adjuſt the whole to the motion of the pedals. Now if any one of the pedals is preſſed down, all its appertaining quadrants with the wreſt pins muſt follow, and conſequently the tenſion of the appending ſtrings will be increaſed accordingly; and as ſoon as the pedal is left at liberty, the ſtrings will, by their re-action, reſume their former degree of tenſion, and the pedal its former ſtation; hence it follows, that a variety of changes may be effected on each ſtring throughout the inſtrument by the motion of the pedals. It is obvious that to this end the quadrants and the parts of the wreſt pins, round which the ſtrings coil, muſt, in regard to their circumferences, be ſo proportioned that by the motion of the pedals each ſtring ſhall have its tenſion altered uniformly with the reſt of the ſtrings belonging to the ſame pedals, ſo as to keep in tune together. If in caſe new ſtrings are put on, perhaps differing in ſize or quality, any irregularity ſhould take place, this muſt be corrected by the regulating ſcrew *f*; for if by this ſcrew the quadrant is moved towards or from the centre of the wreſt pin, its motion will be accordingly more or leſs. To ſtop the pedals at four different ſtations, anſwering to the natural note, to one quarter, to one half, and to three quarter notes, I apply a kind of rack, as ſeen in fig. 5; *a*, *b*, *c*, are the ſteps, which being ſo diſpoſed, preſerve the pedal in each ſituation in a perpendicular line, and thereby prevent them coming too cloſe to one another. To eaſe the motion of the pedals, having each of them ſix or ſeven ſtrings to act upon, I apply a ſpring to each pedal, to counteract the tenſion of the ſtrings, and thereby render the motion of the pedals as eaſy as I pleaſe. As in tuning the harp it is generally attended with difficulty to find out the wreſt pin belonging to its reſpective ſtring in the baſs, particularly for ſhort perſons, I reverſe the wreſt pin, and form the ſquare for the key, by which the inſtrument is tuned at the ſame end where the ſtring is applied, as fig. 3. To facilitate the tuning of this inſtrument, I have ſtill another contrivance, viz. inſtead of turning round the wreſt pin in its ſocket, in which it muſt move tight, to be capable of ſuſtaining the ſtreſs of the ſtring, I fix it into the ſocket; and to receive the ſtring I apply a ſeparate piece *k*, fig. 4, with a notched rim, to be turned by an endleſs ſcrew *f f*. which is ſupported by a collar firmly fixed to the pin. When the former method is made uſe of, it will be neceſſary to apply a ſet of ſprings, as ſhewn at fig. 2, to ſupport the levers *c*, belonging to the ſmaller ſtrings, in the act of tuning, in their proper poſition; for as the wreſt pin in drawing up the ſtring moves in the ſame direction as it is propelled by the pedals, the lever will be carried along with it if nothing is put in oppoſition to overcome the friction which ſubſiſts between the wreſt pin and ſocket. This friction may be adjuſted by the ſocket *b*, fig. 1, being ſlit at *b*, and an adjuſting ſcrew *i* introduced: beſides this, a lining of leather or any other elaſtic ſubſtance within the ſocket may be of ſome ſervice. Inſtead of the ſpring *s*, fig. 2, ſeveral other mechanical contrivances may be made to anſwer the ſame end.

"In *piano-fortes*, or other ſtringed inſtruments, played with keys, I uſe one or more wheels, to cauſe the ſtrings to vibrate. Theſe wheels are placed under or above the ſtrings, and put in motion with a pedal or pedals, or any other mechanical power, and the ſtrings are by the touch of keys inclined to the wheels. In the manner of extending and inclining the ſtrings conſiſts the principle of my invention. In the diagram, fig. 6, *a* repreſents the ſtring faſtened by a loop and pin at *b*, and extended by a moveable lever or brace, with two points or knife-edges reſting againſt two props at *c c*: here it may be eaſily conceived that if the ſtring paſſes through the direction of the points of motion, *c c*, of the lever, the ſtring has no inclination to either ſide, but may, without materially altering its tenſion, be moved up or down a little way by *d*, and very little power will keep it in due bounds. The gravity of the lever, connected with a key, will be ſufficient to keep in balance with the ſtring when its direction is a little above thoſe points of motion; hence it is eaſy to conſtruct an inſtrument on this principle ſo as to make the keys with the ſtrings move a little way up and down very freely. Secondly, if the ſaid lever on its extremity inſtead of two points or knife-edges forms part of a circle, the radius of which is the length of the lever, and reſts againſt two circular ſurfaces, deſcribed by the part of the ſtring *c* to *b*, fig. 7: here it is evident, that by moving the lever at *d* up to *m*, or down to *n*, the tenſion of the ſtring will not in the leaſt be altered, and yet yield to the ſlighteſt touch. The application of this principle is not confined to theſe two inſtances, but will admit of a variety of forms and applications. If therefore the ſtring be any-wiſe extended on any thing moveable, having its prop or fulcrum any-where within the extent of the ſtring, or

its two ends higher or lower, for the purpoſe of inclining or moving the ſtring to the wheels, or altering the tenſion of the ſtrings to raiſe or lower the tone thereof, it will compriſe the principle of my invention. Where hammers and dampers are uſed, I mean to connect both, ſo as to conſtitute one piece, by letting one or two ſlips, of any convenient material, paſs through between the ſtrings, which are to be faſtened to the hammer below the ſtrings, and likewiſe to the dampers above them; by that means the mechaniſm will be ſimplified, and their gravity is thereby united, and ſerves each alternately. The hammer may move on a hinge in any of the uſual ways, or otherwiſe, and the damper form part of the ſaid hammer."

MUSK (*Encycl*). There has been lately diſcovered an *Artificial* Musk; a chemical preparation, thus denominated on account of its poſſeſſing all the eſſential properties of the genuine muſk. It was firſt invented by Maggraff, and has been lately recommended to public notice by Profeſſor Hufeland: it is prepared in the following manner:—one drachm of rectified oil of amber is firſt poured into a wine glaſs, on which a drachm and a half of the concentrated nitric acid, or ſmoking aquafortis, ſhould be gradually and cautiouſly dropped. The mixture, on agitating it, grows hot, and emits offenſive vapours, againſt which the noſtrils muſt be guarded: when it has ſtood twenty-four hours, the compound produces a yellow reſinous matter, concreting at the top, and which reſembles muſk in its ſmell, while a ſtrong acid liquor remains at the bottom. The reſin is now to be repeatedly waſhed, both in cold and in hot water, till it be totally diveſted of its ſour taſte. Thus a ſubſtance is obtained, which is not only cheaper than the common muſk, but is at the ſame time free from thoſe impurities with which the latter is too frequently adulterated.

Dr. Willich ſays artificial muſk is a more powerful medicine than the natural, and that it has been ſucceſsfully preſcribed by Hufeland, in the epidemic chin-cough, as well as other nervous and ſpaſmodic affections. Nor have its effects been leſs ſalutary in caſes of diabetes, and difficulty of breathing; having effected a cure when other medicines had failed of ſucceſs.—As this ſubſtance is of a reſinous conſiſtence, it will be moſt conveniently given in emulſions: hence ten or twelve grains of it ſhould be triturated in a mortar, together with a few blanched almonds, and diluted with five or ſix ounces of diſtilled water. Of this mixture, two tea-ſpoonfuls may be given every two hours, to a child between one and two years old; and in progreſſive doſes, ſo that a youth from twelve to fourteen years of age, will require double, and an adult about three times, the quantity above ſtated. Without the aid of any other medicine, it generally produces a ſudorific effect; diminiſhes and alleviates the fits of coughing; and often produces eruptions reſembling the true nettle-raſh: —thus, a favourable change takes place, and the diſeaſe ſpeedily diſappears.

MUSSELBURG, a ſea-port in Edinburghſhire, on the frith of Forth, at the mouth of the river Eſk. Here a victory was obtained by the Engliſh over the Scots, in the reign of Edward VI. It is ſix miles eaſt of Edinburgh. Long. 3. 5. W. Lat. 56. 0. N.

MUSTAGAM, a ſea-port of the kingdom of Algiers, with a caſtle, 140 miles weſt of the city of Algiers. Long. 0. 3. W. Lat. 36. 30. N.

MUSUELA, a town of Spain, in Andaluſia, ſituate on the Guadalquiver, ſeven miles N.E. of Jaen, and 50 north of Granada. Long. 3. 18. W. Lat. 37. 41. N.

MUSWELL HILL, a village in Middleſex, five miles north of London. It takes its name from a famous well on the hill, which belonged to the fraternity of St. John of Jeruſalem, in Clerkenwell; and as this was deemed a miraculous cure for all ſcrofulous and cutaneous diſorders, they here built a chapel, with an image of our lady of Muſwel, to which there was a great reſort of patients. This well ſtill belongs to the pariſh of Clerkenwell.

MUTSCHEN, a town of Upper Saxony, in the circle of Leipſic. In the neighbourhood is found a ſpecies of cryſtal to which is given the name of Mutſchen diamond. It is 20 miles eaſt of Leipſic. Long. 12. 50. E. Lat. 51. 14. N.

MUYDEN, a town of Holland, ſeated on the Vecht, on the ſouth coaſt of the Zuider-Zee, ſeven miles eaſt of Amſterdam. Long. 5. 1. E. Lat. 52. 22. N.

MYCONE, an iſland of the Archipelago, thirty miles in circumference. The harbour is very open, and deep enough for the largeſt ſhips, where they may ride ſecure from the north wind. The ſoil is dry, and the mountains are of a great height. Water is very ſcarce in ſummer; but in the town is a large well, the only one in the iſland. Here are plenty of partridges, quails, woodcocks, turtledoves, rabbits, and wheatears; alſo excellent grapes and figs. Almoſt all the inhabitants are Greeks, who have fifty churches in all; but many are chapels; and ſome monaſteries. Long. 25. 51. E. Lat. 37. 28. N.

MYSORE, a kingdom in the peninſula of Hindooſtan, formerly ſubject to a prince, named Tippoo Sultan, who ſtyled himſelf regent of the country. His dominions comprehended, generally, the provinces of Myſore Proper, Bednore, Coimbettore, Canara, and Dindigul; beſide the conqueſts of his father Hyder Ally (who uſurped the throne) to the northward, which are Meritz, Soonda, Chitteldroog, Harponelly, Sanore, Bancapour, Roydroog, Gooty, Condanore, Canoul, and Cuddapa. The extent of this territory from north to ſouth, is 550 miles; and its breadth, in the wideſt place (the north part of the peninſula) 330 miles, but proceeding to the ſouth, it diminiſhes, till it ends in a point. Its area has been compared to that of Great Britain. By the peace of 1782, Hyder Ally was to relinquiſh all but his ancient poſſeſſions. How far his ſucceſſor fulfilled the terms of that treaty cannot be aſcertained; but on the termination of the war in 1792, Tippoo Sultan agreed, over and above a large payment in money, to cede one half of his dominions to the Engliſh Eaſt-India Company, and their allies, the Mahrattas and the nizam of the Decan. In 1799 a new war taking place between him and the Eaſt-India Company, his capital was taken by the Engliſh troops, on the 4th of May, and himſelf killed in the aſſault. Myſore, in general, is dry, rugged, mountainous and barren. It lies between 10 and 16° N. lat. The capital is Seringapatam.

Mysore, a town and fortified poſt of the peninſula of Hindooſtan, the ancient capital of the ſame name, eight miles ſouth of Seringapatam, the preſent capital.

N.

NABAL, a town of the kingdom of Tunis, celebrated for its potteries. Near it are ſeveral remains of antiquity. It is ſeated near the ſea, 32 miles S.S.E. of Tunis. Long. 10. 19. E. Lat. 53. 13. N.

NABURG, a town of Germany, in Bavaria, ſeated on the river Nab, 10 miles S.E. of Amberg. Long. 12. 13. E. Lat. 59. 23. N.

NAFFELS, a town of Switzerland, in the canton of Glaris. In 1388, a celebrated victory was gained near this place, by the inhabitants of this canton over the Auſtrians. Only about 350 troops of Glaris, aſſiſted by fewer than 50 Schweitzers, withſtood 15,000 Auſtrians, and, after a terrible ſlaughter, compelled them to retire; in memory of which glorious tranſaction, a chapel was built on the ſpot, which was rebuilt in 1779. The inhabitants are Roman-catholics. It is four miles N. of Glaris.

NAGOLD, a town of Suabia, in the duchy of Wurtemburg, with a ſtrong caſtle, ſituate on a river of the ſame name, 10 miles W. of Tubingen. Long. 8. 37. E. Lat. 48. 30. N.

NAGORE, a town of Hindooſtan Proper, in the country of Agimere, 40 miles N.W. of Agimere. Long. 74. 10. E. Lat. 27. 8. N.

NAGPOUR, a city of the Deccan of Hindooſtan, capital of that part of Berar which is ſubject to a chief of the Eaſtern Mahrattas. It is extenſive and populous, but meanly built; and, excepting a ſmall citadel, is open and defenceleſs. It is 560 miles W. by S. of Calcutta. Long. 79. 46. E. Lat. 21. 8. N.

NAGYBANJA, a town of Hungary, which is a metal town, and one of the royal free towns. The gold and ſilver mine-works are of great produce, and the money coined here is diſtinguiſhed by the mark NB. It is 30 miles N.E. of Zatmar. Long. 22. 54. E. Lat. 48. 10. N.

NAHE, a river of the palatinate of the Rhine, which flows by Birkenfeld, Oberſtein, Kreuzenach, and Bingen, and falls into the Rhine.

NAJERA, a town of Spain, in old Caſtile, 32 miles W. of Calahorra, and 36 E. of Burgos. Long. 2. 39. W. Lat. 42. 10. N.

NAIL (*Encycl.*). Among the different purpoſes for which nails are employed, is that of firmly ſecuring the ſhoe of a horſe to his hoof. Mr. Coleman, in his work on ſhoeing horſes, recommends a nail with the head formed like *a wedge*, to fit a correſponding hole, ſtruck in the ſhoe with a punch. Of both theſe he has given delineations in his publication. A perſon of the name of Spencer has obtained a patent for making horſe-ſhoe nails of this form in an expeditious manner. He forms them whilſt the iron is of a red heat, by means of a roller with impreſſions cut on it; or he ſays the metal may be formed by caſting, which muſt be varied according to the length of nails intended to be made. "This is," ſays the inventor in his ſpecification, "to be run (in forming the iron for the nails) againſt a plain roll; after the iron has paſſed theſe rolls, it will be left according to B (Pl. 38), which is then taken and ſeparated by ſhears or any other engine for the purpoſe of cutting at C, which is the thinneſt part, the edges of which are, if neceſſary, thinned by hand or tilt-hammer; the piece, No. 1, is then applied to the bed D, and punch E, which are fixed in a ſcrew preſs, or any other power fit for the purpoſe, and when the ſtroke is made, preſſes the iron out as F, which is then applied to the bed G, and ſeparater H, in a power ſimilar to that uſed for the bed and punch D, E, and which then leaves two complete horſe-ſhoe nails I. The punch E may be formed of different ſhapes ſo as to ſuit any fancy, and it may alſo be formed to punch out only one nail inſtead of two if found more convenient."

NAIRNE, a borough and ſea-port, the county-town of Nairneſhire; ſeated at the entrance of the frith of Murray, 10 miles N. of Inverneſs, and 104 N. of Edinburgh. Long. 3. 51. W. Lat. 57. 33. N.

NAKSIVAN, a city of Armenia, capital of a province of the ſame name, with an archbiſhop's ſee. It is 90 miles S.E. of Erivan, and 250 E. of Erzerum. Long. 45. 30. E. Lat. 38. 40. N.

NAMARI, a mountain of Sicily, in the Val-di-Demona, between Meſſina, Taormina, and Melazzo.

NAMSLAW, a town of Sileſia, in the principality of Breſlaw, with a ſtrong caſtle, ſituate among moraſſes, on the river Weyda, 23 miles S.E. of Breſlaw. Long. 17. 38. E. Lat. 51. 33. N.

NANDER, a town of the Deccan of Hindooſtan, in the province of Dowlatabad, 132 miles N.N.W. of Hydrabad.

NANGASACKI, a city of Japan, in the iſland of Ximo-Fiſen, with a well-frequented harbour. The inhabitants carry on a great trade with the Chineſe and Dutch. The latter are never ſuffered to come into the city, unleſs when their ſhips arrive, and then they deliver up their guns, helms, and ſails, as pledges of their good behaviour. Long. 128. 52. E. Lat. 32. 32. N.

NANGIS, a town of France, in the department of Seine and Marne, 12 miles W. of Provins, and 14 E. of Melun.

NANG KANG-FOU, a city of China, in the province of Kiang-ſi, ſeated on the lake Po-yang, and containing four cities of the third claſs in its diſtrict.

NAN-NGAN-FOU, a populous city of China, in the province of Kiang-ſi, containing, in its diſtrict, four cities of the third claſs. It is 200 miles N. by E. of Canton.

NANTUA, a town of France, in the department of Ain, ſituate at the extremity of a great lake of the ſame name, 18 miles S.E. of Bourg.

NANTUCKET, an iſland in the ſtate of Maſſachuſets, of which it is a county. It lies to the ſouth of Cape Cod, and had once the moſt conſiderable whale fiſhery on the coaſt; but it was almoſt ruined by the civil war. As the iſland is low, ſandy, and barren, the inhabitants depend almoſt entirely on the watery element for ſubſiſtence. It has but one town, called Sherburne, which is 83 miles S. of Boſton. Long. 70. 30. W. Lat. 41. 0. N.

NAPAUL, a province of Hindooſtan Proper, bounded on the S. by Bahar, on the W. by Oude, and Rohilcund, on the N.W. by Sirinagur, and on the N.E. and E. by the ridge of mountains called Himmaleh, by which it is ſeparated from Thibet. Catmandu is the capital.

NAPOLI-DI-MALVASIA, a ſea-port of the Morea, capital of the iſland of Malvaſia, ſeated on a rock, at the entrance of the bay of Napoli-di-Romania. It is defended by a good citadel; has a fine harbour, and a long wooden bridge, which joins it to the main land. It gives name to that excellent wine, called Malmſey; and was the ancient Epidaurus, famed for the temple of Æſculapius. It is 42 miles S.E. of Napoli-di-Romania. Long. 23. 22. E. Lat. 56. 57. N.

NAPOLI-DI-ROMANIA, a ſea-port of the Morea, and an archbiſhop's ſee, ſeated at the bottom of a bay of the ſame name. It has a large harbour, with a narrow mouth, through which one ſhip only can enter at a time. It is inhabited by 60,000 Greeks, beſide people of different nations, and very ſtrong both by nature and art. It was taken by the Turks in 1715. It is 56 miles S.W. of Athens. Long. 23. 4. E. Lat. 37. 36. N.

NARA, a town of Japan, in the iſland of Niphon, with a magnificent caſtle, 25 miles N.W. of Meaco. Long. 134. 15. E. Lat. 35. 50. N.

NARAGANSET BAY, a bay on the coaſt of the United States, which contains Rhode Iſland, and ſeveral other iſlands.

NARBARTH, a town in Pembrokeſhire, with an old caſtle, and a market on Wedneſday. It is ſeated on a hill, 12 miles N.E. of Pembroke, and 229 W. by N. of London. Long. 4. 46. W. Lat. 51. 50. N.

NARBOROUGH, an iſland of South America, on the coaſt of Chili, where Sir John Narborough refreſhed his men, when ſent to the South Sea, in the reign of Charles II. Long. 74. 35. W. Lat. 45. 0. N.

NARENTA, a town of Dalmatia, with a biſhop's ſee, ſeated on a gulf of the ſame name, 46 miles N.E. of Raguſa. Long. 18. 27. E. Lat. 43. 35. N.

NARNALLA, a town of the Deccan of Hindooſtan, in the province of Berar, 33 miles W.N.W. of Ellichpour, and 72 E. of Burhampour. Long. 77. 34. E. Lat. 21. 25. N.

NARNI, an ancient town in Italy, in Sabina, with a biſhop's ſee. Here are the ruins of a marble bridge, built by Auguſtus, one of whoſe arches was 150 feet high, and 200 broad; as alſo of an aqueduct that brought water from a ſpring at the diſtance of 15 miles. It contains a great many noble families, and is ſeated on the Nera, 20 miles S.W. of Spoletto, and 40 N.E. of Rome.

NAROVA, a river of the Ruſſian empire, which iſſues from the lake Peipus, and watering Narva, flows into the gulf of Finland, eight miles below that town. It is noted for two cataracts, pompouſly deſcribed by travellers, but they are far inferior to that of the Rhine, at Lauffen.

NARSINGAPATAM, a town of the peninſula of Hindooſtan, in the territory of Biſnagur. It was the reſidence formerly of a king, and is ſituate 400 miles S.E. of Bombay. Long. 76. 10. E. Lat. 15. 30. N.

NARWAR, or NARWHA, a town of Hindooſtan Proper, in the province of Agra, ſeated near the Sinde, which falls below it into the Jumna. It is 127 miles S. of Agra. Long. 79. 17. E. Lat. 25. 40. N.

NASEBY, a village in Northamptonſhire, famous for the deciſive victory gained by the army of the parliament over that of Charles I, in 1645. It is 12 miles N. of Northampton.

NASHVILLE, a town of the ſtate of Tenaſſee, capital of the diſtrict of Mero, ſeated on Cumberland River, 160 miles E. of Knoxville. Long. 87. 20. W. Lat. 36. 2. N.

NASSAU, a county of Germany, in the circle of Upper Rhine; bounded on the N. by Weſtphalia, on the E. by the county of Solmes, on the S. by the territory of Mentz, and on the W. by the electorate of Treves. It is very fertile, and contains mines of iron, copper, and lead.

NASSAU, a town of Germany, capital of a county of the ſame name, the houſe of whoſe ſovereign is divided into ſeveral branches. It is ſeated on the river Lahn, 12 miles S.E. of Coblentz. Long. 7. 42. E. Lat. 50 18. N.

NASSAU, HADAMAR (*Encycl.*), erroneouſly printed HASSAU-*Hadamer*.

NASSUCK, a town of Hindooſtan Proper, in the province of Guzerat, 128 miles W. of Aurungabad, and 95 S.S.W. of Surat. Long. 73. 49. E. Lat. 19. 50. N.

NASTADT, a town in Germany, in the circle of Upper Rhine, 18 miles S.E. of Coblentz, and 22 N.W. of Mentz. Long. 7. 36. E. Lat. 19. 50. N.

NATA, a ſea-port of South America, in the government of Panama, ſeated in a fertile country, on the bay of Pirata, 70 miles S.W. of Panama. Long. 81. 15. W. Lat. 8. 10. N.

NATAL, a country on the E. coaſt of Africa, lying N.E. of the Cape of Good Hope, inhabited by the Boſhman Hottentots.

NATCHITOCHES, a river of Louiſiana, which falls into the Miſſiſſippi, at Point Coupee.

NATIONAL INSTITUTE. See INSTITUTE.

NATTAM, a town and fortreſs of the peninſula of Hindooſtan, in the country of Madura, 18 miles N. of Madura, and 45 S.S.W. of Trichinopoly. Long. 78. 18. E. Lat. 10. 10. N.

NAVARINO, a ſtrong and populous town of the Morea, with an excellent large harbour, defended by two forts. It is ſeated on a hill, near the ſea, eight miles N.E. of Modon, and 17 N.W. of Coron. Long. 21. 40. E. Lat. 37. 2. N.

NAVARREINS, a town of France, in the department of the Lower Pyrenées, ſeated on the Gave d'Oleron, 26 miles S.E. of Bayonne. Long. 0. 45. W. Lat. 43. 19. N.

NAVIDAD, a ſea-port of New Spain, ſeated on the Pacific Ocean, 350 miles W. of Mexico. Long. 106. 0. W. Lat. 19. 0. N.

NAVIGATORS ISLANDS, a cluſter of iſlands in the South Pacific Ocean. The inhabitants are a ſtrong and handſome race; ſcarcely a man to be ſeen among them leſs than ſix feet high, and well proportioned. The women are delicately beautiful; their canoes, houſes, &c. well conſtructed; and they are much more advanced in internal policy, than any of the iſlands in this ocean. Long. 169. 0. W. Lat. 14. 19. S.

NAUEN, a town of Upper Saxony, in the Middle Marche of Brandenburg, 14 miles N. of Potſdam, and 18 W. of Berlin. Long. 12. 52. E. Lat. 52. 37. N.

NAUENHOF, a town of Upper Saxony, in the circle of Leipſic, eight miles E. of Leipſic.

NAUMBERG, a town of Germany, in the electorate of Mentz, ſituate on the Eder, 14 miles W.S.W. of Caſſel, and 36 S.W. of Gottingen.

NAXKOW, a town of Denmark, in the iſle of Laland, with a harbour commodious for trade, and a plentiful fiſhery here. It is 60 miles S.W. of Copenhagen. Long. 11. 31. E. Lat. 54. 52. N.

NAZARETH, a town of Paleſtine, famous for being the reſidence of Jeſus Chriſt, in the early part of his life. It is now only a village, where the monks of St. Francis have a convent. Long. 35. 20. E. Lat. 32. 30. N.

NAZARETH, a town of the United States, in Pennſylvania. It is a flouriſhing ſettlement of the Moravians, and is ſituate 10 miles N. of Bethlehem, and 63 of Philadelphia.

NAZE, or CAPE LINDENAS, the moſt ſouthern promontory of Norway. Long. 7. 20. E. Lat. 57. 30. N.

NEAGH, Lough, a lake of Ireland, ſituate in the counties of Armagh, Down, Antrim, Londonderry, and Tyrone. It is the largeſt in Europe, thoſe of Ladoga and Onega in Ruſſia, and that of Geneva in Switzerland, excepted; being 20 miles long, and 15 broad. It is remarkable for a healing virtue, and alſo for petrifying wood, which is not only found in the water, but in the adjacent ſoil, at a conſiderable depth.

NEATH, a corporate town in Glamorganſhire, with a market on Saturday, ſituate on the river Neath, over which is a bridge, where ſmall veſſels come to load coal. In the neighbourhood are iron forges, ſmelting works for copper, and coal mines; and on the other ſide of the river are the ruins of a fine monaſtery. It is governed by a portreve, who is ſworn in by the deputy conſtable of the caſtle of Neath, and ſeated near the Briſtol Channel, 32 miles N.W. of Landaff, and 200 W. by N. of London. Long. 3. 45. W. Lat. 51. 43. N.

Neath, a river in Glamorganſhire, which runs into the Briſtol Channel, below the town of Neath.

NEB, a river in the iſle of Man, which runs into the Iriſh Sea, at Peel Caſtle.

NEBRA, a town of Upper Saxony, in Thuringia, 12 miles N.W. of Naumburg. Long. 11. 26. E. Lat. 51. 13. N.

NECKAR, a river of Germany, which riſes in the Black Foreſt, croſſes the duchy of Wurtemburg, and the palatinate of the Rhine, and falls into the Rhine, at Manheim.

NECKARS-GEMUND, a town of Germany, in the palatinate of the Rhine, ſeated on the Neckar, 42 miles N. of Stutgard. Long. 9. 55. E. Lat. 49. 26. N.

NECKARS-ULM, a town of Germany, in the circle of Franconia, ſeated on the Neckar. It belongs to the grand-maſter of the Teutonic order. Long. 9. 5. E. Lat. 49. 52. N.

NEDROMA, a town of the kingdom of Algiers, ſurrounded with magnificent ruins. It is 50 miles W.S.W. of Oran. Long. 0. 38. W. Lat. 35. 40. N.

NEDSJED, an extenſive province or diſtrict of Arabia; bounded on the N. by the deſert of Syria, on the E. by Nachſa, on the S. by Hadramaut and Yemen, and on the W. by Hedsjas. The ſoil is various, in many parts very fertile. The Bedouins inhabit a great part of this province; the remainder is mountainous, and contains a great number of towns, almoſt every one of which has its own ſchiech.

NEEHEEHEOW, one of the Sandwich iſlands, five leagues W. of Atooi. The E. coaſt is high, and riſes abruptly from the ſea; the reſt of it conſiſts of low ground, except a round bluff head on the S.E. point. It produces plenty of yams.

NEERWINDEN, a village of Auſtrian Brabant, a little N. by W. of Nanden. Hence the two celebrated battles of Nanden are ſometimes called by the name of Neerwinden.

NEFTA, a town of the kingdom of Tunis, 250 miles S. by W. of Tunis. Long. 9. 25. E. Lat. 33. 0. N.

NEGRAIS, a ſea-port on the E. ſide of the bay of Bengal, 240 miles W.S.W. of Pegu. Long. 94. 4. E. Lat. 15. 50. N.

NEGRO, Cape, a promontory of Africa, on the W. coaſt of Angola, being the moſt ſoutherly country to which the Europeans uſually reſort to purchaſe ſlaves. Long. 10. 40. E. Lat. 15. 54. N.

NEGROES ISLAND, one of the Philippine Iſlands, between Panay and Zebu.

NEGROPONT, a ſtrong city, capital of an iſland of the ſame name, and a Greek archbiſhop's ſee. It has a good harbour, which is commonly the ſtation of the Turkiſh ſhips. The walls of the city, in which the Turks and Jews reſide, are two miles and a half in circumference; but the ſuburbs, where the Chriſtians live, are much larger. It was taken in 1469, from the Venetians, who attempted to retake it in 1688, without effect. It is ſeated on a ſtrait of the ſame name, 30 miles N.E. of Athens, and 260 S.W. of Conſtantinople. Long. 24. 8. N. Lat. 38. 30. N.

NEHAVAND, an ancient town of Perſia, in Irac Agemi, famous for a battle fought near it, between the califf Omar and Yex Degerd, king of Perſia, in 1638, when the latter loſt his life and kingdom. It is 170 miles N.W. of Iſpahan. Long. 47. 10. E. Lat. 34. 20. N.

NEIDENAU, a town of Germany, in the electorate of Mentz, ſituate on the Jaxt, nine miles N. of Heilbron, and 23 E.S.E. of Heidelberg.

NEIDENBURG, a town of Pruſſia, with a caſtle on a mountain, 75 miles E. of Culm. Long. 20. 20. E. Lat. 53. 22. S.

NEIDENSTEIN, a town of Germany, in the palatinate of Heſſe, ſix miles E. of Naumburg, and nine S.E. of Caſſel. Long. 8. 58. E. Lat. 51. 3. N.

NEIFFEN, a town of Suabia, in the duchy of Wurtemburg, 17 miles S.S.E. of Stutgard. Long. 9. 11. E. Lat. 48. 30. N.

NEILSTON, a village in Renfrewſhire, to the S. of Paiſley. It is noted for a cotton manufacture.

NEITRA, a town of Hungary, the capital of a diſtrict, with a biſhop's ſee. It is ſituate on a river of the ſame name, 34 miles N. of Gran. Long. 18. 3. E. Lat. 48. 20. N.

NELISURAM, a town of the peninſula of Hindooſtan, on the W. coaſt, 33 miles N.E. of Mangalore, and 40 N.W. of Tellicherr. Long. 74. 5. E. Lat. 12. 20. N.

NELLENBURG, a town of Suabia, capital of a landgravate of the ſame name, 20 miles N. of Conſtance, and 20 N.E. of Schaffhauſen. Long. 9. 8. E. Lat. 47. 59. N.

NELLORE, a town and fortreſs of the peninſula of Hindooſtan, in the Carnatic, near the Pennar river, 85 miles N. of Madras, and 98 N. of Arcot. Long. 79. 57. E. Lat. 14. 26. N.

NELSON, an Engliſh ſettlement in North America, on the W. ſide of Hudſon's Bay, at the mouth of the river Nelſon, 250 miles S.E. of Churchill Fort. It belongs to the Hudſon's Bay Company. Long. 92. 35. W. Lat. 57. 7. N.

NEMEA, a village of the Morea, famous for the Nemæan games anciently celebrated here.

NEN, the principal river of Northamptonſhire, which riſes in the W. part of the county, and is made navigable at Northampton. It leaves the county at Peterborough, and croſſing the iſle of Ely, forms part of the W. boundary of Norfolk, and falls into the Lincolnſhire Waſh. It likewiſe communicates, by ſeveral channels, with the Great Ouſe.

NEOCASTRO, a fort of Turkey in Europe, in Romania, where the Turks always keep a good garriſon. It is ſeated in the middle of the ſtrait of Conſtantinople, 12 miles from Conſtantinople. Long. 29. 4. E. Lat. 41. 10. N.

NEOTS, St. See Needs.

NEPEAN ISLAND, an iſland of the South Pacific Ocean, oppoſite Port Hunter, on the ſouth coaſt of Norfolk Iſland. It conſiſts entirely of one maſs of ſand, held together by the ſurrounding cliffs, which are a border of hard rocks. The ſurface was covered with a kind of coarſe graſs, and upwards of 200 fine pines were growing on it.

NEPI, an ancient town of Italy, in the patrimony of St. Peter, with a biſhop's ſee, ſeated on the Triglia, 20 miles N. of Rome. Long. 11. 34. E. Lat. 42. 14. N.

NERAC, a town of France, in the department of Lot and Garonne, divided by the river Baife into Great and Little Nerac. In the feudal times, this was the reſidence and capital of the lords of Albret. Their ſtupendous caſtle is now in ruins; but, before the abolition of royalty, no true Frenchman could viſit it without ſentiments of veneration; for here there once favourite Henry IV. ſpent part of his youth. Nerac is 20 miles S.W. of Agen, and 380 S. by W. of Paris. Long. 0. 13. E. Lat. 44. 2. N.

NERBUDDA, a river of India, which iſſues from a lake on the ſouthern confines of the province of Allahabad, forms the boundary between Hindooſtan Proper and the Deccan, and falls into the gulf of Cambay, below Baroach.

NERICIA, a province of Sweden Proper; bounded on the N. by Weſtmania, on the E. by Sudermania, on the S. by Eaſt Gothland, and on the W. by Weſt Gothland. Orebo is the capital, and the only conſiderable place in it.

NERO, an iſland in the Eaſt Indies, the ſecond of the Banda Iſlands, where the Dutch have a fort called Fort Naſſau. Here are large ſerpents, but not venomous, and the mountains are covered with trees, in which are birds of a very ſingular kind. Long. 129. 45. E. Lat. 4. 40. N

NERTCHINSK, one of the four provinces of the Ruſſian government of Irkutzk. Its capital, of the ſame name, is ſeated on the Nertcha, which falls into the Schilka. Long. 116. 44. E Lat. 51. 12. N.

NESLE, a town of France, in the department of Somme. It is ſeated on the Lingon, eight miles N.E. of Royes, and 66 N. by E. of Paris. Long. 2. 59. E. Lat. 49. 51. N.

NESS, Loch, a lake in Inverneſsſhire, 22 miles in length, and, for the moſt part, one in breadth. It is ſheltered on the N.W. by the high mountains of Urquhart and Mealfourvoney, and edged with coppices of birch and oak.

Ness, a river of Scotland, which is the outlet of Loch Neſs, and falls into the frith of Murray, below Inverneſs.

NESTVED, a town of Denmark, in the iſland of Zealand, ſituate on the river Neſs, 38 miles S.W. of Copenhagen. Long. 11. 51. E. Lat. 55. 15. N.

NETSCHKAU, a town of Upper Saxony, in the Voigtland, ſituate on the Golſch, 12 miles S.W. of Zwickau.

NETTLE RASH in medicine a troubleſome cutaneous eruption, of which Dr. Cullen forms the genus Urticaria. This diſeaſe has its Engliſh name from the reſemblance of its eruption to that made by the ſtinging of nettles. Theſe little elevations upon the ſkin in the nettle-raſh often appear inſtantaneouſly, eſpecially if the ſkin be rubbed or ſcratched, and ſeldom ſtay many hours in the ſame place, and ſometimes not many minutes. No part of the body is exempt from them; and where many of them riſe together, and continue a hour or two, the parts are often conſiderably ſwelled; which particularly happens in the face, arms, and hands. Theſe eruptions will continue to infeſt the ſkin, ſometimes in one place and ſometimes in another, for one or two hours at a time, two or three times every day, or perhaps for the greateſt part of the twenty-four hours.—In ſome perſons they laſt only a few days, in others many months; nay ſometimes the diſeaſe has laſted for years with very ſhort intervals.

But though the eruption of the urticaria reſembles, as already obſerved, that produced by the ſtinging of nettles, it is ſometimes accompanied with long wheals, as if the part had been ſtruck with a whip. Whatever be the ſhape of theſe eminences, they always appear ſolid, without having any cavity or head containing either water or any other liquor; and this affords an eaſy mark whereby this diſeaſe may be diſtinguiſhed from the itch. For it often happens that the inſufferable itching with which this eruption is attended, provokes the patient to ſcratch the parts ſo violently, that a ſmall part of the cuticle on the top of theſe little tumors is rubbed off; a little ſcab ſucceeds; and, when the ſwelling is gone down, there is left an appearance hardly to be diſtinguiſhed from the itch, but by the circumſtance juſt now mentioned. The nettle-raſh alſo further differs from the itch, in not being infectious.

Dr. Heberden is inclined to aſcribe this diſeaſe to ſome mechanical cauſe outwardly applied to the ſkin. He obſerves, that moſt people ſuffer in a ſimilar manner from the real ſtinging of nettles. Cowhage, a ſort of *phaſeolus* or French bean, the pod of which is covered over with a kind of down or hair, and the effect of which upon the ſkin is much the ſame as that of nettles; and almoſt any hairs cut equally ſhort, and ſprinkled upon the ſkin, whenever they happen to ſtick in it, will make the part itch or ſmart in ſuch a manner as to give great uneaſineſs; it is alſo a conſiderable time before the ſkin can be cleared of the finer ones, when once they are ſtrewed upon it.

Reaumer, in the fourth memoir of his Hiſtory of Inſects, deſcribes a ſpecies of caterpillar to which belong a ſort of hairs almoſt inviſible to the naked eye, which are eaſily detached, and frequently float in the air round their neſt, though it have not been at all diſturbed. The touch of theſe hairs has a ſimilar effect with the cowhage; that is, they occaſion intolerable itchings, with little bumps and redneſs, ariſing ſometimes to a ſlight inflammation. Theſe he found would continue four or five days, if the animal or the neſt had been much handled; and though they had not been touched at all, yet, by only walking near their neſts, the ſame effects would be brought on, but for a ſhorter time. Theſe hairs affect the ſkin in this manner by ſticking in it, as he could perceive with a glaſs of a great magnifying power; for with one of a ſmall power they are not viſible. The uneaſy ſenſations cauſed by theſe ſmall wounds, not only, as he ſays, laſt ſeveral days, but move from one part of the body to another; ſo that they will ceaſe upon one wriſt, and immediately begin on the other; from the wriſt they will go to the fingers or the face, or even to the parts of the body which are covered. He ſuppoſes, that the motion of the body, when much of this fine down lies near or upon the ſkin, may drive it from one part or another, or change what was lying there inoffenſively to a ſituation fit to make it penetrate into the ſkin. Neither cold water, nor oil, nor ſpirit of wine, with which the parts affected were bathed, had any effect in removing the itching. He thinks the moſt efficacious remedy which he tried for this complaint was, to rub the parts ſtrongly with parſley, which inſtantly leſſened the ſenſations, and after two or three hours, entirely freed the patient from them. It is alſo well known that many ſpecies of caterpillars, by only walking over the hands, will produce ſomething like this effect on the parts which they touch, and undoubtedly from the ſame cauſe.

Dr. Heberden aſks, Is it impoſſible that the nettle-raſh ſhould ariſe from the ſame cauſes, or from others ſimilar, which we miſs by looking too deeply for them in the blood and humours? Such (ſays he) may have been its origin in ſome inſtances, where it has laſted only a few days; but where this affection has continued for ſome years, in perſons who change their linen every day, and who bathe frequently all the time, it can hardly be aſcribed to ſuch an external cauſe. He has obſerved it frequently to ariſe from cantharides; but though it has continued many weeks after the removal of the bliſter, yet it might be ſu-

ſpected that this aroſe from the fine ſpiculæ of the cantharides ſticking all this time about the ſkin; it being cuſtomary to ſtrew much of the dry powder of the cantharides over the bliſter-plaſter, whence it may readily be carried to other parts of the body. But it is certain that ſimilar effects will ſometimes follow the internal uſe of wild valerian root, or the eating of fiſh not ſufficiently dreſſed; muſcles, ſhrimps, and even honey, and the kernels of fruits, will alſo ſometimes produce ſymptoms of a ſimilar kind. But whatever be its cauſe, Dr. Heberden never ſaw any reaſon to ſuppoſe that the nettle-raſh had in any way vitiated the humours to ſuch a degree as to require the uſe of internal remedies; and if the itching could be certainly and expeditiouſly allayed, there would be no occaſion for any further cure. He concludes this hiſtory of the diſorder with a caſe communicated to him by Dr. Monſey, phyſician of Chelſea College, and in which the diſeaſe appeared with uncommon violence.

W. A. aged near 30, of a thin ſpare habit, was ſeized with a diſorder attended with ſymptoms of a very uncommon kind. Whenever he went into the air, if the ſun ſhined bright, he was ſeized with a tickling of his fleſh on thoſe parts expoſed to the ſun: this tickling, by his continuing in the air, increaſed to a violent itching, attended with great heat and pain: the ſkin would then be almoſt as red as vermilion, and thicken like leather; and this remained till he went out of the open air, and then abated in about fifteen or twenty minutes. This happened only when the ſun was above the horizon; at other times he was what he called *quite well*.—But it was not owing to the heat of the ſun; for the ſun in winter affected him full as much, if not more, and the heat of the fire had no ſuch effect. Thus he was confined to the houſe for ten years. He tried ſeveral hoſpitals, and had advice from many phyſicians, without the leaſt abatement of his complaints. At laſt it was agreed in a conſultation of phyſicians, that he ſhould try dipping in ſalt water; which he did at Yarmouth for thirteen weeks, without any viſible amendment. One hot day, having pulled off his clothes and gone into the ſea in the middle of the day, the heat diffuſed itſelf ſo violently all over his body, that, by the time he had put on his clothes his eye-ſight began to fail, and he was compelled to lie down upon the ground to ſave himſelf from falling. The moment he lay down, the faintneſs went off: upon this he got up again; but had no ſooner ariſen, than he found himſelf in the former condition: he therefore laid down again, and immediately recovered. He continued alternately getting up and lying down, till the diſorder began to be exhauſted, which was in about half an hour; and he was frequently obliged to have recourſe to the ſame expedient.

Having at laſt accidentally met with Dr. Monſey, this phyſician queſtioned him concerning the cauſe of the diſorder; but nothing could be gueſſed at, excepting that the patient owned he had one winter lived entirely upon bullocks' liver and porter, from inability to purchaſe better victuals. A comrade lived with him at that time, on the ſame proviſions; and he alſo was affected in a ſimilar manner, though in a leſs degree, and had recovered. This patient was then firſt put upon a courſe of Dover's ſweating powder without any effect, and afterwards tried a courſe of nitrous ones with the ſame bad ſucceſs. At laſt Dr. Monſey determined to try the effect of mercury, which happily proved effectual in removing this obſtinate and uncommon diſtemper. The patient began with taking five grains of calomel for three nights running, and a cathartic next morning. In this courſe he went on for near a fortnight, at the end of which he found himſelf very ſenſibly relieved. This encouraged him to go on rather too boldly, by which means a ſlight ſalivation enſued; however, that went off ſoon, and in about ſix weeks he was quite well.—Some time after, he was threatened with a return of his diſorder; but this was effectually relieved by a doſe of calomel, which he had afterwards occaſion to repeat for the ſame reaſon, and with the ſame ſucceſs: but at laſt the diſorder ſeemed to be radically cured. by his having no further ſymptoms of a relapſe.

NEUBURG, a town of Suabia, in the Briſgaw, ſubject to the houſe of Auſtria. It is ſeated near the Rhine, 12 miles N. of Baſle, and 12 S. of Briſach. Long. 7. 35. E. Lat. 47. 47. N.

NEUBURG, a town of Lower Auſtria, with a famous monaſtery, ſeated on the Danube, five miles from Vienna. Long. 16. 20. E. Lat. 48. 13. N.

NEUBURG, a town of Germany, in the duchy of Wurtemburgh, with a caſtle, ſeated on the Entz, 25 miles W. of Stuigard. Long. 8. 34. E. Lat. 48. 52. N.

NEUBURG, a town of Germany, in the circle of Bavaria, capital of a duchy of the ſame name, ſubject to the elector palatine. It is 28 miles N.E. of Augſburg, and 40 S.W. of Ratiſbon. Long. 11. 18. E. Lat. 48. 45. N.

NEVERS, a conſiderable town of France, in the department of Nievre, with a biſhop's ſee. It is built in the form of an amphitheatre, and contains ſeveral fine buildings; particularly the ancient ducal palace, in which John Caſimer, king of Poland, expired in 1672. The number of inhabitants is eſtimated at about 8000. It is ſeated on the Loire, over which is a handſome bridge, 15 miles N.W. of Moulins, and 145 S.E. of Paris. Long. 3. 14. E. Lat. 46. 59. N.

NEUFCHATEL, a town of France, in the department of Lower Seine, noted for excellent cheeſe. It is ſeated on the Arques, 20 miles S.E. of Dieppe, and 75 N.W. of Paris. Long. 1. 30. E. Lat. 49. 46. N.

NEUHAUS, a ſtrong town of Bohemia, in the circle of Bechin, with a caſtle. Long. 15. 13. E. Lat. 49. 8. N.

NEUHAUS, a town of Lower Saxony, in the duchy of Bremen, ſituate near the mouth of the Oſte. It was once a place of great trade, and had a commodious harbour; but a ſand bank ariſing in it, at the iſſue of the Oſte into the Elbe, it is now much leſs frequented. It is 19 miles N.W. of Stade. Long. 8. 27. E. Lat. 53. 52. N.

NEUHAUSEN, a ſtrong town of Upper Hungary, ſeated in a marſhy plain, on the river Neitra, 15 miles N.W. of Comora, and 40 S.E. of Preſburgh. Long. 18. 10. E. Lat. 48. 1. N.

NEVIN, or NEWIN, a town in Carnarvonſhire, with a market on Saturday. It is ſeated on the Iriſh Sea, 20 miles S. by W. of Carnarvon, and 249 W.N.W. of London. Long. 4. 25. W. Lat. 52. 52. N.

NEUKIRCHEN, a town of Germany, in the principality of Heſſe, 20 miles E.N.E. of Marburg, and 28 S. of Caſſel. Long. 9. 15. E. Lat. 50. 40. N.

NEUMAGEN, a town of Germany, in the electorate of Treves, on the ſouth ſide of the Moſelle, 11 miles E.N.E. of Treves; and 42 S.W. of Coblentz. Long. 6. 26. E. Lat. 50. 0. N.

NEUMARK, a town of Tranſylvania, on the river Meriſch, 56 miles N. of Clauſenburg. Long. 23. 35. E. Lat. 47. 19. N.

NEUMARK, a town of Bavaria, 30 miles N.N.W. of Ratiſbon. Long. 12. 25. E. Lat. 49. 18. N.

NEUMARK, a town of Sileſia, in the principality of Breſlaw, 15 miles W. by N. of Breſlaw. Long. 16. 42. E. Lat. 51. 5. N.

NEUS, a river of North Carolina, which enters Pamlico Sound, below Newbern, where it is a mile and a half broad.

NEUSALTZ, a town of Silesia, in the principality of Glogau, 12 miles N.W. of Glogau.

NEUSIDLE, a town of Hungary, situate on a lake of the same name, 24 miles S.W. of Presburg.

NEUSOL, a town of Upper Hungary, with a large castle, in which is a church, covered with copper. Near it are the greatest copper-mines in all Hungary. It is seated on the Gran, 10 miles N. of Chremnitz, and 50 N.E. of Leopoldstadt. Long. 19. 29. E. Lat. 49. 9. N.

NEUSTADT, a town of Lower Saxony, in the duchy of Holstein, seated on the Baltic, 22 miles N.N.E. of Lubec. Long. 11. 0. E. lat. 54. 10. N.

Neustadt, a town of Lower Saxony, in the duchy of Mecklenburg, 15 miles S. of Schwerin. Long. 11. 50. E. lat. 53. 24. N.

Neustadt, a town of Lower Saxony, in the duchy of Brunswick-Lunenburg, with a castle, 15 miles N.W. of Hanover. Long. 9. 55. E. Lat. 52. 34. N.

Neustadt, a town of Lower Austria, with a bishop's see, a castle, and an arsenal, 30 miles S. of Vienna. Long. 16. 27. E. Lat. 47. 48. N.

Neustadt, a town of Franconia, in the bishopric of Wurtzburg, seated on the Sale, 12 miles N.E. of Schweinfurt. Long. 10. 25. E. Lat. 50. 24. N.

Neustadt, a town of Germany, in the duchy of Wurtemburg, seated on the Kocher, 12 miles N.N.E. of Hailbron. Long. 9. 20. E. Lat. 49. 17. N.

Neustadt, a town of Germany, in the palatinate of the Rhine, nine miles N. by W. of Landau. Long. 8. 7. E. Lat. 49. 20. N.

NEUVILLE, a town of Switzerland, in the bishopric of Basle. It is governed by two burgomasters and a small and great council, each consisting of twenty-four members. It is seven miles S.S.W. of Bienne, and nine N.E. of Neuchatel.

NEUWIED, a flourishing commercial city of Germany, in the circle of Upper Rhine, capital of the principality of Wied. The number of the inhabitants is between 6 and 7000: the Calvinist is the established religion, but all others are tolerated; and the Moravians, in particular, have here a very respectable settlement. Neuwied is 10 miles N.N.W. of Coblentz. Long. 7. 25. E. Lat. 50. 32. N.

NEWARK, a flourishing town of the United States, in New Jersey, with one episcopal and two presbyterian churches. It has the reputation of making the best cider in the world, and is nine miles W. of New York.

NEWBIGGIN, a fishing town of Northumberland, situate on the N. side of a bay to which it gives name, seven miles E. of Morpeth.

NEWBURGH, a corporate town in the isle of Anglesey, with a market on Tuesday. It is governed by a mayor, and seated on the Brant, 15 miles S.W. of Beaumaris, and 257 N.W. of London. Long. 4. 27. W. Lat. 59. 10. N.

NEWBURN, a village in Northumberland, on the west side of Newcastle, inhabited chiefly by colliers. Here, a part of the army of Charles I. under Lord Conway, was defeated by the Scotch in 1640.

NEWBURY-PORT, a town of the United States, in Massachusetts, where the business of ship-building is carried on largely. It is situate on the river Merrimak, two miles from the sea, and 45 E. of Boston. Long. 71. 5. W. Lat. 42. 45. N.

NEWCASTLE, a town in Carmarthenshire, with a market on Friday. It had a fine castle, now in ruins; and is seated on the Tyvy, 17 miles N.W. of Carmarthen, and 219 W.N.W. of Lower. Long. 4. 30. W. Lat. 52. 4. N.

Newcastle, a borough of Ireland, in the county of Dublin, 10 miles W.S.W. of Dublin.

NEWDIGATE, a village in Surrey, five miles S.E. of Darking. Here is a medicinal spring of the same nature as that of Epsom.

NEWENBERG, a town of Germany, in the county of Feldkirch, three miles N.W. of Feldkirche.

NEWENHAM, Cape, a rocky point of considerable height, on the W. coast of North America, forming the N. extremity of a vast bay called Bristol Bay, of which the promontory of Alaska is the S. boundary. It was dicovered by Captain Cook in 1778. Long. 162. 24. W. Lat. 58. 42. N.

NEWENT, a town in Gloucestershire, with a market on Friday, seated near a branch of the Severn, eight miles N.W. of Gloucester, and 114 W.N.W. of London. Long. 2. 20. W. Lat. 51. 56. N.

NEWHAVEN, a town of Sussex, at the mouth of the river Ouse, with a quay on the E. side. It is seven miles S. by E. of Lewes, and 56 S. of London. Long. 0. 5. E. Lat. 50. 48. N.

Newhaven, a town of the United States in Vermont, 75 miles N. of Benington. Long. 73. 8. W. Lat. 44. 6. N.

Newhaven, a town of the United States, in Connecticut, with a university, consisting of one college, called Yale College. It carries on a considerable trade with New York and the West-India islands; and lies round the head of a bay, four miles N. of the Sound, and 132 N.N.E. of New York. Long. 72. 58. W. Lat. 41. 17. N.

NEWNHAM, a corporate town in Gloucestershire, with a market on Friday. It is governed by a mayor, and seated on the Severn, eight miles S.W. of Gloucester, and 112 W.N.W. of London. Long. 2. 23. W. Lat. 51. 4. N.

NEWPORT, a borough in the Isle of Wight, with a market on Wednesday and Saturday. It is governed by a mayor, and sends two members to parliament. It is seated on the river Cowes, which is navigable for small vessels, 17 miles S. by E. of Southampton, and 91 S.W. of London. Long. 1. 15. W. Lat. 50. 40. N.

Newport, a borough in Cornwall, which has no market, but sends two members to parliament. It is three miles N. of Launceston, and 214 W. by S. of London. Long. 4. 36. W. Lat. 50. 43. N.

Newport, a town in Shropshire, with a market on Saturday, and a handsome free-school, 17 miles E. of Shrewsbury, and 140 N.W. of London. Long. 2. 18. W. Lat. 52. 45. N.

Newport, a town in Monmouthshire, with a market on Saturday, seated on the river Usk, over which is a bridge. It is walled round, and was formerly defended by a castle, considerable remains of which are yet in being. Near it are the vestiges of a camp. It stands 19 miles S.S.W. of Monmouth, and 152 W. by N. of London. Long. 3. 4. W. Lat. 51. 36. N.

Newport, a corporate town in Pembrokeshire, with a market on Saturday, and the ruins of a castle. It is governed by a mayor, and seated at the foot of a high hill, at the bottom of a bay of the same name, 18 miles N.E. of St. David's, and 235 W.N.W. of London. Long. 4. 50. W. Lat. 52. 6. N.

Newport, a sea-port of the United States, in Rhode Island. Its harbour is one of the finest in the world; and to the west of the town is Goat Island, on which is a fort. Newport has a handsome state-house and an elegant public

library. It is 80 miles N.E. of New York. Long. 71. 6. W. Lat. 41. 35. N.

NEWPORT-PAGNEL, a town in Buckinghamſhire, with a market on Saturday. It has a manufacture of bone-lace, and is ſeated on the Ouſe, 14 miles E.N.E. of Buckingham, and 51 N.N.W. of London. Long. 0. 43. W. Lat. 52. 4. N.

NEWPORT PRATT, a ſea-port of Ireland, ſituate near the mouth of a river which runs into Clew Bay, eight miles W. of Caſtlebar. Long. 9. 21. W. Lat. 53 53. N.

NEW RIVER, a fine artificial ſtream, brought from two ſprings, at Chadwell and Amwell, near Ware, in Hertfordſhire, for the ſupply of the metropolis with water. It was finiſhed in 1613, by Sir Hugh Middleton, a citizen of London, who expended his whole fortune in the undertaking. This river, with all its windings, is nearly 39 miles in length, and is under the management of a corporation called the New River Company.

NEWRY, a borough of Ireland, in the county of Down, ſituate on the ſide of a ſteep hill, at the foot of which is Newry-water, having over it two ſtone bridges; and there is a third bridge over a navigable canal, by which it has a communication with Lough Neagh and Carlingford Bay. It has ſuffered greatly by the rebellions in Ulſter, and was burnt by the Duke of Berwick in 1689; but it is now ſo much improved in trade and buildings, that it is the largeſt town in the county. It is 49 miles N. of Dublin. Long. 6. 20. W. Lat. 54. 15. N.

NEWRY-WATER, a river of Ireland, which ſeparates the counties of Armagh and Down, and watering Newry, enters Carlingford Bay.

NEWSHAM, a village in Durham, ſituate on the Tees, five miles from Darlington. This being the uſual ford over the river from the ſouth, the Biſhop of Durham is met here, at his firſt coming to the ſee, when the Lord of Stockbourn, juſt below it, being at the head of the country gentlemen, advances into the middle of the river, with his truncheon, and preſents it to the biſhop, who returns it, and is then conducted along amid the acclamations of the populace. Here was formerly a nunnery.

NEWTON, a borough in Lancaſhire, with a market on Saturday. It ſends two members to parliament, and is five miles N. of Warrington, and 190 N.W. of London. Long. 2. 45. W. Lat. 53. 28. N.

NEWTON, a borough in the Iſle of Wight, which ſends two members to parliament, but has no market. It is 14 miles S. of Southampton, and 93 S.W. of London. Long. 1. 16. W. Lat. 50. 43. N.

NEWTON, a town of Montgomeryſhire, with a market on Saturday, ſeated on the Severn, ſeven miles S.W. of Montgomery, and 169 W.N.W. of London. Long. 3. 12. W. Lat. 52. 21. N.

NEWTON-BUSHEL, a town in Devonſhire, with a market on Wedneſday, ſeated on the Teign, 15 miles S. by W. of Exeter, and 188 W.S.W. of London. Long. 3. 38. W. Lat. 50. 32. N.

NEWTON-STEWART, a town in Wigtonſhire, ſituate on the Cree, which is navigable for ſmall veſſels to within two miles of the town. There is a handſome bridge over this river, whoſe mouth, in Wigton Bay, affords a valuable ſalmon-fiſhery. Several manufactures have been commenced with ſucceſs in this town, which is indebted for its riſe and name to the family of Stewart earl of Galloway. It is 26 miles E. by N. of Port Patrick.

NEWTOWN, a village in Renfrewſhire, to the ſouth of Paiſley. It is noted for ſeveral large print fields.

NEWTOWN, the capital of the county of Bucks, in Pennſylvania, five miles from the Delaware, and 20 N.N.E. of Philadelphia. Long. 75. 1. W. Lat. 40. 14. N.

NEWTOWN ARDES, a town of Ireland, in the county of Down, ſituate on the northern point of the lake of Strangford. It has a conſiderable linen manufacture; and is 87 miles N. of Dublin. Long. 5. 45. W. Lat. 54. 40. N.

NEWTOWN BARRY, a town of Ireland, in the county of Wexford, 58 miles S. of Dublin. Long. 6. 30. W. Lat. 52. 35. N.

NEWTOWN LIMAVADDY, a borough of Ireland, in the county of Londonderry, ſeated near the N. coaſt of Lough Foyle, 15 miles E.N.E. of Londonderry.

NEWTOWN MOUNT KENNEDY, a town of Ireland, in the county of Wicklow, 17 miles S. of Dublin.

NEW-YEAR'S-HARBOUR, a part of Staten Land, in South America. Long. 64. 11. W. Lat. 54. 48. S.

NEW-YEAR'S-ISLANDS, ſmall iſlands of South America, on the N. ſide of Staten Land.

NEYLAND, a town in Suffolk, with a market on Friday, and a manufacture of ſays and bays. It is ſeated on the Stour, over which is a bridge, 16 miles S.W. of Ipſwich, and 57 N.E. of London. Long. 1. 5. E. Lat. 52. 1. N.

NGAN-LO-FOU, a rich and populous city of China, in the province of Houquang, containing, in its diſtrict, two cities of the ſecond and five of the third claſs. It is 425 miles W. by S of Nanking.

NIAS, a ſmall iſland, near the W. end of the iſland of Sumatra, remarkable for the beauty of the women, who are purchaſed as ſlaves by the Dutch and Portugueſe. Long. 97. 0. E. Lat. 1. 10. N.

NIBE, a town of Denmark, in North Jutland, nine miles W.S.W. of Alburg.

NIBIANO, a town of Italy, in the duchy of Piacenza, 16 miles S.W. of Piacenza.

NIBIANO, a town of Italy in the duchy of Parma. Long. 10. 0. E. Lat. 45. 5. N.

NICHABURG, a city of Perſia, the largeſt and richeſt in Koraſan, famous for a mine of turquois ſtones in its neighbourhood. It is 37 miles S. of Meſched. Long. 57. 48. E. Lat. 36. 30. N.

NICHOLAS ISLAND, a ſmall iſland on the N. coaſt of the iſland of Cuba. Long. 79. 40. W. Lat. 33. 50. N.

NICHOLAS, ST. a town in France in the department of Meurthe, with a handſome church, dedicated to St. Nicholas, to which pilgrims formerly reſorted. It is ſeated on the Meurthe, five miles S.E. of Nanci, and 265 E. of Paris.

NICHOLAS, ST. a ſea-port of Ruſſia, in the government of Archangel, ſeated at the mouth of the Dwina, on the White Sea, ſix miles S. of Archangel.

NICHOLAS, ST. or MOLE ST. NICHOLAS, a town, harbour, and cape, of the Weſt Indies, at the N.W. extremity of St. Domingo, commanding the ſtrait called the Windward Paſſage. The harbour is nine furlongs broad at the entrance; and ſhips of any burthen may ride at anchor in the baſon, even during a hurricane. It was taken by the Engliſh, aided by the French royaliſts, in 1793; and was evacuated in 1798. Long. 73. 20. W. Lat. 19. 15. N.

NICHOLSBURG, a town of Germany, in Moravia, with a caſtle, 27 miles N. of Vienna.

NICKING *the tail of a horſe*, an operation deſigned to make him carry it more genteelly. There are particular machines or pulleys, ſo contrived as to keep the tail up, which may be better comprehended by ſeeing the figures

in Pl. 22. vol. III., and referred to in the article FARRIERY. The number of the nicks are to be proportionable to the length of the tail, but generally three are ſufficient. When the operation is over, the wounds may be dreſſed with a mixture of powdered roſin, honey, and ſpirits of wine; and a doſſil of tow, dipt in the ſame mixture, ſhould be laid between the nick, wrapping the tail up as uſual. The next morning the covering ſhould be cut open down the back part of the tail, and the following morning it ſhould be taken quite off, in order to plait the hair, and ſet the tail. You ſhould let the tail down every two or three days, and bathe the upper part next the rump with hot vinegar, in which a bit of alum is diſſolved, and mixt with honey. If the tail ſhould happen to ſweil, and the hair come off, it muſt be fomented and poulticed with a mixture of ſcalded bran, cow-dung, linſeed-meal, and a little lard. When ſeven or eight days are expired, the horſe ſhould be ſuffered to ſtand without the machine or pulley for a few hours, that you may ſee how he carries his tail. He muſt likewiſe have his tail kept up a few hours every day, till the wounds are quite healed, or, in other words, till new fleſh is formed in the nicks.

Of this practice Mr. John Lawrence ſpeaks in the following terms:—"Of *nicking*," ſays he, "I ſhall ſay but little; in truth if nobody were more attached to it than I am, the art would ſoon be loſt from diſuſe. At preſent, I muſt allow, we ſet horſes' tails in a more natural form, than ſome years back, when it was the cuſtom to cock them bolt upright, in a moſt burleſque, and prepoſterous manner, and a young horſe, with his blazing meteor diſplayed *a poſteriori*, looked juſt as naturally and in character, as a young fellow with his head enveloped in the curls of an enormous perriwig. My prejudice in favour of every thing appertaining to the turf, may perhaps warp my judgment; but I am all for broom or racing tails, ſuch as are 'cut ſquare by the Ruſſian ſtandard;' theſe I think are becoming and natural to all ſorts and ſizes of horſes, but more particularly at this time, now the ſhew of blood is ſo univerſal. As to the art of nicking, every dealer or farrier can perform it."

NICOPOLI, or GLANISH, an ancient town of Armenia, built by Pompey the Great, in memory of a victory gained over Mithridates. It is ſeated on the Cerauna, 165 miles S.W. of Erzerum. Long. 37. 55. E. Lat. 38. 15. N.

NICOSIA, a ſtrong town, capital of the iſland of Cyprus, ſeated between the mountain Olympus and a chain of other mountains. It was formerly well fortified by the Venetians, but now the works are in ruins. It is three miles in circumference; and there are plantations of olives, almonds, lemons, oranges, mulberries, and cypreſs-trees, interſperſed among the houſes, which give the town a delightful appearance. The church of St. Sophia is an old Gothic ſtructure, which the Turks have turned into a moſque. It is 100 miles W. of Tripoli, and is 160 S.W. of Aleppo. Long. 34. 45. E. Lat. 34. 54. N.

NICOTERA, a ſea-port of Naples, in Calabria Ulteriore, with a biſhop's ſee, 35 miles N.E. of Reggio, and 185 S.E. of Naples. Long. 16. 30. E. Lat. 38. 34. N.

NICOYA, a town of New Spain, on the Pacific Ocean, at the bottom of a bay, 45 miles S.E. of Leon de Nicaragua. Long. 88. 0. W. Lat. 10. 15. N.

NICSARA a town of Turkey in Aſia, in Caramania, with an archbiſhop's ſee. It is 10 miles N. of Tocat. Long. 36. 9. E. Lat. 39. 25. N.

NIDAU, or NIDOW, a handſome town of Switzerland, capital of a bailiwic of the ſame name, in the canton of Bern, with a caſtle. It is ſituate on the lake of Bienne, 15 miles N.W. of Bern, and 60 S.W. of Zuric.

NIDDA, a town of Germany, in Upper Heſſe, 20 miles N.E. of Frankfort, and 38 E.N.E. of Mentz. Long. 8. 58. E. Lat. 50. 17. N.

NIDECKEN, a town of Germany, in the duchy of Juliers, ſituate on a rock, and ſurrounded by rocks. It is 13 miles S.S.E. of Juliers. Long. 6. 16. E. Lat. 50. 46. N.

NIDJIBABAD, a town of Hindooſtan Proper, in the province of Oude, 80 miles N.N.E. of Delhi, and 96 N.N.W. of Bereilly. Long. 78. 41. E. Lat. 29. 35. N.

NIEBLA, an ancient town of Spain, in Andaluſia, ſeated on the Rio Tinto, 40 miles W. of Seville. Long. 5. 56. W. Lat. 37. 26. N.

NIEDERBIEBER, a village of Germany, in the principality of Wied, three miles from Neuwied. Many valuable antiquities, and the traces of a Roman city, were diſcovered here in 1791.

NIEMECZ, a ſtrong town of Moldavia, between Soczoway and Braſſaw, being 25 miles from each. Long. 26. 16. E. Lat. 46. 58. N.

NIEN CLOSTER, a town of Lower Saxony, in the biſhopric of Schwerin, three miles E. of Wiſmar.

NIENHUIS, or NEUNHAUS, a town of Germany, in the biſhopric of Paderborn, ſeated on the Lippe, 20 miles E. of Lipſtadt. Long. 8. 55. E. Lat. 51. 50. N.

NIESTADT, a town of Lower Saxony, in the duchy of Mecklenburgh, 15 miles S. of Schwerin. Long. 11. 46. E Lat. 53. 59. N.

NIESTADT, a town of Germany, in the middle marche of Brandenburg, ſeated on the Fuyhre, 25 miles N.E. of Berlin. Long. 1. 14. E. Lat. 52. 49. N.

NIEUPORT, a ſea-port of Auſtrian Flanders, ſeated on the German Ocean, at the mouth of the Yperlee. In 1383, it was burnt by the rebels of Ghent. In 1583, it was taken by the Prince of Parma. In 1606, Prince Maurice gained here a great victory over the Spaniards. It has been taken and retaken in the ſubſequent wars; the laſt time by the French in 1794 It is nine miles S.W. of Oſtend, and 16 N.E. of Dunkirk. Long. 2. 45. E. Lat. 51. 7. N.

NIGER. See NILE, *Suppl.*

NIGONO, a town of Italy, in the duchy of Modena, 22 miles S.W. of Modena.

NIKOPING, a town of Denmark, capital of the iſland of Falſter, or Hulſter, in the Baltic, with a ſtrong fort, 55 miles S.W. of Copenhagen. Long. 12. 7. E. Lat. 54. 50. N.

NIKOPING, a town of Sweden, in Sudermania, 60 miles S.W. of Stockholm. Long. 16. 40. E. Lat. 58. 49. N.

NILE (*Encyc.*) In the Britiſh Magazine for 1800, an opinion is maintained that the Nile and the Niger are one and the ſame river. Dr. Arthur Browne, Senior Fellow of Trinity College, Dublin, and member in parliament for that Univerſity, previous to the union, ſupports his conjectures in the following way:

"Herodotus heard," ſays he, "from certain Cyreneans, that on an expedition they made to the Oracle of Ammon, they had converſed with Etearchus, ſovereign of the country, who informed them, that ſome Laſamonians (a people who inhabit the Syrtes) had related to him, that certain young men, ſons of perſons of diſtinction, had ſignaliſed themſelves by ſome extravagance of conduct. Among other things, they deputed by lot five of their companions to explore the ſolitudes of Africa, and to endeavour at extending their diſcoveries beyond all preceding adventurers. After a long peregrination they came to a city waſhed by a great river, which flowed from eaſt to weſt, and abounded in crocodiles. This Etearchus conjectured to be the Nile,

which, ſays Herodotus, probability confirms. The Nile, continues he, certainly riſes in Lybia, which it divides; and if it be allowable to draw concluſions from things which are well known concerning thoſe uncertain and obſcure points, it takes a ſimilar courſe with the Jeten, that is, from weſt to ſouth-eaſt.

"In this opinion of Herodotus, that the Nile and the Niger were the ſame river, the Grecians generally concurred. The Romans formed a different opinion, and the moderns have varied ſo far as to believe, for many hundred years paſt, that the Niger ran to the weſtward, was the ſame river with the Senegal or Gambia, and ran into the Atlantic Ocean.

"Mr. Park diſcovered, beyond a doubt, that the Niger ran to the eaſt; and he ſays it abounds in crocodiles. Every modern diſcovery has proved, that where Herodotus formed an opinion, or ſpoke of a fact within his own knowledge, or depending upon teſtimony of which he could himſelf judge, that he has been right almoſt univerſally. I have the ſtrongeſt faith in his rational accounts; and as to the irrational, he only reports them as fables. In ſhort, I have ſcarcely a doubt, I would ſay not any whatever, if the wonderful ingenuity of Major Rennel would permit me, that the Niger is the Nile.

"Believe me, it will ere long be found to be the caſe, notwithſtanding the very powerful and ingenious arguments of Major Rennel as to the level of the river, and the contemporaneous riſe of their waters. Thoſe difficulties, I believe, are capable of ſolution; and if I had time and leiſure I would communicate my reaſons here for thinking ſo. But as I expect every moment to be anticipated by the actual diſcoveries of ſome of the later explorers of Africa ſince Mr. Park's expedition, who, as I have been told, are every day approaching to that opinion, I venture to propheſy now, that they will find it to be the caſe. It is impoſſible for any man to have greater reſpect for Major Rennel than I have, but I cannot conceive a greater difficulty, than to ſuppoſe, that the mighty river Niger terminates in moraſſes, lakes, or ſands."

NIMBURG, a town of Bohemia, near the Elbe, 26 miles E.N.E. of Prague, and 70 S.E. of Dreſden.

NING-KOUE FOU, a city of China, in the province of Kiang-nan, noted for its manufactures of paper, made of a ſpecies of reed. Its diſtrict contains ſix cities of the third claſs.

NINOVE, a town of Flanders, on the river Dender, with an abbey, 13 miles W. of Bruſſels. Long. 4. 5. E. Lat. 50. 52. N.

NIORT, a town of France, in the department of the Two Sevres. Here are manufactured druggets, ſerges, and other coarſe woollen goods; and its dry ſweetmeats are much eſteemed. It is 28 miles N.E. of Rochelle. Long. 0. 33. W. Lat. 46. 20. N.

NISIBEN, or NESBIN, a very ancient and celebrated town of Diarbeck, now greatly decayed. It is ſeated in a vaſt plain, 70 miles S.W. of Diarbekar. Long. 38. 26. E. Lat. 36. 10. N.

NISIDA, a ſmall iſland on the coaſt of Naples, very fertile, and would be more ſo but for the great number of rabbits. It has a harbour, called Porto Pavone, five miles W.S.W. of Naples.

NISSA, or NESSAVA, a town of Turkey in Europe, in Servia. It was burnt by the Imperialiſts in 1689, and is ſeated on the Morava, 20 miles E. of Precop, and 120 S.E. of Belgrade. Long. 22. 32. E. Lat. 43. 32. N.

NITH, a river in Dumfrieſſhire, which riſes in the mountains to the N.W. and gives the name of Nithſdale to that part of the county through which it flows. A little above Dumfries, it joins the Cairne, and their united ſtreams form a fine eſtuary in Solway Frith.

NITRIA, a famous deſert of Egypt, 37 miles in length, on the coaſt of the Mediterranean Sea. It had formerly a great number of monaſteries, which are now reduced to four; and it takes its name from a ſalt lake, out of which is procured the natrum of the ancients.

NIXABOUR, a town of Perſia, in Choraſan, 80 miles S.E. of Meſched. Long. 61. 32. E. Lat. 35. 40. N.

NIZAMPATAM, a town of the peninſula of Hindooſtan, ſituate at the mouth of the Kiſtnah, 34 miles S.W. of Maſulipatam. Long. 80. 50. E. Lat. 15. 55. N.

NIZNEI NOVOGOROD, a town of Ruſſia, in a government of the ſame name, with a citadel, and an archiepiſcopal ſee. It is ſeated on a mountain, at the confluence of the Volga and Occa, 280 miles E. by N. of Moſcow. Long. 46. 30. E. Lat. 56. 34. N.

NIZZA-DELLA-PAGLIA, a town of Italy, in Montferrat, ſeated on the Belbo, 15 miles S.W. of Alexandria. Long. 8. 36. E. Lat. 45. 15. N.

NOAILLES, a town of France, in the department of Vienne, ſix miles S.S.E. of Poitiers.

NOANAGUR, a town of Hindooſtan Proper, capital of a diſtrict, on the S. coaſt of the gulf of Cutch, inhabited by a piratical tribe, called Sangarians. It is 300 miles N.W. of Bombay.

NOCERA, an ancient town of Italy, in the duchy of Spoletto, with a biſhop's ſee; ſeated at the foot of the Apennines, 18 miles N.E. of Spoletto. Long. 12. 49. E. Lat. 43. 1. N.

NOGARA, a town of France, in the department of Gers, 21 miles S.W. of Condom, and 27 W.N.W. of Auch. Long. 0. 9. W. Lat. 43. 46 N.

NOGARCOT, a town of Hindooſtan Proper, in the province of Napoul, with a celebrated pagoda, 50 miles N.E. of Catmandu. Long. 85. 12. E. Lat 28. 40. N.

NOGENT-SUR-SEINE, a town of France, in the department of Aube, ſeated on the Seine, 25 miles N.W. of Troyes. Long. 3. 40. E. Lat. 48. 30. N.

NOGENT-LE-ROTROU, a town of France, in the department of Eure and Loire, ſeated on the Huiſne, 35 miles N.E. of Mans. Long. 9. 50. E. Lat. 48. 26. N.

NOIR, CAPE, a promontory of S. America, at the S. extremity of Terra del Fuego. Long. 73. 3. W. Lat. 54. 32. S.

NOIRMOUTIER, an iſland of France, near the mouth of the river Loire. It is ſeventeen miles long and eight broad, full of bogs, and yet there are good paſtures. The Engliſh made an unſucceſsful attack on it in 1795. The principal town is of the ſame name. Long. 2. 10. W. Lat. 47. 0. N.

NOLA, an ancient town of Naples, in Terra di Lavoro, with a biſhop's ſee, 10 miles N.E. of Naples. Long. 14. 28. E. Lat. 40. 56. N.

NOLI, a town of Italy, in the territory of Genoa, with a biſhop's ſee, and a good harbour, five miles N.E. of Final, and 30 S.W. of Genoa. Long. 8. 41. E. Lat. 44. 18. N.

NOMBRE-DE-DIOS, a town of Terra Firma, in the province of Darien, a little E. of Porto-Bello, to which its once flouriſhing trade is now transferred. Long. 78. 35. W. Lat. 9. 40. N.

NOMENY, a town of France, in the department of Meurthe, ſeated on the Selle, 15 miles N. of Nanci. Long. 6. 15. E. Lat. 48. 56. N.

NONTRON, a town of France, in the department of

Dordogne, 21 miles N. of Perigneux, and 30 S.S.W. of Limoges. Long. 0. 33. E. Lat. 45. 32. N.

NOOPOUR, a town of Hindooſtan Proper, in the province of Guzerat, 55 miles E. of Surat, and 142 W. of Burhanpour. Long. 73. 50. E. Lat. 21. 11. N.

NOORDEN, a conſiderable town of Weſtphalia, 12 miles N. of Embden. Long. 7. 5. E. Lat. 53. 38. N.

NORBERG, a town of Sweden, in Weſtmanland, near which are the beſt iron mines in the province. It is 34 miles N. of Stroemſholm. Long. 16. 12. E. Lat. 60. 2. N.

NORCIA, a town of Italy, in the duchy of Spoletto. It is a kind of republic, and ſeated among the mountains, 20 miles S.E. of Spoletto. Long. 13. 4. E. Lat. 41. 36. N.

NORD. See NORTH, *Suppl.*

NORDBURG, a town of Denmark, at the N. extremity of the iſle of Alſen, with a caſtle, nine miles N.N.W. of Sunderburg.

NORDHAUSEN, an imperial town of Lower Saxony, under the protection of the Elector of Saxony. The inhabitants are Proteſtants. It is 25 miles S.W. of Halberſtadt. Long. 11. 3. E. Lat. 51. 45. N.

NORDKIOPING, a town of Sweden, in E. Gothland. It covers a large ſpace of ground, being 10 miles in circumference; but the houſes are ſcattered, and the inhabitants do not exceed 10,000. The river Motala flows through the town, forms a ſeries of cataracts, and is divided into four principal ſtreams, which encircle ſeveral rocky iſlands, covered with buildings: at the extremity of the town it is navigable for ſmall veſſels. Here are manufactures of cloth and fire-arms; ſome ſugar-houſes, and a braſs foundery. Corn is exported hence in great quantities; and a ſalmon-fiſhery gives employment and riches to many of the inhabitants. It is 90 miles S.W. of Stockholm. Long. 15. 50. E. Lat. 58. 28. N.

NORDLAND, a province of Northern Norway, included in the government of Drontheim.

NORDLINGEN, a commercial and free imperial town of Suabia, ſeated on the Aigre, 38 miles N.W. of Augſburg. Long. 11. 49. E. Lat. 48. 52. N.

NORDSTRAND, an iſland of Denmark, in the duchy of Sleſwick, which was entirely overflowed in 1634. Long. 9. 15 E. Lat. 54. 40. N.

NORHOLM, a town of Norway, in the dioceſe of Chriſtianſand, 16 miles N.N.E. of Chriſtianſand.

NORLAND, one of the five general diviſions of Sweden, comprehending the provinces of Geſtrikeland, Helſingland, Madelpadia, Hiemland, Herjedalia, Ongermania, and Weſt Bothnia.

NORRISTOWN, a town of the United States, capital of the county of Montgomery, in Pennſylvania. It is ſeated on the Schuylkill, 12 miles N.W. of Philadelphia. Long. 75. 24. W. Lat. 40. 7. N.

NORTELGA, or NOR TELGE, a ſea-port of Sweden, in the province of Upland. This town ſuffered much from the ravages committed here by the Ruſſians in 1719: near it is a forge for making fire-arms. It is 30 miles N.E. of Stockholm. Long. 10 32. E. Lat. 50. 44. N.

NORTH, or NORD, a department of France, including the late French provinces of Hainault, Flanders, and the Cambreſis.

NORTH COAST, a department of France. See COTES DU NORD.

NORTHALLERTON, a borough in the N. riding of Yorkſhire, with a market on Wedneſday. It ſends two members to parliament, and is ſeated on a ſmall brook, which, a mile below, runs into the river Wiſk. It is a well-built trading place, 30 miles N.N.W. of York, and 223 N. by W. of London. Long. 1. 20. W. Lat. 54. 23. N.

NORTHAMPTON, a county of Pennſylvania, 111 miles long and 35 broad. In 1790, it contained 24,250 inhabitants. Eaſton is the capital.

NORTHCURRY, a town in Somerſetſhire, with a market on Tueſday and Saturday, ſeated on the Tone, 20 miles S.W. of Wells, and 134 W. by S. of London. Long. 3. 0. W. Lat. 51. 0. N.

NORTHFLEET, a village in Kent, ſeated on the Thames, one mile W. of Graveſend. The church is very large, and contains fragments of monuments as ancient as the fourteenth century. Vaſt quantities of lime are made, and great numbers of extraneous foſſils have been dug up here.

NORTHLEACH, a corporate town in Glouceſterſhire, with a market on Wedneſday, ſeveral almſhouſes, and a free grammar-ſchool. It is ſeated on the Lech, 25 miles E. of Glouceſter, and 80 W. by N. of London. Long 1. 43. W. Lat. 51. 46. N.

NORTHORP, a town of N. Wales, in Flintſhire, near which are large potteries of coarſe earthen ware, fire-bricks, &c. It is 11 miles N.W. of Cheſter.

NORTHUMBERLAND, a county of Pennſylvania, 180 miles long and 80 broad. In 1790, it contained 17,161 inhabitants. Sunbury is the capital.

NORTHUMBERLAND, a town of Pennſylvania, ſeated in the angle formed by the junction of the W. and E. branches of the Suſquehannah, juſt above Sunbury, and 138 miles N.W. of Philadelphia.

NORTHUMBERLAND ISLANDS, a chain of iſlands in the S. Pacific Ocean, near the N.E. coaſt of New Holland. Long. 150. 20. E. Lat. 22. 0. S.

NORTON, or CHIPPING NORTON, a corporate town in Oxfordſhire, with a market on Wedneſday. Roman coins have been frequently found here, and it formerly ſent members to parliament. It is 12 miles S.W. of Banbury, and 74 N.W. of London. Long. 1. 17. W. Lat. 51. 55. N.

NORWICH, a town of the United States, in Connecticut. The executive courts of law are held at this place and New London alternately. Here are made paper of all kinds, ſtockings, buttons, ſtone and earthen ware, and all kinds of forge work. It is ſeated at the head of the Thames, 12 miles N. of New London.

NORWICH, a town of the United States, in Vermont, 100 miles N.N.W. of Boſton, and 182 N. of New York. Long. 72. 22. W. Lat. 43. 40. N.

NOSSEN, a town of Upper Saxony, ſituate on the Muldau, 12 miles S.W. of Meiſſen, and 18 W. of Dreſden. Long. 13. 0. E. Lat. 51. 2. N.

NOSTRUM, denotes any medicine the compoſition of which is ſuppoſed to be ſecret, and confined to the knowledge of one, or a few individuals.

The natural deſire of health and longevity, has in all ages afforded a pretext to deſigning men, to invent medicines, with the abſurd pretence of curing *every* diſorder. It is true, that the confidence in *panaceas*, or univerſal remedies, is gradually declining, among the higher as well as the lower claſſes of ſociety; but innumerable elixirs, drops, pills, &c. for particular complaints, are daily impoſed upon the public by pretenders, whoſe chemical and medical knowledge is ſo confined, that they are generally obliged to borrow the recipes for ſuch preparations from printed books. To aggravate the evil, their pernicious compounds

for the moſt part contain opium, hemlock, or other narcotic drugs, which are rendered ſtill more deleterious by the addition of ſtimulating gums and aromatic ſubſtances.

The duration and extent of ſuch baſe practices, it is difficult to determine; though we conceive, that ſo long as the thoughtleſs and diſſipated indulge in ſenſual pleaſure of every deſcription, the audacity of pretenders to the healing art will continue to increaſe. Experience has too often evinced, how little efficacy *medicines* poſſeſs in a variety of caſes, without a ſtrict adherence to a proper *regimen*; and much leſs may be expected from any noſtrum, however ſtrongly recommended by the dignitaries of church and ſtate. Nay, the excellence and dignity of medical ſcience can neither be ſupported, nor depreciated, by the illuſion of great names.—If a due regard were more generally had to the laws of temperance and ſobriety, if the cool dictates of reaſon were more frequently conſulted, there would be fewer diſeaſes, and thoſe who enrich themſelves at the expence of a credulous public, would ſpeedily fall into contempt.

NOTCHENGONG, a town of the Deccan of Hindooſtan, in the province of Berar, 47 miles S.S.W. of Nagpour, and 75 S.S.W. of Ellichpour. Long. 79. 17. E. Lat. 20. 32. N.

NOTE *(Encycl.)*. See BILL, *Supp.*

By the act 39 Geo. 3. cap. 107. from and after December 1, 1799, there ſhall be paid on bills of exchange and promiſſory notes for ſmall ſums, the ſeveral duties herein-after mentioned; (that is to ſay),

For every bill of exchange, promiſſory note, or other note, draft, or order, whether payable on demand or otherwiſe, where the ſum expreſſed therein ſhall be for one pound, and one pound and one ſhilling each, a ſtamp duty of two pence.

And where the ſum expreſſed therein ſhall be five ſhillings, as herein-after mentioned, one halfpenny.

For every promiſſory note, or other note for the payment of money to the bearer on demand, payable only at the place where iſſued, and which may be re-iſſuable after payment at that place, where the ſum expreſſed therein ſhall be for one pound, or one pound one ſhilling, there ſhall be charged a ſtamp duty of two pence.

And where the ſum expreſſed therein ſhall be five ſhillings, one halfpenny.

For every promiſſory note, or other note for the payment of money to the bearer on demand, payable at two or more different places, or at any place different from that where it ſhall have been originally iſſued, and which may be re-iſſued after any payment at the ſame or any other place, where the ſum expreſſed therein ſhall be for one pound, or one pound and one ſhilling, there ſhall be charged a ſtamp duty of four pence.

And where the ſum expreſſed therein, or made payable thereby, ſhall be five ſhillings, one penny. [The five-ſhilling notes are only iſſuable in Scotland.]

The duty is payable by the giver of the note.

Drafts payable on demand upon a banker reſiding within ten miles of the drawer, are not liable to duty. And the Bank of England notes are exempted from the duties charged by this act on a compoſition of 4000l. and from all additional duties impoſed ſince the act 31 Geo. 3. c. 25. on a compoſition of 8000l. payable half-yearly.

No bill of exchange ſhall be re-iſſued. But notes payable on demand, on which a duty of two pence or one halfpenny is reſpectively impoſed, paid by perſons giving them at the places where firſt iſſued, may be re-iſſued; but if paid by any other perſons, or at any other place, in purſuance of appointment expreſſed therein, ſhall be cancelled; and if re-iſſued, or if not cancelled, the party to forfeit 20l. And ſuch notes, not cancelled, but again iſſued, ſhall pay the ſame duty as when firſt iſſued.

Notes ſtamped with the duty of 5s. and 1d. reſpectively, may be re-iſſued, though paid by other perſons than by whom, and at other places than where, firſt iſſued. And notes ſo re-iſſuable ſhall be the property of the perſons holding them.

The acts 15 Geo. 3. c. 51. and 15 Geo. 3. c. 30. ſo far as they relate to notes payable on demand for one guinea and one pound, to be ſuſpended until and upon November 30th, 1802.

From July 5, 1799, the bank of Scotland and the royal bank of Scotland, the Britiſh Linen Company, the Carron Company, and all other banks and banking companies in Scotland, may iſſue notes payable to bearer on demand for 5s. ſterling, as they have heretofore iſſued notes for 20s. and upwards. And ſuch iſſue may continue till December 1, 1800, and to the end of the next ſeſſion.

And from December 1, 1799, no bill of exchange or promiſſory note ſhall be iſſued in Scotland under 5l. ſterling, except for five ſhillings or one guinea, on penalty of 10l. But the banks or companies in Scotland may, on licence, iſſue or re-iſſue notes for 5s. ſterling, and alſo 1l. and one guinea, drawn under the regulations mentioned in the act, unſtamped, upon giving ſecurity for payment of the duties.

NOTEBURGH, a town of Ruſſia, in the government of Peterſburgh, ſeated on an iſland in the lake Ladoga, at the place where the Neva proceeds from this lake. It has a good citadel, and was capital of Ingria, before Peterſburgh was built. It is twenty-five miles eaſt of Peterſburgh. Long. 31. 9. E. Lat. 59. 56. N.

NOTTELEN, a town of Weſtphalia, in the biſhopric of Munſter, ſeven miles weſt of Munſter.

NOTTINGHAM, a town of the United States, in Maryland, five miles N.E of Baltimore.

NOVARA, an ancient and ſtrong town of Italy, in the duchy of Milan, capital of the Novareſe, with a biſhop's ſee. It is ſeated on an eminence, twelve miles N.E. of Verceil, and 25 W. by S. of Milan. Long. 8. 35. E. Lat. 45. 25. N.

NOVA SCOTIA, or ARCADIA, a country of Britiſh North America, bounded on the W. by the United States, on the N. by the river St. Lawrence, on the E. by the gulf of that name, and on the S. by the Atlantic and bay of Fundy; being ſo indented by the latter, that its eaſtern part forms a peninſula. It extends from Cape Sable, its moſt ſouthern point, in lat. 43. 23. to 49. 30. N. and from 60. 15. to 67. 0. W. long. In 1784, part of this country was formed into a new province. See NEW BRUNSWICK. The atmoſphere, for a great part of the year, is clouded with a thick fog which renders it unhealthy; and, for four or five months, it is intenſely cold. A great part of the country lies in foreſt; and the ſoil (except on the banks of the rivers), is thin and barren. Halifax is the capital.

NOVOMIRGOROD, a town of Ruſſia, in the government of Catharinenſlaf, 136 miles W.N.W. of Catharinenſlaf. Long. 31. 44. E. Lat. 48. 40. N.

NOUTRA, a town of Poland, in the palatinate of Cracow, on the frontiers of Hungary, near which are mines of gold and ſilver. It is 30 miles S. of Cracow. Long. 19. 49. E. Lat. 49. 40. N.

NOYA, an ancient town of Spain, in Galicia, ſeated on the Tamara, 15 miles W. of Compoſtella.

NOYERS, a town of France in the department of Yonne,

ſeated on the Serin, in a valley ſurrounded by mountains, 17 miles S.E. of Auxerre. Long. 4. 2. E. Lat. 47. 39. N.

NOZEROY, a town of France, in the department of Jura, with a caſtle, ſeated on a mountain, 20 miles S.E. of Salines, and 30 S. of Beſançon. Long. 6. 13. E. Lat. 46. 47. N.

NUITZ, a town of France, in the department of Côté d'Or, famous for its excellent wines. It is ſeated at the foot of a mountain, 15 miles S.W. of Dijon, and 150 S.E. of Paris. Long. 5. 0. E. Lat. 47. 10. N.

NUN, or Ned de Nun, a province of Africa, to the S. of Sus, from which it is ſeparated by a ſandy deſert. The Emperor of Morocco arrogates to himſelf the ſovereignty of this country, but his real authority is extremely feeble. This vaſt, but deſert, province is inhabited by different tribes of Arabs, whoſe camps are ſcattered over ſuch interior parts of the country as are capable of cultivation.

NUNDYDROOG, a town and fortreſs of the peninſula of Hindooſtan, capital of a conſiderable diſtrict, in the Myſore country. It is built on the ſummit of a mountain, 1700 feet in height, the greater part inacceſſible; but was beſieged and taken by the Engliſh, under Lord Cornwallis, in 1792. It is 70 miles N. of Seringapatam.

NUNEATON, a town in Warwickſhire, with a market on Saturday. It has a manufacture of camblet cloth, was formerly noted for its nunnery, and is ſeated on the river Anker, eight miles N. by E. of Coventry, and 99 N.N.W. of London. Long. 1. 25. W. Lat. 52. 36. N.

NUNEHAM, a village, five miles E. by S. of Oxford; remarkable for its ſpinning feaſt, an annual feſtival, inſtituted by Lord and Lady Harcourt, for the encouragement of virtue and induſtry.

NUNNY, a village in Somerſetſhire, two miles S.W. of Frome. It is remarkable for the ruins of a ſtrong caſtle, the ſhell of which ſtill remains nearly perfect, and is a fine piece of antiquity. It was taken by the parliament forces in 1645, and probably ſoon afterward diſmantled.

NURTINGEN, a town of Suabia, in the duchy of Wurtemberg. The hoſpital here, founded in 1481, is ſaid to be the richeſt foundation in the whole duchy. It is ſituate on the Neckar, 14 miles S.E. of Stutgard, and 60 E. of Straſburg. Long. 9. 12. E. Lat. 48. 33. N.

NUSSERPOUR, a town of Hindooſtan Proper, capital of a diſtrict of the ſame name. It is ſituate on the Sinde, 80 miles N.E. of Tatta. Long. 68. 20. E. Lat. 25. 20. N.

NUYS, a town of Germany, in the electorate of Cologne. It was taken by the French in 1794; and is ſeated on the Erfft, five miles S.W. of Duſſeldorf, and 20 N.W. of Cologne. Long. 6. 52. E. Lat. 51. 11. N.

NYBORG, a town of Denmark, in the iſle of Funen, with the remains of an old palace, in which Chriſtian II. was born. The ſhips trading to the Baltic that paſs through the Great Belt are obliged to pay toll here, for which purpoſe a man-of-war is always ſtationed in the Belt. Nyborg is ſeated on a commodious bay, 10 miles E. of Odenſee. Long. 10. 40. E. Lat. 55. 30. N.

NYMPHÆA (*Encycl.*). A remarkable fact, in the department of Natural Hiſtory, but particularly applicable as a counterpart to the modern rage for *coſmetics*, we ſhall communicate to our readers, in the author's words, from the firſt volume of his travels, in German, p. 232 and following:

"On the 20th of Auguſt," ſays M. Pallas, "the commandant of the port of Aſtrakhan, granted me a barge for an excurſion to the mouth of the Volga, a diſtance from ſixty to eighty verſts. As I had learned from the late Dr. Lerch, that the *Nymphæa nelumbo* grew there in abundance, I ſent a party of my eſcort, who procured a great number of the flowers and fruits of this plant, in different gradations of growth; ſome of which had nearly attained perfect maturity. Theſe fruits are by the Ruſſians called ſea-nuts, or *morſkye orechi*; by the inhabitants of Tybet, *badma*; by the Perſians, *dariopacta*; and by the Indians, *pabin* or *lilifar*: they are ſearched for and eaten with avidity by the laſt-mentioned nation, who regard them as ſacred. According to their mythology and that of Tibet, the perfect divinities are regenerated in the richly ſcented flowers of this plant, which ſerve them for a throne. Theſe flowers, indeed, have an agreeable flavour; and the diſtilled water which the apothecary of this city, Aſſeſſor Zettler, had the politeneſs to prepare for me, contained a pleaſant and permanent taſte of fine ambra, and when uſed as a lotion, imparts ſuch a ſoftneſs and delicacy to the ſkin of the face and hands, that it deſerves to be introduced as an *innocent coſmetic* into all the apothecaries' ſhops; eſpecially as the flowers may be collected throughout the ſummer, in the inlets of the Volga and the Bolda. I found the leaves of this plant completely free from zoophytes, and other aquatic inſects. The ſeminal veſſels are more conſpicuous, and the germ more magnified, in the ſeed of the *Nymphæa nelumbo*, than in any other plant. When the nuts are incloſed in a lump of clay, and immerſed under water, they readily germinate, particularly if a ſlight inciſion be previouſly made in the ſhell."

NYONS, a town of France, in the department of Drome, ſeated at the foot of a chain of mountains, on the river Aigues, with a lofty bridge of one arch, the work of the Romans. Here is a mineral ſpring, named Pontius, and ſome manufactures of ſoap and woollen ſtuffs. It is eight miles N.W. of Buis. Long. 5. 15. E. Lat. 44. 26. N.

NYSTADT, a town of Sweden, in Finland, with a commodious harbour, and a conſiderable trade in all kinds of wooden veſſels. In 1721, a peace was concluded here, between the Emperor of Ruſſia and the King of Sweden. It is ſeated on a bay of the gulf of Bothnia, 55 miles N.W. of Abo. Long. 21. 1. E. Lat. 61. 10. N.

NYSTED, or Nyested, a town of Denmark, in the iſland of Laland, which carries on a conſiderable trade to the duchy of Mecklenberg and other provinces of Germany. Long. 11. 40. E. Lat. 54. 43. N.

O.

OAKHAM. See Okeham.

OBAN, a village in Argyleſhire, ſeated on the ſea-coaſt, to the S. of Loch Etive. Here is an excellent fiſhing ſtation, and a cuſtom-houſe.

OBDACH, a town of Germany, in the duchy of Stiria, ſeated at the confluence of the Achza and Traun, three miles below the lake Chienzee, and 35 W. of Gratz. Long. 14. 43. E. Lat. 47. 3. N.

OBERKIRCH, a town and caſtle of France, in the department of Lower Rhine, three miles from Straſburg, to whoſe late archbiſhop it belonged. Long. 7. 50. E. Lat. 48. 35. N.

OBERNBERG, a town of Bavaria, with a caſtle, ſeated on the Inn, 15 miles S. of Paſſau, to whoſe biſhop it belongs. Long. 13. 36. E. Lat. 48. 15. N.

OBERNDORF, a town of Suabia, in the Black Foreſt, ſubject to the houſe of Auſtria. It is divided into the Upper and Lower Town, and ſeated on the Neckar, 14 miles N. of Rothweil. Long. 8. 45. E. Lat. 48. 22. N.

OBERSTEIN, a town of Germany, in the palatinate of the Rhine, capital of a county of the ſame name. It is ſeated on the Nahe, 30 miles E. by S. of Treves. Long. 7. 26. E. Lat. 49. 42. N.

OBERWESEL, a town of Germany, in the electorate of Treves, formerly imperial. It was taken by the French in 1794, and is ſeated on the Rhine, 40 miles E.N.E. of Treves. Long. 7. 48. E. Lat. 50. 1. N.

OBIDOS, a town of Portugal, in Eſtremadura, with a ſtrong caſtle on a rock, 13 miles E. of Peniche, and 38 N. of Liſbon. Long. 9. 18. E. Lat. 39. 17. N.

OBOLLAH, a ſtrong town of Perſia, in Irac-Agemi, ſeated on a branch of the Tigris, near Buſſarah. Long. 45. 15. E. Lat. 30. 15. N.

OBSKAYA, a bay of the Frozen Ocean, in Aſia. Long. 72. 25. E. Lat. 70. 0. N.

OBVINSK, a town of Ruſſia, in the government of Perm, ſituate on the Kama, 60 miles N. of Perm. Long. 56. 0. E. Lat. 58. 44. N.

OCANO, a town of Spain, in New Caſtile, ſeated on a plain, 18 miles E. of Toledo. Long. 2. 50. W. Lat. 39. 52. N.

OCCA, a river of Ruſſia, which falls into the Volga, near Niſhnei Novegorod.

OCHSENEURT, a town of Franconia, in the biſhopric of Wurtzburg, ſeated on the Maine, 10 miles S.E. of Wurtzburg. Long. 10. 10. E. Lat. 49. 35. N.

OCHSENHAUSEN, a town of Suabia, near which is a princely abbey, founded in 1100. It is 14 miles S. of Ulm, and 40 W.S.W. of Augſburg. Long. 10. 11. E. Lat. 48. 10. N.

OCKER, a river of Lower Saxony, which riſes in the S. part of the duchy of Brunſwick, runs by Goſlar, Wolfenbuttle, and Brunſwick, and falls into the Aller, E. of Zell.

ODER, a river of Germany, which has its ſource near a town of the ſame name, in Sileſia. It runs N. by Ratibor, Oppelen, Breſlaw, Glogaw, and Croſſen, in Sileſia; Francfort, Lebus, Cuſtrin, and Frinwalt, in Brandenburg; and Gartz, Stetin, Cammin, Wellin, Uſedom, and Wolgaſt, in Pomerania. Below Stetin it forms a large lake or bay, called Friſchen Haff, and afterward falls into the Baltic Sea by three mouths; between which lie the iſlands of Uſedom and Wollin.

ODERBERG, a town of Upper Saxony, in the middle marche of Brandenburg, ſituate on the Oder, 25 miles N.W. of Cuſtrin, and 35 N.E. of Berlin. Long. 14. 15. E. Lat. 52. 58. N.

ODERBURG, a town of Sileſia, near the confluence of the Oder and Elſa, 10 miles S. of Ratibor. Long. 18. 10. E. Lat. 50. 2. N.

ODERNHEIM, a town of Germany, in the palatinate of the Rhine, ſeated on the Seltz, 20 miles S. of Mentz. Long. 8. 20. E. Lat. 49. 31. N.

ODIHAM, a corporate town in Hampſhire, with a market on Saturday, 24 miles N.E. of Wincheſter, and 42 W. by S. of London. Long. 0. 56. W. Lat. 51. 18. N.

ODONTALGIA *(Encycl.)*. The following obſervations on this diſeaſe, with the explanation of an apparatus that has been ſucceſsfully employed in relieving it (ſee Pl. 38), are addreſſed to the editors of the Medical and Phyſical Journal.

"The tooth-ach (ſays the author, Dr. Brown), the moſt frequent and painful diſeaſe incident to the human body, is often occaſioned by being expoſed to a partial current of cold air, or to ſudden heat and cold; by reſiding in a marſhy or damp ſituation; by morbid matter within, by acrid matter attached to the external ſurface of the teeth, and frequently by the muſcles and membranes of the jaw being affected by the ſame diatheſis which produces irritation, gout, and rheumatiſm, in other parts. Women are more liable than men to rheumatiſm and to tooth-ach; they are moſt ſubject to both in pregnancy, and during obſtructions of the menſtrual diſcharge.

"It has alſo been obſerved, that mercurial preparations thrown into the ſyſtem, ſo as to affect the ſalival glands; nervous affections; ſipping hot liquors; frequent picking of the teeth with hard inſtruments; a ſcorbutic and ſome other acrimonious ſtate of the fluids; probably often occaſion a caries of the teeth: and I have known ſeveral families, who ſeemed particularly liable to their premature loſs and decay."

The common people of Aberdeen, it ſeems, have an idle notion that the cauſe of the tooth-ach, is a worm, or worms, engendered in the tooth. Juſt ſo, in former times, it was generally ſuppoſed, that worms contained in the cavity of the affected tooth, by irritating its nerve, occaſioned the acute pain that is ſometimes productive of watchfulneſs, fever, loſs of appetite, proſtration of ſtrength, convulſions in children, and delirium, in perſons who have laboured under this exquiſitely painful diſeaſe.

Hence in *Regimen Sanitatis Salerni*, p. 154:

"Sic dentes ſerve porrorum collige grana,
"Ne carcas jure cum inſquiamo ſimul ure,
"Siſq; per embotum Fumum cape dente remotum."

"To cure the tooth-ach, take the ſeed of leeks,
When that fell pain annoyes and ſwells the cheeks;
But *ſeed* of Henbane muſt be mixt among,
And burn them both, to make the ſmoke be ſtrong;
Hold thy mouth o'er, and ſo receive the fume,
The pain it ſlakes, and worms in teeth conſume,
If through a tunnil, you the ſmoke aſſume."

"Sir Hans Sloane gives an inſtance of the virtues of *ſemen hyoſciami*, in alleviating the tooth-ach. A perſon of quality, tormented with this racking pain, had an empiric recommended to him, who conveyed the ſmoke of burning ſeeds of henbane, by means of a funnel, into the hollow tooth, and thereby removed the pain; but, at the ſame time, there dropped ſome maggots from the tooth (as the operator pretended) into a pail of water placed underneath for that purpoſe. Sir Hans procured one of theſe maggots, which he ſent wrapt up to M. Lewenhoeck, at Delft, in Holland, where it arrived ſafe and alive. Upon examination, M. Lewenhoeck found it to be entirely like thoſe bred in ordinary rotten cheeſe; wherefore he procured ſome of theſe latter, and carefully fed them both, and that one Sir Hans Sloane had ſent, on the ſame cheeſe; and they were all, according to the uſual methods of nature, turned into ſmall ſcarabei, both being returned ſuch to Sir Hans, from Holland. Upon the whole, though the henbane ſeeds cured the tooth-ach, it is highly probable, that the maggots had been conveyed thither, and let drop into the water by ſome ſlight of hand.

"We learn from the writings of Dioſcorides and others, that *hyoſciami*, which is a powerful remedy of the narcotic tribe, has been employed as an anodyne by the moſt illuſtrious phyſicians, from the earlieſt periods of medical hiſtory. It appears to have been the favourite ſedative of Celſus; he gave it internally to mitigate pain and procure ſleep; he uſed it externally as a collyrium, in caſes of ophthalmia; and he employed it topically to aſſuage the pains of the teeth and gums. Accordingly, under the head of "*Dentium doloris varia remedia*," he ſays, with his uſual eloquence and preciſion, "The tooth-ach is a diſorder that may be juſtly ranked among the greateſt torments;" and he tells us, "if the pain be ſevere, a clyſter is uſeful, with hot cataplaſms applied to the cheek, as alſo ſome medicinal hot liquor held in the mouth, and frequently changed. For which purpoſe is uſed, henbane root, either in vinegar and water, or diluted wine, with the addition of a little ſalt to either of them, and poppy heads not over dry, and mandrake roots prepared in the ſame manner, but in theſe three, care muſt be taken not to ſwallow what is in the mouth.

"Mynſicht who has long been reſpectfully named in our diſpenſatories, gives, in his *Medico-Chymicum*, the following formulæ, which are all deſigned for the uſe of perſons afflicted with painful affections of the teeth and gums, viz. Tinctura Odontalgica, Pilulæ Odontalgicæ, inſerted in Dr. Lewis's Diſpenſatory, p. 330, 5th edit. Trochiſci de Alumine with radix Pyrethrum, Spiritus Odontalgicus; in all which he directs a certain portion of the ſeeds of henbane. Salmon, whoſe labours ſeem not to have been duly appreciated by his countrymen, and Etmuller, preſcribe them for the ſame purpoſe. Boerhaave had his ſenſes diſordered by only making a plaſter from this plant. Yet, as the various medicines I had myſelf hitherto employed were of little avail, and as I had ſome teeth extracted, and obtained in one inſtance only twelve hours' reſpite from my ſufferings, the pain flying either to another tooth, or attacking the *Antrum Maxillare*, I tried the effect of fumigating with two parts of henbane ſeed, added to carraway and cummin ſeeds, of each one part.

"After repeating the operation three times, I remained near a fortnight exempt from pain: I then had occaſion to have recourſe to the fumigation again, and was again relieved; and in the mean time a permanent cure was obtained by the uſe of internal medicines, which had never occurred either to myſelf or any of the many ſkilful and experienced practitioners who had been conſulted, on what appeared to ſome of them, as a caſe equally inveterate and extraordinary."

In caſe of a carious tooth, extraction is often the only radical remedy; but as in ſome caſes extraction is improper, and as in many inſtances it is obſtinately avoided, Dr. Brown had a veſſel made of copper, of which ſee an engraving in Pl. 38, fig. 1. The apparatus takes in pieces at the line *a*, *b*, and alſo at *c*. "The bottom is fitted into a wooden ſtand turned with a groove, to prevent its ſlipping out of the hand of the operator. In the centre of the bottom of this veſſel (as the tube at the bottom of a lanthorn for the reception of a candle), is a piece of metal ſhaped to receive the bowl of a *large* tobacco-pipe, with an opening large enough to receive the ſtalk of the pipe oppoſite to the hole at *b*. The apparatus being taken aſunder at *a*, *b*, the cup or bowl of an iron or common clay tobacco-pipe is made red hot, filled quickly with the ſeeds, placed in the aperture formed for its reception, the conical or upper part being reſtored to its place, as in the engraving; the tube *c*, is turned upwards or downwards, as the pain may happen to be ſeated in the upper or lower jaw; and being placed in contact with it, the operater, applying his mouth to the tube of the pipe, forces by his breath, into the mouth of his patient, the ſmoke of the burning ſeeds, which, by their heating, ſedative, and ſialagogue effect (ſometimes it being neceſſary to repeat the proceſs), generally afford the patient conſiderable relief."

The ſmall tube marked *d*, is intended to be uſed when pain is ſeated in the front teeth.

ODYSSEY (*Encycl.*). See ſome obſervations on the Geography of Homer's Odyſſey, under GEOGRAPHY, *Supp.*

OELFELDT, a town of Lower Saxony, in the duchy of Magdeburg, ſeated on the Aller, 25 miles E. of Brunſwick. Long. 11. 20. E. Lat. 52. 27. N.

OELS, or OLSE, a ſtrong and conſiderable town of Silefia, with a caſtle, where the duke generally reſides. It is 17 miles N.E. of Breſlaw. Long. 17. 26. E. Lat. 51. 19. N.

OELSNITZ, a town of Upper Saxony, in the territory of Voigtland, ſeated on the Elſter, 20 miles S.S.W. of Zwickau, and 72 S.W. of Dreſden. Long. 12. 10. E. Lat. 50. 19. N.

OEPEN, or EUPEN, a town of the Netherlands, in the province of Limburg. It has conſiderable manufactures of cloth, and is ſituate on the Weze, 12 miles S. of Aix la Chapelle.

OFFENBACH, a town of Franconia, taken by the French in 1796. It is ſeated on the Maine, five miles E. of Francfort. Long. 8. 45. E. Lat. 49. 52. N.

OFFENBURGH, an imperial town of Suabia, under the protection of the houſe of Auſtria, ſeated on the Kintzig, 10 miles S.E. of Straſburg, and 20 S.S.W. of Baden. Long. 8. 1. E. Lat. 48. 31. N.

OFFIDA, a town of Italy, in the marquiſate of Ancona, 26 miles S. of Loretto. Long. 13. 46. E. Lat. 42. 53. N.

OGGERSHEIM, a town of Germany, in the palatinate of the Rhine, with a villa belonging to the elector. It is ſituate on the Rhine, four miles W.N.W. of Manheim.

OHLAU, a town of Silefia, in the principality of Brieg, with a large caſtle. Great quantities of tobacco are produced in the neighbourhood. It is ſituate on the Ohla, eight miles N.W. of Brieg, and 14 S.E. of Breſlaw. Long. 17. 29. E. Lat. 50. 56. N.

OHRDRUF, a town of Upper Saxony, in the principality

of Gotha. It has ſeveral times been deſtroyed by fire, but is now in a very flouriſhing ſtate, from its numerous manufactures. It is eight miles S.S.E. of Gotha, and 15 S.W. of Erfurt. Long. 10. 57. E. Lat. 50. 55. N.

OHRINGEN, a town of Franconia, 34 miles E.S.E. of Heidelberg, and 33 S. of Wertheim. Long. 9. 50. E. Lat. 49. 13. N.

OIGH, Loch, a lake in Inverneſsſhire, extending four miles from E. to W. It contains ſome little wooded iſlands; and its waters flow through Loch Neſs into Murray Frith.

OIRA, an ancient town of Naples, in Terra d'Otranto, with a biſhop's ſee, and an old caſtle. It is ſeated at the foot of the Appennines, 20 miles N.E. of Tarento. Long. 17. 54. E. Lat. 40. 38. N.

OISANS, a town of France, in the department of Iſere, 28 miles S.E. of Grenoble. Long. 6. 25. E. Lat. 45. 0. N.

OISE, a department of France, including part of the late province of the Iſle of France. It takes its name from a river, which has its ſource in the Ardennes, and falls into the Seine, near Pontoiſe. Beauvais is the capital.

OKOTZK, a province of the government of Irkutzk, in Ruſſia. Its capital, of the ſame name, is ſeated at the mouth of the Okota, in a bay of the Eaſtern Ocean.

OLDENBURG, a town of Weſtphalia, capital of a county of the ſame name, noted for its horſes. The church of St. Lambert contains the tombs of the laſt counts of Oldenburg, which are very curious. It is ſeated on the Hunta, 22 miles W. of Bremen, and 45 S.E. of Embden. Long. 8. 8. E. Lat. 53. 7. N.

Oldenburg, a town of Lower Saxony, in the duchy of Holſtein, ſeated near the Baltic, 30 miles N. of Lubec. Long. 10. 47. E. Lat. 54. 22. N.

OLDENDORF, a town of Lower Saxony, in the duchy of Lunenburg, ſeated on the Wenaw and Eſca. Long. 10. 35. E. Lat. 53. 16. N.

Oldendorf, a town of Weſtphalia, in the territory of Schawenburg, ſeated on the Weſer, 28 miles S.W. of Hanover. Long. 9. 31. E. Lat. 52. 16. N.

OLDENZEEL, a town of the United Provinces in Overyſſel, 30 miles E. of Deventer. Long. 6. 57. E. Lat. 52. 20. N.

OLDESLOHE, a town of Lower Saxony, in the duchy of Holſtein, ſeated on the Trave, 17 miles W. of Lubec, and 25 N.E. of Hamburg. Long. 10. 18. E. Lat. 53. 52. N.

OLERON, an iſle of France, five miles from the coaſts of Aunis and Saintonge. It is 12 miles long and five broad; is populous and fertile, and defended by a caſtle. In the reign of Richard I. this iſland was part of the poſſeſſions of the crown of England; and here that monarch compiled the code of maritime laws, called the Laws of Oleron, which are received by all nations in Europe, as the ground and ſubſtruction of all their marine conſtitutions. Long. 1. 20. W. Lat. 46. 3. N.

OLESKO, a town of Poland, in Red Ruſſia, 38 miles E.N.E. of Lemburg. Long. 25. 10. E. Lat. 50. 23. N.

OLIKA, a town of Poland, in Volhinia, with a citadel, 20 miles E. of Lucko. Long. 26. 8. E. Lat. 51. 15. N.

OLINDA, a town of Braſil, ſeated on the Atlantic, with a very good harbour. It was taken by the Dutch, in 1630, but retaken by the Portugueſe. Long. 35. 0. W. Lat. 8. 13. S.

OLITA, a town of Spain, in Navarre, where their kings formerly reſided. It is ſeated in a fertile country, 20 miles N. of Tudela. Long. 1. 46. W. Lat. 42. 22. N.

OLIVA, a ſea-port of Weſtern Pruſſia. Here is a celebrated monaſtery, which contains ſeveral tombs of the dukes of Pomerania, and in it a peace was concluded in 1660, between the emperor of Germany and the kings of Sweden and Poland. It is ſituate on a bay of the gulf of Dantzic, three miles W. by N. of Dantzic. Long. 18. 32. E. Lat. 54. 24. N.

OLIVENCA, a ſtrong town of Portugal, in Alentejo, ſeated near the Guadiana, 13 miles S. of Elvas, and 40 E. of Evora. Long. 7. 4. W. Lat. 38. 30. N.

OLMEDO, a town of Spain, in Old Caſtile, ſeated on the Adaja, 30 miles S. of Valladolid. Long. 4. 29. W. Lat. 41. 20. N.

OLNEY, a town in Bucks, with a market on Monday, and a conſiderable manufacture of bone lace. It is ſeated on the Ouſe, 12 miles S.E. of Northampton, and 56 N.N.W. of London. Long. 0. 54. W. Lat. 52. 5. N.

OLONE, an iſland, town, caſtle, and harbour of France, in the department of Vendee, 30 miles N.W. of Rochelle, and 258 S.W. of Paris. Long. 1. 43. W. Lat. 46. 30. N.

OLONETZ, a government of Ruſſia, included formerly in the government of Novogorod. In this diſtrict are ſome conſiderable iron-works.

Olonetz, a town of Ruſſia, in a government of the ſame name, famous for its mines of iron, and its mineral water. It is ſituate on the river Olonza, which falls into the lake Ladoga. Long. 34. 20. E. Lat. 61. 26. N.

OLPE, a town of Weſtphalia, 37 miles E. of Cologne, and 50 E.S.E. of Duſſeldorf. Long. 7. 38. E. Lat. 50. 59. N.

OLTEN, a town of Switzerland, capital of a bailiwic, in the canton of Soleure. It is dependent on the Biſhop of Baſle, and is ſeated a little to the N. of the Aar, between Arberg and Araw. Long. 7. 45. E. Lat. 47. 16. N.

OLTRI, a town of Italy, in Friuli, 24 miles E. of Cadore, and 38 N.W. of Friuli. Long. 12. 25. E. Lat. 48. 26. N.

OMAN, a province of Arabia, bounded on the N. by the Perſian Gulf, on the E. by the ocean, and on the S. and W. by extenſive deſerts. It is poſſeſſed by a number of petty ſovereigns, the moſt conſiderable of whom is the imam of Oman, the capital of the province, which is ſituate 60 miles N.W. of Maſcat. Long. 57. 20. E. Lat. 24. 0. N.

OMAGH, a town of Ireland, in the county of Tyrone, where the aſſizes are held. It is 20 miles N.E. of Inniſkilling.

OMBO, a town of Egypt, on the E. bank of the Nile, 26 miles N. of Syene. Long. 31. 58. E. Lat. 24. 26. N.

OMBRONE, a river of Italy, which riſes in the Sienneſe, and falls into the Mediterranean.

OMEGNA, a town of Italy, in the Milaneſe, with a caſtle, ſituate on the N.E. ſide of the lake Orta, 25 miles N.N.W. of Novara. Long. 8. 20. E. Lat. 45. 40. N.

OMMEN, a town of the United Provinces, in Overyſſel, ſeated on the Vecht, 17 miles N.E. of Deventer. Long. 6. 10. E. Lat. 52. 32. N.

OMMENBURG, a ſtrong town of Germany, in the electorate of Mentz, ſeated on the Othern, nine miles S.E. of Marpurg, and 45 N.E. of Francfort. Long. 9. 13. E. Lat. 50. 30. N.

OMMIRABIH, a river of Africa, which riſes in Mount Atlas, ſeparates the kingdom of Morocco from that of Fez, and entering the Atlantic, forms a capacious bay on the E. ſide of Azamor.

OMZK, a town and fortreſs of Ruſſia, in the government of Tobolſk, ſituate at the confluence of the Om and Irtiſh, 260 miles S.E. of Tobolſk. Long. 74. 54. E. Lat. 55. 4. N.

ONADAGO, a lake and river, in the ſtate of New York. The river flows W. from the lake till it meets the Seneca,

when its courſe turns N. to Oſwego, where it enters Lake Ontario. It is navigable for boats from its mouth to the head of the lake, except one fall which cauſes a portage of 20 yards. See ONEIDA.

ONANO, a town of Italy, in the patrimony of St. Peter, ſeated between Acquapendente and Petigliano, five miles from each.

ONE, a cape of Barbary, in Africa, near the mouth of the river Mulvia.

ONEG, a town of Ruſſia, in the government of Archangel, ſituate on the Onega, near the White Sea, 80 miles S.S.W. of Archangel. Long. 37. 24. E. Lat. 63. 35. N.

ONEGLIA, a principality of Italy, ſurrounded by the territory of Genoa, but ſubject to the King of Sardinia. It abounds in olive-trees, fruits, and wine.

ONEIDA, or ONONDAGO, a lake of N. America, in the ſtate of New York. It is 20 miles W. of Fort Stanwix, and extends weſtward about 25 miles, where its outlet, the Onondago River, runs into Lake Ontaria, at Oſwego. At the E. extremity of the lake, is Wood Creek, on the banks of which live a tribe of Indians, called Oneidas; and the Onondagos, another tribe, occupy the country S. of the lake and river.

ONEZKOE, a lake of Ruſſia, in the government of Olonetz, 120 miles long, and 40 broad. It contains ſeveral iſlands.

ONGAR, or CHIPPING ONGAR, a town in Eſſex, with a market on Saturday, 12 miles W. of Chelmsford, and 21 E.N.E. of London. Long. 0. 16. E. Lat. 51. 43. N.

ONGOLE, a town of Hindooſtan, in the Carnatic, ſeated on a river, not far from its entrance into the bay of Bengal, 150 miles N. by W. of Madras. Long. 79. 50. E. Lat. 15. 30. N.

ONORE, a ſea-port of Canara, on the coaſt of Malabar, 110 miles N.N.W. of Mangalore. Long. 74. 45. E. Lat. 14. 20. N.

ONOTH, a town of Hungary, 50 miles N.E. of Buda. Long. 19. 22. E. Lat. 48. 10. N.

ONRUST, a ſmall iſland, at the mouth of the harbour of Batavia, where the Dutch build and careen their ſhips.

OODEADURGAM, a town of the peninſula of Hindooſtan, which gives name to a paſs, in the Myſore country. It is 31 miles S.E. of Bangalore, and 73 S. of Seringapatam.

OODOOANULLAH, a town of Hindooſtan Proper, in Bengal, ſeated on the W. bank of the Ganges, at the foot of a chain of hills. The ſituation is eſteemed unhealthy, on account of the foreſts in its vicinity. It was the ſeat of the government of Bengal, under Sultan Sujah, till he fell in the conteſt for empire with his brother Aurungzebe. The numberleſs ruins here, and in the neighbourhood, afford a proof of his magnificence; and there ſtill remains a part of the palace, which, in his time, was nearly deſtroyed by fire. Here is an elegant bridge over the Ganges, built by the ſame prince, famous for the victory gained over Meer Coſſim, in 1764, by Major Adams. Oodooanullah is 82 miles N. by W. of Moorſhedabad. Long. 87. 55. E. Lat. 24. 58. N.

OOSTBORCH, a town and fort of Dutch Flanders, in the iſle of Cadſand, four miles N.E. of Sluys. Long. 3. 29. E. Lat. 51. 22. N.

OOSTENBY, a town of Sweden, in the iſle of Oeland, 27 miles S. of Borkholm.

OOTATORE, a town of the peninſula of Hindooſtan, in the Carnatic, 22 miles N.W. of Tanjore, and 80 S.W. of Pondicherry. Long. 78. 57. E. Lat. 11. 2. N.

OPHEIM, a town of Norway, in the province of Bergen, 45 miles N.N.E. of Bergen. Long. 5. 15. E. Lat. 60. 41. N.

OPIUM (*Encycl.*). The following obſervations on opium, and its component principles, with an account of various proceſſes for obtaining it from the white poppy (*papaver ſomniferum Linn.*), are publiſhed by Citizen Dubuc, ſenior, in the Annales de Chimie.

"The natural hiſtory of opium," ſays Citizen Dubuc, "does not appear to be hitherto generally well underſtood. It is doubted whether there exiſts any drop-opium (*de l'opium en larmes*); all that ſeems to be fully eſtabliſhed as a fact is, that this ſingular ſubſtance is extracted by the inhabitants of the eaſt from the white ſomniferous poppy; but the following queſtions reſpecting it ſtill remain to be reſolved. What are the proceſſes uſed for obtaining it? What degree of maturity muſt this plant have arrived at, in order to produce opium ſuch as that of commerce? Finally, Is this vegetable ſubjected to any particular kind of preparation, before the opium is extracted?

"None of theſe queſtions have been ſatisfactorily determined by any of the writers who have treated of this ſubject.

"Several natural hiſtorians, and eſpecially Lemery, in his Dictionary of ſimple Drugs, aſſerts poſitively that *there exiſts no drop-opium*, and that the opium of the Levant is obtained from the leaves and heads of the poppy. The moſt celebrated chemiſts who have treated of the ſubject, ſuch as Fourcroy, Chaptal, Beaumé, Bouillon-Lagrange, &c. are not agreed amongſt themſelves, whether it is extracted from the leaves, ſtalks, and capſules, whilſt ſtill freſh and green, or whether it is obtained directly from the heads of the poppy when arrived at its laſt ſtage of growth and maturity, by making the extract in the ordinary manner.

"This difference of opinion, which exiſts amongſt authors whoſe knowledge in natural ſcience cannot be called in queſtion, determined me, two years ago, to occupy myſelf with the inveſtigation of the nature of this ſubſtance, by cultivating, with this view, a great number of white poppies; (*Papaver album & ſomniferum Linn.*)

"But before I give an account of the various experiments which I have made in order to obtain opium, it will be proper that we ſhould eſtabliſh our opinion concerning two facts relative to this ſubſtance, ſuch as it is brought to us from the Levant in the ordinary courſe of commerce.

"It is certain that the oriental opium contains impurities amounting at leaſt to one fourth of its weight. I have frequently examined theſe heterogeneous ſubſtances, and, after different waſhings, I have eaſily diſcovered, that they were nothing elſe than the ſtalks, leaves, feculæ, peduncles, capſules, and ſeeds of the poppy, in a ſtate of very minute diviſion.

"I ſhall ſhew hereafter that the addition of theſe ſubſtances contributes in a very great degree to give the opium that acrid and nauſeous ſmell which it is known to poſſeſs.

"It is alſo known, that this acrid odour is extremely volatile, and that frequently it is not found to exiſt any longer at the ſurface of the cakes of opium, whether in conſequence of the length of time that they have been kept, or owing to ſome artificial means that have been employed for that purpoſe; whilſt the lower part of the ſame cake, which is ſtill viſcous, is thoroughly imbued with it, and emits an intolerable ſmell when cut through the middle: hence it appears, that this volatile principle, or *aroma*, is only an accidental property of the opium.

"The following experiments will elucidate what I have advanced, both with reſpect to the two laſt-mentioned facts, and the ſolution of the queſtions which I have propoſed at the commencement of this memoir.

" *Experiment* 1. If we dry viſcous opium, in a temperature not exceeding 40—50 degrees of Reaumur's thermometer, till it becomes pulverulent, it will loſe its acrid narcotic ſmell, and aſſume that of laudanum, or the purified opium of the ſhops, from which it differs only in the impurities which it contains. The vapours which ariſe from it, when collected in a convenient apparatus, become there in part condenſed into a liquid, which at firſt is almoſt colourleſs, but in the ſpace of a few days aſſumes a ſlight yellowiſh tinge. This *aroma*, or diſtilled ſpirit, is accompanied by an aëriform fluid, which is not altogether miſcible with water, and both diffuſe an odour reſembling that of opium cakes when cut in half, but ſo extremely ſtrong as very ſpeedily to ſuffocate animals expoſed to an atmoſphere of this gas.

" Laſt year I made the extract of white poppies, gathered at different periods of their growth, without ever having been able to obtain a ſubſtance that had the ſmell of opium, or even that of laudanum. I only perceived that a heap of poppy leaves that had been thrown away, exhaled an aromatic principle very analogous to that which was obtained in the preceding experiment. This led me to make the following experiments:

" *Experiment* 2. On the 3d Prairial (22d May) laſt, twelve leaves of the white poppy, which had attained to one-third of their full growth, were well pounded in a marble mortar, without adding any liquid. The juice was very abundant, of a brown colour, ſlightly mucilaginous, and had but little of a bitter taſte. The whole was put into a veſſel of ſtone-ware, and expoſed to the atmoſphere. The temperature of the atmoſphere was between 10 and 12 degrees Reaumer.

" On the 4th I obſerved a ſlight ſwelling in the maſs. On the morning of the 5th it puffed up prodigiouſly, and already exhaled an acrid odour, very ſimilar to that of the aroma obtained by the deſiccation of the opium. On the 6th the vapour was exhaled in ſuch large quantity, that it was impoſſible to approach it without becoming affected with a violent head-ach. On the 7th, I expoſed the veſſel to the ſun for a ſpace of twelve hours. The fermentation became ſtill more vehement: I agitated the maſs from time to time, attending to what happened. I ſoon perceived that the exhalation of the narcotic odour abated, and was partly replaced by another, which had much analogy with azotic gas; the plant and the juice acquired a deeper colour; at length they became oxydated at the expence of the ſurrounding air, which probably gave birth to the nitric radical, which, combined with the aroma of the plant, produced that peculiar odour of which I have been ſpeaking.

" *Experiment* 3. On the 24th of the ſame month, twelve pounds of poppy, that had arrived at about three-fourths of its growth, after having been prepared like thoſe in the preceding experiment, were alſo expoſed in a veſſel to the air. On the 26th, the maſs began to ferment, and the acrid narcotic vapour was developed in a very perceptible manner; but this time I did not expoſe the maſs to the ſun. On the 28th the ſmell peculiar to opium was very perceptible: I then preſſed out the juice, filtrated it cold, and evaporated it, with a very moderate heat, to the conſiſtence of an extract.

" I thought I had the beſt grounds to expect that I ſhould obtain real opium as the reſult of this experiment; but I was diſappointed; for, in proportion as the juice gradually thickened, it loſt its narcotic odour, and the extract which I obtained had no other ſmell than that peculiar to the extract obtained from inodorous plants: hence I drew the further concluſion, that this aroma was of the ſame nature as that obtained in experiment 1.

" *Experiment* 4. On the 14th of Meſſidor (2d July) following, I expreſſed two pounds of juice from poppies partly in bloom, and partly ready to bloſſom. This juice was of a dirty yellow colour, nearly reſembling that of the *Chelidonium majus*; it had a very ſlight ſmell of laudanum, and a marked bitterneſs, and left a very conſiderable roughneſs upon the tongue. I expoſed it to the air in a veſſel of earthen-ware, in which it fermented rapidly, ſo that, on the 17th, it exhaled an odour ſimilar to that of the opium of Egypt. This juice I filtrated cold, and, hoping to preſerve its odour, I thickened it by expoſing it in plates to the heat of the ſun. The extract which I obtained ſtill reſembled that of the preceding experiment.

" *Experiment* 5. On the 19th Meſſidor, I extracted about one kilogramme of the juice of poppy heads, partly in flower, and partly after the leaves had fallen off, and the capſules had become very large. This juice was more bitter than that obtained in the preceding experiments. I reduced it to one-half of its quantity by the application of a very gentle heat, hoping that the maſs being more denſe, and its particles in cloſer contact with each other, I ſhould obtain, after fermentation, a ſubſtance whoſe odorous principle would be more coercible.

" The juice thus inſpiſſated did not begin to ferment till the 25th, though the heat of the atmoſphere was greater than during the preceding experiments. On the 30th it had the deſired odour, and the experiment ſeemed very promiſing.

" Again was I diſappointed: I reduced half of the maſs to an extract, which perfectly reſembled that obtained in experiments 3 and 4: the other half I kept in a well-corked flaſk, to be uſed in another experiment.

" *Experiment* 6. On the 28th of Meſſidor, four hectogrammes of capſules, ſufficiently green, but arrived at their full ſize, and twelve decagrammes of the leaves and ſtalks pulled off near to the peduncle of the plant, were well bruiſed and pounded in a mortar. They yielded a thick viſcous maſs, and the juice was deeper coloured, and more bitter, than that obtained in the preceding experiments. The whole being expoſed to the air in an earthen veſſel, it ſoon fermented, and four days were ſufficient to produce the evolution of an odour like that of the true oriental opium.

" Of this maſs I preſerved one-part, to be uſed afterwards, and inſpiſſated the other in a temperature not exceeding 40 degrees. This extract retained a very ſlight ſmell of laudanum; it was a mixture nearly ſimilar to the opium of commerce, excepting that the aroma had been evaporated by the heat.

" It would be ſuperfluous to deſcribe here the numerous experiments which followed the two laſt mentioned: the reſult in each of them was an inodorous extract, or one almoſt ſo. It is, however, proper to obſerve, that the pounded leaves, ſtalks, capſules, &c. of the poppies, always exhaled, after fermenting, for a longer or ſhorter period, the narcotic odour, or that of the aroma, obtained in experiment 1; but they loſt it again after being expoſed ten or twelve days to the air.

" Before I proceed to relate other experiments, I ought to mention ſeveral remarks which I have made upon poppies, from the period at which they bloſſom till that when the capſule begins to grow yellow, after which they exude no more juice.

" During a period of fifteen days, I made inciſions, both upon the peduncle and upon the lower part of a great number of very fine poppy heads, from whence there iſſued a whitiſh yellow juice, almoſt inodorous, but very bitter, which filled up the inciſion, and aſſumed a blackiſh colour in a very ſhort

ſpace of time: its taſte was not changed by expoſure to the air, but it firſt acquired the acrid colour, which, in the preceding experiments, was developed by fermentation: this, however, was ſoon evaporated by expoſure to the ſun, and the juice retained only that of laudanum.

" I alſo remarked in my bed of poppies, that ſome of the capſules were of a form almoſt entirely ſpherical, whilſt others affected the oval figure.

" The firſt naturally produced opium without any inciſion being made into them. This juice collected itſelf in two, three, and ſometimes four ſutures, which are found in the peduncle, where it concretes, and in a very ſhort time acquires the ſmell and colour of laudanum. I have collected ſmall maſſes of it, ſome of which weighed eight grains. I took two grains of this opium, which procured me a very tranquil and protracted ſleep.—*This was drop-opium.*

" All theſe poppies were ſowed on the 10th of Germinal laſt (March 30), in a very rich and well-manured ſoil, defended againſt the north and north-eaſt winds, by a building and a wall. The fineſt plants were at the diſtance of a foot from each other.

" Nature having completed her work, I imagined alſo, according to the reſult of experiment 6, that it would be poſſible for me to attain my object, and make opium with poppies arrived at their laſt degree of maturity.

" *Experiment* 7. For this purpoſe I took twelve fine poppy heads, ſix of which were oval and ſix globular. I pounded them together with their ſeeds, with twenty-four decagrammes of rain-water. Having expoſed them to the air, in an earthen veſſel, I was very much ſurpriſed, four days afterwards, to obſerve ſpots of mold upon them. I repeatedly ſtirred the whole maſs, but none of the phenomena of the preceding experiment took place: the maſs, left to itſelf, was deſtroyed in the manner uſual with all vegetables.

" *Experiment* 8. I made an extract, according to the uſual method (by decoction), from a conſiderable quantity of poppies. The decoction was ſaturated, and became ſlightly mucilaginous as it cooled, without however emitting any thing of the odour of laudanum. I gave the extract a pulverulent conſiſtence: it differed eſſentially from thoſe of the inodorous plants, poſſeſſing a degree of coheſion which is not uſual with thoſe, and which I attribute to the reſin contained in it, &c.

" *Experiment* 9. A portion of the dried extract obtained in the preceding experiment was well triturated with a ſufficient quantity of the viſcous reſiduum that had been laid by in experiment 5, in order to obtain a maſs having the ſame conſiſtence as the opium of commerce. This mixture much reſembled the laudanum of the ſhops in colour, taſte, and ſmell.

" *Experiment* 10. The other portion of the extract obtained in experiment 8, was likewiſe reduced to the conſiſtence of opium with the reſiduum that had been laid by in experiment 6. Three days after its formation, this maſs might, by its impurities, viſcidity, colour, and taſte, have been confounded with the opium of the Levant, excepting that it was not wrapped, and in ſome meaſure kneaded, with poppy leaves *.

" To ſum up the reſults of my obſervations, I am induced, by the experiments above related, to believe:

" 1. That the opium of commerce is not merely the extract or inſpiſſated juice of the ſtalks, leaves, or green capſules of the poppies; for, were that the caſe, it would not contain ſo large a quantity of impurities, which are diſtributed in an almoſt uniform manner throughout the whole maſs.

" 2. That this ſame juice or extract, if prepared with the intervention of heat, however moderate, would not have the acrid nauſeous odour, which the oriental opium retains as long as it preſerves its viſcidity, as is demonſtrated by experiments 3, 4, 5, and even 6.

" 3. That the opium of the Eaſt is not mere extract prepared by the infuſion or decoction of the heads of the white poppy after it arrives at the ſtage of maturity; ſince that which was obtained by experiment 8 was by no means odorous, and was alſo exempt from impurities.

" I ſhould add, that I have had in my poſſeſſion capſules of the white poppy of Egypt, between which and thoſe cultivated in France there appeared to me to be no difference.

" 4. That it appears to be made out by experiments 9 and 10, that the opium of the Eaſt is the inſpiſſated extract of every kind of the white poppies, gathered from the time when they begin to flower till they have arrived at maturity, and afterwards mixed together, and reduced to the conſiſtence which is obſerved in the acrid odorous maſs, obtained from the ſtalks, leaves, and green capſules, of the ſame kind of poppies, pounded and fermented till the moment when the acrid nauſeous odour is evolved, as appears by the reſult of the above-mentioned experiments, and particularly experiment 6; and, finally, that this maſs is divided into cakes, which are wrapped and kneaded at their ſurface with poppy leaves, in part dried, and thus ſent to foreign nations.

" 5. That it appears, by the obſervations inſerted between experiments 6 and 7, that there does really exiſt drop-opium, and that the ſubſtance which is thus termed by ſome natural hiſtorians, naturally exudes from that variety of the white poppy, the capſules of which affect the ſpherical form.

" This opium differs from that of commerce by its being almoſt entirely ſoluble in water, by its purity, by its taſte, which is leſs bitter and acrid than that of the latter, and by its odour, which is leſs narcotic and nauſeous.

" This inveſtigation is not ſo complete as might be wiſhed; and I am well aware of numerous objections that might be made againſt what I have advanced, ſuch as the analyſis of my opium compared with that of commerce, its medicinal properties, &c. &c. I have not the vanity to imagine that I have completed the work which I have undertaken, but its deficiencies may ſtill be ſupplied. I did not think it neceſſary to enlarge upon the medicinal virtues of this ſubſtance. This part of the inveſtigation is the province of the medical writer: I only aſſert, that the drop-opium which I obtained produced a perfect tranquillity in the ſyſtem, without occaſioning vertigo.

" However, I do not doubt the poſſibility of procuring good opium from poppies cultivated in the temperate zone; and the reader is alſo requeſted to obſerve, that thoſe upon which I made my experiments were raiſed in one of the northern departments of France. I wiſh that the ſame experiments might be repeated with poppies raiſed in the ſouth of the Republic. I keep a conſiderable number both of the ſpherical and oval kind, and ſhall with pleaſure procure them for any perſon, who may be inclined to occupy himſelf with this kind of labour, and to bring to perfection a work of which I have only ſketched the outlines. When this ſhall be accompliſhed, we ſhall ceaſe to be tributary to the foreign nations who ſell us this ſubſtance at a very high price."

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* " I have obſerved that poppy leaves, when half dry, contract the narcotic ſmell, which leads me to believe that they are uſed in the Eaſt, thus prepared, for wrapping the cakes of opium in them."

That ſimilar attempts have been made to produce this valuable drug in our own country will appear from the following account of a method of preparing opium from poppies grown in Great Britain, equal in quality to the beſt foreign opium, by Mr. Thomas Jones, of Fiſh-ſtreet-hill, London. For this the Society for the Encouragement of Arts, Manufactures, and Commerce, voted Mr. Jones a premium of fifty guineas.

"In the ſummer of 1794," ſays he, "I cultivated a conſiderable number of white poppies (entitled in the New London Pharmacopœia, papaver ſomniferum, and, in another place, papaver hortenſe, ſemine albo), when a few of the heads or capſules having been broken off by the wind, I obſerved at the extremity of the ſtalks a ſubſtance in every reſpect reſembling Turkey opium. This accidental circumſtance bringing to my recollection its method of production, as related in the Encyclopædia and elſewhere, I wounded a conſiderable number of them with my penknife, and, in the courſe of the day, collected a ſmall quantity of the above-mentioned ſubſtance. As this circumſtance took place while we were cutting lavender, it happened that an old experienced ſervant, who was afterwards to diſtil it, was directing and aſſiſting, and we agreed that it was probably in effect equal to, and was certainly more pure than, any we had ever ſeen.

"From this period I have never entirely loſt ſight of the object I am now to conſider; but, on account of various avocations, and particularly my rhubarb plantation, which at this time required all the attention I could well ſpare, it was not in my power to engage in an undertaking of ſuch magnitude; and more eſpecially on a ſcale ſo extenſive as that which I had already determined to adopt, under a perſuaſion that experiments, when more confined, are for the moſt part fallacious.

"As preparatory, however, I have not failed every year to repeat the operation, at once eſtabliſhing its practicability, and availing myſelf of many advantages which can only be derived from obſervation and experience.

"The incloſed certificates will inform the Society that at length my plan has been carried into execution, but not with the degree of ſucceſs that ought, and might have been expected to attend ſo large and expenſive an experiment.

"It muſt be confeſſed, that had I been at all aware what an almoſt Herculean labour I was about to encounter, I really ſuſpect whether my reſolution would have been equal to the taſk. Leſt, however, this ſhould diſcourage others from proſecuting this object, it is neceſſary to be more explicit.

"Difficulties, and ſuch indeed as are conſiderable, muſt neceſſarily attend moſt undertakings which have been hitherto unattempted; but the diſappointments I ſuſtained, though more numerous than generally fall to the ſhare of a perſon under ſuch circumſtances, and more aggravated, did not all ariſe out of the undertaking itſelf, but from cauſes, ſome of which may be eaſily guarded againſt in future, while others may never again occur.

"Two years have paſſed, in producing what, I flatter myſelf, the Society will conſider deſerving their premium, particularly if I am enabled to render the operation much more ſimple than may at firſt ſight be ſuppoſed.

"The claimant, I obſerve, is required to ſubmit to the Society his particular method of cultivating the poppies. As the mode adopted in the preſent inſtance aroſe rather from neceſſity than choice, I muſt go back as far as the autumn of 1797, to ſhew how it happened.

"Five acres of ground and upwards, ſituated in the pariſh of Enfield, in the county of Middleſex, I appropriated to this experiment, at the period above mentioned; which, being ploughed ſeveral times previous to the following March, were then ſown broad-caſt; and the weather proving favourable, the ſeed ſoon vegetated, and appearances were very promiſing. From the neglected ſtate of the land, however, to which I was unfortunately a ſtranger, ſuch a profuſion of weeds ſprang up among them, that, after many fruitleſs efforts at recovery, I was under the mortifying neceſſity of ploughing them all up together. This circumſtance not taking place till the latter end of April, the ſeaſon for ſowing was elapſed; and as to cropping my field with oats or barley, a meaſure very ſtrongly recommended to me, I conſidered it as a deviation from my original purpoſe, and therefore, without paying any attention to it, gave the field a ſummer-fallowing, conceiving the poppies might be ſown with equal and perhaps greater advantage in autumn.

"Finding that the broad-caſt method of ſowing precluded the poſſibility of hoeing where the land is much infeſted with weeds, I now adopted a different mode, and drilled in the ſeed with a very ſimple yet efficient machine, which I purchaſed of Mr. Macdougal, of Oxford-ſtreet: but, as the weather began to be very ſevere ſo early as November, and continued ſo with few intermiſſions, the ſucceeding March found me very little forwarder. Yet ſtill I perſevered, and once more reſolved to drill the whole five acres: they came up extremely well, and, as I expected, accompanied with innumerable weeds; but theſe by well-timed application were eradicated, though not without conſiderable difficulty.

"I now thought myſelf ſecure; for nothing could aſſume a better appearance, till the beginning of May. Alas! I could not forefee the cold and remarkably dry weather that enſued, and prevailed, I believe, for ſix weeks ſucceſſively. Hence the growth of ſome became ſtunted, and others were entirely deſtroyed; but happily ſome warm refreſhing ſhowers fell juſt time enough to reſcue the remainder.

"From theſe I have procured upwards of twenty-one pounds of opium, five of which, in compliance with the Society's requiſition, I have ſent for their inſpection and examination.

"At one time I began to deſpair of even procuring this, comparatively ſpeaking, ſmall quantity, though it is not a fifth part of what I ought to have had, owing to the extraordinary rains and winds which we experienced through the whole of the ſummer months.

"This recital, as I have before obſerved, ought on no account to intimidate others from a co-operation; for it is obvious, that the former inconveniences originated in my own ignorance, whilſt the latter depended upon cauſes that in all probability may never happen again.

"Mr. Ball, in a letter publiſhed in one of the volumes of the Society's Tranſactions, advances an opinion which I conſider as very fallacious, reſpecting the quality of land adapted to the growth of poppies. He ſeems to be very little concerned about this point, and hints the probability of their being cultivated almoſt every-where. I well know that poppies, like many other vegetables, will grow in ſoils of any deſcription; but of this I am fully aſſured, that, like the reſt, they have their particular and favourite oil, viz. a ſandy loam, and that the better this is, the more advantages will accrue to the cultivator. For it ſhould be conſidered, that, in bad as well as good ground, the ſame expences of cultivation, ſcarification, and collecting, will be incurred, for perhaps a fourth ſhare of the produce.

"There is alſo another error in the ſame communication,

which, having a tendency to miſlead, ought to be pointed out. He tells us, to uſe his own words, 'That, by a calculation he has made, ſuppoſing one poppy growing in one ſquare foot of earth, and producing only one grain of opium, more than fifty pounds (I ſuppoſe he means, of courſe, apothecaries weight) will be collected from one ſtatute acre of land.' Now, as there are no more than 43,560 ſquare feet in an acre, and allowing one grain for each, the produce can be no more than ninety ounces and ſix drachms. This calculation appears to be as much in the extreme one way, as that of Mr. Ball is in the other. The medium is moſt probably neareſt the truth; but upon this point I cannot at preſent ſpeak with any degree of preciſion, on account of the ſcattered ſituation of my crop, and the extraordinary intemperance of the laſt ſeaſon. Judging, however, from the number of heads we perceived, and comparing them with the total quantity, they ſeem to have yielded three fourths of a grain each, upon an average, large and ſmall.

"I ſhall now lay before the Society ſome general remarks on the cultivation of poppies, and then conclude with ſubmitting a few hints and directions reſpecting the preparation of opium.

"Having a tap-root, their ſize will conſequently be proportionate to the depth of earth they are enabled to penetrate. Hence the neceſſity of land that will admit of deep ploughing. The fineneſs of the ſurface too is very eſſential. As the ſeed is ſo ſmall, and the plants, on their firſt coming up, ſo exceedingly tender, the buſh-harrow ſhould always be uſed after thoſe which are commonly employed. By this means a greater number are likely to vegetate, and their roots being better protected are leſs liable to injury.

"Poppies (and when I uſe this name, I mean that particular kind before ſpecified) may be cultivated both by the drill and broad-caſt mode of huſbandry; at the ſame time it muſt be remembered, that the land for each requires a different diſpoſition. In the former this is not ſo material, the ſowing-machine, regulating the diſtances of the rows according to the will of the operator; theſe ought to be nine inches or a foot aſunder, and in beds containing four rows, allowing a foot and a half between each. But, with reſpect to the latter, this point muſt be ſtrictly attended to: the ridges ſhould never exceed four feet in breadth; ſo that the furrows will anſwer the double purpoſe of preſerving the land throughout the winter, and, in the ſeaſon for collecting the opium, ſerve as paths for the workmen.

"Beſides two chances of a crop, I am decidedly in favour of autumnal ſowing; and the firſt week in September ſeems to be the moſt favourable period for this purpoſe. If the weather continues open, they will make ſuch progreſs as to be capable of reſiſting the ſeverity of an inclement winter, without on the other hand being too forward; a circumſtance highly dangerous, as the firſt ſevere froſt is inevitably deſtructive.

"On this account, whether by the drill or otherwiſe, a large proportion of ſeed ſhould be ſown at this ſeaſon, for the plants will defend each other; and as all the plants will not be equally forward, ſo, let the winter prove as it may, provided the ſeed has vegetated freely, there will be great probability of a good appearance in ſpring. If unfortunately, however, ſuch a winter as the laſt ſhould again occur, and the whole plantation fail, a circumſtance which has happened to myſelf, the ſpring ſowing ought not to be deferred longer than the firſt week in March.

"I do not, without ſufficient reaſon, recommend that this operation ſhould be performed in autumn. The poppies are not only generally larger, but even, when this is not the caſe, I know from experience, that they will yield a much larger proportion of opium: for it ſeldom happens that a ſpring poppy will bleed, as we term it, more than twice, while the others will bear ſcarifying till they are nearly ripe. This I imagine can only ariſe from the length of time the one has been in the ground in compariſon with the other. Indeed, the difference is ſo ſtriking, that if the preſent winter deſtroys my plants, I ſhall be almoſt tempted to diſpoſe of my ſpring ſowing to other purpoſes. In drilling, the neceſſity of covering the ſeed by harrowing is ſuſpended by the operation of the machine; and, in the broad-caſt method, a ſhower of rain will have all the effect without further trouble or expence.

"Excepting great additional care, turnip and poppy hoeing are ſimilar, and in every reſpect may be conducted in the ſame manner. I believe the turnips are rather benefited, they certainly are not injured by being ſhaken, and will recover from the effects of a wound; but if the poppies are accidentally touched, they will either exhauſt themſelves by bleeding, or dwindle ſo as to be of no value. But it is high time to proceed to the laſt point I purpoſed to conſider, namely, the production and preparation of opium.

"In ordinary ſeaſons, the heads or capſules of the autumnal poppies will be large enough for our purpoſe in the month of June; for at this time they will have attained about half their growth, or be equal in ſize to a ſmall tea-cup. I have invented a variety of inſtruments as ſcarificators; but as only two kinds were actually uſed, I am unwilling to trouble the Society with a deſcription of any other *.

"Seven, and ſometimes eight, boys were employed, from eight to twelve years of age, together with a man as a ſuperintendant. The children's book, which accompanies the inſtrument, contains only an account of ſix, as the eldeſt, being the ſon of my gardener, is included in another book. To the youngeſt I gave three pence per day, and, if tractable and well diſpoſed, an additional penny for every additional year.

"The ſteel inſtrument was uſed by the latter, and the others by the former. I have great reaſon to be ſatisfied with their conſtruction; for, notwithſtanding their ſimplicity, they

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* Mr. Jones has ſince added the following deſcription of the inſtruments, and their mode of application. They remain in the Society's Repoſitory for inſpection.

"The firſt of theſe inſtruments conſiſts of two thin ſteel blades fixed by a wedge in a wooden handle, ſo as to make inciſions about one-fourth of an inch from each other.

"The other is made entirely of ſteel, and reſembles in form the tuning-fork of a harpſichord. It conſiſt of four bars, proceeding from a handle of a convenient length, a quarter of an inch wide, and two and a half long, each terminating with a bolſter, through which a ſcrew paſſes that fixes the ſcarificators. The centre bars ſhould be ſo elaſtic as to yield to the curvature of the capſule, upon the outer ones being preſſed by the finger and thumb; and by this means four inciſions are made three quarters in width; but, from the two outer blades, only an inch and a quarter. The bolſters are a quarter of an inch in diameter, and the ſcarificators a proportionate length, namely three-eighths. The wedge in the former, and a longitudinal aperture in the ſcarificators, or blades, of the latter, will regulate the depth of the inciſions, at the will of the operator. It is of the utmoſt importance that theſe ſhould not be made through the inner coat of the capſules."

proved themſelves fully equal to my purpoſe; and ſo conſiderable a trial has not ſuggeſted any other improvement, than that in the largeſt the two inner bars only ſhould be elaſtic; for the continual preſſure of the finger and thumb on the two outer ones, which is abſolutely neceſſary for the others to act, would be avoided, and conſequently much fatigue and inconvenience prevented.

"It is of very little conſequence whether the firſt inciſions are made horizontally or vertically, with this inſtrument; for, however luxuriantly the milk may flow, by making four at one time, it ſo divides the ſtream that ſeldom any eſcapes. With the ſmaller ones we moſt commonly made them horizontally, beginning as near the top of the head as poſſible, and for this reaſon--all the juices, if the firſt inciſion was made at the bottom, would be naturally attracted by the aperture, and render every other completely fruitleſs, beſides occaſioning the certain loſs of a conſiderable quantity, by falling on the ſurrounding leaves; whereas, on the other hand, a proportion of milk will exude from each, and the opium be equally diſtributed over the whole ſurface of the head.

"No particular directions ſeem neceſſary for repeating this operation, any further than at each time it ſhould be performed in a contrary direction, and continued till no more will exude, at intervals of four or five days or more, according to circumſtances: for, as the weather proves very rainy or fair, they will be ſhorter or longer, the heads being ſooner replenilhed in the one than the other.

"Each of the children being provided with a tin cup, having one handle, ſo contrived as to fix itſelf to a girdle faſtened round his waiſt, with a common gardening knife they ſcraped off the opium that appeared upon the heads in a ſoft aſh-coloured ſubſtance. Dewy mornings are beſt calculated for this purpoſe, and it ſhould be diſcontinued ſo ſoon as the ſun has gained a ſufficient power to diſſipate it; for, if perſevered in throughout the day, ſome of the opium will recede into the interſtices, and more, in defiance of every endeavour, will remain upon the heads. The principal quantity exudes in the courſe of the night, and, uniting with the dew, it is taken off as readily and completely as with a ſponge.

"Several regulations were adopted to excite, as much as poſſible, a ſpirit of emulation. The name of each boy was written upon his cup, ſo as to aſcertain, on their return from collecting, who had been the moſt active. And although, in conſequence of the unſettled ſtate of the weather, this part of our proceſs continued ſo long as from the 6th of July to the ſecond week in September inclusive, the good effects were felt to the laſt. And as, for the reaſon already mentioned, an hour in the morning became ſo invaluable, thoſe who appeared in the ground at five o'clock, at the moſt buſy period, became entitled to an additional penny to their daily pay. This meaſure ſucceeded at firſt only with a few; but the remainder, overcome by ſhame, at length attended equally well. In addition to this encouragement, I am under an engagement (in caſe I ſucceed with the Society), to ſuch whoſe behaviour has been uniformly good, to celebrate the circumſtance by a public dinner.

"The interval from breakfaſt time to ſun-ſet, if the weather aſſumed a ſettled appearance, was occupied by ſcarifying. And here I again felt the good effects of ſtimulating meaſures: certain places were allotted to particular children, according to their ability, ſo as to diſcover who ſcarified the moſt and the beſt; the ſuperintendant occaſionally following all of them, to obſerve whether any work was left unfiniſhed, and, if there were any, to complete it. If, in our progreſs, any one proved refractory, which happened in more inſtances than one, rather than have recourſe to ſeverity, and for the ſake of example, he was immediately diſcharged. I had numerous applications, and the firſt on the liſt always had the preference as his ſucceſſor.

"Upon the whole, conſidering it was the firſt attempt of the kind, every thing proceeded very regularly; and had the ſummer been propitious, notwithſtanding my former diſappointments, I ſhould have had great cauſe for ſatisfaction. The largeſt quantity that my man, ſeven children, and myſelf, were able to procure in one morning, from five to nine o'clock, was one pound and a half: this happened when the dew was remarkably great, and ſucceeded one of the warmeſt days in the ſummer.

"From the experience I have had, the precarioufneſs of our climate appears to me the only obſtacle to the production of opium in this kingdom. It may be ſaid that the ſame inconveniences attend every other agricultural purſuit; and that hay, and a variety of productions, particularly hops, are much prejudiced from the ſame cauſe. I allow that they are ſo; but the evil produced by a ſudden alteration in this caſe is irreparable; for, ſhould it happen after a fine ſcarifying day, we do not only loſe the labour of that day, but all its produce. It becomes obviouſly neceſſary, therefore, to be particularly circumſpect; and this is the only remedy we are able to procure. The poppies will receive no damage from remaining entire; while, on the other hand, impatience may be injurious, if not deſtructive.

"As my notes furniſh me with no further particulars, I have very little more to add. The opium, when firſt collected, from its union with the dew, is much too ſoft to be ſo formed as the Society will receive it.

"To reduce it to a proper conſiſtence, taking nature for our guide, it ſhould be thinly ſpread in ſhallow diſhes, and expoſed, under glaſſes, to the rays of the ſun. My opinion is, that Turkey opium ſuffers conſiderably from the operation of fire; certain it is, that, with reſpect to its effluvia, it undergoes a complete alteration. I have covered it with its own leaves, thinking this a very convenient mode of package, and conceiving it to be important, in every new undertaking, by ſtudying appearances, to yield to the general prejudices which naturally prevail in favour of the article to which we have been accuſtomed."

The following teſtimony of the quality of the opium is extracted from a letter from Dr. Woodville to Mr. Jones.

"I have examined the opium collected by you from the capſules of the white poppy; and I have no doubt, from its taſte, ſmell, colour, and purity, but that it is more powerful and efficacious than the beſt foreign opium imported into this country."

OPPELEN, a ſtrong town of Sileſia, capital of a duchy of the ſame name, with a caſtle. The chief tribunal of juſtice, and the firſt conſiſtory of Sileſia, were ſettled here in 1742. It is ſeated on the Oder, in a pleaſant plain, 35 miles S.E. of Breſlaw, and 40 N. of Troppaw. Long. 17. 50. E. Lat. 50. 41. N.

OPPIDO, an epiſcopal town of Naples, in Calabria Ulteriore, ſeated at the foot of the Appennines, 25 miles N. of Reggio. Long. 16. 21. E. Lat. 38. 19. N.

OPPURG, a town of Upper Saxony, in the circle of Nieuſtadt, four miles W.S.W. of Nieuſtadt.

ORACH, a town of Turkey in Europe, in Boſnia, near the river Drino, 60 miles S.W. of Belgrade.

ORANIENBAUM, a town of Upper Saxony, in the duchy of Anhault Deſſau, ſix miles S.E. of Deſſau.

ORANIENBAUM, a town of Ruſſia, in the gulf of Finland. Here is a royal palace, built by Prince Menzikoff, afterward converted into an hoſpital; but much uſed as a reſidence by Peter III. It is 20 miles W. of Peterſburg. Long. 29. 26. E. Lat. 59. 52. N.

ORANIENBURG, a town of Upper Saxony, in the middle marche of Brandenburg. It was anciently called Bretzow, and takes its preſent name from a villa built by the elector. In 1699, a colony of the Vandois was eſtabliſhed here, after being driven from their country on account of their religion. It is ſituate on the Havel, 18 miles N. of Berlin, and 28 N.N.E. of Potzdam. Long. 13. 26. E. Lat. 52. 50. N.

ORATAVIA, a town of Teneriff, one of the Canary Iſlands. It is ſeated at the bottom of an amphitheatre of mountains, out of which riſes the Pike of Teneriff. Its port is at three miles diſtance. Long. 16. 20. W. Lat. 28. 23. N.

ORBARESAN, a town of Piedmont, between Turin and Pignerol. Long. 7. 30. E. Lat. 45. 2. N.

ORBE, an ancient town of Switzerland, in the Pays de Vaud, capital of the bailiwic of Echallens, the ſovereignty of which is divided between the cantons of Bern and Friburg. Its romantic ſituation, and the boldneſs of its ſingle-arched bridge projecting over the Orbe, are the admiration of all travellers. It is 24 miles W. of Friburg. and 40 W. by S. of Bern. Long. 6. 43. E. Lat. 46. 49. N.

ORBE, a town of Germany, in the electorate of Mentz, celebrated for its ſalt works. It is 26 miles E. of Frankfort.

ORBITELLO, a ſtrong ſea-port of Tuſcany, in the Sienneſe, defended by ſeveral forts, and ſeated near the Albegna, 58 miles S. by W. of Sienne, and 85 S. of Florence. Long. 11. 10. E. Lat. 42. 18. N.

ORBRE, a river of France, which riſes in the Cevennes, waters Bezieres, and falls into the gulf of Lyons, five miles below that town.

ORCHIES, an ancient town of France, in the department of the North, 14 miles S.E. of Liſle. Long. 3. 25. E. Lat. 50. 28. N.

ORCHILLA, an iſland of the Caribbean Sea, 80 miles N. of the coaſt of Terra Firma, and 160 E. by S. of Curaçoa. Long. 65. 20. E. Lat. 12. 0 N.

ORCHIMONT, a town of the duchy of Luxemburg, ſituate on the Semoy, 18 miles N. of Sedan.

ORDINGEN, or URDINGEN, a town of Germany, in the electorate of Cologne, 11 miles N. of Duſſeldorf, and 32 N.N.W. of Cologne.

ORDUNNA, a ſea-port of Spain, in Biſcay, ſeated in a valley, ſurrounded by high mountains, 20 miles S.W. of Bilboa. Long. 3. 26. W. Lat 43. 11. N.

OREBRO, a town of Sweden Proper, capital of the province of Nericia, ſeated near the W. extremity of the lake Hielmar. In the middle of the town, on a ſmall iſland formed by two branches of the Swart, ſtands the caſtle, formerly a royal reſidence. Here are manufactures of fire-arms, cloth, and tapeſtry; and it has a conſiderable trade with Stockholm, acroſs the lakes Hielmar and Maeler, by means of the canal of Arboga; ſending iron, vitriol, and red paint, in particular, to that capital. Orebro is 95 miles S.W. of Stockholm. Long. 15. 12. E. Lat. 59. 12. N.

OREGRUND, a ſea-port of Sweden, on the coaſt of Upland, in the gulph of Bothnia, oppoſite the ſmall iſland of Gnio, 60 miles N. of Stockholm. Long. 18. 15. E. Lat. 60. 20. N.

OREL, a government of Ruſſia, once a province of the government of Belgoro. Its capital, of the ſame name, is ſeated on the Occa and Orel, 207 miles S.S.W. of Moſcow. Long. 35. 20. E. Lat. 53. 0. N.

ORENBURG, one of the two provinces of the government of Uſa, in Ruſſia. Its capital, of the ſame name, is ſeated on the Ural, formerly called the Yaik, 480 miles N.E. of Aſtracan. Long. 55. 0. E. Lat. 51. 46. N.

ORFORD NESS, a cape of England, on the S.E coaſt of Suſſex, where a light-houſe is erected for the direction of ſhips. Long. 1. 6. E. Lat. 52. 4. N.

ORGAN (*Encycl.*). The following is extracted from the ſpecification of a patent granted to Mr. John Longman, of Penton-ſtreet, Pentonville, Middleſex, for certain improvements in the conſtruction of barrel organs, with a view to prevent them from getting out of order. It is ſo contrived, alſo, that another muſical inſtrument may eaſily be attached to it, and made to play with the ſame barrel. This invention is ſhewn by the figures in Pl. 34, which are explained thus: "The part of barrel-organs employed in fixing the tune," ſays Mr. Longman, "has hitherto been detached from the barrel and key-frame, whence many and continual muſical imperfections ariſe. I therefore attach to the barrel a circular plate or plates, of any metallic or other ſubſtance, to which is adapted a proper key-frame (as deſcribed in the above drawing); by this is gained a regular, preciſe, uniform movement of the barrel, without any reverberatory motion whatever. The nice and ſteady connection of the plate or plates fixed to the barrel with the key-frame is the principle which gives not only variety of mechanical adaptation, but alſo accuracy of execution to this above all other barrel-organs. A reverſe method may be uſed, by having the wheel A, which is fixed to the barrel, made thick enough to contain a number of grooves cut round it, and the plate B, which before was called a notch-plate, to be a plain piece of metal, to run in the above-mentioned grooves.

"Fig. 2. The ſpiral barrel is made by cutting one part of the wheel A, and inclining one of the parts one way, ſo that when the key-frame comes to that part of the wheel, the inclined part gradually draws the key-frame until it receives the next notch in the plate B, and has then paſſed one round.

"Fig. 3. The exact connection which my diſcovery gives to all parts of barrel organs with each other enables me to add, with great advantage, as accompaniments, bells, tambourins, &c. to improve and enlarge the force and beauty of the inſtrument. The inſtrument thus improved, with or without accompaniments, is not liable to be injured by change of poſition or carriage."

The ſeveral parts of the machinery are thus deſcribed with reference to the plate.

Fig. A, the plates on the barrel. B, notch-plate to receive the plate A. C, a roller, and A, one of the plates, either of which may be uſed to keep the key-frame a proper diſtance from the barrel. D, the bell action. E, the bells. F, an index directing to place the tunes.

Fig. 2. A, plate on the barrel. B, notch-plate on the key-frame.

Fig. 3. Side-view of the bell action.

ORGANFORD, a village near Poole, in Dorſetſhire, remarkable for the prodigious quantity of pennyroyal, here called *organ*, produced in the neighbourhood.

ORGAZ, a town of Spain, in New Caſtile, with a caſtle, 15 miles S. of Toledo. Long. 3. 22. W. Lat. 39. 36. N.

ORGELET, a town of France, in the department of Jura, ſeated at the ſource of the Valouſe, 30 miles N. by E. of Bourg. Long. 5. 39. E. Lat. 46. 36. N.

ORGIVA, a town of Spain, in the province of Granada, 25 miles S. of Granada. Long. 3. 50 W. Lat. 36. 43. N.

ORIA, a decayed town of Naples, in Terra d'Otranto, with a citadel, and a biſhop's ſee; ſeated at the foot of the Apennines, 40 miles N.W. of Otranto. Long. 17. 48. E. Lat. 40. 39. N.

ORIO, a town of Spain, in Guipuſcoa, at the mouth of

the Orio, eight miles S.W. of St. Sebaſtian. Long. 2. 19. W. Lat. 43. 23. N.

ORISSA, a province of the peninſula of Hindooſtan, bounded on the N. by Bahar and Bengal, on the W. by Berar, on the S. b Golconda, and on the E. by the bay of Bengal. The diſtr ct of Midniapour, in this province, is ſubject to the Engliſh Eaſt-India Company; but all the reſt belongs to the Berar Mahrattas.

ORKENED, a town of Sweden, in Schonen, 24 miles N. of Chriſtianſtad'. Long. 14. 9. E. Lat. 56. 48. N.

ORLAMUND, a town of Upper Saxony, in Thuringia, belonging to the Duke of Saxe Gotha. It is ſeated on the Sala, oppoſite the mouth of the Orla, 50 miles S.W. of Leipſic. Long. 11. 24. E. Lat. 50. 53. N.

ORLANDO, a cape on the N. coaſt of Sicily, 15 miles W. by N. of Patti. Long. 15. 4. E. Lat. 38. 14. N.

ORLEANS, Canal of, commences at the river Loire, five miles above Orleans, croſſes the foreſt of Orleans, joins the Loing, near Montargis, and paſſing by Memours, falls into the Seine. It was finiſhed in 1682, and has 30 locks in its courſe, which is above 50 miles in extent.

Orleans, an iſland and town of Lower Canada, a little to the E. of Quebec. Long. 69. 50. W. Lat. 47. 0. N

Orleans, New, a city, and the capital, of Louſiana, built during the regency of the Duke of Orleans. In 1788, ſeven eighths of this city were deſtroyed by fire. It is ſeated on the E. ſide of the Miſſiſſippi, 105 miles from its mouth. Long. 89. 53. W. Lat. 30. 2. N.

ORLENGA, a town of Ruſſia, in the government of Irkutſk, ſituate on the Lena, 132 miles N. of Irkutſk. Long. 105. 40. E. Lat. 56. 0. N.

ORMEA, a town of Italy, in the county of Aſti. It was taken by the French in 1794; and is ſituate on the Tanaro, 10 miles S. of Ceva. Long. 8. 9. E. Lat. 44. 16. N.

ORMYAH, a town of Perſia, in the province of Tauris, 120 miles S.W. of Tauris.

ORNANS, a town of France, in the department of Doubs. In its vicinity is a well, which, during the time of the great rains, overflows in ſuch a manner as to inundate the adjacent country; and the fiſhes which it diſgorges are called *umbres*. Ornans is ſeated on the Louvre, eight miles S.E. of Beſançon.

ORNE, a department of France, including the late province of Perche and part of that of Normandy. It takes its name from a river, which falls into the Engliſh Channel, eight miles below Caen. The capital is Alençon.

ORNITHORHYNCHUS PARADOXUS, *from New South Wales*, a ſingular quadruped, concerning which ſome anatomical remarks, by Prof. Blumenbach, appear in a periodical work (ſee Pl. 38): "The moſt remarkable circumſtance in this curious animal," ſays the author," "is the great ſimilarity of its head with that of a duck, which, however, is ſtill more ſtriking in its internal ſtructure. From the external form of the ſkull of this animal, one might be more eaſily led to conclude that it belonged to ſuch an aquatic bird, than to a creature of the mammalia tribe. Both the jaws are as broad and low as in a duck, and the calvaria has, at leaſt in my ſpecimen, no traces of a ſuture, as is generally the caſe in full-grown birds. There is likewiſe a ſingularity in the cavity of the ſkull (*caverna incephali*), of which nothing like it is known in any quadruped animal of the mammalia, though there exiſts ſomething analogous in the claſs of birds, viz. a conſiderable bony falx (*g*), which is ſituated along the middle of the *os frontis*, and the *oſſa bregmatis*. This proceſſus is in general ſcarcely to be ſeen in the mammalia, even in thoſe that have a bony tentorium cerebelli. I know no inſtance of any animal of that tribe being provided with ſuch a bony falx as the ornithorhynchus [*ſchnabelthier*, as the profeſſor calls it, i. e. *beak animal*, or *beaked animal*], if we except ſome anomalous formations; as I poſſeſs the ſkull of a woman, in which the tabula vitrea of the os frontis has formed a ſimilar bony criſta. Amongſt the bird tribe, however, in which Willis and others deny the exiſtence of ſuch a criſta, I have diſcovered it in the ſkull of a cock of the wood (urogallus), which ſurpriſingly agrees as well in the ſituation as in the form with that in the ornithorhynchus. The mandible of this animal is very ſingular, conſiſting of a beak, the under part of which has its margin indented as in ducks (*q*), and of the proper inſtrument for chewing that is ſituated behind, within the cheeks. This has, at leaſt in my ſpecimen, no teeth, nor even the traces of alveoli, but only two broad proceſſes of a peculiar formation on each ſide, whoſe undulated ſuperficies fit one another (*n. o.*). Dr. Shaw ſays of the ſpecimen he examined, that it had no teeth, "dentium nulla ſunt veſtigia."—Vide No. 118 of the Naturaliſt's Miſcellany. But Sir Joſeph Banks, to whoſe liberality I am indebted for my ſpecimen, informs me, that Mr Home has found, in a ſpecimen that belongs to the Society of Natural Hiſtory at Newcaſtle, on each ſide of the jaws, two ſmall and flat molar-teeth. The fore part of this anomalous mandible, or the beak, is covered and bordered with a coriaceous ſkin, in which three parts are to be diſtinguiſhed: 1. The proper integument of the beak (integumentum roſtri). 2. The labiated margins of it (margines labiales). 3. A curious edge of the ſkin of the beak (limbus tranſverſarius). Into theſe three parts of that membrane numerous nerves are diſtributed, of which thoſe in the upper part of the beak ariſe from the ſecond branch of the fifth pair, viz. in the limbus tranſverſarius; that which penetrates through the foramen infraorbitale (*s*), in the margo labialis; that which comes forth behind the oſſa intermaxillaria (*t*) and to the integumentum roſtri, three branches, which run out between the oſſa intermaxillaria (*u*). From this quantity of nerves, with which the integument of the beak is provided, no doubt is left of this part being intended as the organ of feeling, a ſenſe which, beſides men and the quadrumanes, very few mammalia enjoy, that is to ſay, few animals, poſſeſs the faculty of diſtinguiſhing the form of external objects and their qualities by organs deſtined for that purpoſe; a property that is different from the common feeling, by which every animal is able to perceive the temperature and preſence of ſenſible objects, but without being informed by the touch of them, of their peculiar qualities. Thus, for inſtance, the ſkin in the wings of a bat, and its ear, ſerve probably as organs of common feeling, by means of which they are enabled to flutter, even after being blinded, without flying againſt any thing. The whiſkers (vibriſæ) of many animals ſeem likewiſe to ſerve for the purpoſe of informing them of the preſence of ſenſible bodies, on which account Dr. Darwin compares them with the antennæ of inſects; but they are not able to inform themſelves of the properties of thoſe objects. It is true that the ſnout of a mole has been conſidered by Derham, and the ſnout and tongue of many other animals likewiſe by Buffon, as organs of touching; but this ſeems only to be their ſecondary uſe. The ſame may be ſaid of the elephant's trunk, which Buffon alſo conceives to be an organ of touching, although from its manner of living, the neceſſity of ſuch an organ of touching does not appear. The ornithorhynchus, however, is an animal which, from the ſimilarity of its abode, and the manner of ſearching for food, agrees much with a duck, on which account it has

been equally provided by nature with an organ for touching, viz. with the integument of the beak, richly endowed with nerves. This inſtance of analogy in the ſtructure of a ſingular organ of ſenſe in two ſpecies of animals from claſſes quite different, is highly inſtructive for comparative phyſiology, and on this account the ornithorhynchus belongs to one of the moſt remarkable phenomena in zoology, and may in general be looked upon as one of the moſt intereſting diſcoveries with which that part of natural hiſtory has been enriched during the laſt century."

ORONSA, a ſmall fertile iſland of Scotland, one of the Hebrides, ſeven miles W. of Jura. Here are the ruins of an abbey, with many ſepulchral ſtatues, and ſome curious ancient ſculpture.

OROPESA, a town of Spain, in New Caſtile, 22 miles E. of Placentia, and 50 W. of Toledo. Long. 4. 36. W. Lat. 39. 50. N.

OROPESA, a town of Peru, ſeated at the foot of the mountains, 150 miles N.E. of Potoſi. Long. 63. 30. W. Lat. 18. 0. S.

ORR, a river in Kircudbrightſhire, which riſes near New Galloway, waters the town of Orr, and enters the Solway Frith.

ORSOVA, a town of Upper Hungary, in the bannat of Temeſwar, ſeated on the N. ſide of the Danube, almoſt oppoſite Belgrade. It is ſubject to the Turks. Long. 22. 0. E. Lat. 45. 30. N.

ORSOY, a town of Weſtphalia, in the duchy of Cleves, taken in 1672, by the French, who demoliſhed the fortifications. It is 20 miles S.E. of Cleves. Long. 6. 43. E. Lat. 51. 28 N.

ORTA, a town of Italy in the patrimony of St. Peter with a biſhop's ſee. It is ſeated on the Tiber, 10 miles E. of Witerbo, and 30 N. of Rome. Long. 12. 37. W. Lat. 42. 22. N.

ORTA, a town of Italy, in the Milaneſe, ſituate on a lake of the ſame name, 21 miles N.N.W. of Novara, and 36 W.N.W. of Milan. Long. 8. 30. E. Lat. 45. 37. N.

ORTA, a town of Naples, in Capitanata, 11 miles N.N.E. of Aſcoli.

ORTENBERG, a town in Germany, in the circle of Upper Rhine, and county of Hanau Munzenberg, ſituate on the Nidder, 17 miles N.E. of Frankfort, and 17 S.E. of Gieſen. Long. 8. 50. E. Lat. 52. 2. N.

ORTENBURG, a town and citadel of Lower Bavaria, capital of a county of the ſame name, 10 miles W. of Paſſau. Long. 13. 25. E. Lat. 48. 29. N.

ORTENBURG, a town of Auſtria, ſeated on the S. bank of the Drave, oppoſite its confluence with the Liſer. Long. 13. 38. E. Lat. 46. 52. N.

ORTHEZ, a town of France, in the department of Lower Pyrenees, ſeated on the declivity of a hill, on the river Gave de Pau, 17 miles S.W. of Pau. Long. 0. 24. W. Lat. 43. 5. N.

ORTON, a town in Weſtmoreland, with a market on Wedneſday, 12 miles S.W. of Appleby, and 27 N.N.W. of London. Long. 2. 40. W. Lat. 54. 28. N.

ORTZA, a town of Lithuania, in the palatinate of Witepſk, with a caſtle, ſeated on the confluence of the Oreſa and Dnieper, 50 miles W. of Smolenſko. Long. 31. 5. E. Lat. 54. 45. N.

ORWELL, a river in Suffolk, which runs S.E. by Ipſwich, and uniting with the Stour, forms the fine harbour of Harwich. Above Ipſwich it is called the Gipping.

OSACA, a large town of the iſland of Niphon, in Japan, with a magnificent caſtle. It has a harbour, and is one of the moſt commercial places of Japan. The hours of the night are proclaimed by the ſound of different inſtruments of muſic. Long. 133. 45. E. Lat. 35. 20. N.

OSCHATZ, a town of Upper Saxony, in the margravate of Meiſſen, which has ſome manufactures of cloth. It is 16 miles N.W. of Meiſſen, and 30 N.W. of Dreſden. Long. 13. 24. E. Lat. 51. 24. N.

OSERO, or OSORO, an iſland in the gulf of Venice, belonging to the Venetians, having that of Cherſo to the N. to which it is joined by a bridge. The capital is of the ſame name, with a biſhop's ſee. Long. 15. 30. E. Lat. 45. 0. N.

OSEY, an iſland in Blackwater Bay, near Malden in Eſſex, it is covered with wild fowl, at certain ſeaſons; and here the coal ſhips for Malden unload their cargoes.

OSIMO, an ancient town of Italy, in the marquiſate of Ancona, with a rich biſhop's ſee, and a magnificent epiſcopal palace. It is ſeated on the Muſone, 10 miles S. of Ancona, and 110 N.E. of Rome. Long. 13. 34. E. Lat. 43. 29.

OSMA, an ancient town of Spain, in Old Caſtile, with a biſhop's ſee, and an univerſity. It is almoſt gone to ruin, and is ſeated on the Douero, 80 miles N. by E. of Madrid. Long. 2. 12. W. Lat. 41. 30. N.

OSORNO, a town of Chili, ſeated on Rio-Bueno, in a territory where there are mines of gold, 80 miles S. of Baldivia. Long. 73. 20. W. Lat. 40. 58. S.

OSSETIA, the county of the OSSI, or OSSETI, one of the ſeven Caucaſian nations, between the Black Sea and the Caſpian; bounded on the N. by Great Cabarda, on the E. by the Leſguis Tartars, and on the S. and W. by Imeritia. It contains 19 diſtricts, of which one is ſubject to Imeritia, and the others to Georgia. Theſe diſtricts are of very unequal ſize; ſome containing only five, and others 50 villages, each of which compriſes from 20 to 100 families. Their language has ſome analogy with that of the Perſian. Their hiſtory is entirely unknown. The Circaſſians and Tartars call them Kuſha.

OSSIFICATION (*Encycl.*). A French ſurgeon, Citizen Grandchamp, relates two curious inſtances of preternatural oſſification; the firſt was a bony ſubſtance as big as a fiſt, ſituated between the bladder and the uterus, and incloſed in a proper ſac, formed by the peritonæum. The woman in whoſe body it was found, had during her life a habitual iſchury, from which ſhe only was relieved by a horizontal ſituation on the back. This complaint might have been eaſily miſtaken for the ſtone. The ſecond obſervation is an uncommon oſſification of the gall bladder, found in the body of a woman of ſixty-ſeven years of age. The place at the bladder was occupied by a hard maſs as big as the head of a ſix or ſeven months fœtus; the ductus cyſticus was wanting, and the ductus hepaticus joined the liver immediately with the duodenum; the maſs itſelf cohered to the liver by a ſmall place of the ſize of a ſmall coin. On opening it, a gluey ſubſtance was ſeen, ſofter in the middle, and harder the more it approached to the periphery, till it gradually became oſſified.—*Hufeland's Newſte Annalen.*

OSTAGIO, a town of Italy, in the territory of Genoa, 15 miles N.W. of Genoa. Long. 8. 31. E. Lat. 44. 36. N.

OSTERODE, a town of Lower Saxony, in the principality of Grubenhagen. Here is a manufacture of woollen ſtuffs, alſo a magazine for corn, which is delivered out to the miners of the Hartz foreſt, always at a fixed price. It is 16 miles S.W. of Goſlar. Long. 0. 33. E. Lat. 51. 50. N.

OSTERODE, a town of Pruſſia, in the province of Oberland, with an ancient caſtle, ſituate on the Dribentz, 65 miles S.E. of Dantzic, and 70 S.S.W. of Königſberg.

OSTERWIECK, a town of Lower Saxony, in the principality of Halberſtadt. It has ſeveral woollen manufactures, and is ſituate on the Ilſe, 13 miles W. of Halberſtadt, and 15 N.E. of Goſlar. Long. 10. 52. E. Lat. 52. 10. N.

OSTIGLIA, a town of Italy, in the Mantuan, ſeated on the Po, 15 miles E. of Mantua. Long. 11. 8. E. Lat. 45. 7. N.

OSTINGHAUSEN, a town of Weſtphalia, ſituate on the Alſt, eight miles W. of Lipſtadt.

OSTROGOTHIA, the eaſtern part of Gothland, in Sweden.

OSWALD, St. a village in Northumberland, on the Picts' Wall, N. of Hexham, by ſome called Heavensfield, on account of Oſwald's total defeat of Cedwall, a Britiſh uſurper, who was killed on the firſt onſet. Here Oſwald, who was afterward ſainted, ſet up the firſt croſs in the kingdom of Northumberland.

OSYTH, St. a village in Eſſex, nine miles S.E. of Colcheſter. Here are the remains of an ancient monaſtery, now the ſeat of the Earl of Rochford.

OTAHA, one of the Society Iſlands, in the South Pacific Ocean. It lies N. of Ulitea; and is divided from it by a ſtrait, which, in the narroweſt part, is not more than two miles broad. This iſland is ſmaller and more barren than Ulitea, but has two very good harbours.

OTOQUE, an iſland of South America, in the bay of Panama. Long. 81. 10. W. Lat. 7. 50. N.

OTTENDORF, a town of Lower Saxony, in the duchy of Saxe Lauenberg, ſituate on the Meden, 24 miles N. of Stade. Long. 8. 20. E. Lat. 58. 53. N.

OTTENSHEIM, a town of the archduchy of Auſtria, on the N. ſide of the Danube, 5 miles W.N.W. of Lintz, and 16 S.W. of Freiſtatt.

OTTONA, or Ortona, an epiſcopal town of Naples, in Abruzzo Citeriore, ſeated on the gulf of Venice, 10 miles N. of Lanciano, and 43 E. of Aquileia. Long. 14. 50. E. Lat. 42. 28. N.

OTTWEILER, a town of Germany, in the circle of Upper Rhine, and principality of Naſſau Saarbruck, with a caſtle, 40 miles S.E. of Treves.

OUDE, a province of Hindooſtan Proper, ſubject to a nabob, whoſe dominions lie on both ſides of the Ganges, occupying (with the exception of the diſtrict of Rampour) all the flat country between that river and the northern mountains, as well as the principal part of that fertile tract lying between the Ganges and Jumna, known by the name of Dooab, to within 40 miles of the city of Delhi. Oude and its dependencies are eſtimated at 360 miles in length from E. to W. and in breadth from 150 to 180. The nabob is in alliance with the Britiſh; and a brigade of the Bengal army is conſtantly ſtationed on his weſtern frontier; which anſwers the purpoſe of covering Oude as well as Bengal, and of keeping the weſtern ſtates in awe; and, in conſideration of this, the nabob pays an annual ſubſidy of 420,000l. His capital is Lucknow.

Oude, an ancient city of Hindooſtan Proper, in the province of Oude, the remains of which are ſeated on the Gogra, nearly adjoining Fyzabad. It is ſaid to have been the firſt imperial city of Hindooſtan, and the capital of a great kingdom, 1200 years before the Chriſtian era. It is frequently mentioned in the Mahaberet, a fameus Hindoo work in Sanſcrit, under the name of Adjudiah. But whatever may have been its former magnificence, no traces of it are left. It is conſidered as a place of ſanctity; and the Hindoos frequently come hither, in pilgrimage, from all parts of India.

OUDENBURG, a town of Auſtrian Flanders, eight miles S.E. of Oſtend, and ten W. of Bruges. Long. 3. 0. E. Lat. 51. 9. N.

OVEN (*Encycl.*). By a miſtake in the alphabetical arrangement, that article is placed after the article Overbury. The ovens uſed by private families are uſually made on a more diminutive ſcale, of caſt or hammered iron, and ſome are heated by the ſame fire which ſerves for the cooking of other proviſions.

Among the ovens of this conſtruction, that of Mr. Powers, who obtained for it a patent in 1801, deſerves to be noticed. In Pl. 40. it is given to the ſcale of $\frac{1}{2}$ an inch to the foot, and one foot deep. Fig 1. repreſents the oven detached, ſo conſtructed as to be ſet over a laundry, or any other ſmall ſtove. Fig. 2, repreſents the oven and hot cloſet complete. Fig. 3, is the inſide view of fig 2 A, the hot cloſet, which is gradually heated to any degree, by means of the large valve, in the chimney G F, is the ſplitter, ſo called becauſe it divides equally the heat of the fire, and throws it up the flues *a*, *a*. and heats both the oven and hot cloſet. In caſe the ſplitter ſhould retain too great a heat for the oven B; *b* is a valve for the reception of air, which may be regulated at option. H, is the ſmall valve (fig. 8), made round, and fixed about two inches from the front of the oven, with holes in the ſides, to ſecure it from the ſoot falling into the oven; the uſe of this valve is in caſe any nauſeous ſcent may ariſe from baking; a current of air paſſes through the ventilator C, and carries the ſcent into an open chamber I. The large valve is about twelve inches from the extremity of the oven. K, is the ſcraper, a piece of iron, carried over the hot cloſet, which when pulled out by the two handles *d*. *d*. ſcrapes the ſoot which adheres to the top, and carries it down the flues into an open chamber L. and is ſwept out of the doors E, E, by a bruſh. C, the furnace, which is about eight inches ſquare at bottom, and regularly paſſed up the ſides, front and back. *e*, *e*, *e*, *e*, are baking tins. D, the cinder-hole. Fig. 4, is a baker's oven, ſimilar in conſtruction to the former one; but with theſe exceptions it is four feet long, two deep, and two and a half high, with three ovens, two of which are regulated by ventilators at bottom. LL, is an open chamber, to prevent too great or ſudden heat from the ſplitter. Fig. 6, the ventilator, which is turned by the handle *f* to enable *g* to admit or ſecure any quantity of air. Fig. 7, the large valve, which is placed in the chimney G, and acts as a damper, to graduate the heat to the hot cloſet; it is made with ſheet-iron, like the oven, the ſize of the oven-pipe, turned by a ſtrong thick wire handle in its centre. Fig. 8, is on the ſame conſtruction, except being cloſed at the top, and holes in the ſides already ſpecified, and rendered, when down, air-tight by two pieces of iron on each ſide, *i*, *i*. The ſplitter is formed of ſheet-iron, as in fig. 5.

In the year 1800, the Society for the Encouragement of Arts, &c. conferred a bounty of fifteen guineas on Mr. S. Holmes, for his invention of an oven, which is heated without flues. The whole conſiſts of a caſt-iron oven, from the ſide of which a ſolid piece of that metal projects into the fire, where it conſtantly remains; and, on becoming red hot, communicates to the whole oven a degree of heat ſufficient for baking bread, while it at the ſame time aſſiſts the fire in roaſting meat.

In the common iron ovens, the heat is communicated by means of flues, which waſte a conſiderable part of the fire in its paſſage, and likewiſe require much labour to keep them of an uniform heat. The contrivance laſt alluded to, is intended to ſupply this and other inconveniences: and Mr. Holmes ſtates, that his oven uniformly remains at a baking heat, without any additional expence, or trouble. We underſtand, however, that ſuch improvement is by no means new; and that a ſimilar method of ſaving fuel has for ſeveral years been practiſed in the weſt of England.

Cottage-OVEN, a cheap and ſimple oven of a ſquare form, made of ſheet iron, and fixed in brick work; with a cloſed fire-place beneath, calculated to confine the heat and conſume the ſmalleſt poſſible quantity of fuel.

Although we have thought it incumbent on us to give a place in this work to the different inventions of ingenious men, yet we have in general cautiouſly avoided giving any opinion on their merits. Juſtice to the public, however, requires that we ſhould caution thoſe who will not take the trouble of *examining for themſelves*, at leaſt to rely on the aſſurances of philoſophical, diſintereſted, and impartial men, who have made *laborious experiments* purely for *their* benefit, rather than on the boaſtings of advertiſing ſhopkeepers; many of whoſe ovens and fire-places are certainly conſtructed on *falſe principles*.

Count Rumford, in the firſt part of his tenth eſſay, has recommended ſmall iron ovens for cottagers, and neſts of ſmall ovens for the kitchens of families. "Of theſe," he ſays, in the ſecond part, "I have had occaſion to know ſince, that ſeveral perſons have adopted them. I have likewiſe been made acquainted with the reſults of many of the trials that have been made of them, and with the complaints that have been brought againſt them. As I am more than ever of opinion that iron ovens will always be found uſeful when they are properly conſtructed and properly managed, I ſhall in this place add a few obſervations to what I have already publiſhed concerning them.

"And in the firſt place I muſt obſerve, that a ſmall iron oven ſtands in need of a good door; that is to ſay, of a door well contrived for confining heat; and the ſmaller the oven is, ſo much the more neceſſary is it that the door ſhould be good.

"The door muſt not only fit againſt the mouth of the oven with accuracy, but it muſt be compoſed of materials through which heat does not eaſily make its way.

"An oven door conſtructed of a ſingle ſheet of plate iron, will not anſwer, however accurately it may be made to fit the oven, for the heat will find its way through it, and it will be carried off by the cold air of the atmoſphere, which comes into contact with the outſide of it. The bottom of the oven may be made hot by the fire under it; but the top and ſides of it cannot be properly heated, while there is a continual and great loſs of heat through its door. But an oven, to perform well, muſt be very equally heated in every part of it.

"If the flame and ſmoke of the fire be made to ſurround an oven on every ſide, and if the fire be properly managed, there can be no difficulty in heating an iron oven equally, and of keeping it at an equal temperature, provided the loſs of heat by and through the door be prevented.

"If the door be conſtructed of ſheet iron, it muſt either be made double, or it muſt be covered on the outſide with a pannel of wood. By a double door, I do not here mean two doors, but one door conſtructed of two ſheets or plates of iron, placed parallel to and at a certain diſtance from each other; and ſo conſtructed, that the air which is between the two plates may be ſhut up and confined. The two plates or ſheets of iron, of which the double door of an oven is made, muſt not touch each other, except at their edges (where they muſt join, in order to their being faſtened together); for were they to lie one flat upon the other, the heat would paſs too rapidly through them, notwithſtanding there being two of them; but it is not neceſſary that they ſhould be further aſunder than an inch, or an inch and a half. One of the plates may be quite flat, and the other a little convex. The end of the oven muſt be made quite flat, or level, ſo as to be perfectly cloſed by a flat ſurface placed againſt it. The door is that flat ſurface; and the greateſt care muſt be taken that it apply with accuracy, or touch the end of the oven in every part, when it is preſſed againſt it; for if any opening be left, eſpecially if it be near the top of the oven, the hot air in the oven will not fail to make its eſcape out of it.

"It never ſhould be attempted to make the door of an oven or of a cloſed fire-place fit, by cauſing it to ſhut into a rabbet. That is a very bad method; for beſides the difficulty of executing the work with any kind of accuracy, the expanſion of the metal with heat is very apt to derange the machinery, when the door is ſo conſtructed.

"From what has been ſaid of the neceſſity of cauſing the door of an oven to fit with accuracy, it is evident that care muſt be uſed to place its hinges properly: and I have found, by experience, that ſuch a door is cloſed more accurately by two turn-buckles, placed at a proper diſtance from each other, than by a ſingle latch. I beg pardon for repeating what has already been ſaid elſewhere."

The Count adds the following directions as to the management of the fire in heating an iron oven. "If," ſays he, "a certain degree of attention is always neceſſary in the management of fire, there is certainly nothing on which we can beſtow our care that repays us ſo amply; and with regard to the trouble of managing a fire in a cloſed fire-place, it is really too inconſiderable to deſerve being mentioned.

"Whenever a fire is made under an iron oven, in a cloſed fire-place, conſtructed on good principles, there is always a very ſtrong draft or preſſure of air into the fire-place; and this circumſtance, which is unavoidable, renders it neceſſary to keep the fire-place door conſtantly cloſed, and to leave but a ſmall opening for the paſſage of the air through the aſh-pit regiſter. The fire-place too ſhould be made very ſmall, and particularly the bottom of it, or the grate on which the fuel burns.

"If any of theſe precautions are neglected, the conſequences will be—the rapid conſumption of the fuel—the ſudden heating and burning of the bottom of the oven—and the ſudden cooling of the oven as ſoon as the fire-place ceaſes to be filled with burning fuel.

"It is a fact which ought never to be forgotten, that, of the air that forces its way into a cloſed fire-place, that part only which comes into actual contact with the burning fuel, and is decompoſed by it in the proceſs of combuſtion, contributes any thing to the heat generated; and that all the reſt of the air that finds its way into and through a fire-place, is a thief, that ſteals heat, and flies away with it up the chimney.

"The draft occaſioned by a fire in a cloſed fire-place being into the chimney and not into the fire, cold air is as much diſpoſed to ruſh in over the fire, as through it, and it violently forces its way into the hot fire-place by every aperture, even after all the fuel is conſumed, carrying the heat away with it up the chimney and into the atmoſphere. It even makes its way between the bars of the grate whenever they are not quite covered with burning fuel: hence it appears how neceſſary it is to make the grate of a cloſed fire place ſmall, and to give to that part of the fire-place which is deſtined for holding the fuel, the form of an inverted truncated cone or pyramid, or elſe to make it very deep in proportion to its length and width.

"But the prevention of the air from finding its way through the fire-place without coming into contact with the burning fuel, is not the only advantage that is derived from conſtructing cloſed fire-places in the manner here recommended; it ſerves alſo to increaſe the intenſity of the heat

in that part of the fire-place which contains the fuel, which tends very powerfully to render the combuſtion of the fuel complete, and conſequently to augment the quantity of heat generated in that proceſs.

"To prevent the bottom of the oven (or boiler) from being too much affected by this intenſe heat, nothing more is neceſſary than to make the fire-place ſufficiently ſmall, and to place it at a ſufficient diſtance below the bottom of the oven. It will be indiſpenſably neceſſary however with ſuch a (ſmall) fire-place, ſituated far below the bottom of an oven, to keep the fire-place door well cloſed, otherwiſe ſo much cold air will ruſh in over the fire, that it will be quite impoſſible to make the oven hot.

"I have found by recent experiments, that a fire-place in the form of an oblong ſquare or priſm, ſix inches wide, nine inches long, and ſix inches deep, is ſufficient to heat an iron oven eighteen inches wide, twenty-four inches long, and from twelve to fifteen inches in height; and that the grate of this fire-place ſhould be placed about twelve inches below the bottom of the oven. More effectually to prevent the fire from operating with too much violence upon any one part of the bottom of the oven, the brick-work may be ſo ſloped outwards and upwards on every ſide from the top of the burning fuel to the extreme parts of the ſides and ends of the bottom of the oven, that the whole of the bottom of the oven may be expoſed to the direct rays from the fire.

"In ſome caſes I have ſuffered the flame to paſs freely up both ſides of the oven to the top of it, and then cauſed it to deſcend by the end of the oven to the level of its bottom, or rather below it, and from thence to paſs off by an horizontal canal into the chimney; and in other caſes I have cauſed it to paſs backwards and forwards in horizontal canals by the ſides of the oven, before I permitted it to go off into the chimney. Either of theſe methods will do very well, provided the ſmoke be made to deſcend after it has left the top of the oven, till it reaches below the level of the bottom of it, before it is permitted to paſs off into the chimney; and provided the canal by which the ſmoke paſſes off be furniſhed with a damper.

"In ſetting an oven, proviſion ſhould be made, by leaving holes, to be ſtopped up with ſtoppers, for occaſionally cleaning out all the canals in which the ſmoke is made to circulate; and in order that theſe canals may not too often be choked up with ſoot, they ſhould never be made leſs than two inches wide, even where they are very deep or broad; and where they are not more than four or five inches deep, they ſhould be from three to four inches wide, otherwiſe they will be very often choked up with ſoot.

"To clean out the flues of an oven, roaſter, or large fixed boiler, a ſtrong cylindrical bruſh may be uſed, which may have a flexible handle made of three or more iron wires, about one eighth or one hundredth of an inch in diameter, twiſted together.

"Holes cloſed with fit ſtoppers muſt of courſe be left in the brick-work for occaſionally cleaning out theſe flues.

"If the iron door of an oven be made double, the outſide of it may with ſafety be japanned black or white, which will prevent its ruſting, and add much to the cleanlineſs and neatneſs of the appearance of the kitchen.

"To ſave expence, ſmall ovens for poor families may be cloſed with flat ſtones, or with tiles; and the fire-place door for ſuch an oven, and its aſh-pit regiſter, may be made of common bricks placed edgewiſe, and made to ſlide againſt thoſe openings.

"There is a circumſtance reſpecting the iron ovens I am deſcribing, which is both curious and important. The fire-place for an oven of the ſmalleſt ſize ſhould be nearly as capacious as one which is deſtined for heating a much larger oven; and I have found by repeated experiments, that a neſt of four ſmall ovens, ſet together, and heated by the ſame fire, will require but very little more fuel to heat them than would be neceſſary to heat one of them, were it ſet alone. An attentive conſideration of the manner in which the heat is applied—of the ſmallneſs of the quantity, in all caſes, that is applied to the heating of the contents of the oven—and the much greater quantity that is expended in heating the fire-place and the flues, will enable us to account for this curious fact, in a manner that is perfectly philoſophical and ſatisfactory.

"A *cottage-oven*, eleven inches wide, ten inches high, and ſixteen inches long, will require a fire-place five inches wide, five inches high, and ſeven inches long; and for four of theſe ovens, ſet together in a neſt, the fire-place need not be more than ſix inches wide, ſix inches high, and eight inches long.

"I have in my houſe at Brompton, two iron ovens, each eighteen inches wide, fourteen inches high, and twenty-four inches long, ſet one over the other, and heated by the ſame fire; and their fire-place is only ſix inches wide, ſix inches high, and nine inches long.

"If the fire-place of an iron oven be properly conſtructed, and if the fire be properly managed, it is almoſt incredible *how ſmall a quantity of fuel* will anſwer for heating the oven, and for keeping it hot. But if the fire-place door be allowed to ſtand open, and a torrent of cold air be permitted to ruſh into the fire-place and through the flues, it will be found quite impoſſible to heat the oven properly, whatever may be the quantity of fuel conſumed under it; and neither the baking of bread, nor of pies, nor any other proceſs of cookery, can be performed in it in a ſuitable manner.

"A very moderate ſhare indeed of ingenuity is required in the proper management of a fire in a cloſed fire-place, and very little attention; and as it requires no bodily exertion, but ſaves labour, and expence, and anxiety; and as moreover it is an intereſting and amuſing occupation, attended by no diſguſting circumſtance, and productive of none but pleaſing, agreeable, and uſeful conſequences; we may, I think, venture to hope, that thoſe prejudices which prevent the introduction of theſe improvements, will in time be removed."

Count Rumford next ſhews that ovens may be uſed in boiling and ſtewing, and alſo in warming rooms, it being neceſſary, in the latter caſe, merely to leave the door of the oven open.

Roaſting-OVEN, an invaluable contrivance of Count Rumford's, calculated *either for roaſting or baking* in private families.

"Roaſters on this ſimple conſtruction (without blow-pipes—ſee ROASTER), which," ſays Count Rumford, "I ſhall call *roaſting-ovens*, were at firſt made with flat bottoms, but of late they have been made cylindrical; and as I think the cylindrical form much the beſt in many reſpects, I ſhall give a deſcription of one of them.

"In Pl. 40. fig. 1, repreſents a front view of a cylindrical roaſting-oven with its door ſhut. The front end of the large cylinder, which conſtitutes the body of this oven, inſtead of being turned over a ſtout wire, is turned outwards, and rivetted to a flat piece of thick ſheet iron, which in this figure is diſtinguiſhed by vertical lines, and which I ſhall call the front of the oven.

"The door of the oven is diſtinguiſhed by horizontal lines. The general form of the front of the oven is circu-

lar; but it has two projections on oppoſite ſides of it, to one of which the hinges of the door and to the other the turnbuckles for faſtening it when it is cloſed, are faſtened. It has another projection above, which ſerves as a frame to the door-way, through which a bruſh is occaſionally introduced for the purpoſe of cleaning the flues. On one ſide of this projection there is a ſmall hole, which is diſtinguiſhed by the letter *a*, through which the handle or projecting axis of the circular regiſter of the vent-tube (which is not ſeen) paſſes.

"In the body of the oven, at the diſtance of half its ſemi-diameter below its centre or axis, there is an horizontal ſhelf, which is fixed in its place, not by reſting on ledges, or by being rivetted to the ſides of the oven, but by its hither end being turned down, and firmly rivetted to the vertical plate of iron, which I have called the front of the oven. This ſhelf, which ſhould be made double to prevent the heat from paſſing through it from below, muſt not reach quite to the farther end of the oven; there muſt be an opening left, about one inch in width, between the end of it and the further end of the oven, through which opening the air heated below the ſhelf will make its way upwards into the upper part of the oven.

"From what has been ſaid, it will be evident that the hollow ſpace below the ſhelf we have juſt been deſcribing, which I ſhall call the air-chamber, is intended to ſerve in lieu of the blow-pipes of a roaſter; and this office it will perform tolerably well, provided means are uſed for admitting cold air into it, from without, occaſionally. This is done by means of a regiſter, which is ſituated at the lower part of the vertical front of the roaſter, a little below the bottom of the door. This regiſter is diſtinctly repreſented in figure 2.

"Fig. 2, which repreſents a vertical ſection of the oven through its axis, ſhews the (double) door of the roaſter ſhut, and the two dripping-pans, one within the other, ſtanding on the ſhelf we have juſt been deſcribing, and a piece of meat above them, which is ſuppoſed to be laying on a gridiron placed in the ſecond dripping-pan. The regiſter of the air-chamber, below the ſhelf, which ſupplies the place of the blow-pipes, is repreſented as being open; and a part of the ſteam-tube is ſhewn, through which the ſteam and vapour are driven out of the oven, by the blaſt of hot air from the air-chamber.

"The cylinder which conſtitutes the body of the oven, is two feet long, and is ſuppoſed to be of caſt-iron. It is caſt with a flanch, which projects outwards about one inch at the opening of the cylinder, by means of which flanch it is attached, by rivets, to the front of the oven, which, as I have already obſerved, muſt be made of ſtrong ſheet-iron, which may be near one eighth of an inch in thickneſs.

"As the ſhelf is not attached to the ſides of the oven, but to its front, the body of the oven need not be perforated, except in one place, namely, where the ſteam goes off; and as the bottom, or further end of the cylinder, and the flanch at its hither end, and the cylinder itſelf, are all caſt at the ſame time, and as the form of the oven is ſuch as will deliver well from the mould, it appears to me that the article might be afforded at a low price, eſpecially in this country, where the art of caſting in iron is carried to ſo high a pitch of perfection.

"The ſhelf might eaſily be made of caſt-iron, as might alſo the dripping-pans and the double door of the oven; and I ſhould not be ſurpriſed if Engliſh workmen ſhould ſucceed in making even the front of the oven, and the regiſter of the air-chamber, and every other part of the machinery, of that cheap and moſt uſeful metal.

"If the ſhelf be made of caſt-iron, to ſave the trouble of rivetting in making it double, it may be covered by an inverted ſhallow pan of caſt-iron, and in the bottom of this pan, which will be uppermoſt when it is inverted, there may be caſt two ſhallow grooves both in the direction of the length of the pan, and conſequently parallel to each other, in which grooves (which may be ſituated about an inch from the ſides of the inverted pan) two parallel projections at a proper diſtance from each other, caſt at the bottom of the lower dripping-pan, may paſs. Theſe projections paſſing freely in the grooves which receive them, will ſerve to keep the dripping-pan ſteady in its proper direction when it is puſhed into or drawn out of the oven.

"To increaſe the effect of the air-chamber when this oven is uſed for roaſting meat, a certain quantity of iron wire in looſe coils, or of iron turnings, may be put into the air-chamber.

"The door of the oven, which is very diſtinctly repreſented in the figure 2, ſhould be about nineteen inches in diameter, if the oven is eighteen inches in diameter within, or in the clear. In this figure the internal edge or corner of the hither end of the body of the oven is indicated by a dotted circle, and the poſition of the ſhelf is pointed out by an horizontal dotted line.

"In faſtening the vertical plate, which forms the front of the oven, to the projecting flanch at the hither end of the cylindrical body of the oven, care muſt be taken to beat down the heads of the rivetting nails in front, otherwiſe they will prevent the door of the oven from cloſing it with that nicety which is requiſite.

"In ſetting this roaſting-oven, the whole of the thickneſs of the vertical front of it ſhould be made to project forward before the brick-work. The fire-place doors, aſh-pit, regiſter-door, damper in the chimney, &c. ſhould be ſimilar in all reſpects to thoſe uſed for roaſters; and the flues ſhould likewiſe be conſtructed in the ſame manner.

"I have been the more particular in the deſcription of this roaſting-oven, becauſe I think it bids fair to become a moſt uſeful implement of cookery. As an oven it certainly has one advantage over all ovens conſtructed on the common principles, which muſt give it a decided ſuperiority; by means of the air-chamber and the ſteam-tube it may be kept clear of all ill-ſcented and noxious fumes, without the admiſſion of cold air."

Count Rumford thus ſpeaks of the difference between a roaſting oven and a roaſter; (ſee ROASTER).

"From the account of the roaſting-oven that has juſt been given," ſays he, "it might be imagined that it poſſeſſes all the properties of the roaſter, and in the ſame degree; but this is not the caſe. The eſſential difference between them is this; the blow-pipes of the roaſter being ſurrounded by the flame on all ſides, they are heated above as well as below, and the air in paſſing through them is much more expoſed to the heat than it is in paſſing through the air-chamber of the roaſting-oven. The particles of air which happen to come into contact with the bottom of the oven will of courſe be heated; but if, in conſequence of their acquired lightneſs on being heated, they riſe upwards to the top of the air-chamber, they will there come in contact with the bottom of the ſhelf, which, inſtead of communicating more heat to them, will deprive them of a part of that which they bring with them from below; but circumſtances are very different in the blow-pipes of a roaſter; in them, the particles of air acquire continually additional heat from every part of the ſurface with which they come into contact in their paſſage through the tube.

"From this view of the ſubject, we ſee how very eſſential

it is that the ſhelf of a roaſting-oven ſhould be ſo compoſed or conſtructed, that heat may not readily find its way through it; and we ſee likewiſe how neceſſary it is to manage the regiſters of blow-pipes and of air-chambers with proper care."

We earneſtly recommend theſe and all other inventions which Count Rumford has announced to the public after the moſt deciſive experiments to aſcertain their properties: and we add this important caution—*not to deviate a tittle* from the inſtruction given in his admirable eſſay, as to their form, or the manner of their being placed, which the workmen employed are continually *propoſing*, and often *obſtinately bent upon*.

OVERFLACKEE, an iſland of the United Provinces, in Holland, between the mouths of the Maeſe. Meliſand is the principal town.

OVERSEER, a perſon of authority who ſuperintends thoſe who are employed as labourers in any art or manufacture. The term however is uſed in other ſenſes, according to the nature of the ſuperintendance.

OVERSEERS OF THE POOR, are perſons employed to carry the poor laws into effect in the different pariſhes wherein they are appointed. Their duties are remarkably well pointed out in the following charge to overſeers of the hundred of Stoke, in the county of Bucks, by Thomas Bernard, eſq. publiſhed in the Reports of the Society for bettering the Condition of the Poor. Addreſſing the party himſelf, he ſays,

"The office, to which you are this day appointed, is of no ſmall importance; inaſmuch as the welfare of a conſiderable part of our fellow-ſubjects depends upon the due execution of it. It is your duty, ſir, to be the Guardian and Protector of the Poor;—and, as ſuch, to provide employment for thoſe who can work, and relief and ſupport for thoſe who cannot; to place the young in a way of obtaining an honeſt livelihood by their induſtry, and to enable the aged to cloſe their labours and their life in peace and comfort.

"In the execution of this office, it is your duty to conſider how you may beſt improve the ſituation of the poor in your pariſh, ſo as to leſſen the calls for parochial relief, and thereby to diminiſh your pariſh rate.——In this reſpect, much may be done by occaſional aid and encouragement to pariſhioners with large families; much, by means of regular employment for children, either at home or in ſchools of induſtry, ſo as to fit them to be placed out in ſervice at an early age;—and much, by a judicious management of your poor-houſe, if you have one, and by making a proper diſtinction and ſeparation between the honeſt and induſtrious, who are driven thither by age, infirmity, or misfortune, and the idle and profligate, whoſe looſe and vicious habits of life have made them a burthen and a diſgrace to their pariſh.

"You are, ſir, within the ſpace of 14 days, to receive the books of aſſeſſments and of accounts from your predeceſſors, together with ſuch money and materials as ſhall be in their hands; and, if any balance is due to them, you are to pay it out of the firſt monies that come to your hands.

"In conjunction with the church-wardens of your pariſh, you are, by a pariſh rate, to raiſe money, to purchaſe a ſufficient ſtock of materials for ſetting the poor to work, and to ſupply competent ſums for the relief of the lame, impotent, old, blind, and ſuch among you as are poor and unable to work, and for putting out poor children apprentices.

"In making the poor's-rate, it is neceſſary that a majority of the church-wardens and overſeers ſhould concur; and it is your duty, to make an equal and impartial rate, without favour or affection, upon 'every occupier of lands, houſes, tithes, mines, and ſaleable underwoods in your pariſh.' When ſuch rate is made, it is to be approved and ſigned by two juſtices, dwelling in or near your pariſh; and, on the Sunday after, to be publiſhed in your pariſh church.

"In caſe the rates, ſo made, ſhall not be regularly paid, you may obtain a ſummons for the perſon making default to appear before two neighbouring juſtices; who may, by warrant, authorize ſuch rates to be raiſed by diſtreſs in your pariſh; or, if ſufficient goods of ſuch perſon making default be not found in your pariſh, then, upon application to one juſtice, to be levied in any other county, or diſtrict, where the defaulter may have property.

"With regard to the poor's-rate, we know that there are inſtances, in ſome parts of England, where it has been levied upon the poor; we mean, by the poor, thoſe who have not the advantage of any profeſſion, trade, property, or income, nor other means of ſupport, except their daily labour; and who have only a cottage, a little garden, and a few articles of furniture, merely ſuch as are neceſſary for them and their families; and we think it our duty to obſerve, that, to charge ſuch poor-perſons to the rate at all, appears to us to be directly contrary to the authority, under which the rate is made; viz. the ſtatute of Elizabeth, which was paſſed ſoon after the diſſolution of the monaſteries, and entitled 'An Act for the Relief of the Poor;' an act, in which, if cottages had been intended to have been included, they would have been expreſsly named, as well as houſes; from which they were then conſidered as totally different, and diſtinguiſhable in point of law.

"It is impoſſible to read that ſtatute without perceiving that it was never intended to compel the poor, who are frugal and induſtrious, to ſupport thoſe who are not ſo; but that there is, throughout, a diſtinction made between the claſs of men, not having income or property, who are to be entitled to relief under it, and thoſe who from the income of their property, profeſſion, trade, or occupation, are to contribute to that relief:—that by the poor are intended the labouring cottagers; who, if out of employment, are, under that act, to have work found them;—if lame, impotent, old, or blind, and unable to work, are to receive pecuniary or other relief;—who, if habitations are wanting, are to have them erected at the charge of the pariſh;—and whoſe children, if unemployed, are to be ſet to work, and, at a fit age, to be placed out apprentices in ſervice, or to a trade.

"But, whatever may be the opinion as to the law, there can be no doubt in point of prudence, that while the day labourer, who has children, is exerting himſelf to maintain his family without parochial aid, it is a dangerous experiment to attempt to make him contribute to the ſupport of your other poor, with the probable, or even a poſſible, conſequence of driving a large family on the pariſh.

"There is, however, one claſs of labouring men, who have ſtill a ſuperior claim to exemption from pariſh rates;—the Members of Friendly Societies, who are acquiring for themſelves, out of the ſavings of their own induſtry, an eligible and honourable proviſion, independent of the poor laws. As theſe ſocieties, particularly where they enjoy the advantage of having their rules framed and confirmed according to law, have the effect of greatly reducing the poor's-rate, it is required of you, as an act, not merely of juſtice, but of prudence, not to endeavour, in any caſe, to compel ſuch labouring men, being members of friendly ſocieties eſtabliſhed according to law, to contribute to the ſupport of the other poor of their own pariſh.

"In applying the rate for the relief of the poor, we requeſt that you will attend to the permanent improvement of their condition, rather than to the little expedient or economy of the moment.—If a poor man's family is viſited by ſickneſs

or calamity, it is better for your parish that he should receive a timely supply of medical and other necessary assistance at home, and be re-established in the power of maintaining himself and his family by his labour, than that they should be neglected, until it becomes necessary to move them into the poorhouse, where they may probably remain, a burthen to the parish, for many years.—If the poor of your parish want employment, there is more economy in supplying them with instruction, encouragement, spinning-wheels, wool, and other means of earning a livelihood, than in leaving them to be oppressed by poverty, and by that languid and desponding indolence, which is often rather the misfortune than the vice of the poor: with the consequence of being obliged to maintain the family afterwards, at ten times the expence that would have been incurred at first, by a timely supply of relief to themselves. Upon this head, we have one earnest request to make; that whatever is made by their labour, they may have the whole produce of it, without any deduction, on any pretence whatever.—The earnings of the poor should be sacred and inviolate, in order to encourage them to work, and to exempt the character of their employers from the imputation of interested motives.

"Upon the authority of the case of the King and North Shields (20 Geo. III.) we have, where parents have applied for support for their infant children under seven years of age, ordered them relief at home, without removing the parents or children into the parish workhouse; adopting the humane and judicious sentiments, which Mr. Justice Buller delivered on that occasion:—that it would be injurious to parishes, if, "when one of a numerous family wants relief, the whole must go to the parish workhouse;" and that it would be very unjust "that the parish should be entitled to the labour of a whole family, because one of them might want relief."—Any difficulties, however, that did exist on this subject, have been removed by the act (36 Geo. III. cap. 23.) which enables magistrates to make special orders for the relief of industrious poor persons at home.

"It is your duty, sir, to see that there are proper habitations for the poor of your parish; and if, by the decay of cottages, or by the increase of population, more habitations are wanted for them, you are, with the leave of the lord of the manor, to erect cottages for them at the parish expence, on the waste or common, within your parish.

"After every thing is done for the encouragement and protection of the deserving poor, there remains another class, which it will be necessary to reform by punishment; I mean those drones of society, idle and disorderly persons, whom the law has described as vagrants, rogues, and vagabonds. It is due to the honest exertions of the industrious cottager, that, while he receives aid and encouragement, they should not escape correction; that every distinction should be made between him and those who wander about, endeavouring to subsist, without labour, on the industry of others; of whom many have deserted their families, and almost all have quitted the place, or situation, where their services might have been useful, and where they ought to have been employed.—In bringing these to punishment, with a view to amendment, it will be prudent for you to apply for directions to this bench, where you have found regular attendance and assistance from the magistrates for the space of nine years; and it will be merciful so to select the objects, as that the punishment of few may have its effect in the reform of many.

"As in your conduct towards the poor out of the workhouse, so, in respect of those within its walls, there should be a marked distinction between the industrious and the idle, and between the orderly and the profligate. There is nothing in the internal regulation of this country, more subversive of its credit, or more inimical to its prosperity, than the uniform and unvaried treatment, which the best and the worst of our fellow-subjects receive in a parish workhouse. In that place it is of the utmost importance, not merely to the poor persons who are driven thither by the tempest of fortune, but to the very well-being of the country itself, that there should be a decisive boundary—a line of separation—drawn between the industrious and honest poor, who are suffering under a calamity from which neither you nor we can presume to be exempt, and those vicious and abandoned characters, which are the pests of society, and the objects of punishment.

"In administering relief, we enquire into the industry and character of the person who applies. We have found no small benefit in adhering strictly to this rule; and we confidently recommend to you, as an encouragement to the energy and good habits of the poor, not to give to the idle the same encouragement, as is due to the honest and industrious labourer, suffering under sickness or misfortune. If it appears that the person who applies has exerted himself honourably and diligently in his situation, it is your duty sir, and it is the interest of your parish, that he be relieved, kindly, and liberally.

"There is an act of parliament, which enables you, if you are so disposed, to farm your workhouse.—It is possible, that a farmed workhouse, confided to a deserving person, like absolute power in the best and most virtuous hands, may be the instrument of good; but there is no instance whatever, in which the duty and interest of the person intrusted are so completely in opposition to each other, as in that of the farmer of a parish workhouse. For, while his duty should direct him to improve the state of the workhouse, it is his interest to keep it in such a condition, as to deter any competitor from offering for it, at the end of the year. The necessary consequence of this is the increase of parochial expences: and we find, from the different returns throughout the kingdom, that, where workhouses have been farmed, though there was some saving at first, yet in a few years the expences thereby have been greatly increased, and the poor's-rate accumulated to an alarming amount. Where, indeed, a principal land-owner, or land occupier, of a parish can be induced to contract for the parish workhouse, he has an interest in the permanent improvement of its condition, and in the diminution of the distresses of the poor; but where a vagrant speculating contractor visits your parish, with a view of making his incidental profit by farming your workhouse, we trust you will consider the Christian principle of doing as you would be done by: and that you will not confide the poor, whose Guardian and Protector it is your duty to be, to one, into whose hands you would not trust an acre of your land, or any portion of your own property.

"With regard to your *workhouse*, we have another observation to make, and that respects your parish children.—As you regard your own interest and their welfare, we entreat you to educate them out of the workhouse. You can do it with as little, and even less, expence to the parish; with much less annoyance to the old people in the workhouse, who are too often the sport of those little, unthinking, and uneducated creatures;—and with much more benefit to the children, who get earlier and more advantageous situations in service, and succeed better in life, proceeding from a parochial school or cottage, than from a workhouse.

"With regard to the removal of labourers belonging to other parishes, consider thoroughly what you may lose, and what the individual may suffer, by the removal, before you apply to us on the subject. Where you have had, for a long time, the benefit of their labour, and where all they want is a little temporary relief, reflect whether, after so many years spent in your service, this is the moment and the cause for

removing them from the ſcene of their daily labour to a diſtant pariſh. There are caſes, in which removals from one pariſh to another are proper and juſtifiable; but, in every inſtance, before you apply for an order of removal, conſider whether it is prudent; and, if prudent, whether it is juſt.

"Within four days after the appointment of your ſucceſſors, you are to produce your accounts before two of the neighbourhood juſtices for examination; and, within fourteen days after ſuch appointment, you are to deliver your books, materials for work, and balance of caſh, to the perſons appointed to ſucceed you.—If you ſhall have executed your office duly and conſcientiouſly, you will then quit it, with the bleſſings of the poor, the eſteem and reſpect of the other claſſes of ſociety, and with the approbation of your own conſcience."

We earneſtly recommend this charge to the notice of all Overſeers of the poor, as well as to thoſe who have the means of impreſſing theſe *moſt ſacred duties* on their minds.

OVERYSCHE, a town of Auſtrian Brabant, ſeated on the Yſche, ſix miles N.E. of Bruſſels, and 9 S.W. of Louvain. Long. 4. 30. E. Lat. 50. 53. N.

OUGEIN, a town of Hindooſtan Proper, in the province of Malway, capital of one of the Weſtern Mahratta chiefs. It is a place of great antiquity, 452 miles S.W. of Poonah. Long. 75. 56. E. Lat. 23. 26. N.

OULZ, a town of Piedmont, 12 miles W. of Suza. Long. 6. 46. E. Lat. 45. 20. N.

OUNDLE, a town in Northamptonſhire, with a market on Saturday; ſeated on the Nen, over which are two bridges, 26 miles N.E. of Northampton, and 83 N. by W. of London. Long. 0. 42. W. Lat. 52. 26. N.

OUREM, a town of Portugal, in Eſtremadura, with a caſtle, on a mountain between the rivers Leira and Tomar. Long. 7. 40. W. Lat. 39. 34. N.

OURIQUE, a town of Portugal, in Alentejo, remarkable for a victory obtained by Alphonſo, king of Portugal, over five Mooriſh kings, in 1139. The heads of theſe five kings are the arms of Portugal. It is 32 miles S.E. of Liſbon. Long. 8. 49. W. Lat. 38. 26. N.

OUSSORE, a town of the peninſula of Hindooſtan, in the Myſore country, taken by the Engliſh in July, 1792. It is 19 miles S.E. of Bangalore, and 69 E.N.E. of Seringapatam. Long. 77. 47. E. Lat. 12. 50. N.

OUTERIO, a town and fortreſs of Portugal, in Tralos-Montes, nine miles S.E. of Braganza, and 21 N.W. of Mirando de Douero. Long. 6. 37. W. Lat. 41. 55. N.

OWERRA, or OVEIRO, a town and territory of Guinea, in the kingdom of Benin. The air is unwholeſome, and the ſoil dry and lean; but there are ſeveral kinds of fruits, ſuch as bananas and cocoa nuts. Long. 6. 0. E. Lat. 6. 0. N.

OX, a general appellation for male black-cattle; but which ſtrictly denotes a caſtrated bull.

Having already treated, under differents heads, of the beſt mode of feeding and fattening oxen; and ſhewn their ſuperiority over horſes, under HUSBANDRY, we ſhall confine our obſervations, in the preſent article, to the moſt advantageous way of harneſſing and managing them, as beaſts of burthen, or *draught*.

The principle of draught depends, as Lord Somerville has juſtly obſerved, on the joint power of the neck and baſe of the horn. This object is effected in Portugal, by a long leather ſtrap, which is wrapped round the yoke; thence round the lower part of the horns; and is again faſtened to the yoke. Thus, the heads of oxen become more ſteady in performing their work, and the animals themſelves are rendered more tractable.

Another mode of working oxen, is that termed, by the head, which is practiſed in France, and repreſented in Pl. 38. fig. 1.

To afford a more complete idea of the manner in which the French oxen are faſtened to the bow, we have added an accurate front view of the upper part of the animals' heads; as ſuch method, in the opinion of Lord Somerville, is the beſt preparatory ſtep towards introducing that practiſed in Portugal. See fig. 2.

This method was a few years ſince introduced into Ireland, by Lord Shannon, with complete ſucceſs; two oxen thus harneſſed, being able to draw with great eaſe three tons in weight.

The moſt valuable breeds of theſe animals for draught, in this country, are thoſe of Suſſex, Devon, Herefordſhire, Glamorgan, and Pembrokeſhire; which, on account of their large ſize, are well calculated for labour, and juſtly preferred, in thoſe counties, to cart-horſes. The Suſſex oxen have beaten horſes at plough, in the deepeſt clays; and thoſe of Herefordſhire are reputed to be ſuperior in long journeys, for conveying chalk, or ſimilar heavy materials, over a hilly and flinty country. Although ſome prejudiced perſons may object that oxen are unfit for draught in mountainous ſituations, yet let it be remembered, as Mr. Comber pertinently remarks, ſee his "Real Improvements in Agriculture," &c. (8vo. 1772, 1s. 6d.) that in ſuch inſtances, "no draught can be well uſed;" and that the deſcending of ſteep hills is in all reſpects as hurtful to horſes as to oxen.—The Devonſhire cattle walk with uncommon ſpeed; and, if four or five horſes can till 100 acres of land, the ſame work might doubtleſs be managed equally well by a ſimilar number of the Devonſhire or Herefordſhire breeds, if they were trained and fed (particularly with a view to ſpeed) with the ſame care as horſes: the farmer would alſo ſave a conſiderable part of the expence in their food. For though, after being very hardly worked, they require a little corn, yet their keep, in all other reſpects, is much cheaper; and, if well ſhod, they will perform every kind of draught in the ſame manner as horſes: laſtly, they will pay for their labour; and, after being moderately worked, for 10 or 12 years, if properly managed, they will leave all the profit of their growth, in clear gain, to their owners. Beſides, ſhould an ox, from any unforeſeen accident, be lamed, or become blind or old, he may be fattened, and ſold at any time for a larger price than he originally coſt; becauſe theſe animals uniformly feed in a more kindly manner, and ſooner grow fat, after they have been worked for ſeveral years.—On the contrary, the value of a horſe decreaſes, after he attains the age of ſeven years; and, ſhould any accident happen, he becomes utterly uſeleſs.

Oxen, then, being of extenſive and permanent utility, deſervedly claim every attention from the humane and unbiaſſed huſbandman, particularly with reſpect to ſhoeing; as they will thus be enabled to walk and draw, both with greater ſpeed, and with ſuperior effect, when carefully ſhod. This operation is uſually performed by caſting them on their backs, when the farrier proceeds to affix the ſhoes, in a manner ſimilar to that practiſed on horſes. By ſuch attempts, however, they are liable to numerous accidents; for the prevention of which, an ingenious machine has been contrived, in order to ſecure the animal by means of ſhort poſts. On theſe, the fore or hinder legs are faſtened according to circumſtances; and thus the ſhoes are applied, ſo that it is almoſt impoſſible to injure the helpleſs creature. The curious reader will find two neat engravings of this uſeful contrivance, in the 26th vol. of *Annals of Agriculture*.

OZWICZIN, a town of Little Poland, 34 miles W. of Cracow. Long. 19. 10. E. Lat. 50. 10. N.

P.

PACEM, a town in the N. part of Sumatra, in the Eaſt Indies. Long. 97. 15. E. Lat. 5. 0. N.

PACHUCA, a town of Mexico, famous for its ſilver mines. Gemelli ſays, that in the ſpace of ſix leagues there are not leſs than a thouſand. One of them, called Trinity, is ſuppoſed as rich as any in Mexico, there having been taken from it in ten years' time only, above forty millions of ſilver. It is 45 miles N.N.E. of Mexico. Long. 100 4. W. Lat. 20. 32. N.

PACY, an ancient town of France, in the department of Eure, ſeated on the Eure, eight miles S. by E. of Vernon. Long. 1. 41 E. Lat. 48. 58. N.

PADANG, a ſea-port on the W. coaſt of Sumatra, in the Eaſt Indies, in the poſſeſſion of the Dutch. In 1797, it was almoſt totally deſtroyed by an earthquake, and upward of 300 lives were loſt. Long. 99. 46. E. Lat. 0. 50. S.

PADRON, a town of Spain, in Galicia, ſeated on the Ulla, 12 miles S. of Compoſtella. Long. 8. 17. W. Lat. 42. 40. N.

PADSTOW, a ſea-port in Cornwall, with a market on Saturday. It has ſome trade to Ireland, and is ſeated at the mouth of the Camel, on the Briſtol Channel, 30 miles W. of Launceſton, and 243 W. by S. of London. Long. 4. 45. W. Lat. 50. 42. N.

PADULA, a town of Naples, in Principato Citeriore, 14 miles N. of Policaſtro. Long. 15. 41. E. Lat. 40. 29. N.

PAEFENHOFFEN, a town of France, in the department of Lower Rhine, ſeated on the declivity of a mountain, near the river Motter, eight miles W. of Haguenau. Long. 7. 38. E. Lat. 48. 48. N.

PAGLIANO, a town of Naples, in Abruzzo Ulteriore, 15 miles E.S.E. of Aquila. Long. 13. 46. E. Lat. 42. 28. N.

PAINBOEUF, a ſea-port of France, in the department of Lower Loire, at the mouth of the Loire. Hence all the ſhips belonging to Nantes take their departure, and here they anchor on their arrival. It is 20 miles W. of Nantes. Long. 1. 53. W. Lat. 47. 15. N.

PAINSWICK, a town in Glouceſterſhire, with a market on Tueſday. It has a manufacture of white cloths for the army, and for the India and Turkey trade; and hence is brought a ſtone, remarkable for its beauty and neatneſs, for the pavement of floors. Painſwick is ſituate ſo high, as every way to command extenſive views over a vale of vaſt richneſs and variety, of the windings of the Severn, Malvern Hills, and parts of the counties of Salop, Hereford, and Monmouth. It is ſeven miles S.E. of Glouceſter, and 101 W. by N. of London. Long. 2. 11. W. Lat. 51. 46. N.

PAINT (*Encycl.*). The preparations employed in painting houſes, being principally white-lead, the vapour of which, whether taken into the ſtomach or lungs, or abſorbed by the ſkin from the ſurrounding atmoſphere, is the moſt ſubtle of our domeſtic poiſons, and the grinding of which is alſo extremely detrimental to health, we ſhall ſtate the following proceſs, lately invented by M. de Vaux. Should this prove an effectual ſubſtitute for the pernicious paint prepared from the oxide of lead, it will be of ineſtimable ſervice to ſociety. He directs two Paris pints of ſweet ſkimmed-milk (two quarts Engliſh meaſure), ſix ounces (6½ ounces Engliſh averdupois) of freſh ſlaked lime, four ounces of nut, caraway, or linſeed oil, and three pounds of whiteing, to be uſed in the compoſition. The lime muſt firſt be introduced into a ſtone veſſel, to which ſhould be added ſuch a proportion of milk as will produce a mixture reſembling thin cream. Next, the oil is to be gradually poured in; the whole being gently ſtirred, and the remainder of the milk added. The whiteing muſt next be crumbled in, or ſcattered on the ſurface of the fluid, which it gradually imbibes, and at length ſinks; when the whole ſhould be briſkly agitated.

M. de Vaux obſerves, that the milk ought not to be ſour; becauſe, in ſuch caſe, it would form, with the lime, a calcareous acetite, which ſtrongly attracts moiſture. Either of the oils above mentioned may be uſed; but, if white paint be required, that of caraways is preferable, as it is perfectly tranſparent.—In order to obtain a diſtemper or ſize-colour, the paint thus prepared may be tinged with levigated charcoal, yellow-ochre, &c. for painting with which, the moſt common oils may be uſed.

The quantity here preſcribed is, further, ſtated to be ſufficient for the firſt coat of ſix toiſes, or from twenty-four to twenty-ſeven ſquare Engliſh yards: it may be applied in the uſual manner; and coſts in Paris the ſum of nine ſols, or 4½d. ſterling.

Another and perhaps better ſubſtitute for white-lead paint, and one which the public ſafety demands that we ſhould reſort to, is that prepared with the *oxide of zinc*, for which a patent has been obtained, and which is almoſt equally cheap, and no leſs beautiful and durable.

PAISHAWUR, a city of Hindooſtan Proper, capital of a diſtrict in the country of Cabul. It is ſituate on the Kameh, 125 miles S.E. of Cabul, and 170 N. of Moultan. Long. 70. 36. E. Lat. 33. 18. N.

PALACIOS, a town of Spain, in Andaluſia, 12 miles S. of Seville. Long. 5. 24. W. Lat. 37. 20. N.

PALAIS, a town of France, capital of the iſland of Belleiſle, off the coaſt of Bretagne. It has a ſtrong citadel, which ſtood a long ſiege againſt the Engliſh, in 1761, and then ſurrendered on honourable terms. Long. 3. 2. W. Lat. 47. 18. N.

PALAIS, ST. a town and diſtrict of France, in the department of Lower Pyrenées, which, with the town and diſtrict of St. John Pied-de-Port, forms nearly the whole of the late province of Lower Navarre. This is only a very moderate portion of the kingdom of Navarre, wreſted, in 1512, from John d'Albert, by Ferdinand king of Arragon and Caſtile. This portion, ſeparated from Upper Navarre by the Pyrenées, made part of the kingdom of France, having been annexed to it by Henry IV. who held it in right of his mother, Jeanne d'Albert. St. Palais is ſeated on the Bidouſe, 15 miles S.E. of Bayonne. Long. 1. 4. W. Lat. 43. 21. N. See NAVARRE.

PALAMCOTTA, or TINEVELLY, a town of Hindooſtan, in the Carnatic, 410 miles S.W. of Madras. Long. 77. 54 E. Lat. 8. 43. N.

PALAMOS, a ſtrong ſea-port of Spain, in Catalonia, ſeated on the Mediterranean, 47 miles N.E. of Barcelona. Long. 2. 58. E. Lat. 41. 58. N.

PALAMOW, a town of Hindooſtan Proper, in the province of Bahar, 210 miles S.S.W. of Patna. Long. 84. 10. E. Lat. 23. 40. N.

PALANKA, a town of Upper Hungary, ſeated on the Ibola, 37 miles N. of Buda. Long. 18. 23. E. Lat. 48. 9. N.

PALAZZO, a town of Piedmont, in the county of Canavez, five miles E. of Ivrea.

PALAZZUOLO, a town of Sicily, in Val di Noto, 80 miles S. of Meſſina. Long. 15. 5. E. Lat. 37. 3. N.

Palazzuolo, a town of Italy, in the Breſciano, ſeated on the Oglio, 30 miles N.E. of Milan. Long. 9. 56. E. Lat. 45. 40. N.

PALENO, a town of Naples, in Abruzzo Citeriore, nine miles E. of Solmona.

PALENZUELA, a town of Spain, in Old Caſtile, 25 miles S.W. of Burgos. Long. 3. 15. W. Lat. 42. 5. N.

PALERNO, a town of Naples, in Calabria Citeriore, ſix miles S.S.W. of Coſenza.

PALICANDCHERRY, a town of the peninſula of Hindooſtan, in the country of Calicut, 20 miles S.W. of Coimbetore, and 66 S.E. of Calicut.

PALIMBAM, the capital of a kingdom of the ſame name, in the iſland of Sumatra, ſeated on the E. coaſt, 120 miles N.E. of Bencoolen, and ſubject to the Dutch. Long. 103. 31. E. Lat. 3. 0. S.

PALLISER'S ISLANDS, a group of Iſlands, in the South Pacific Ocean. Long. 146. 30. W. Lat. 15. 30. S.

PALMA, a town of Portugal, in Alentejo, ſeated on the river Cadoan, 20 miles E. of St. Ubes. Long. 8. 40. W. Lat. 38. 37. N.

Palma, a town of New Granada, 50 miles N.W. of St. Fé-de-Bogota. Long. 73. 40. W. Lat. 4. 30. N.

PALMARIA, a ſmall iſland in the Mediterranean, about 15 leagues from the coaſt of Naples, and three miles W. of the iſland of Ponza. Long. 12. 45. E. Lat. 40. 58. N.

Palmaria, a ſmall iſland in the Mediterranean, near the coaſt of Genoa, at the entrance of the gulf of Spezzia, ſeven miles S. of Spezzia. Long. 9. 46. E. Lat. 44. 1. N.

PALMAS, the capital of the iſland of Canaria. See Canary.

Palmas, one of the Philippine Iſlands, 16 leagues S.E. of Mindanao. Long. 127. 0. E. Lat. 5. 33. N.

Palmas, Cape, a promontory of Africa, on the Ivory Coaſt of Guinea. Long. 5. 34. W. Lat. 4. 26. N.

PALMELA, a town of Portugal, in Eſtremadura, with a caſtle on a rock, ſeated on the Gadaon, 19 miles S.E. of Liſbon. Long. 8. 56. W. Lat. 38. 29. N.

PALNAUD, a diſtrict of the peninſula of Hindooſtan, belonging to the Carnatic, but ſituate toward the river Kiſtna, to the W. of the Guntoor Circar.

PALOS, a town of Spain, in Andaluſia, with a pretty good harbour; remarkable for being the place whence Chriſtopher Columbus ſailed on his firſt adventurous voyage in 1492. It is ſeated at the mouth of the Rio Tinto, 46 miles S.W. of Seville. Long. 6. 39. W. Lat. 37. 14. N.

Palos, Cape, a promontory of Spain, in Murcia, to the S. of a town of the ſame name, 20 miles E. of Carthagena. Long. 6. 39. W. Lat. 37. 37. N.

PALOTA, a town of Lower Hungary, in the county of Alba Regalis, taken from the Turks in 1687. It is 40 miles S.W. of Buda. Long. 18. 0. E. Lat. 47. 0. N.

PALOTZA, a town of Hungary, ſituate on the Poprat, 54 miles N. of Caſſovia, and 112 N.N.W. of Zatmar. Long. 21. 20. E. Lat. 47. 42. N.

PALTE, a famous lake of Thibet, lying to the S. of Laſſa, about three days' journey, and 12 miles S. of the river Sanpoo or Burrampooter. It is 150 miles in circumference; and in the middle of it is one large iſland. On the W. ſhore of this iſland, or congeries of iſlands, is a monaſtery, and the ſeat of the Lamiſſa Turcepamo, or the Great Regenerate, in whom the Thibetians think that a divine ſpirit is regenerated, as it is in the Great Lama. The word *Lama* ſignifies a prieſt, and *Lamiſſa* is the feminine of Lama.

PAMIERS, a town of France, in the department of Arriege, with a biſhop's ſee. It is not ſo conſiderable as formerly, nor peopled in proportion to its extent. Near it is a mineral ſpring, ſaid to cure the gout and obſtructions. Pamiers is ſeated on the Arriege, eight miles N. of Foix, and 30 S. of Toulouſe. Long. 1. 32. E. Lat. 43. 8. N.

PAMLICO SOUND, a kind of inland ſea, of North Carolina, 100 miles long, and from 10 to 20 broad. It is ſeparated, in its whole length, from the Atlantic, by a beach of ſand, hardly a mile wide, generally covered by ſmall trees or buſhes. It has ſeveral inlets; but that of Ocrecock is the only one that will admit veſſels of burthen. This inlet is in long. 76. 20. W. Lat. 35. 10. N.

PAMPELONNE, a town of France, in the department of Tarn, 15 miles N. by E. of Alby. Long. 2. 17. E. Lat. 44. 10. N.

PANCRAS, St. a village in Middleſex, a little to the N.W. of London. It has a church dedicated to St. Pancras; and the church-yard is remarkable for being the principal place of interment for the Roman-catholics. At a public-houſe near the church is a medicinal ſpring. Here is the Veterinary College, eſtabliſhed in 1791, for the improvement of farriery, and the treatment of cattle in general.

PANGA, a town of the kingdom of Congo, capital of the province of Bamba. Long. 14. 25. E. Lat. 6. 30. S.

PANJAB, a country of Hindooſtan Proper, being that watered by the five eaſtern branches of the Indus. It was the ſcene of Alexander's laſt campaign, and the termination of his conqueſts. It forms a ſquare of 250 miles, and includes the whole of Lahore, and a great part of Moultan Proper. To the lower part of Moultan it is flat and marſhy, and inundated by the periodical rains which fall between May and October.

PANNANACH WELLS, a village in Aberdeenſhire, ſituate a little below the waterfall, called the Lin of Dee, in the valley of Glenmuick. It is noted for its mineral waters; and has a lodge for the accommodation of the company that frequent this place in ſummer.

PANNIPUT, a town of Hindooſtan Proper, ſituate in an extenſive plain between the cities of Delhi and Sirhind. This plain is celebrated for a battle, in 1761, between an army of 200,000 Mahrattas, and Abdallah, ſultan of Candahar, at the head of 150,000 Mahometans, in which the former were totally defeated. Panniput is 72 miles N.W. of Delhi. Long. 76. 45. E. Lat. 29. 15. N.

PANOMI, a town of Turkey in Europe, in Macedonia, 16 miles S. of Salonichi. Long. 23. 10. E. Lat. 40. 25. N.

PANORMO, a town of Turkey in Europe, in Albania, ſituate on a gulf of the Adriatic, oppoſite the iſland of Corfu, 45 miles S.S.E. of Valona. Long. 20. 2. E. Lat. 40. 0. N.

PANTALARIA, an iſland in the Mediterranean, between Sicily and the coaſt of Tunis, 17 miles in circumference. It abounds in cotton, fruits, and wine, and is ſubject to the king of Naples. Long. 12. 31. E. Lat. 36. 55. N.

PANTIKA, a town of Turkey in Aſia, in Natolia, on the N.E. coaſt of the ſea of Marmora, 12 miles S.E. of Conſtantinople.

PAOOM, one of the New Hebrides, in the South Pacific Ocean, to the S. of Malicollo. Long. 168. 28. W. Lat. 16. 30. S.

PAPER (*Encyc.*). Amongſt the great variety of vegetable

ſubſtances convertible into paper, barley-ſtraw is, perhaps, the moſt abundant and profitable material which might, in this reſpect, ſerve as a ſubſtitute. Dr. Schaeffer, a German phyſician, whoſe inventions have not always been acknowledged, obtained a yellowiſh paper of this ſtraw, after ſoaking it in boiling water, then ſteeping it in lime-water, and adding the 20th part of linen rags.

For manufacturing ſtraw into paper, his majeſty's patent, as well as an act of the legiſlature, have recently been obtained; but the ingenious editor of the *Domeſtic Encyclopædia* aſſerts, on the authority of a paper-maker near London, that the proceſſes deſcribed were well known previouſly to both grants, and that he actually procured ſpecimens of paper manufactured of raw vegetable materials, in this country, in 1799. If ſo, it follows, that the patentee is not entitled to the ſole exerciſe or monopoly of this manufacture, but any paper-maker in the United Kingdom, has a right to make uſe of the diſcovery.

In a late volume of the *Annales de Chimie*, we meet with ſome uſeful hints relative to the manner of re-manufacturing the paper of old books (or even new ones of a certain deſcription), or any letters, or other paper already uſed for writing or printing; by M. M. de Yeux, Pelletier, Molard, and Verkaven.

1. *Proceſs for re-fabricating Printed Paper*:—All paper of the ſame quality ſhould be collected, and ſeparated from ſuch as may have any writing on the pages; the edges of thoſe leaves which may have become yellow, and alſo the backs of books, being cut off by the inſtrument uſed by book-binders. —One hundred weight of paper is now to be put, ſheet by ſheet, into vats, ſufficiently capacious to contain it, together with 500 quarts of hot water; but which ought to be filled about one-third:—the whole is next ſtirred by two men for the ſpace of one hour, who are gradually to add as much water as will riſe about three inches above the paper; after which it is left to macerate four or five hours; the agitation being occaſionally repeated, ſo as to ſeparate, and at length to form the paper into a kind of paſte.

The water is now drawn off by means of pipes, and the pulp conveyed to the mill, where it is to be coarſely ground for one hour; at the expiration of which, it is boiled in a cauldron for a ſimilar ſpace, with a ſufficient quantity of water to riſe four or five inches above it. A ſhort time before the mixture begins to boil, thirteen quarts of cauſtic ley of pot-aſh are to be added to every cwt. of paper. The ley alluded to, is prepared by diſſolving 100lbs. of pot-aſh in 300 quarts of boiling water, to which are to be added 20lbs. of pulveriſed quick-lime; and the whole muſt be briſkly agitated, till it become of an uniform conſiſtence, when it is ſuffered to ſtand for 12 hours; at the end of this time it muſt be drawn off, and 75 quarts of boiling water added to the ſediment, which being ſtirred for half an hour, and ſuffered to ſtand till it become clear, is to be mixed with the liquor firſt decanted.

When the paſte has boiled in this ley for one hour, the fire is to be extinguiſhed, and the matter ſuffered to macerate for 12 hours; after which it muſt be taken out, drained, put into bags, and ſubmitted to the action of a ſtrong preſs for a ſimilar length of time, to deprive it of all moiſture; and, if it appear white, ſo that the printers' ink be properly extracted, it may be re-manufactured in the uſual manner.

2. *Proceſs for the re-fabrication of Written Paper*:—The paper muſt be ſorted; the yellow edges cut off; and the whole thrown, leaf by leaf, into a tub half-full of boiling water, where it is to be agitated as before directed. After it has macerated four hours, the water ſhould be drawn off; a freſh quantity of boiling water added; and the mixture ſtirred for half an hour; at the expiration of which the paper is again left to diſſolve for three hours.

The fluid is now drawn off, and 260 quarts of cold water poured on each cwt. of paper; which being perfectly mixed, 6lbs. of oil of vitriol are to be gradually added; and the whole ſtrongly agitated for a conſiderable time, that the paper may thoroughly imbibe the liquor.

This compoſition is next ſuffered to macerate for twelve hours, the agitation being occaſionally repeated; when the tub is to be filled up with cold water; and the mixture again ſtirred, to waſh the paper, which will now be reduced to a perfect paſte. Laſtly, after drawing off the water, the pulp muſt be put into bags, preſſed, and ground in a mill; after which it is conveyed to the vat, and worked in the manner practiſed with linen rags.

In the year 1801, a patent was granted to Mr. Koops, for extracting ink from printed paper, and reſtoring it to its original ſtate.—His proceſs varies little from that above deſcribed; the paper being agitated in hot water, to extract the ſize, and reduce it into a pulp: next, the adheſion of the ink is to be removed by a cauſtic alkali prepared of lime and pot-aſh, the quantities of which ſhould be proportioned to thoſe of the paper. After diſcharging the ink, he directs the pulp to be bleached by means of the oxygenated marine acid, in the proportion of 10 or 12 gallons to 140lbs. of the material; and, when ſufficiently whitened, it is re-manufactured in the uſual manner.—According to the patentee's account, writing paper does not require ſo large a proportion, if any, of the cauſtic alkali; but is bleached by confining it in a wooden box, rendered air-tight; into which the acid gas is thrown directly from the retort wherein it was produced.

In the laſt volume of the Repertory of Arts, p. 200, is deſcribed the method of *bleaching the pulp* uſed in manufacturing writing paper, by Citizen Loyſel.

PAPOUI, St. a town of France, in the department of Aude, ſeated on the Lembe, eight miles E. of Caſtlenaudary, and 35 S.E. of Toulouſe. Long. 2. 10. E. Lat. 43. 21. N.

PARA, a fort of Braſil, ſeated near the mouth of the river Amazon, and to the E. of the eaſtern branch of it. Long. 50. 0. W. Lat. 2. 0. S.

PARACELS, a vaſt multitude of ſmall iſlands and rocks, in the China Sea. They form a long cluſter, lying N. and S. for near 400 miles, off the coaſt of Cochin China.

PARADELLA, a town of Portugal, in Beira, 12 miles S.E. of Lamego. Long. 7. 23. W. Lat. 41. 4. N.

PARAGO, or Palawan, a large iſland in the Indian Ocean, between the Philippines and Borneo, which has a king, tributary to Borneo. The Spaniards have a fort here.

PARAGUA, the moſt weſterly of the Philippine Iſlands, about 180 miles in length and 20 in breadth. Long. 117. 44. E. Lat. 10. 0. N.

PARAMARIBO, the capital of Surinam, in Guiana, and the chief place of the Dutch colonies in South America. It has a ſmall but ſtrong citadel; and a noble road for ſhipping, where there are ſeldom leſs than 80 veſſels loading coffee, ſugar, cotton, and indigo. The ſtreets are ſtraight, and lined with orange, ſhaddock, tamarind, and lemon trees, in continual bloom. It ſurrendered to the Engliſh in Auguſt, 1799. It is ſituate on the E ſide of the river Surinam, 16 miles from its mouth. Long. 5. 25 W. Lat. 5 48. N.

PARAIBA, a town of Braſil, on a river of the ſame name. The Dutch got poſſeſſion of it, in 1635, and fortified it with a ſlight rampart; but the Portugueſe retook it ſoon after. The ſoil is pretty fertile, and produces ſugar-canes, and a great number of trees of Braſil wood. Long. 49 53. W. Lat. 6. 50. S.

PARAMOUSIC, one of the Kurile Iſlands, lying S. of that of Shoomſka. See KURILES.

PARANA, a province of Paraguay, ſo named from a large river, which uniting with the Paraguay, and afterward with the Uraguay, forms the Rio de la Plata.

PARCHIM, a town of Lower Saxony, in the duchy of Mecklenburg, ſeated on a ſmall river which falls into the Elbe. It is 20 miles S.E. of Schwerin. Long. 12. 0. E. Lat. 53. 34. N.

PARCHWITZ, a town of Sileſia, in the principality of Lignitz, with a conſiderable manufacture of cloth. It is 12 miles W. of Wohlau, and 10 N.E. of Lignitz. Long. 16. 42. E. Lat. 51. 17. N.

PARDOBITZ, a fortified town of Bohemia, in the circle of Chrudim, with a manufacture of knives and ſword-blades. It is five miles N. of Chrudim, and 55 E. of Prague. Long. 15. 45. E. Lat. 49. 55. N.

PAREIRA BRAVA (*Encycl.*). Erroneouſly ſpelt PAREIRA PRAVA.

PARELLA, a town of Piedmont, in the county of Canavez, four miles S.S.W. of Ivrea, and 20 N. of Turin.

PARILLA, or ST. PARILLA, a town of Peru, in the audience of Lima, ſeated at the mouth of the river Santa, 50 miles S.E. of Truxillo, and 230 N.W. of Lima. Long. 77. 50. W. Lat. 8. 36. S.

PARISH-DINNER, a recent mode of ſupplying the poor with wholeſome and cheap food under the ſuperintendance of the pariſh. Such inſtitutions may be adapted to circumſtances in every town and village; as will be ſeen in the following account of a pariſh dinner for *poor children*, at Epping, publiſhed by Thomas Bernard, eſq. in the Reports of the Society for bettering the Condition of the Poor.

At Epping, in the county of Eſſex, where there is a ſchool of induſtry for the employment of children, an ordinary was, on the recommendation of Mr. Conyers, opened in October laſt; and a general dinner has been provided on week days, for any children of that place whoſe parents deſire it, on the following terms:

The price of the ordinary is ſix pence a-week for each child: they dine at table in a regular manner at one o'clock, in a room which adjoins to, but is unconnected with, the rooms of the workhouſe; and which, during the reſt of the day, has been uſed as a ſpinning ſchool. Grace is regularly and decently ſaid before and after dinner; and a voluntary expreſſion of thanks and obligation to the miſtreſs, for the good dinner ſhe has provided them, generally precedes their quitting the room. Their table of diet is, on Mondays, Wedneſdays, and Fridays, baked rice pudding; on Tueſday and Saturday beef ſtew and ſoup; and on Thurſday peaſe ſoup. They are allowed to eat as much as they pleaſe; and their healthy countenances and decent behaviour evidence the plenty and comfort of their meal. The ſame dinner is alſo given, in another room, to the pariſh children and the other perſons in the poor-houſe. The number of thoſe who partook of it, in the week, from the 12th to the 17th of the preceding month of February, was 77; the expence of that week's dinner for the materials merely and their bread (but without reckoning for dreſſing and attendance) being *l.* 12*s.* 1¼*d.* which is leſs than a penny a-head each day.

A particular account of this dinner may be uſeful; as it will prove that what is provided for them is good in quality, and ſufficient in quantity; and as it will ſerve to explain to others, how they may, with ſome attention and very little expence, contribute greatly to the comfort, the health, and the good habits of the children in their own neighbourhoods.

The following is an account of the week's fare of 77 perſons, from Monday the 12th to Saturday the 17th of February, 1798, both days incluſive, with the expence of each article.

MONDAY. *Baked rice pudding.*			*s.*	*d.*
20 lb. and a half of rice			2	6¾
3 lb. of ſuet			1	6
6 gallons of milk			1	3
Salt and allſpice				2¼
			s.	*d.*
			5	6

N. B. The rice is ſoaked in the milk the night before baking, and produces with the other materials about 80 lb. weight of pudding.

TUESDAY. *Beef ſtew and ſoup.*	*s.*	*d.*	
Ox's cheek	1	6	
2 quarts of Scotch barley		4½	
3 quarts of peaſe		10¼	
1 quart of oatmeal		2¼	
1 peck of potatoes		3	
Pepper, ſalt, and allſpice		6¼	
		s.	*d.*
		3	8¼
WEDNESDAY. *Baked rice pudding*, as on Monday		5	6
THURSDAY. *Peaſe ſoup.*			
4 lb. of pork	1	8	
6 quarts of peaſe	1	8½	
2 quarts of oatmeal		4½	
Pepper, ſalt, and allſpice		6¼	
		4	3¼
FRIDAY. *Baked rice pudding*, as before		5	6
SATURDAY. *Beef ſtew and ſoup.*			
5 lb. and a half of beef	2	3½	
2 quarts of peaſe		7½	
2 quarts of Scotch barley		4½	
Pepper, ſalt, and allſpice		6¼	
		3	9¾
Onions, mint, and carrots, for the week		1	0
A quarter of a pound of bread allowed on each of the three ſoup days, being 58 lb. a-week		4	10
Six days' dinners for 77 perſons	1	14	1¼

The children are generally thoſe whoſe behaviour is approved, and who are paid for by the week; but any others, in cleanly and decent order, are allowed to dine at the ſame rate, when there is room. In caſe of ſickneſs, they may ſend for their dinners home.—The common labourers find they can maintain their children in this manner much better, and a great deal cheaper, than in the uſual way of leaving them to conſume at home a great deal of white bread, with very little comfort; for example, a labourer who has four children finds that, by appropriating 2*s.* a-week out of his earnings, all his four children have a plentiful, regular, and decent meal, ſix days in the week; with twice the benefit to them, that they could have poſſibly derived from 2*s.* worth of white bread, eaten in the uſual ſolitary, uncivilized, and comfortleſs manner.

The ſituation of Epping, a large market-town, with a ſurrounding foreſt, the ſcene and object of petty thefts, and a public road through it, was not very favourable to the induſtry and regular habits of the poor; nor was their uſual dinner, of a hunch of bread, part to be ſwallowed with a little water as they went along (the other part being moſt frequently thrown away) conducive either to their health, or to habits of economy. It is therefore a moſt pleaſing circumſtance to ſtate, that, within one month after this dinner had been regularly pro-

vided at Epping, the appearance and manners of the poor children there were totally altered. Their fallow countenances had acquired a healthful complexion and tone, from the daily and regular fupply of a plentiful meal; and their manners, by the habits of an orderly table regularly ferved and attended, were improved and meliorated. To thofe, who had been confined by illnefs, this dinner has proved of particular fervice; as it has afforded them the means of re-eftablifhment in a ftate of convalefcence; a period when the poor are fubject to great difadvantages, and are frequently a long time recovering their health and ftrength, becaufe they are not provided with regular and nourifhing food.—"Four months have now paffed," fays Mr. Bernard, "fince the children at Epping have been thus aflembled once a-day, at a decent and civilifed table. I have attended it to-day, and with very great fatisfaction have beheld the decency, the cheerfulnefs, and the general neatnefs of all the members of this little fociety; and, being able to add my own teftimony to the information I have received, I can fay, that fuch effects appear to have been already produced on the health and good order of thefe little children, as muft be extremely gratifying to every one, who intereits himfelf in the welfare of his fellow-creatures.

"One confequence of this eftablifhment has been, that feveral labourers, who have large families, and are induftrious and deferving, have found themfelves exonerated of a great part of the maintenance of their children by their richer neighbours; who each take fome of thefe little ones, in their turn, under protection, and fubfcribe for them to the public dinner. This contributes to increafe that mutual good-will and connection, which ought to fubfift between the rich and the poor; and makes the one mindful of his duty, and the other fatisfied with his condition.

"The benefits of this eftablifhment are many and various. It converts benevolence to better purpofes, and into better channels than thofe through which it commonly flows; it brings the children of the poor into notice, teaching them regular habits, and the defire of profiting by their own induftry; and it not only fupplies the perfons in the workhoufe, but feveral poor families that are out of it, with fufficient food, comfortably, and at a very cheap rate. Where a labourer requires relief out of the houfe, the overfeer, if he fee caufe, directs meffes of the parifh dinner, proportionate to the family, to be fent to his houfe; and from fifteen to twenty indigent families are fupplied in this manner with a good meal at home every day. This affords much more effectual relief, and at lefs expence to the parifh, than the little pittance of money which is ufually given, and which they have not means to make an advantageous ufe of." See PAROCHIAL, *Supp.*

PARISH-MILL. See MILL, *Supp.*

PARKGATE, a village in Cheflire, 12 miles N.W. of Chefter. It is fituate on the N.E. coaft of the river Dee, and hence packet-boats frequently fail to Ireland.

PARKSTEIN, a town of Bavaria, in the principality of Saltzbach, 16 miles N. of Naburg. Long. 12. 14. E. Lat. 59. 40. N.

PARNASSUS, now called PARNASSO, a mountain of Livadia. It has two heads, one of which was famous for being conferated to Apollo and the Mufes, and the other to Bacchus. It is the higheft in Greece, and from the top is a profpect as far as Corinth. Here alfo is a fine fountain, fuppofed to be the ancient Caftalia. It is eight miles N. of Livadia.

PAROCHIAL, any thing belonging to a parifh. (See PARISH). The mode of affording parochial relief to the neceffitous is a moft important branch of civil polity, fince the commiffion of errors in diftributing the fums raifed for the relief of the poor, have the moft fatal effects on public induftry. The following account of the mode of parochial relief at Wendover, by the Rev. Jofeph Smith, deferves particular attention.

In that place and its neighbourhood, the calculation of the relief of the poor has been made on the prefumed and fuppofed earnings of the labourer, and not on the actual amount of what he does actually acquire by induftry and exertion. The object was to render the overfeer's duty as eafy as circumftances would admit, and to make the labourers contented under the preffure of the times, by giving them the power of exerting every act of fuperior induftry to their own advantage. The fum of nine fhillings per week was adopted as an *average of earnings*; to be increafed out of the poor's-rate to fuch a fum, as would purchafe every week, for the cottager, his wife, and every child under 10 years of age, a half-peck loaf each. "If they can earn more," fays Mr. Smith, "we do not enquire the amount; but leave it to them, as an encouragement of induftry. If they are indolent, and earn lefs, it is their own lofs; as is the cafe of thofe who throw themfelves on the parifh for work, and are allowed only eight fhillings a-week.

"No allowance is, in general, made for children above 10 years of age; they having a regular fupply of work, and being deemed capable of earning their own maintenance. Single women and widows unincumbered with any family, are alfo prefumed to be able to earn their own fubfiftence by lace-making, and therefore are alfo excluded from the allowance; except in cafes of ficknefs or old age, or where they can fhew that they have not the benefit of thofe means of fupply. Thefe, however, are only fhades of difference, depending on the peculiar fupply of occupation in a country, or upon the particular regulations of a place. Wherever the attention of the parifh, or local circumftances, afford a fupply of work to women, children, or to any other clafs of applicants, it would be a dangerous experiment to permit them to confefs idlenefs, and to plead indifpofition to avail themfelves of their means of fubfiftence; and therefore to allow them to be claffed among paupers receiving relief."

To this account are annexed the following very pertinent obfervations:

"It is impoffible for thofe who refide at a diftance from the metropolis, and act as magiftrates in an agricultural country, not to extend their reflections from the prefent fcarcity and temporary preffure, to confequences which may be ftill more afflictive, and of longer duration; and which, unlefs removed by exertions beyond the power of mere parochial relief, may be augmented and continued, as a deftructive inheritance attached to the landed property;—the confequence of that parochial relief, which, in obedience to the laws, the landed property now affords the labourer, through the medium of the tenantry, to enable him to meet the great advance in the price of every neceffary of life.

"In moft parifhes this has been judicioufly calculated to make up with their actual earnings, whatever they might be, a certain allowance for each in family; fo that they who have earned leaft by their own hands, have received moft from the parifh. A very little conflideration will convince any one, that, by fuch a meafure, all fpur to induftry, and all energy to contend with difficulty, muft be entirely deftroyed. For, when the habit is acquired of applying to the parifh, and the daily earnings of the labourer, without additional refources, are inadequate to the fupport of his family, no inducement is left for him to exert his beft abilities and induftry. If the amount is to be the fame in all cafes, how can it be expected that they will toil, merely to leffen the parifh rates? The lamentable fact is, that an indolent habit has been thus fuperinduced, and labourers do not exert themfelves as they did formerly. Their fpirit is fo broken down by circumftances, that they grow

reconciled to the idea of being paupers, and relying on parish relief, in preference to the more valuable and more honourable exertions of their own industry. The alarming consequence of this is, that the poor's-rates through the country have increased, and are increasing, to a degree that may well excite the fears of all who are interested in the fate of the landed property. The narrow policy of the farmer, operates to augment the evil. The rates, at present, are paid by the occupier: he feels the frequent demand of the overseer, without reflecting upon the increased price which he receives for his commodity at market; and the overseers, in general, being unprovided with other work for the labourers who apply for employment, send them to the farmer. He imagines that he gains some remuneration for his extra rates, by receiving the labourer into his yard from the overseer at an under price; the deficiency being to be made up out of the rates of the parish. But labourers, so employed, never work cheerfully or well. The farmer scarcely ever has more labour performed than he actually pays for; and the money contributed out of the rates is all expended, not only without any return of labour, but with the melancholy consequence of having materially contributed to the extinction of honest industry, and laudable exertion.

"In some parishes in my neighbourhood, the magistrate has been able to introduce a better regulation;—that of assuming an average price of labour, as a standard from which parochial relief shall be calculated; allowing the labourer to employ his extra hours, or extra labour in task-work, for his own exclusive advantage. This, however, is by no means generally adopted; nor, if it were, would it be sufficient to correct the evil of the extinction of that character of independence, which the English labourer did once so pre-eminently possess, and by which the community was so greatly benefited. There is too much reason to fear, that without great exertions from the land-owners to restore the labourer to his former honourable state, either by assisting him with a cow and ground to keep her, or by some other effectual incitement to exertion and industry, they will not remain stationary at their present point of deterioration. Unless they improve, they will become worse. Their inclination to indolence, and to those vices which are connected with it, will increase. Their demands upon their respective parishes will become more urgent: and the poor's-rates will so increase, that tenants will no longer be able to bear the expences attendant upon the occupation of their farms. The proprietors may then discover, not only the difficulty and disadvantage of occupying their lands themselves, but that, in a parish incumbered with paupers, the land may prove insufficient to the maintenance of the parochial poor."

PARRAMATTA, a town or settlement of English convicts, in New South Wales. It is seated at the head of the harbour of Port Jackson, 11 miles W. of Sydney Cove, between Rose Hill and the landing-place in the creek which forms the head. In 1791, near 1000 acres of land were either in cultivation, or cleared for that purpose; and the soil, in most places, was found to be remarkably good. Long. 151. 39. E. Lat. 35. 50. S.

PARSBERG, a town of Bavaria, in the principality of Neuburg, 18 miles N.W. of Ratisbon. Long. 11. 55. E. Lat. 49. 8. N.

PARSCHWITZ, a town of Silesia, in the principality of Lignitz, eight miles N.E. of Lignitz.

PARTHENAY, a town of France, in the department of Two Sevres. It carries on a considerable trade in cattle and corn, and is seated on the Thoue, 17 miles S. of Thours. Long. 0. 19. W. Lat. 46. 44. N.

PARTENKIRK, a town of Bavaria, 40 miles S.W. of Munich. Long. 11. 0. E. Lat. 47. 36. N.

PARYS, a mountain in the isle of Anglesey, famous for a copper mine, which is not wrought in the common manner of subterraneous mines, but, like a stone quarry, open to day; and the quantity of ore raised is prodigious. The purest part is exported raw to the smelting works at Swansea and other places: the most impure is first calcined and deprived of most of its sulphur on the spot. Quantities of merely pure copper are obtained from the waters lodged beneath the bed of ore, by the invervention of iron. A lead ore, rich in silver, is also found in this mountain.

PAS, a town of France, in the department of the Straits of Calais, 12 miles S.W. of Arras. Long. 2. 40. E. Lat. 50. 9. N.

PAS DE CALAIS, or STRAITS OF CALAIS, a department of France, containing the late provinces of Artois and Boulonnois. Arras is the capital.

PASEWALK, a town of Upper Saxony, in Anterior Pomerania. Near it are some iron-works. It is situate on the Ucker, 21 miles W. of Stettin, and 66 S.S.E. of Stralsund. Long. 13. 57. E. Lat. 53. 27. N.

PASSAROWITZ, a town of Turkey in Europe, in Servia, remarkable for a peace concluded there, in 1718, between Emperor Charles VI. and Achmet III. It is situate near the river Morava, 33 miles E.S.E. of Belgrade, and 44 W. of Orsova. Long. 21. 16. E. Lat. 45. 6. N.

PASSO, a cape of Peru, under the equator, in long. 78. 50. W.

PASSAGE, a sea-port of Spain, in Biscay, between those of Fontarabia and St. Sebastian, and 60 miles E. of Bilboa. Long. 2. 4. W. Lat. 43. 21. N.

PASSARO, a cape on the coast of Janna, in Greece, between the gulfs of Armiro and Zeiton.

PASSARVAN, a town of the island of Java, in the East Indies. Long. 114. 15. E. Lat. 7. 0. S.

PASSENHEIM, a town of Prussia, in the province of Oberland, 70 miles S. of Konigsberg. Long. 20. 50. E. Lat. 53. 40. N.

PASSERO, CAPE, anciently called Pachinus, the most southerly point of Sicily. It is a barren island, about a mile round, separated from the rest of Sicily by a strait, half a mile broad. It has a fort, to protect the country from the incursions of the Barbary corsairs, who are often very troublesome on the coast. Off this cape, Sir George Byng, in 1735, defeated a Spanish squadron. Long. 15. 22. E. Lat. 36. 35. N.

PASSIGNIANO, a town of Italy, in the Ecclesiastical State, seated on the lake Perugia, 17 miles N.W. of Perugia. Long. 12. 5. E. Lat. 43. 16. N.

PASTO, or ST. JUAN DE PASTO, a town of South America, in Popayan, seated in a fine valley, 120 miles N. by E. of Quito. Long. 76. 55. W. Lat. 1. 50. N.

PASTRANA, or PATRANA, a town of Spain, in New Castile, seated between the Tajo and Tajuna, 32 miles E. of Madrid. Long. 2. 46. W. Lat. 40. 26. N.

PATAK, a town of Hungary, with a Protestant college, situate on the Latorcza, 25 miles S.S.E. of Cassovia. Long. 21. 35. E. Lat. 46. 33. N.

PATEHUCA, or PATIOCA, a town of New Spain, in the audience of Mexico. Near it is a silver mine. It is 70 miles N. of Mexico. Long. 99. 55. W. Lat. 21. 0. N.

PATERNO, a town of Sicily, in Val di Demona, built on the ruins of Hybla, so celebrated for its honey. It is 15 miles W. of Catania. Long. 15. 14. E. Lat. 37. 35. N.

PATHHEAD, a considerable manufacturing village in Fifeshire, a little to the E. of Kirkcaldy.

PATRIA, a town of Naples, in Terra di Livoro, situate near a lake, to which it gives name, 13 miles N.W. of Naples.

PATRIMONY OF ST. PETER; a province of Italy, in the Eccleſiaſtical State. It is 35 miles long and 30 broad; bounded on the N. by Orvieto, on the E. by Umbria and Sabina, on the S. by Campagna di Roma, and on the S.W. by the ſea. Viterbo is the capital.

PATRINGTON, a town of the E. riding of Yorkſhire, with a market on Saturday. Here the Roman road from the Picts' Wall ended. It is ſeated at the mouth of the Humber, 50 miles S.E. of York, and 191 N. of London. Long. 0. 8. E. Lat. 53. 49. N.

PATTENS, a well-known contrivance, conſiſting of a ſoal of wood attached to an iron ring. They are worn by women chiefly, during wet weather, to protect their feet from moiſture, and their garments from dirt.

As pattens formed upon the common conſtruction are liable to break, in conſequence of which frequent accidents happen, various expedients have been deviſed by thoſe who manufacture theſe articles, with a view to prevent ſuch misfortunes. A patent was granted in 1798, to Mr. Jethro Hornblower, of Whitehall, in the county of Cornwall, engineer, for a method of making pattens (to be worn by women); by altering the compoſition and clumſineſs of their ſhape; preventing them from breaking; and removing the uneaſineſs they occaſion to the feet. A more excellent contrivance, however, has been made public, by a manufacturer at Birmingham, who, by the ſimple expedient of fixing a ſpring immediately beneath the hollow of the foot, by which the inſtep is kept uniformly in contact with the tie or band of the patten, has found means to prevent the clacking noiſe, and conſequent ſplaſhing of mud upon the ſtockings, which uſually happen in walking in common pattens.

PATTENSEN, a town of Lower Saxony, in the principality of Calemberg, formerly ſurrounded with walls, moats, and ramparts. It is ſix miles S. of Hanover.

PATTI, a town of Sicily, in Val di Demona, with a biſhop's ſee, ſeated on the gulf of Patti, 28 miles W. of Meſſina. Long. 15. 22. E. Lat. 38. 11. N.

PATTIARY, a town of Hindooſtan Proper, in the country of Oude, 55 miles N.W. of Carogue, and 55 E.N.E. of Agra. Long. 79. 45. E. Lat. 27. 33. N.

PATTUN, or PUTTAN, a town of Hindooſtan Proper, capital of a Circar of the ſame name, in the country of Guzerat. It is 48 miles N. of Amedabad, and 132 S.W. of Oudipour. Long. 72. 30. E. Lat. 23. 45. N.

PATUXEN, a river of the United States, which falls into the Cheſapeak, 30 miles S. of Annapolis.

PAUL, ST. an iſland in the Indian Ocean.

PAUL, ST. a town of France, in the department of the Straits of Calais, 16 miles W.N.W. of Arras. Long. 3. 30. E. Lat. 50. 24. N.

PAUL, ST. a town of Braſil, in the province of St. Vincent, ſurrounded by inacceſſible mountains and thick foreſts. It is a kind of independent republic, compoſed of the banditti of ſeveral nations, who, however, pay tribute to the Portugueſe. Long. 45. 52. W. Lat. 23. 25. S.

PAUL-DE-FENOUILLEDES, a town of France, in the department of Gard, ſeated among mountains, on the river Egli, 30 miles N. of Montpellier. Long. 3. 58. E. Lat. 44. 7. N.

PAUL-LES-VENCE, ST. a town of France, in the department of Var, five miles W. of Nice, and 450 S.E. of Paris. Long. 7. 13. E. Lat. 43. 42. N.

PAUL-TROIS-CHATEAUX, ST. an ancient town of France, in the department of Drome, ſeated on the declivity of a hill, 16 miles S. of Montelimar. Long. 4. 57. E. Lat. 44. 21. N.

PAULA, a town of Naples, in Calabria Citeriore, ſeated near the ſea, in a fertile and well-cultivated country, 12 miles W. of Coſenza. Long. 16. 9. E. Lat. 39. 24. N.

PAULOGRAD, a town of Ruſſia, in the government of Catharinenſlaf, 32 miles E. of Catharinenſlaf. Long. 35. 54. E. Lat. 47. 10. N.

PAVOASAN, a ſea-port of Africa, in the iſle of St. Thomas, with a fort, a biſhop's ſee, and a good harbour. It belongs to Portugal, and lies under the equator, in Long. 8. 30. W.

PAUSILIPPO, a mountain of Italy, five miles from Puzzoli, celebrated for a grotto, which is a ſubterraneous paſſage, through the mountain, near a mile in length, about 20 feet in breath, and 34 to 43 in height. People of faſhion generally drive through this paſſage with torches; but the country people find their way, without much difficulty, by the light which enters at the extremities, and at two holes pierced through the mountain, near the middle of the grotto, which admit light from above. On this mountain alſo is the celebrated tomb of Virgil, overgrown with ivy, and ſhaded with a bay-tree, ſhrubs, and buſhes.

PAUTZKE, a town of Weſtern Pruſſia, in Pomerellia, 25 miles N.W. of Dantzic. Long. 18. 41. E. Lat. 54. 44. N.

PAYERNE, a town of Switzerland, in the canton of Bern, 22 miles S.W. of Bern. Long. 6. 55. E. Lat. 46. 38. N.

PAZ, a town of Peru, in the audience of Los Charcos, with a biſhop's ſee; ſeated at the foot of a mountain, in a valley abounding in wine and fruits, 350 miles S.E. of Cuzco. Long. 68. 50. W. Lat. 17. 0. S.

PAZZY, a town of Turkey in Europe, in Romania, near Gallipoli, with a biſhop's ſee. Long. 26. 59. E. Lat. 40. 33. N.

PEARL-ISLANDS, iſlands lying in the bay of Panama. The inhabitants of Panama have plantations in them.

PEASANT (*Encycl.*). See the various means of bettering the condition of this uſeful claſs of the poor in Britain, under the articles COTTAGER, COTTAGE-GARDENS, INDUSTRY, SOCIETY, &c. in this SUPPLEMENT.

PEAT-BORER, a new-invented augre, calculated for cutting into peat. An account of it is given by T. Eccleſton, eſq. of Scareſbrick-hall, in Lancaſhire, in the Tranſactions of the Society for the Encouragement of Arts, &c.

"The greateſt obſtacle to the effectual draining of many boggy lands," ſays Mr. Eccleſton, "conſiſts in the earth in the bottoms of the ditches or drains when newly cut, and more eſpecially if made to any conſiderable depth, riſing from the preſſure of the waters contained in the bog, by which the new-cut drains and ditches are frequently ſo nearly filled up, as to impede the flowing of the water they were intended to carry off, and thereby rendering the work comparatively ineffectual.

"There are different layers, or ſtrata, in moſs or peat lands, which will not allow the water eaſily to filtrate through them, and yet are of ſo ſoft and ſpongy a nature as to riſe from the preſſure of the water contained in the bog.

"It becomes neceſſary to give a free vent to the above confined water, effectually to drain ſuch lands. This has been moſt ſucceſsfully done by the augre, a model of which I have herewith preſented to the Society.

"A common augre, or even a pole, will force a paſſage, and give vent to the water for a ſhort time; but, owing to

the peat being only preſſed ſideways, and not cut out, the parts ſoon join again, and the paſſage of the water, of courſe, becomes completely obſtructed; but by means of this augre, a cylindrical column of peat of ſix inches diameter will be clearly cut out and taken thence, and a free paſſage maintained for a very conſiderable ſpace of time.

"The firſt experiment made produced a clear augre-hole of the above dimenſions, four yards in depth, in one hour; and the water, which had been pent up in the bog, roſe above the level of the bottom of the ditch, from four to ſix inches; and the bottom of the ditch, which was previouſly very ſoft, and had begun to ſwell and riſe, in a few days became more firm and ſolid, and this in ſo great a degree, that when cleared it remained without ſwelling or riſing in the leaſt. It will conſiderably reduce the expence of draining ſuch lands, by rendering them ſo firm as to cauſe the firſt end-drains to ſtand.

"The moſt proper depth to bore depends on the ſituation. Where the moſs lands lie low, and are in danger of being flooded, no greater depth than what is abſolutely neceſſary for draining the ſurface ſhould be bored, as by deep boring the land may be ſunk ſo low as to be liable to inundation."

The following are the *references to the figure in Pl.* 41.—A, the cutter of the borer, which penetrates the peat. B, the body of the borer, ſix inches in diameter. C, the aperture through which the peat introduced by boring is drawn out. D, a portion of the iron bar of the borer, to the upper part of which a croſs handle is to be fixed.

PEATHS, or PEESE, a vaſt chaſm in the mountains of the N.E. part of Berwickſhire. It is more than 160 feet deep; and over it is a noble bridge of four arches. From its vaſt height, it greatly reſembles an ancient Roman aqueduct.

PECQUENCOUR, a town of France, in the department of the North, ſeated on the Scarpe, five miles E. of Douay. Long. 3. 16. E. Lat. 50. 23. N.

PEDEE, a river of the United States, which riſes in North Carolina, and is there called Yadkin River: on entering South Carolina, it takes the name of Pedee, and flows into the Atlantic Ocean, 12 miles below George Town.

PEDENA, an ancient town of Italy, in Venetian Iſtria, with a biſhop's ſee, 25 miles S.E. of Capo d'Iſtria. Long. 14. 13. E. Lat. 45. 34. N.

PEDERNEIRA, a ſea-port of Portugal, in Eſtremadura, 18 miles N.E. of Peniche. Long. 8. 6. W. Lat. 39. 31. N.

PEDIR, a town of Sumatra, in the Eaſt Indies, 40 miles E. of Achen. Long. 96. 36. E. Lat. 5. 22. N.

PEDOMETER, (*Encycl.*). The utility of pedometers for the purpoſe of ſurveying land being obvious, various inſtruments of this deſcription have been conſtructed by ingenious mechanics, in order to facilitate the practice of geometry. Among theſe, Mr. Edgeworth's late contrivance deſerves to be firſt mentioned, on account of its great ſimplicity; but, as it is calculated only for level grounds, and is apt to be deranged by hilly or irregular ſurfaces, we decline to enter into any detail.

A pedometer, upon a new plan, was a few years ſince contrived by Mr. W. Fraſer, mathematical inſtrument-maker, of New Bond-ſtreet. It is ſtated to be perfectly correct, and not liable to be out of order. The wheel-work is conſtructed on the ſcale of 1000 paces to a mile; and, as it winds itſelf up, while in motion, being adjuſted to pockets of all ſizes, it is attended with no trouble to the wearer. It is provided with a compaſs, by means of which the traveller is enabled to aſcertain the different directions which he takes on his excurſion; while he learns the accurate diſtance which he has walked. Hence it recommends itſelf to thoſe invalids, who are obliged to take a certain degree of exerciſe within doors; as they may thus meaſure the thouſandth part of a mile.

Another machine, which deſerves more immediate attention, is the pedomete invented by Mr. Lewin Tugwell, of Beverſtone, in the county of Glouceſter, and which is repreſented in Pl. 41. where A, is the ſtock of the pedometer; B, B, B, &c. twelve ſpokes; one end of which is faſtened by means of a ſcrew to the outward ring, or periphery of the wheel, while the other is inſerted in the ſtock. C, the periphery, which is an iron ring ſixteen and half feet, or one pole, in circumference; and which is divided into twenty-five equal parts, correſponding to the links of Gunter's chain for land-meaſuring, &c. D, D, D, &c. are twelve ſmall plates, repreſenting the ſeparate ſpokes, and each of which includes two links of the chain above mentioned; the twelfth ſpoke being divided at its foot, for comprehending the twenty-fifth link. E, an iron axis, being a ſcrew with 320 circumlocutions, each of which is marked ſeparately on an engraved index on one of its ſides; and, in order to apply this part of the machine, it is ſcrewed firmly into the ſtock of the wheel, with which it revolves when in motion. F, a ſtyle, or alidade, being an expanding ſcrew-nut, that embraces the axis, along which it ſcrews, as the latter revolves with the wheel; and, as each revolution deſcribes an exact longitudinal pole (four of which are computed to a chain), the ſtyle being pendant, and moving towards its proper figure, denotes the length of ground paſſed; and it is divided into chains and poles on the index of the axis E, and into links on the periphery C. G, is a ſmall adjuſting ſcrew; which being turned, the ſtyle may be removed to the beginning of the index, after the given line, in ſurveying or meaſuring land, has been aſcertained in chains, poles, &c. H, repreſents a croſs, or ſquare, with ſights for determining perpendiculars in land-meaſuring. It is ſuſpended at its ends on the axis, whence it may be occaſionally detached by a ſimple touch of the finger and thumb, when in uſe. Further, this croſs prevents the ſtyle from being revolved with the axis by any accident. As the 320 diviſions marked on the index of the axis E, deſcribe a mile, the ſtyle F, after having paſſed over them, will ſtop: and, as it will now move round with the axis, it will carry with it the ſtandard; which will ſtrike on the wriſt of the operator, and thus prevent him from proceeding to any further diſtance, till he withdraws his hand from between ſuch ſtandard and the axis. Having received this hint, he turns the ſcrew G; puts the ſtyle F back to the bottom of the index; and continues the revolution of the machine, till he has completed his courſe.

Mr. Tugwell's contrivance is particularly calculated to prevent error in meaſuring land; as one perſon may thus ſurvey with greater accuracy and expedition, than by the uſe of the chain alone. Beſides, no fraud can poſſibly be committed by labourers, in meaſuring taſk-work; a circumſtance of the utmoſt importance to agriculturiſts.

The laſt contrivance we ſhall mention, is that of Mr. Ralph Gout, of Bunhill-row, London; whoſe new pedometrical patent watch differs from the inſtrument invented by Mr. Fraſer, in this eſſential circumſtance, that the former is connected with a time-piece, while the latter is combined with a compaſs. Thoſe who live in the metropolis, or viſit places, the ſituation of which is known to the traveller, will perhaps give the preference to Mr. Gout's capped metal watch with a pedometer, which he manufactures by ſubſcription for 15l. 15s. (or the pedometer alone, for

8l. 8s.):—on the other hand, we conceive, perſons reſiding in the country, eſpecially ſportſmen, who are generally provided with a watch, on their excurſions, will probably find Mr. Fraſer's pedometer, on account of its compaſs, the more uſeful inſtrument.

PEDRO, Point, the moſt northern point of the iſland of Ceylon, oppoſite Point Calymere, on the continent of India. Long. 80. 27. E. Lat. 9. 53. N.

Pedro, St. one of the iſlands in the South Pacific Ocean, called Marqueſas. Long. 138. 51. W. Lat. 9. 58. S.

PEER, a town of the Netherlands, in the biſhopric of Liege, 24 miles N.N.W. of Maeſtricht. Long. 5. 20. E. Lat. 51. 8. N.

PEGAU, a town of Upper Saxony, ſituate on the Elſter, 10 miles S.W. of Leipſic, and 58 W. of Dreſden. Long. 12. 22. E. Lat. 51. 13. N.

PEGNAFIEL, a town of Spain, in Old Caſtile, remarkable for its palace, caſtle, and fortifications; and its cheeſes are ſaid to be the beſt in Spain. It is ſeated on the Douero, 20 miles S.E. of Valladolid. Long. 4. 0. W. Lat. 41. 41. N.

PEGNA-MACOR, a town of Portugal, in Beira, with a caſtle, 40 miles N.W. of Alcantara. Long. 6. 32. W. Lat. 39. 50. N.

PEGNARANDA, a town of Spain, in Old Caſtile, 30 miles S.W. of Olmedo. Long. 4. 8. W. Lat. 40. 59. N.

PEINE, a town of Lower Saxony, in the duchy of Brunſwick; famous for a battle fought in 1553, when Maurice, elector of Saxony, and the margrave of Brandenburg, were killed. It is 17 miles W. of Brunſwick. Long. 10. 19. E. Lat. 52. 25. N.

PEIPUS, a large lake of Ruſſia, in the government of Livonia. The river Narova iſſues from this lake, by which it has a communication at Narva, with the gulf of Finland.

PEISHORE, or Pishour, a conſiderable city of Hindooſtan Proper, in the province of Cabul. It is ſubject to the King of Candahar, and is 50 miles N.W. of Attock. Long. 96. 54. E. Lat. 32. 44. N.

PEITZ, a town of Upper Saxony, in the Ucker marche Brandenburg. In the neighbourhood are iron mines, and manufactures of pitch and turpentine. It is 30 miles S.S.W. of Frankfort on the Oder. Long. 8. 35. E. Lat. 52. 5. N.

PELAGNISI, an iſland in the Grecian Archipelago, about eight miles in circumference. Long. 24. 12. E. Lat. 39. 30. N.

PELIGRINO, Mount, a promontory on the N. coaſt of the iſland of Sicily, nearly two miles W. of Palermo. The proſpect from this mount is beautiful and extenſive: moſt of the Lipari Iſlands are diſcovered in a clear day, and alſo a large portion of Mount Etna, although at the diſtance of almoſt the whole length of Sicily. On this mount is a cavern, in which is the image of St. Roſolia, who is ſaid to have died here; and round the cave of this ſaint (who is the patroneſs of Palermo) a church is built, where prieſts attend, to watch the precious relics, and receive the offerings of the pilgrims.

PELISSA, a town of Lower Hungary, capital of a county of the ſame name. It is ſeated near the Danube, 15 miles N. of Buda. Long. 18. 20. E. Lat. 47. 40. N.

PELISSANE, a town of France, in the department of the Mouths of the Rhone, 15 miles W.N.W. of Aix. Long. 5. 21. E. Lat. 43. 26. N.

PELLA, a town of Turkey in Europe, in Janna, 50 miles W. of Salonichi. Long. 21. 53. E. Lat. 40. 42. N.

PELLERIN, a town of France, in the department of Lower Loire, ſituate on the Loire, with a harbour for ſmall veſſels, 10 miles N. of Nantes, and 13. S.E of Painbœuf. Long. 1. 44. W. Lat. 47. 23. N.

PELOSO, a town of Naples, in Baſilicata, 35 miles W. of Bari. Long. 16. 20. E. Lat. 41. 26. N.

PEMBA, a town of Congo, capital of a province of the ſame name. Long. 18. 25. E. Lat. 7.30. S.

Pemba, or Penda, an iſland in the Eaſt-Indian Ocean, near the coaſt of Africa, about 100 miles in circumference, governed by a king, tributary to the Portugueſe. Long. 40. 0 E. Lat. 5. 50. S.

PEMBRIDGE, a town in Herefordſhire, with a market on Tueſday, ſeated on the Arrow, 12 miles N.W. of Hereford, and 145 W.N.W. of London. Long. 2. 42. W. Lat. 52. 14. N.

PENA GARCIA, a town of Portugal, in Beira, with a caſtle. It was taken by Philip V. in 1704; but he retired from it at the approach of the allies. It is ſix miles E. of Idanha Velha. Long. 6. 6. W. Lat. 39. 40. N.

PENALVA, a town of Portugal, in Beira, ſeated on a hill, with a caſtle, eight miles S. of Coimbra. Long. 8. 17. W. Lat. 40. 4. N.

PENAUTIER, a town of France, in the department of Aude, four miles N. of Carcaſſonne. Long. 2. 25. E. Lat. 43. 18. N.

PENEMUNDER, a fortreſs of Upper Saxony, in Pruſſian Pomerania, ſeated in the iſle of Uſedom, at the mouths of the Pene and Oder, in the Baltic Sea. Long. 14. 10. E. Lat. 54. 16. N.

PENGUIN ISLAND and BAY, on the coaſt of Patagonia, 182 miles N. of Port S. Julian. Lat. 47. 48. S.

PENHA GARCIA, a town of Portugal, in Beira, on the borders of Spain, nine miles E. of Caſtel Branco. Long. 6. 30. E. Lat. 39. 50. N.

PENICHE, a ſtrong town of Portugal, in Eſtremadura, with a good harbour and a citadel, 34 miles N. of Liſbon. Long. 9. 5. E. Lat. 39. 16. N.

PENICK, a town of Upper Saxony, in Miſnia, belonging to the Elector of Saxony. Here is a manufacture of woollen ſtuffs, and a pottery. It is ſeated on the Multe, eight miles E. of Altenburg. Long. 12. 44. E. Lat. 50. 59. N.

PENISCOLA, a town of Spain, in Valencia, ſeated on a high point of land on the Mediterranean, 60 miles N. of Valencia. Long. 1. 0. E. Lat. 40. 29. N.

PENISHEHR, a town of Hindooſtan Proper, capital of a diſtrict, in the country of Cabul, 46 miles N. of Cabul. Long. 68. 24. E. Lat. 35. 16. N.

PENKRIDGE, a town in Staffordſhire, with a market on Tueſday. It was formerly a large place, but now greatly reduced, and principally noted for its horſe fairs. It is ſix miles S. of Stafford, and 129 N.W. of London. Long. 2. 0. W. Lat. 52. 54. N.

PENKUM, a town of Upper Saxony, in Anterior Pomerania, 15 miles S.W. of Stettin, and 43 N.N.W. of Cuſtrin.

PENNAFLOR, a town of Spain, in Auſturias, ſeated on the Aſta, 14 miles S.W. of Oviedo. Long. 5. 56. W. Lat. 43. 15. N.

Pennaflor, a town of Spain, in Andaluſia, ſeated near the Xenil, 10 miles N. of Ecjia. Long. 4. 12. W. Lat. 37. 44. N.

PENNANT (Thomas), a diſtinguiſhed naturaliſt and traveller, was born in 1726, in Flintſhire, where his family had lived for ſome centuries. He received the rudiments of his education firſt at Wrexham, and afterwards at a ſeminary at Fulham in Middleſex. At a proper age he was entered at Ox-

ford, and having made a conſiderable proficiency in the claſſics, he applied himſelf, within the walls of that univerſity, to attain a knowledge of juriſprudence; but we do not find that he ever entered himſelf of any of the inns of court, or followed the law as a profeſſion.

The ruling paſſions of mankind are excited, and the future current of their lives frequently directed, by trivial circumſtances. One of the greateſt painters of our age was attracted with an irreſiſtible impulſe towards his art by the peruſal of a treatiſe on it; and we have the authority of the ſubject of this memoir for aſſerting, that a preſent of Willughby's Ornithology, at an early period, firſt gave him a turn for natural hiſtory, which never once abandoned him through the courſe of a very long life.

Mr. Pennant commenced his travels with great propriety at home, where he made himſelf acquainted with the manners, productions, and curioſities, of his native country, before he ſallied forth to inſpect thoſe of other nations. He then repaired to the continent; and not only acquired conſiderable additional knowledge relative to his favourite ſtudies, but became acquainted, and eſtabliſhed a correſpondence, with ſome of the greateſt men of the age.

On his return he married, and had two children, but did not come into the family fortune until he was thirty-ſeven years of age, at which time he was ſettled at Downing.

Having loſt his wife, he appears to have ſet out once more for the continent, and to have formed an acquaintance with Voltaire, Buffon, Haller, Pallas, &c. He had by this time acquired conſiderable reputation as a ſcientific man, having commenced his career as an author ſo early as 1750. His Britiſh Zoology eſtabliſhed his reputation as a naturaliſt; and this received a freſh acceſſion of celebrity in conſequence of his acquaintance with Linnæus, and his intercourſe by letters with all the celebrated naturaliſts in Europe.

Early in life he had undertaken a moſt intereſting tour to Cornwall; and he now entertained an ardent deſire to ſurvey the works of nature in the northern extremities of the iſland. He accordingly ſet out for Scotland, and in 1771 favoured the public with an entertaining account of his Tour, which was ſo well received as to paſs through ſeveral editions. Not content with the main land of Great Britain, he was ambitious to ſurvey the iſlands in the vicinity, and accordingly penetrated to the Hebrides, and viſited Man.

It is not to be ſuppoſed that he would leave his own country unexplored; on the contrary, he minutely deſcribed all its wonders. He did not fail on this occaſion to preſent the world with the reſult of his enquiries, for in 1778 he commenced the publication of his Welch Tour.

In four years after this (1782) appeared the account of the Journey from Cheſter to London, in which he refutes the vulgar opinion that it is unintereſting; and in two years more his Arctic Zoology, an admirable work, greatly prized both here and in other countries.

In 1790 appeared a quarto volume, ſimply entitled, "Of London;" in which he obſerves, that this work is compoſed from obſervations, originally made without any view of publication; and requeſts the good inhabitants of London and Weſtminſter not to be offended at his having ſtuffed their Iliad into a nutſhell.

Nothwithſtanding a parting addreſs, which was annexed, we find Mr. Pennant adventuring once more in the ocean of literature at a late period of his life. He accordingly publiſhed the Natural Hiſtory of the Pariſhes of Holywell and Downing, within the precincts of the latter of which he had reſided about half a century. He alſo preſented the public, a very ſhort time before his death, with a ſplendid work, conſiſting of 2 vols. 4to. entitled, "The View of Hindooſtan;" in the preface to which he candidly ſtates his motives for this new attempt. Theſe valuable volumes are drawn up by Mr. Pennant in the manner of his introduction to the Arctic Zoology. The plates, 23 in number, are admirably engraved, and one (the Napaul pheaſant), is beautifully coloured.

In addition to the liſt of literary labours already enumerated, is a letter on an earthquake felt at Downing in Flintſhire, in 1753; another inſerted in the ſame publication, in 1756, on coralloid bodies (κοραλλοειδης) collected by him: his Synopſis of Quadrupeds, publiſhed in 1771; a pamphlet On the Militia; a paper On the Turkey; and a volume of Miſcellanies.

Mr. Pennant attained academical honours of all kinds, having had the degree of LL.D. conferred on him by the univerſity in which he was educated, he was a Fellow of the Royal Society, and a member of the Society of Antiquaries, a Fellow of the Royal Society of Upſal in Sweden, a member of the American Philoſophical Society, an honorary member of the Linnæan Society of London, &c.

The ample fortune left him by his father enabled Mr. Pennant to keep an hoſpitable table, and alſo to preſent the profits of ſeveral of his works to public inſtitutions, particularly the Welſh charity-ſchool in Gray's-inn-lane. He encouraged ſeveral engravers by his patronage, and was not a little ſerviceable to the advancement of the fine arts.

In 1776 he married a ſecond time; on which occaſion he became united to Miſs Moſtyn, ſiſter of his neighbour, the late Sir Roger Moſtyn, in Flintſhire. The latter part of his life was cheerful, and he ſcarcely felt the approaches of old age. He died at his ſeat at Downing in his 72d year.

He has left ſeveral works behind him in MS. under the title of, "Outlines of the Globe;" and, as a proof that it will be a very voluminous and intereſting publication, it is only neceſſary to obſerve, that, The View of Hindooſtan compoſed the 14th and 15th volumes.

Mr. Pennant poſſeſſed a well-compacted frame of body, an open and intelligent aſpect, an active and cheerful diſpoſition, and a vivacity which rendered him always entertaining, as well in converſation as in writing. Though not without a ſhare of iraſcibility, his heart was kind and benevolent. He was exemplary in the relations of domeſtic life, and ſenſibly felt for the diſtreſſes of his poor neighbours, whoſe relief in ſeaſons of hardſhip he promoted with great zeal and liberality. His candour and freedom from ordinary prejudices, are ſufficiently diſplayed in his writings; and Scotland was forward to confeſs, that he was the firſt traveller from this ſide the Tweed, who had viſited the country with no unfriendly ſpirit, and had fairly preſented it under its favourable as well as its leſs pleaſing aſpect. As a writer, his ſtyle is lively and expreſſive, but not perfectly correct. His principles of arrangement in zoology are judicious, and his deſcriptions characteriſtic. If in ſome of his later works a little vanity appears, and a propenſity to think that important to the world which was ſo to himſelf, it may readily be pardoned to one who has afforded ſuch copious and valuable entertainment to the public.

PENNAR, a river in the peninſula of Hindooſtan, which flows by Gooty, Gandicotta, Cuddapah, and Vellore, and enters the bay of Bengal, at Gangapatnam.

PENNON, a fort of Barbary, ſeated on a ſmall iſland before the harbour of Algiers.

PENNON DE VALEZ, a very important ſea-port of Barbary, ſeated on a rock in the Mediterranean, near the town of Velez. It was built by the Spaniards in 1508, taken by the Moors in 1522, and retaken in 1664. It is 75 miles E. of Ceuta. Long. 4. 0. W. Lat. 35. 25. N.

PENOBSCOT, a bay of North America, in the diſtrict

of Main, at the mouth of the river Penobſcot. It is long and capacious; and its E. ſide is lined with a cluſter of ſmall iſlands.

PENRISE, a ſea-port in Glamorganſhire, with a market on Thurſday; ſeated on the Britiſh Channel, 20 miles S.E. of Carmarthen, and 219 W. of London. Long. 4. 12. W. Lat. 51. 37. N.

PENSFORD, a town in Somerſetſhire, with a market on Tueſday. It is noted for its hats and bread, and ſeated on the Chew, ſeven miles W. of Bath, and 117 W. by S. of London. Long. 2. 30. W. Lat. 51. 23. N.

PENTLAND HILLS, a ridge of mountains in Edinburghſhire, extending about ten miles from S.W. to N.E.

PENZA, a government of Ruſſia, formerly a province of Kaſan. Its capital, of the ſame name, is ſeated on the Sura, where it receives the rivulet Penza, 220 miles S.W. of Kaſan.

PENZLEIN, a town of Lower Saxony, in the principality of Mecklenburg, 53 miles E. of Stettin. Long. 15. 36. E. Lat. 53. 30. N.

PEQUIGNY, a town of France, in the department of Somme; remarkable for the interview between Lewis XI. of France and Edward IV. of England, in 1475, on a bridge built for that purpoſe. It is ſeated on the river Somme, 15 miles S.E. of Abbeville. Long. 2. 5. E. Lat. 49. 58. N.

PERAY, St. a village of France, in the department of Ardeche, noted for its wines. It is 21 miles N.W. of Privas.

PERCASLAW, a town of Ruſſia, in the government of Kiof, 44 miles S.E. of Kiof. Long. 31. 50. E. Lat. 50. 0. N.

PERECZAS, a town of Upper Hungary, capital of a county of the ſame name, 50 miles E. by N. of Tockay. Long. 22. 26. E. Lat. 48. 30. N.

PERGA, a town of Turkey in Europe, in Albania, oppoſite the iſland of Corfu. Long. 20. 19. E. Lat. 39. 40. N.

PERGAMAR, a town of Turkey in Europe, in Romania, with a biſhop's ſee; 60 miles S.W. of Adrianople, and 65 N.W. of Gallipoli. Long. 25. 55. E. Lat. 41. 10. N.

PERGAMO, an ancient town of Natolia, with a biſhop's ſee, a palace, and a caſtle. It is not ſo conſiderable as formerly, but has nine moſques, and occupies an oblong circumference of three miles, at the foot of a mountain. Here parchment was invented. It is ſeated on the Germaſti, 15 miles from its mouth, and 37 N. of Smyrna. Long. 27. 27. E. Lat. 39. 5. N.

PERIA, a town of Perſia, in the province of Irac, 90 miles W. of Iſpahan. Long. 51. 25. E. Lat. 32. 20. N.

PERIAC, a town of France, in the department of Aude, celebrated for its ſalt-works, ſix miles S.W. of Narbonne.

PERIAPATAM, a town of the peninſula of Hindooſtan, 24 miles S.W. of Seringapatam, and 54 N.E. of Tellicherry. Long. 76. 31. E. Lat. 12. 15. N.

PERINDA, a town of the Decan of Hindooſtan, in the province of Dowlatabad, 188 miles N.W. of Hydrabad. Long. 75. 50. E. Lat. 18. 33. N.

PERLEBERG, a town of Upper Saxony, the capital of the marche of Prignitz, 62 miles N.W. of Berlin. Long. 12. 36. E. Lat. 53. 25. N.

PERM, a government of Ruſſia, formerly a province of Kaſan. It is divided into two provinces, namely, Perm, the capital of which is of the ſame name, ſeated on the river Kama, where it receives the Zegochekha; and Catharinenburg, the capital of which is of the ſame name, ſeated near the ſource of the river Iſſel.

PERNALLA, a town of the Decan of Hindooſtan, in the province of Guzerat, 20 miles W. of Durampour, and 38 S. of Surat. Long. 72. 53. E. Lat. 20. 35. N.

PERNE, a town of France, in the department of the Mouths of the Rhone. It is the birth-place of the celebrated orator Flechier, biſhop of Niſmes, and a little to the W. of Apt.

PERNEAU, a town of Ruſſia, in the government of Livonia, with a caſtle. It is ſeated near the mouth of a river of the ſame name, 35 miles N. of Riga. Long. 23. 37. E. Lat. 58. 26. N.

PERNES, a ſtrong town of France, in the department of the Straits of Calais, ſeated on the Clarence, 17 miles N.W. of Arras. Long. 2. 31. E. Lat. 50. 29. N.

PERNO, a town of Sweden, in the province of Nyland, on the coaſt of the Baltic, 36 miles E. of Helſingfors. Long. 25. 40. E. Lat. 60. 30. N.

PERNOV, a town of Ruſſia, in the government of Riga, fortified and defended by a caſtle. It is 92 miles N. of Riga. Long. 24. 30. E. Lat. 58. 30. N.

PEROUSA, a town of Piedmont, the chief place of a valley of the ſame name. It is ſeated on the Cluſon, 16 miles S.W. of Turin. Long. 7. 18. E. Lat. 44. 59. N.

PERSAIN, a town of the kingdom of Pegu, near a river of the ſame name, 132 miles S.W. of Pegu. Long. 94. 55. E. Lat. 16. 45. N.

PERSIA, Gulf of, a gulf between Perſia and Arabia Felix. The entrance near Ormis is not above 30 miles over; but within it is 180 in breadth, and the length from Ormus to the mouth of the Euphrates is 420 miles.

PERTHES, a town of France, in the department of Seine and Marne, ſix miles S.S.W. of Melun.

Perthes, a town of France, in the department of Upper Marne, ſix miles N.W. of St. Dizier.

PERTIGI, a town of the iſland of Sardinia, 19 miles S.E. of Caſtel Aragoncſe.

PERTUIS, a town of France, in the department of the Mouths of the Rhine, 10 miles N. of Aix, and 27 of Marſeilles. Long. 5. 36. E. Lat. 43. 44. N.

PERUGIA, an ancient and populous city of Italy, capital of Perugino, with a ſtrong citadel, a univerſity, and a biſhop's ſee. The churches, and many other buildings, public and private, are very handſome. It is ſeated on a hill, 75 miles N. of Rome. Long. 12. 20. E. Lat. 43. 6. N.

PESCIA, a town of Tuſcany, with a biſhop's ſee. The oil made here is much eſteemed. It is 10 miles S.W. of Piſtoia. Long. 11. 22. E. Lat. 43. 47. N.

PESTI, a town of Naples, in Principato Citeriore, ſeated near the magnificent ruins of the ancient Pæſtum, 20 miles S.E. of Salerno. Long. 15. 7. E. Lat. 40. 20. N.

PETAPA, a town of Mexico, in the province of Guatimala, 20 miles S. of Guatimala. Long. 90. 30. W. Lat. 13. 20. N.

PETER AND PAUL, St. or Petropawloskoi, a ſea-port of Kamtſchatka, in the Ruſſian government of Irkutzk. The town conſiſts of ſome miſerable log-houſes and a few conical huts. Captain Clerke, who ſucceeded Captain Cook, and died at ſea, was interred here. Long. 158. 43. E. Lat. 53. 0. N.

PETERSBERG, a town of Lower Saxony, in the duchy of Magdeburg, 48 miles S.S.E. of Magdeburg.

PETERSBURG, a town of the United States, in Georgia, ſituate at the confluence of the rivers Savannah and Broad, 50 miles N.W. of Auguſta. Long. 81. 32. W. Lat. 33. 46 N.

PETERSDORF, a town of Pruſſia, in the province of Samland, 24 miles E. of Königſberg.

PETERSHAGEN, a town of Germany, in the principality of Minden, ſeated on the Weſer, three miles from Minden, and 37 W. of Hanover. Long. 9. 6. E. Lat. 52. 25. N.

PETHERTON, a town in Somerſetſhire, with a market on Tueſday; ſeated on the Parret, 18 miles S. by W. of Wells, and 133 W. by S. of London. Long. 2. 41. E. Lat. 50. 56. N.

PETIGLIANO, a town of Tuſcany, in the Sienneſe, eight miles W. of Caſtro, and 45 S.E. of Sienna. Long. 11. 42. E. Lat. 42. 23. N.

PETIT GUAVE, a ſea-port of St. Domingo, ſeated on a bay at the weſt end of the iſland. It is 200 miles E. of Jamaica. Long. 72. 52. W. Lat. 18. 27. N.

PETOUNE, a city of Eaſtern Chineſe Tartary, in the department of Kirin. It has ſcarcely any inhabitants but Tartar ſoldiers, and Chineſe condemned to exile. It is ſeated on the Songari, 112 miles N. by E. of Kirin, and 500 N.E. of Pekin. Long. 124. 55. E. Lat. 45. 3. N.

PETRELLA, a town of Naples, in the Moliſe, 11 miles E. of Moliſe.

PETRELLA, a town of Turkey in Europe, in Albania, 26 miles S.E. of Durazzo. Long. 19. 36. E. Lat. 41. 35. N.

PETRIKOW, a town of Great Poland, in the palatinate of Siradia, 80 miles S.W. of Warſaw. Long. 19. 46. E. Lat. 51. 12. N.

PETRINA, or PETRINIA, a ſtrong town of Auſtrian Croatia, ſeated on the Petrina, 27 miles E. of Carlſtadt. Long. 16. 0. E. Lat. 46. 0. N.

PETTAPOLLY, a ſea-port of Hindooſtan, on the coaſt of Coromandel, where the Dutch have a factory, 42 miles S.W. of Maſulipatam. Long. 80. 46. E. Lat. 15. 49. N.

PETTAW, a town of Auſtria, in the duchy of Stiria. It belongs to the Biſhop of Saltzburg, and is ſeated on the Drave, 28 miles S. by E. of Gratz. Long. 15. 37. E. Lat. 46. 46. N.

PETTYCUR, a harbour in Fifeſhire, one mile from Kinghorn, in the frith of Forth. It is the uſual landing place of paſſengers from Leith, on the oppoſite ſhore.

PEVENSEY, a village in Suſſex, ſituate on a ſmall river, which runs into a bay of the Engliſh Channel, called Pevenſey Harbour, 14 miles W.S.W. of Haſtings. Here is an ancient caſtle, which belonged to Robert earl of Moreton, and is ſaid to be the largeſt and moſt entire remain of Roman building to be ſeen in Britain. Pevenſey was anciently a famous haven, though now it is nearly two miles from the ſea. Here Swaine landed in 1049, when he carried off his couſin Beorn and murdered him: Godwin, and his ſon Harold, afterwards ravaged it, and took away many ſhips: and here William the Conqueror landed, when he invaded England.

PFAFENHOFEN, a town of Upper Bavaria, with a Benedictine monaſtery at a ſmall diſtance. It is ſeated on the Ilm, 19 miles N.W. of Ratiſbon. Long. 12. 3. E. Lat. 49. 27. N.

PFALGEL, a town of Germany, in the electorate of Treves. Here is a convent, which was formerly a palace of the kings of the Franks. It is three miles N.E. of Treves.

PFIRT, or FORETTE, a town of France, in the department of Upper Rhine, 10 miles W. of Baſil. Long. 7. 20. E. Lat. 47. 37. N.

PFORTZHEIM, a town of Suabia, in the marquiſate of Baden-Durlach, with a caſtle, ſeated on the Entz, 15 miles S.E. of Durlach. Long. 9. 46. E. Lat. 48. 57. N.

PFREIMB, a town of Upper Bavaria, with a caſtle, ſeated at the confluence of the Pfreint and Nab, 10 miles N.E. of Amberg. Long. 12. 21. E. Lat. 49. 21. N.

PFULLENDORF, an imperial town of Suabia, ſeated on the Andalſpatch, 37 miles S.W. of Ulm. Long. 9. 27. W. Lat. 48. 8. N.

PHANAGORIA, a ſmall and beautiful iſland of Aſia, on the E. ſide of the ſtrait of Caffa.

PHANTASMAGORIA, an appellation lately given to an exhibition of curious optical illuſions in London. Though it will be difficult, we apprehend, to prove any excluſive property in phenomena that every experimental philoſopher muſt have practiſed on a ſmaller ſcale, this has been the ſubject of a patent granted to Mr. Philipſthall, of the Lyceum, in the Strand, who deſcribes his method of repreſenting, in a dark ſpace or ſcene, human figures, in various characters, proportions, and ſizes.

"The apparatus of ſome of theſe exhibitions," ſays he, "conſiſts of two concave glaſſes, or rather two concave metal reflectors, before which an artificial light, proportionable to their focus, is applied.

"Theſe enlightened concave metal reflectors are ſecured in a cloſet or box proportionable to their ſize, and their requiſite light, in ſuch a manner that all the rays of light are directed upon a tranſparent picture, repreſenting the apparition; which picture reflects, by means of lenſes, upon a tranſparent body, and giving the neceſſary direction to this apparatus, according to the nature of its circumſtances, in ſuch a manner that the apparitions repreſent themſelves to the eye of the ſpectator arbitrarily, either in a larger or ſmaller, in a nearer or more diſtant perſpective point of view.

"In the ſame manner I can likewiſe repreſent landſcapes and buildings in a very ſtriking and deceiving manner, in a voluntary ſize.

"Another ſort of apparition is produced by the refraction of light, by means of tranſparent bodies, of various ſhapes and ſizes, which are fixed in a dark cloſet as aforeſaid, and, by means of the refraction of an artificial light, are either made viſible or inviſible. If thoſe bodies are made to liken deceaſed perſons which are required to be ſeen, then the apparition is the more ſtriking, and anſwers fully the ideas commonly formed of a ſpectre.

"A third ſort of theſe optical deceptions I produce in the following manner, viz. By opaque moveable figures, of various ſizes and ſhapes. Theſe are moderately enlightened by the refraction of a concave metal reflector, fixed in a dark cloſet; but the rays of light muſt be properly diſtributed by the refraction of a lens, of a proportionable focus, in order that the enlightened object may alone repreſent itſelf to the eye; if therefore, according to the deſcription, the enlightened figures imitate mechanically the motions of men, and appear in proper dreſs or draperies, then this becomes the moſt ſtriking illuſion, as one may by this regulation, by giving an eaſy motion to their drapery, produce various groups, and pantomime ſcenes, out of the world of ſpirits.

"A fourth ſort of optical illuſion is operated in the following manner, in order to produce a multiplicity of apparitions. There is between the tranſparent body upon which the figures reflect, another dark body ſlipped in, upon which a fixed number of figures are applied, and are diſtributed in a ſymmetrical manner; upon theſe figures either a greater or leſs light is directed, according to the diſpoſition of the groups, and gives to the apparatus the neceſſary direction, in order that thoſe which reflect upon the tranſparent bodies may move through one another, and form all manner of groups; the poſitions of which are very comic and ſtriking, and they procure the moſt agreeable entertainment."

By means of this apparatus and method of working, a thouſand different divertiſements may be produced, only by adapting it to the ſpace and place where it is exhibited, and moderating the rays of light in a ſuitable manner.

PHARZA, anciently PHARSALIA, a town of Turkey in Europe, in Janna, famous for the deciſive victory gained by Julius Cæſar over Pompey, in 48 B.C. This town is an archiepiſcopal ſee, and ſeated on the Enipeus, 10 miles S. of Lariſſa.

PHILIPPINE, a ſtrong town of Dutch Flanders. It was taken by the French in 1747, reſtored in 1748, and again taken in 1794. It is ſeated on an arm of the Scheld, 12 miles S.E of Fluſhing. Long. 3. 51. E. Lat. 51. 16. N.

PHILIPPINES, NEW, otherwiſe called PALAOS, and CAROLINAS, iſlands in the North Pacific Ocean, to the E. of the moſt ſouthern of the Philippine Iſlands. There are about 32 in all, between the equator and the Ladrones; but they are very little known to the Europeans.

PHILIPPOLI, a town of Romania, with an archbiſhop's ſee. It is chiefly inhabited by Grecks, and is ſeated on the Mariza, 82 miles N.W. of Adrianople, and 188 of Conſtantinople. Long. 24. 50 E. Lat. 42. 15. N.

PHILIPS-NORTON, a town in Somerſetſhire, with a market on Thurſday, ſeven miles S. of Bath, and 104 W. of London. Long. 2. 16. W. Lat. 52. 16. N.

PHILIPSBURG, a town of the United States, in New Jerſey, ſituate on the river Delaware, oppoſite Eaſton in Pennſylvania, 41 miles N.W. of Trenton. Long. 75. 30. W. Lat. 40. 45. N.

PHILIPSTADT, a town of Sweden, in Wermeland, ſeated in a hilly and rocky country, abounding in iron mines, between two lakes, and watered by a rivulet. It was built by Charles IX. and called after his ſon Philip. In 1775, it was deſtroyed by fire, but has been ſince rebuilt. It is 20 miles N.E. of Carlſtadt, and 140 N.W. of Stockholm. Long. 14. 10. E. Lat. 39. 30. N.

PHILIPSTOWN, a borough of Ireland, capital of King's County, 40 miles W. of Dublin. Long. 7. 3. W. Lat. 53. 18. N.

PHILIPVILLE, a ſtrong town of France, in the department of the North, ſeated on an eminence, 25 miles S.E. of Mons, and 123 N. by E. of Paris. Long. 4. 24. E. Lat. 50. 7. N.

PHILIP ISLANDS, two iſlands in the South Pacific Ocean, diſcovered by Captain Hunter in 1791, and named after the governor of New South Wales. They are five miles aſunder, but almoſt joined by a ſandy ſpit, which reaches, for about two thirds of the diſtance, from the eaſternmoſt iſland to the moſt weſterly, which laſt is the ſmalleſt. They are covered with ſhrubs, have few tall trees on them, and the land is low. Long. of the eaſtern iſland 140. 3. E. Lat. 8, 6. S.

PHILOLOGY (*Encycl.*). Dele the reference to OSSIAN and GAELIC, lines 1ſt and 2d of col. 2d.

PHILOSOPHY (*Encycl.*). The appellation of *Critical* PHILOSOPHY has been recently given to a ſyſtem of ſcience, founded by the celebrated Profeſſor Kant of Königſberg, and particularly well received in Germany. Againſt this ſyſtem ſome ſerious charges have been brought by the learned in different parts of Europe, but more eſpecially by the Abbé Barrueil; whilſt, on the other hand, it has been no leſs ably defended by its friends and admirers. It is unſuitable for us, on many accounts, but particularly in this advanced ſtate of our undertaking, to enter at great length into a ſubject ſo much controverted; for which reaſon we content ourſelves with referring to the article KANT (*Supp.*), where the reader will be gratified with ſome remarks in defence of the *Critical Philoſophy*, drawn up by a gentleman particularly well qualified for the taſk.

PHOTOMETER, an apparatus for meaſuring the intenſity of light, and likewiſe the tranſparency of the medium through which it paſſes. Count Rumford, when making the experiments which are deſcribed in the Phil. Tranſ. was led, ſtep by ſtep, to the conſtruction of a very accurate photometer, in which the ſhadows, inſtead of being thrown upon a paper ſpread out upon the wainſcot, or ſide of the room, are projected upon the inſide of the back part of a wooden box $7\frac{1}{4}$ inches wide, $10\frac{1}{2}$ inches long, and $3\frac{1}{4}$ inches deep in the clear. The light is admitted into it through two horizontal tubes in the front, placed ſo as to form an angle of 60°; their axes meeting at the centre of the field of the inſtrument. In the middle of the front of the box, between theſe two tubes, is an opening through which is viewed the field of the photometer (ſee Pl. 42. fig. 1). This field is formed of a piece of white paper, which is not faſtened immediately upon the inſide of the back of the box, but is paſted upon a ſmall pane of very fine ground glaſs; and this glaſs, thus covered, is let down into a groove, made to receive it, in the back of the box. The whole inſide of the box, except the field of the inſtrument, is painted of a deep black dead colour. To the under part of the box is fitted a ball and ſocket, by which it is attached to a ſtand which ſupports it; and the top or lid of it is fitted with hinges, in order that the box may be laid quite open, as often as it is neceſſary to alter any part of the machinery it contains.

The count had found it very inconvenient to compare two ſhadows projected by the ſame cylinder, as theſe were either neceſſarily too far from each other to be compared with certainty, or, when they were nearer, were in part hid from the eye by the cylinder. To remedy this inconvenience, he now makes uſe of two cylinders, which are placed perpendicularly in the bottom of the box juſt deſcribed, in a line parallel to the back part of it, diſtant from this back $2\frac{1}{10}$ inches, and from each other 3 inches, meaſuring from the centres of the cylinders; when the two lights made uſe of in the experiment are properly placed, theſe two cylinders project four ſhadows upon the white paper upon the inſide of the back part of the box, or the *field* of the inſtrument; two of which ſhadows are in contact, preciſely in the middle of that field, and it is theſe two alone that are to be attended to. To prevent the attention being diſtracted by the preſence of unneceſſary objects, the two outſide ſhadows are made to diſappear; which is done by rendering the field of the inſtrument ſo narrow, that they fall without it, upon a blackened ſurface, upon which they are not viſible. If the cylinders be each $\frac{4}{10}$ of an inch in diameter, and $2\frac{2}{10}$ inches in height, it will be quite ſufficient that the field be $2\frac{7}{10}$ inches wide; and as an unneceſſary height of the field is not only uſeleſs, but diſadvantageous, as a large ſurface of white paper not covered by the ſhadows produces too ſtrong a glare of light, the field ought not to be more than $\frac{3}{10}$ of an inch higher than the tops of the cylinders. That its dimenſions, however, may be occaſionally augmented, the covered glaſs ſhould be made $5\frac{1}{2}$ inches long, and as wide as the box is deep, viz. $3\frac{1}{4}$ inches; ſince the field of the inſtrument can be reduced to its proper ſize by a ſcreen of black paſteboard, interpoſed before the anterior ſurface of this covered glaſs, and reſting immediately upon it. A hole in this paſteboard, in the form of an oblong ſquare, $1\frac{7}{10}$ inch wide, and two inches high, determines the dimenſions, and forms the boundaries of the field. This ſcreen ſhould be large enough to cover the whole inſide of the back of the box, and it may be fixed in its place by means of grooves in the ſides of the box, into which it may be made to enter. The poſition of the opening above mentioned is determined by the height of the cylinders; the top of it being $\frac{3}{10}$ of an inch higher than the tops of the cylinders; and

as the height of it is only two inches, while the height of the cylinders is $2\frac{2}{10}$ inches, it is evident that the ſhadows of the lower parts of the cylinders do not enter the field. No inconvenience ariſes from that circumſtance; on the contrary, ſeveral advantages are derived from that arrangement.

That the lights may be placed with facility and preciſion, a fine black line is drawn through the middle of the field, from the top to the bottom of it, and another (horizontal) line at right angles to it, at the height of the top of the cylinders. When the tops of the ſhadows touch this laſt-mentioned line, the lights are at a proper height; and further, when the two ſhadows are in contact with each other in the middle of the field, the lights are then in their proper directions.

We have ſaid that the cylinders, by which the ſhadows are projected, are placed perpendicularly in the bottom of the box; but as the diameters of the ſhadows of theſe cylinders vary in ſome degree, in proportion as the lights are broader or narrower, and as they are brought nearer to or removed further from the photometer, in order to be able in all caſes to bring theſe ſhadows to be of the ſame diameter, which is very advantageous, in order to judge with greater facility and certainty when they are of the ſame denſity, the count renders the cylinders moveable about their axes, and adds to each a vertical wing $\frac{1}{20}$ of an inch wide, $\frac{1}{10}$ of an inch thick, and of equal height with the cylinder itſelf, and firmly fixed to it from the top to the bottom. This wing commonly lies in the middle of the ſhadow of the cylinder, and as long as it remains in that ſituation it has no effect whatever; but when it is neceſſary that the diameter of one of the ſhadows be increaſed, the correſponding cylinder is moved about its axis, till the wing juſt deſcribed, emerging out of the ſhadow, and intercepting a portion of light, brings the ſhadow projected upon the field of the inſtrument to be of the width or diameter required. In this operation it is always neceſſary to turn the cylinder outwards, or in ſuch a manner that the augmentation of the width of the ſhadow may take place on that ſide of it which is oppoſite to the ſhadow correſponding to the other light. The neceſſity for that precaution will appear evident to any one who has a juſt idea of the inſtrument in queſtion, and of the manner of making uſe of it. They are turned likewiſe without opening the box, by taking hold of the ends of their axes, which project below its bottom.

As it is abſolutely neceſſary that the cylinders ſhould conſtantly remain preciſely perpendicular to the bottom of the box, or parallel to each other, it will be beſt to conſtruct them of braſs; and, inſtead of fixing them immediately to the bottom of the box (which, being of wood, may warp), to fix them to a ſtrong thick piece of well-hammered plate braſs; which plate of braſs may be afterwards faſtened to the bottom of the box by means of one ſtrong ſcrew. In this manner two of the count's beſt inſtruments are conſtructed: and, in order to ſecure the cylinders ſtill more firmly in their vertical poſitions, they are furniſhed with broad flat rings, or projections, where they reſt upon the braſs plate; which rings are $\frac{1}{10}$ of an inch thick, and equal in diameter to the projection of the wing of the cylinder, to the bottom of which they afford a firm ſupport. Theſe cylinders are likewiſe forcibly puſhed, or rather pulled, againſt the braſs plate upon which they reſt, by means of compreſſed ſpiral ſprings placed between the under ſide of that plate and the lower ends of the cylinders. Of whatever material the cylinders be conſtructed, and whatever be their forms or dimenſions, it is abſolutely neceſſary that they, as well as every other part of the photometer, except the field, ſhould be well painted of a deep black dead colour.

In order to move the lights to and from the photometer with greater eaſe and preciſion, the obſerver ſhould provide two long and narrow, but very ſtrong and ſteady, tables; in the middle of each of which there is a ſtraight groove, in which a ſliding carriage, upon which the light is placed, is drawn along by means of a cord which is faſtened to it before and behind, and which, paſſing over pulleys at each end of the table, goes round a cylinder; which cylinder is furniſhed with a winch, and is ſo placed, near the end of the table adjoining the photometer, that the obſerver can turn it about, without taking his eye from the field of the inſtrument.

Many advantages are derived from this arrangement: firſt, the obſerver can move the lights as he finds neceſſary, without the help of an aſſiſtant, and even without removing his eye from the ſhadows; ſecondly, each light is always preciſely in the line of direction in which it ought to be, in order that the ſhadows may be in contact in the middle of the vertical plane of the photometer; and, thirdly, the ſliding motion of the lights being perfectly ſoft and gentle, that motion produces little or no effect upon the lights themſelves, either to increaſe or diminiſh their brilliancy.

Theſe tables muſt be placed at an angle of 60 degrees from each other, and in ſuch a ſituation, with reſpect to the photometer, that lines drawn through their middles, in the direction of their lengths, meet in a point exactly under the middle of the vertical plane or field of the photometer, and from that point the diſtances of the lights are meaſured; the ſides of the tables being divided into Engliſh inches, and a vernier, ſhewing tenths of inches, being fixed to each of the ſliding carriages upon which the lights are placed, and which are ſo contrived that they may be raiſed or lowered at pleaſure; ſo that the lights may be always in a horizontal line with the tops of the cylinders of the photometer.

In order that the two long and narrow tables or platforms, juſt deſcribed, may remain immoveable in their proper poſitions, they are both firmly fixed to the ſtand which ſupports the photometer; and, in order that the motion of the carriages which carry the lights may be as ſoft and gentle as poſſible, they are made to ſlide upon parallel braſs wires, 9 inches aſunder, about $\frac{1}{10}$ of an inch in diameter, and well poliſhed, which are ſtretched out upon the tables from one end to the other.

The ſtructure of the apparatus will be clearly underſtood by a bare inſpection of Plate 42.: where fig. 1 is a plan of the inſide of the box, and the adjoining parts of the photometer; fig. 2, plan of the two tables belonging to the photometer; fig. 3. the box of the photometer on its ſtand; fig. 4, elevation of the photometer, with one of the tables and carriages.

The count's firſt attempts with his photometer were to determine how far it might be poſſible to aſcertain, by direct experiments, the certainty of the aſſumed law of the diminution of the intenſity of the light emitted by luminous bodies; namely, that the intenſity of the light is every-where as the ſquares of the diſtances from the luminous body inverſely. As it is obvious that this law can hold good only when the light is propagated through perfectly tranſparent ſpaces, ſo that its intenſity is weakened merely by the divergency of its rays, he inſtituted a ſet of experiments to aſcertain the tranſparency of the air and other mediums.

With this view, two equal wax candles, well trimmed, and which were found, by a previous experiment, to burn with exactly the ſame degree of brightneſs, were placed *together*, on one ſide, before the photometer, and their united light was counterbalanced by the light of an Argand's lamp, well trimmed, and burning very equally, placed on the other ſide over againſt them. The lamp was placed at the diſtance of

100 inches from the field of the photometer, and it was found that the two burning candles (which were placed as near together as poſſible, without their flames affecting each other by the currents of air they produced) were juſt able to counterbalance the light of the lamp at the field of the photometer, when they were placed at the diſtance of 60,8 inches from that field. One of the candles being now taken away and extinguiſhed, the other was brought nearer to the field of the inſtrument, till its light was found to be juſt able, ſingly, to counterbalance the light of the lamp; and this was found to happen when it had arrived at the diſtance of 43,4 inches. In this experiment, as the candles burnt with equal brightneſs, it is evident that the intenſities of their united and ſingle lights were as 2 to 1, and in that proportion ought, according to the aſſumed theory, the ſquares of the diſtances, 60,8 and 43,4, to be; and, in fact, $\overline{60,8}^2 = 3696,64$ is to $\overline{43,4}^2 = 1883,56$ as 2 is to 1 very nearly.

Again, in another experiment, the diſtances were,

With two candles = 54 inches. Square = 2916
With one candle = 38,6 = 1489,96

Upon another trial,

With two candles = 54,6 inches. Square = 2981,16
With one candle = 39.7 = 1576,09

And, in the fourth experiment,

With two candles = 58,4 inches. Square = 3410,56
With one candle = 42,2 = 1780,84

And, taking the mean of the reſults of theſe four experiments,

	Square of the Diſtances. With two Candles.		With one Candle.
In the experiment No. 1.	3696,64	—	1883,56
No. 2.	2916	—	1489,96
No. 3.	2981,16	—	1576,09
No. 4.	3410,56	—	1780,84
	4) 13004.36		4) 6730,45
Means	3251,09	and	1682,61

which again are very nearly as 2 to 1.

With regard to theſe experiments, it may be obſerved, that were the reſiſtance of the air to light, or the diminution of the light from the imperfect tranſparency of air, ſenſible within the limits of the inconſiderable diſtances at which the candles were placed from the photometer, in that caſe the diſtance of the two equal lights united ought to be, to the diſtance of one of them ſingle, in a ratio leſs than that of the ſquare root of 2 to the ſquare root of 1. For if the intenſity of a light emitted by a luminous body, *in a ſpace void of all reſiſtance*, be diminiſhed in the proportion of the ſquares of the diſtances, it muſt of neceſſity be diminiſhed in a ſtill higher ratio when the light paſſes through a reſiſting medium, or one which is not perfectly tranſparent; and from the difference of thoſe ratios, namely, that of the ſquares of the diſtances, and that other higher ratio found by the experiment, the reſiſtance of the medium might be aſcertained. This he took much pains to do with reſpect to air, but did not ſucceed; the tranſparency of air being ſo great, that the diminution which light ſuffers in paſſing through a few inches, or even through ſeveral feet of it, is not ſenſible.

Having found, upon repeated trials, that the light of a lamp, properly trimmed, is incomparably more equal than that of a candle, whoſe wick, continually growing longer, renders its light extremely fluctuating, he ſubſtituted lamps to candles in theſe experiments, and made ſuch other variations in the manner of conducting them as he thought bid fair to lead to a diſcovery of the reſiſtance of air to light, were it poſſible to render that reſiſtance ſenſible within the confined limits of his machinery. But the reſults of them, ſo far from affording means for aſcertaining the reſiſtance of the air to light, do not even indicate any reſiſtance at all; on the contrary, it might almoſt be inferred, from ſome of them, that the intenſity of the light emitted by a luminous body in air is diminiſhed in a ratio *leſs* than that of the ſquares of the diſtances; but as ſuch a concluſion would involve an evident abſurdity, namely, that light moving in air, its abſolute quantity, inſtead of being diminiſhed, actually goes on to *increaſe*, that concluſion can by no means be admitted.

The ingenious author's experiments all conſpired to ſhew that the reſiſtance of the air to light is too inconſiderable to be perceptible, and that the aſſumed law of the diminution of the intenſity of light may be depended upon with ſafety. He admits, however, that means may be found for rendering the air's reſiſtance to light apparent; and he ſeems to have thought of the very means which occurred for this purpoſe to M. de Sauſſure.

From a number of experiments made with his photometer, Count Rumford found, that by paſſing through a pane of fine, clear, well poliſhed glaſs, ſuch as is commonly made uſe of in the conſtruction of looking-glaſſes, light loſes 1973 of its whole quantity, *i. e.* of the quantity which impinged on the glaſs; that when light is made to paſs through two panes of ſuch glaſs ſtanding parallel, but not touching each other, the loſs is 3184 of the whole; and that in paſſing through a very thin, clear, colourleſs pane of window-glaſs, the loſs is only 1263. Hence he infers, that this apparatus might be very uſefully employed by the optician, to determine the degree of tranſparency of glaſs, and direct his choice in the proviſion of that important article of his trade. The loſs of light when reflected from the very beſt plane glaſs mirror, the author aſcertained, by five experiments, to be $\frac{1}{3}$d of the whole which fell upon the mirror.

PHYSIOLOGY (*Encycl.*). In that article (p. 51, col. 1, near the bottom), a ſeeming importance has been given to the impoſture of *animal magnetiſm*. The reader will be pleaſed to eraſe the three paragraphs in which that fallacious doctrine occurs.

PIADELLA, a town of Italy, in the duchy of Milan, 20 miles N. of Como. Long. 9. 10. E. Lat. 46. 5. N.

PIANEZZA, a town and caſtle of Piedmont, ſeated on the Dora, eight miles from Turin.

PIANOZA, an iſland of Italy, off the coaſt of Tuſcany, ſix miles S. of that of Elba. It is level and low, as the name imports. Long. 10. 34. E. Lat. 42. 46. N.

PIARA, a river, which riſes in the mountains of Tyrol, and falls into the gulf of Venice, by two mouths, a little north of Venice.

PIAZZA, a town of Naples, in Principato Citeriore, 13 miles E.N.E. of Salerno.

PIAZZA, a town of Sicily, in Val di Noto. It contains 18,000 inhabitants, and is ſituate almoſt in the centre of the iſland, 15 miles N.W. of Calata Girone.

PICTS' WALL, a famous barrier againſt the Picts, of which ſome ſmall remains are left. It began at the entrance of Solway Frith, in Cumberland, and running by Carliſle, was continued from W. to E. acroſs the iſland to Newcaſtle, and ended at Tinmouth.

PIDAURA, a town of Turkey in Europe, in the Morea, the ancient Epidaurus. It is ſituate on the W. coaſt of the gulf of Engia, 25 miles E. of Napoli-di-Romania. Long. 23. 22. E. Lat. 37. 40. N.

PIENZA, a populous town of Tuſcany, in the Sienneſe, with a biſhop's ſee; 25 miles S.E. of Sienna, and 56 S. of Florence. Long. 11. 42. E. Lat. 43. 0. N.

PIERRE LE MOUTIER, St. a town of France in the department of Nievre, ſeated in a bottom, ſurrounded by mountains, and near a lake, which renders the air unwholeſome, 15 miles N W. of Moulins, and 150 S. of Paris. Long. 3. 13. E Lat. 46. 48. N.

PIERRE, St. a ſmall deſert iſland near Newfoundland, ceded to the French in 1763, for drying and curing their fiſh. They were diſpoſſeſſed of it by the Engliſh in 1793. Long. 56. 0. W. Lat. 46. 39. N.

PIETRO, St. an iſland in the Mediterranean, near Sardinia, taken by the French in 1793, but retaken ſoon after.

PIG (*Encycl.*). The following extract from an account of the advantage of a cottager keeping a pig, by the Rev. Dr. Glaſſe, is publiſhed by the Society for bettering the Condition of the Poor, &c.

" James Bramſgrove, a farmer's labourer at Greenford, in Middleſex, had ſaved by his induſtry the ſum of four guineas. With this he purchaſed a hog, which he put up to fatten in the beginning of April laſt. In the courſe of the fattening, he uſed three quarters and a half of beans, and ſeven buſhels of peaſe, with which he had been ſupplied, chiefly upon credit, by his maſter and his neighbours.—He has a wife and five children; the two eldeſt, girls; one twelve years old, the other ſomething younger. He, his wife, and his two girls, during the laſt harveſt, earned two guineas a-week, and in one week the ſum of 2l. 11s. ſo that he has continued to maintain his family, and has paid off all that was due from him for beans and peaſe.—He has ſince killed his hog, at Michaelmas; the weight was 64 ſtone 3lb.: part of it he has ſold at 7½d. per pound; the reſt he has reſerved for the uſe of his own family. Eſtimating the whole at 7½d. per pound, the value of the hog would have been above 16l.; but, as what he ſold conſiſted of the prime pieces, ſome deduction ought to be made on that account."

Where a cottager poſſeſſes any property, when he has a garden, a pig, or a cow, his advantage is to be eſtimated, not merely by the pecuniary profit produced, but by the ſuperior tone of induſtry and economy which he acquires. In the inſtance mentioned of James Bramſgrove and his family, the proſpect of increaſed comfort, and of improved means of ſubſiſtence, gave an incentive and pleaſure to all their labour and exertions, during the late harveſt. Perhaps it may be needleſs to obſerve, that habits of application and good conduct, when once acquired and *enjoyed*, continue in almoſt every inſtance, through life, a bleſſing to the poſſeſſor; and that where the cottager has acquired at home a pleaſurable object of induſtry, to which his hopes and wiſhes are directed, it has the effect of attaching him to his ſituation, of augmenting his energy, and of reconciling him to a life of labour and hardſhip.

There are ſituations, in which, on account of the high value and rent of land, or on account of there being very little graſs land or common, a cow cannot be kept, with advantage, by the cottager. There, it is probable, no better mode can be ſuggeſted of ſupplying the poor with milk, than that ſo ſucceſsfully adopted by Mr. Giſborne, near Lichfield: but a pig may be kept, and a garden cultivated with benefit to the cottager, in every part of the kingdom. See Cottager, Cow, and *Cottage*-Garden, *Supp.*

PIGEON ISLAND, a ſmall iſland, eight miles from the coaſt of Malabar, and 15 from the town of Onore. Long. 74. 6. E. Lat. 14. 1. N.

PIGNEY, a town of France, in the department of Aube, 12 miles N.E. of Troyes. Long. 4. 25. E. Lat. 48. 20. N.

PILLAU, a ſea-port of Pruſſia, on the Baltic. The harbour is good, and it is well fortified, being conſidered as the bulwark and key of the kingdom. It is 20 miles W. by S. of Königſberg, of which it is the port. Long. 20. 20. E. Lat. 54. 38. N.

PILNITZ, a town of Upper Saxony, in the margravate of Meiſſen, celebrated for a treaty entered into by the princes of Europe againſt France in 1792. It is ſeven miles S.E. of Dreſden.

PILSEN, a ſtrong town of Bohemia, capital of a circle of the ſame name. It has often been taken and retaken, and is ſeated near the confluence of the Mifa and Watto, 47 miles W. by S. of Prague. Long. 13. 55. E. Lat. 49, 46. N.

PILSNA, Pilsno, or Pilzow, a town of Little Poland, in the palatinate of Sandomir, ſeated on the Wilſake, 50 miles E. of Cracow. Long. 21. 10. E. Lat. 50. 0. N.

PINES, Isle of, an iſland in the S. Pacific Ocean, off the ſouth end of New Caledonia. It is 14 miles over in a S.E. and N.W. direction. It is high and remarkable in the middle, being quite a pointed hill, ſloping towards the extremities, which are very low. The low land has many tall pine-trees upon it. It was diſcovered by Captain Cook in 1774. Long. 167. 38. E. Lat. 22. 38. S.

PINHEL, a ſtrong town of Portugal, in Tra-los-Montes, capital of a territory of the ſame name. It is ſeated at the confluence of the Coha and Pinnel, 25 miles N. of Guarda. Long. 6. 40. W. Lat. 40. 46. N.

PIN-HIANG-FOU, a city of China, in the province of Chan-ſi. Its diſtrict contains ſix cities of the ſecond, and 28 of the third claſs. It is 240 miles S.W. of Pekin. Long. 111. 55. E. Lat. 35. 55. N.

PINNENBURG, a fort and town of Lower Saxony, in the duchy of Holſtein, capital of a county of the ſame name. It is ſeated on the Owe, 15 miles N.W. of Hamburg. Long. 9. 40. E. Lat. 53. 46. N.

PINOS, an iſland of the Weſt Indies, on the ſouth ſide of Cuba, from which it is ſeparated by a deep ſtrait. It is 25 miles long, and 15 broad, and has excellent paſtures. Long. 82. 33. W. Lat. 22. 2. N.

PINSK, a town of Lithuania, on a river of the ſame name. It was formerly a conſiderable place, but has been almoſt ruined by the Coſſacks. Long. 26. 20. E. Lat. 52. 18. N.

PIOMBINO, a ſea-port of Tuſcany, capital of a principality of the ſame name. It is ſeated on a bay, 40 miles S. of Leghorn, and 60 S.W. of Florence. Long. 10. 23. E. Lat. 42. 57. N.

Piombino, a principality of Tuſcany, lying on the Mediterranean. The iſland of Elba depends upon it, and has its own prince, under the protection of the King of the Two Sicilies.

PIPE (*Encycl.*). A patent was granted to Mr. Wilkinſon, of Broſeley, in the county of Salop, for an improved method of making leaden pipes.

It is dated March 13, 1790.—He caſts the lead in lengths, as is practiſed in the common way, *i. e* put upon a poliſhed rod or round maundrell of iron, or any metal, ſuch maundrells being made of different lengths and diameters, according to the ſize that is wanted. This rod or maundrell, with the caſt-lead upon it, is put repeatedly through or between rollers, with grooves, of different ſizes, according to the external diameter required, and extended to the length or thickneſs ordered; or drawn through metal gauges or collars, of different dimenſions, upon the ſaid maundrell, each ſucceeding collar being leſs than the former, until the ſame is extended to the length and thickneſs required; all of which may be performed with a common water wheel, or any other rotative motion.

PIPERNO, a town of Italy, in Compagna di Roma, 50 miles S.E. of Rome. Long. 13. 36. E. Lat. 41. 39. N.

PIPLEY, a town of Hindooſtan Proper, in Bengal, which formerly had Engliſh and Dutch factories. It is ſeated on a

river, 15 miles W. of Balafore. Long. 86. 31. E. Lat. 21. 20. N.

PIQUE MONTVALLIER, the higheſt mountain of the Pyreneés. It is in the form of a pike. Long. 0. 22. W. Lat. 42. 51. N.

PIRANO, a ſea-port of Venetian Iſtria, on a peninſula, 10 miles S. of Capo d'Iſtria. Long. 14. 1. E. Lat. 45. 40. N.

PIRITZ, a town of Pomerania, in the territory of Stetin. The ancient dukes of Pomerania often reſided here. It is ſeated near the lake Moldui, 20 miles S.E. of Stetin. Long. 14. 20. E. Lat. 53. 18. N.

PIRNA, a commercial town of Upper Saxony, ſituate on the Elbe, 11 miles S.E. of Dreſden. Long. 14. 0. E. Lat. 50. 54. N.

PISANO, a territory of Tuſcany, lying on the Mediterranean. It is 47 miles long, and 25 broad, and one of the beſt countries in all Tuſcany.

PISCATAQUA, a river of New Hampſhire, the mouth of which forms the only port in that ſtate, and is 60 miles N. of Boſton. Long. 70. 30. W. Lat. 43. 25. N.

PISCO, a town of Peru, in the audience of Lima, with a good road for ſhips. It is ſeated in a country fertile in excellent fruits and good wine, 140 miles S.S.E. of Lima. Long. 76. 15. W. Lat. 13. 36. S.

PISELLO, the moſt northern cape of Natolia, which projects into the Black Sea, oppoſite the Crimea.

PITCAITLY WELLS, ſome remarkable ſaline ſprings, near Perth, in Scotland, deemed beneficial in ſcorbutic caſes.

PITHEA, a ſea-port of Sweden, in Weſt Bothnia, ſeated on a ſmall iſland, at the mouth of the Pithea, in the gulf of Bothnia. It is joined to the continent by a wooden bridge, and is 80 miles S.W. of Tornea. Long. 22. 40. E. Lat. 65. 11. N.

PITSCHEN, or BITSCHEN, a town of Sileſia, in the principality of Brieg, formerly the ſee of a biſhop, afterwards removed to Breſlaw. It is 30 miles N.E. of Brieg, and 42 E. of Breſlaw. Long. 17. 55. E. Lat. 51. 5. N.

PITTSBURGH, or FORT PITT, a flouriſhing town of Pennſylvania, capital of the county of Allegany, ſituate on the W. ſide of the Allegany mountains, on a point of land between the rivers Allegany and Monongahela. Here was the French Fort du Queine; in an expedition againſt which, in 1756, General Braddock fell into an ambuſcade, and was defeated and ſlain. This fort was abandoned by the French, in 1758, on the approach of General Forbes; and its name was changed to that of Pitt, in honour to the miniſter by whom the war was then directed At this place, the Allegany takes the name of Ohio. It is 320 miles W. of Philadelphia. Long. 79. 48. W. Lat. 40. 26. N.

PIURA, a town of Peru, capital of a juriſdiction of the ſame name. This was the firſt Spaniſh ſettlement in Peru, and was founded in 1531. It is 25 miles S.S.E. of Paita. Long. 81. 0. W. Lat. 5. 55. S.

PIZZIGHETONE, a town of Italy, in the Cremoneſe, with a ſtrong caſtle, in which Francis I. of France was kept priſoner. It was taken by the French in 1796, and retaken by the Auſtrians and Ruſſians in 1799. It is ſituate on the Adda, nine miles N.W. of Cremona, and 13 S.E. of Lodi. Long. 9. 53. E. Lat. 49. 50. N.

PIZZO, a town of Naples, in Calahria Ulteriore, ſeated on the gulf of St. Eufemia, four miles from Monte-Leone.

PLACENTIA, a town of Spain, in Eſtremadura, with a biſhop's ſee, and a caſtle. It is ſeated on the Xera, in a delightful plain, almoſt ſurrounded by mountains, 80 miles S.W. of Madrid. Long. 5. 0. W. Lat. 39. 45. N.

PLACENTIA, a town of Spain, in Guipuſcoa, ſeated on the Deva, 25 miles S.E. of Bilboa. Long. 2. 40. W. Lat. 43. 10. N.

PLACENTIA, a ſea-port of Newfoundland, on a bay on the S.E. part of the iſland, 40 miles W. of St. John. Long. 53. 43. W. Lat. 47. 15. N.

PLANE (*Encycl.*). The following account of an underground inclined plane, executed at Walkden Moor, in Lancaſhire, by the Duke of Bridgewater's directions, was preſented by the Rev. Mr. Egerton, to the Society for the Encouragement of Arts, &c. who voted his Grace their gold medal:

At Worſley, the Duke of Bridgewater's navigation begins; it goes weſt to Leigh, and eaſt to Mancheſter, where it locks up into the Rochdale canal. In its way to Mancheſter, it turns out, in a weſtern direction, near Longford Bridge, to meet the Grand Trunk Canal, above Preſton Brook; and from thence it goes north-weſt to Runcorn, where it locks down into the Merſey, in the tide-way to Liverpool.

To this navigation above ground, which, in all its directions, is extended through a length of forty miles, upon one level, without tunnel or lock, except the locks at the extremities, at Worſley an under-ground navigation is joined, which goes to the different mines of coal under Walkden Moor; from which mines, by theſe navigations above ground and under ground, Mancheſter and various other places are ſupplied with that valuable article. The canals of this underground navigation lie upon two levels, or ſtories. The lower is upon the ſame level with the open navigation, which it joins at Worſley; and conſiſts, in the different lines which it purſues to the different ſeams of coals, of near twelve miles of tunnelling.

The higher is thirty-five yards and a half perpendicular height above the level of the lower, and varies from thirty-eight to ſixty-one perpendicular yards below the ſurface of the earth, and conſiſts of near ſix miles of tunnelling.

The tunnelling of each level is ten feet four inches wide, and eight feet ſix inches deep; and the depth of water, three feet ſeven inches.

Before a communication was made by an inclined plane, the coals were diſcharged by hand from the boats on the higher level, and were let down the pits in tubs, by an engine and a break-wheel, into thoſe upon the lower. To convey the boats themſelves from the canals of the higher level into that of the lower, was the intent of making this under-ground inclined plane. By the help of this machinery, the whole buſineſs is now done at once, without diſcharging or damaging the coal, and at one fourth of the expence: for the boats of the higher level, are bodily let down the inclined plane, and are floated from the foot of it through nearly three miles, in a ſtraight line, of the lower level canal, into the open navigation at Worſley: and whereas they were before obliged to be drawn up to the ſurface of the earth at great inconvenience and expence, to be repaired at a work-ſhop on Walkden Moor, they now come of themſelves, in their courſe of buſineſs, to be repaired at the great dock-yard, at Worſley.

The place where the inclined plane is conſtructed, is adapted in a ſingular way for the purpoſe. There is a bed of white rock, or grit, eight yards twelve inches deep, which dips one in four, lying exactly in the direction moſt convenient for the communication between the two levels; which bed of rock is hollowed into a tunnel, driven upon the riſe of the metals, by blaſting with gunpowder, and working it down with wedges and hammers. In this tunnel, formed through a rock reaching from the lower to the higher level, the inclined plane is fixed; and, by its being in the heart of a rock, the whole workmanſhip can be pinned, ſecured, and compacted together at the top, bottom, and ſides, moſt effectually:—an advantage which no inclined plane above ground can have, and which renders this a ſingular production, no-where perhaps to be imitated.

The run of the inclined plane is one hundred and fifty-one yards, beſides eighteen yards, the length of the locks, at the north or upper-end: and the fall is one in four, correſponding with the dip of the rock. Of theſe one hundred and fifty-one yards, about ninety-four yards are formed into a double waggon-way, in order to let two boats, namely, the empty and the loaded boats, paſs up and down; and are divided by a brick wall, ſupporting the roof, in which are openings for a perſon to eſcape out of the way of the boats; which double waggon-way joins in one, about fifty-ſeven yards from the lower level. The whole width of the double waggon-way is nineteen feet; and of the ſingle waggon-way, after the junction, ten feet. Theſe waggon-ways are ſupplied with iron rails, or gullies, laid on ſleepers, down the whole run; and the height of the roof, above the iron rails, is eight feet.

At the top of the inclined plane there is a double lock, or rather two locks, ſide by ſide, formed in the heart of the ſame rock, which deliver the loaded boats from the higher level down the inclined plane, and receive the empty boats from the lower. The length of that part of the tunnel in which theſe are formed, is eighteen yards; the width or diameter, twenty feet ſix inches; and the height of the roof, at the north end and above the locks, at *d d*, Pl. 42. fig. 1, twenty-one feet, to admit the break-wheel.

The bottom, or ſouth end of the inclined plane, is ſix feet nine inches under the ſurface of the water, where the loaded boat floats off the carriage upon the canal of the lower level.

The depth of the locks, under water, at the north end, is four feet ſix inches; at the ſouth end it is eight feet.

The wall between the locks is nine inches above the ſurface of the level water; its breadth is three feet.

The diameter of the horizontal main-ſhaft, upon which the rope works to let the loaded boats down, and to draw the empty boats up, is four feet eleven inches, and its circumference is fifteen feet five inches. The main rope is two inches and a half in diameter, and ſeven inches and a half in circumference. It is wrapped round with a ſmall cord of about an inch in circumference, for the length of about one hundred and five yards, to prevent its wearing, which it does chiefly when it drags upon the bottom, when at work, at the place where the waggon-ways unite; and, for the ſame purpoſe, rollers of eight inches diameter are fixed at intervals down the run of the inclined plane. Moreover, a hollow caſt-iron roller of eight inches and a half diameter is fixed acroſs the weſt lock, parallel to the upper weſt lock-gate, and near the north end of the lock, but half a yard higher than the gate, in order to bear up the rope, and to prevent it from ſwagging.

A hold-faſt rope is faſtened to the main-rope, to ſtay each boat upon its waggon, as they go up or down. It is marked *k k*, in Fig. 1, and its uſes are more particularly detailed in the table of reference, at *k k*, to that plate.

Upon this horizontal main-ſhaft is a break-wheel above mentioned, which regulates the motion of the loaded boat going down the inclined plane.

The number of iron teeth, or cogs, in the ſpur-wheel, which is faſtened to the ſide of the break-wheel, is three hundred and ſeventy-two: and the little nut-wheel, No. 3, fig. 2, which ſets it in motion, contains eleven teeth, or cogs. The nut-wheel is ſupported by two uprights from the pillar to the roof, and works between them. Two winches or handles, No. 4 4, fig. 2, on its axis, put the main-ſhaft, *d d*, fig. 1, or No. 1, fig. 2, in motion. The power of both united, enables a man, who uſes a force equal to forty pounds weight, to ſet forward two tons upon the waggon-road: and this force, multiplied at the winches or handles, may be uſed to ſet forward the loaded boat out of one lock, and to bring the empty boat into the other. The boats being thus put in motion, the little nut-wheel is diſengaged from the main-ſhaft, by a ſlide drawing the little nut ſideways, ſo as to diſengage the teeth, or cogs, from the cogs of the ſpur-wheel. The weight of four tons going down, bring up about one.

The ſpur-wheel, however, which is faſtened to the break-wheel, No. 2, fig. 2, is ſeldom uſed, as it is occaſionally only put in motion to regulate the ſtretch of the ropes when new, and to draw the light boat into the lock, when, at any time, it may happen to be over-weighted with materials, ſuch as mortar, props, ſlabs, &c. for the uſe of the higher level collieries, and will not move of itſelf, upon a balance, out of the lower level.

The length of the carriage, or cradle, is thirty feet; its width is ſeven feet four inches. It moves upon four ſolid caſt-iron rollers, which run upon caſt-iron plates; on one ſide of each of which there are iron creſts, which ſtand two inches higher than the plates, and prevent the carriage from running off the road.

The weight of neat coal, contained in the loaded boat, is about twelve tons: the boat weighs about four tons; and the carriage, or cradle, in which the boat is placed, when conveyed down the inclined plane, is about five tons:—in all about twenty-one tons.

At this inclined plane, thirty loaded boats are now let down with eaſe, in about eight hours; that is to ſay, four boats are let down in a little more than an hour. The boats uſed in theſe collieries are of different ſizes and dimenſions; ſome will carry ſeven, ſome eight and a half, ſome twelve tons.

The weight of neat coal, independently of the weight of the carriage and boats, which is let down the inclined plane, in twelve-ton boats, in eight hours, will conſequently be three hundred and ſixty tons. The weight of the carriage, ſuppoſe five tons, let down in the ſame time, will be one hundred and fifty tons; and the weight of the boat, ſuppoſe four tons, thirty times down, in eight hours, will be one hundred and twenty tons:—in all ſix hundred and thirty tons down in eight hours.

The weight of the carriage thirty times up, and thirty boats up, in eight hours, will be

Carriage, at 5 tons, 30 times up = 150 tons
Boat, at 4 tons, 30 times up = 120 tons

In all 270 tons up in eight hours.

So that there will be 630 tons down
270 tons up.

In all 900 tons moved at the inclined plane, in eight hours, excluſive of an indeterminate quantity of materials occaſionally brought up for the uſe of the higher level collieries.

The various feeders which are looſened by opening the coals in the higher level collieries, as well as three ſufficient reſervoirs, which may occaſionally be reſorted to, and uſed in a dry ſeaſon, keep the higher level always to its height, and afford a conſtant ſupply of water to fill the locks, for the purpoſe of working the inclined plane.

This inclined plane was begun in September, 1795: it was finiſhed, and in uſe, in October, 1797.

Of this, as of moſt of his other great works, the Duke of Bridgewater was himſelf the planner and contriver:—to project greatly, and to execute completely, are the perfection of genius.

The ſingularity of the place in which it is conſtructed; the original boldneſs of the deſign; the ingenuity and mecha-

niſm diſplayed in planning and executing it; the diſpatch with which it has been finiſhed; the ſimplicity, beauty, and harmony of its parts, tending to one united whole; and, above all, the perfection to which it is proved to have been brought, now that it is practically in uſe; render it equally aſtoniſhing with any other of the ſtupendous works which have been ſo ably planned, and ſo ſucceſsfully executed, by the firſt projector and patriotic father of Inland Navigation.

References to Plate 42. Fig. 1, *a* to *b*, dip of the metals and waggon-road on the under-ground inclined plane. From *b*, on the lower level, to the mouth of the tunnel, is three miles; A, the eaſt lock; B, the weſt lock; C, repreſents a ſection of the lock: the dotted line ſhews the horizontal depth, and the black line under it, the ſlope upon which the waggon-wheels run to receive the loaded boat, or to bring the empty boat into the lock; *d d*, the main-ſhaft, four feet eleven inches diameter, upon which the ropes work to wind the boats up and down; and here alſo the break-wheel is faſtened on, together with a ſpur-wheel, and a nut-wheel. See fig. 2, No. 1: *e*, a paſſage between the higher level and the locks; *f*, *f*, a loaded boat going down, and an empty boat going up the under-ground inclined plane; G, a brick wall, from the ſole to the top of the inclined plane, in order to give additional ſupport to the roof; *h*, *h*, *h*, *h*, openings through the brick wall G, into which a perſon may ſtep out of the way of the boats at the time they are paſſing up and down; *i*, a bell, which is rung by the rope dotted to *b*, upon the lower level, at the bottom of the under-ground inclined plane, to give notice when the empty boat is upon the waggon, or cradle, and when the men below are ready, that the loaded boat may be let down by the men above; *k*, *k*, holdfaſt-ropes faſtened to the main-ropes, and hooked on to a ring at the ſouth end of each boat, as it goes up or down, in order to ſtay the boats upon the waggon or cradle, that they may not ſwag, or ſlip off. Theſe holdfaſt-ropes are ſpliced on to the end of the main-ropes, and run above and between the two bridle-ropes when they are faſtened to the iron uprights, which are upon each ſide of the waggons, or cradles; and they run over the north end of the boat, to be hooked on to the ſouth end; *l*, *l*, the bridle-ropes faſtened to the main-ropes at O, and ſecured to two iron uprights upon each ſide of the waggon, or cradle; O, O, the places where the main ropes, the bridle-ropes, and the holdfaſt-ropes, are faſtened all together.

No. 1, an open ſpace driven into the ſide of the lock A, to which a pit is ſunk from the higher level, in order to convey the water out of the locks down to the lower level, and alſo to force a current of freſh air into the lower level collieries; No. 2, a paddle to let the water out of the lock A, into the pit No. 1; No. 3, a paddle to let the water out of the lock B, through a culvert, repreſented by dotted lines, under the lock A, into the pit No. 1; No. 7, 7, paddles in the lock-gates, to let the water out of the higher level into the locks; No. 8, 8, the two north lock-gates, one to each lock, which turn upon the heels of the gates, and ſwing round when they are opened or ſhut; No. 10, 10, two ſtops or cloughs, one to each lock, which ſerve as lock-gates to the ſouth end, and are raiſed and let down by a windlaſs; S, a ſtop, which is uſed occaſionally when the lock-gates want repairing; T, the place where the boats which are to paſs to or from the lower ſingle waggon-way are directed, at pleaſure, into either part of the double waggon-way, by a moveable iron ſleeper or plate at that point, upon which ſleeper or plate the wheels of the boat-carriage or cradle run.

Fig. 2; 1, main-ſhaft, on which the rope laps; 2, break-wheel, on one ſide of which the ſpur-wheel is faſtened; 3, nut-wheel, out of geer, but which ſlides into the ſpur-wheel, when uſed to draw the empty boat into the lock occaſionally, and which is ſupported by two uprights from the pillar to the roof; 4, 4, winches or handles, to work the nut and ſpur-wheel; 5, 5, the main-ropes faſtened to the boats, and which are lapped to prevent their wearing; 6, the ſpur-wheel, which is faſtened on one ſide of the break-wheel; and on which break-wheel is a ſtrong iron-jointed timber brace, which, according to the preſſure given thereto by the man who attends it, will allow the loaded boat to deſcend quick or ſlow, or detain it in its paſſage; 7, 7, paddles in the lock-gates, to let the water out of the higher level into the lock; 8, a hollow caſt-iron roller, to prevent the main-ropes from ſwagging; 9, ſhroud-wheel, to prevent the ropes going over the end of the main-ſhaft, ſlipping off, jerking, or breaking. This ſtands three inches above the main-ſhaft.

PLANIEZ, a ſmall iſland of the Mediterranean, in the road of Marſeilles.

PLANO, a ſmall iſland of the Mediterranean, in the bay of Alicant.

PLATA, an iſland of Peru, on the coaſt of Quito, ſurrounded by inacceſſible rocks, and about five miles long and four broad.

PLATA, a rich and populous town of Peru, capital of the audience of Los Charcos, with an archbiſhop's ſee. It is ſeated on the Chimao, 500 miles S.E. of Cuſco. Long. 63. 40. W. Lat. 19. 16. S.

PLATA, RIO-DE-LA, a province of Paraguay, on the S.W. of a river of the ſame name. It is ſubject to Spain, and at Buenos Ayres, the capital, a new vice-royalty was eſtabliſhed in 1776. See PERU.

PLAUEN, a town of Lower Saxony, in the duchy of Mecklenburg, ſeated on a ſmall river which falls into the Elbe, near a lake of the ſame name, 17 miles S. of Guſtrow. Long. 12. 13. E. Lat. 53. 40. N.

PLAUEN, a town of Upper Saxony, in Voigtland, ſeated on the Elſter, 67 miles S.W. of Dreſden. Long. 12. 17. E. Lat. 50. 32. N.

PLESHEY, a village in Eſſex, ſeven miles N. by W. of Chelmsford. It was the ſeat of the lord high conſtable of England, from the earlieſt times of that office to the year 1400. On the ſite of his caſtle is now a brick farm-houſe; and here are the remains of an ancient fortification, conſiſting of a mount, of an oval form, ſurrounded by an area that contains about two acres, and is bounded by a rampart and ditch, over which is a brick bridge.

PLESSE, a town of Sileſia, with a caſtle, ſeated on the Viſtula, 36 miles E. of Troppaw. Long. 18. 36. E. Lat. 50. 0. N.

PLETTENBERG, a town of Weſtphalia, in the county of Mark, governed by its own magiſtracy. It is ſituate on the Elſe and Oeſter, 28 miles S. of Ham. Long. 7. 48. E. Lat. 51. 8. N.

PLEYBERG, a town of Germany, in Carinthia, ſeated on the Feiſtez, at the foot of a mountain, 25 miles E. by S. of Clagenfurt.

PLOERMEL, a town of France, in the department of Morbihan, 27 miles N.E. of Vannes. Long. 2. 30. W. Lat. 47. 57. N.

PLOTZKAU, a town of Upper Saxony, in the duchy of Anhalt Bernberg, 24 miles W.S.W. of Deſſau. Long. 11. 45. E. Lat. 51. 48. N.

PLOUGH (*Encycl.*). Under that head, and alſo under HUSBANDRY, we have treated fully on this invaluable implement of agriculture. It remains, however, for us to notice the following new inventions which have been ſince brought forward.

1. The *Kentiſh turn-wreſt plough* conſiſts of an oak beam, about ten feet in length, five inches in depth, and four inches

n breadth; to the end of which is *tenoned* a *foot*, or piece of timber ($3\frac{1}{2}$ feet long, 4 inches thick, and $3\frac{1}{2}$ inches broad), that is mortiſed at the bottom, to the end of the *chep*. The handles are fixed on the top of the beam, through which, at the diſtance of two feet five inches from the foot, is paſſed a *ſheath* of oak, ſeven inches in width, and an inch and a half thick, being mortiſed into the chep in an oblique direction, ſo that the point of the ſhare will be two feet ten inches aſunder from the beam. The *chep* is five feet in length, four inches in width, and five deep: to this is fixed the ſhare, which weighs about 32 lbs. and is manufactured of hammered iron, being one foot eight inches in length, and from four and a half to ſeven inches wide at the point. The upper end of the beam is ſupported on a carriage, furniſhed with two wheels, that are three feet two inches in height; on the axle-tree of which a gallows is placed, and provided with a ſliding bolſter, for the purpoſe of raiſing or lowering the machine. A claſp-iron likewiſe enters through the axle, to which a ſtrong chain, or a tow paſſing over the beam, is fixed in ſuch a manner, that the plough may, by means of notches, or a pin known under the name of a *cheek*, be let out to a greater length from the axle; and will conſequently penetrate more deeply into the earth.

We have been induced to give this deſcription of the Kentiſh Plough, becauſe it is an inſtrument of great ſtrength, and eminently calculated for rocky and hilly countries, as it turns the ſoil to a conſiderable depth, laying it perfectly level, without making any furrow, or opening; a circumſtance of equal advantage and importance, in dry ſituations.—The price of the whole, with its tackle complete for drawing, is computed to be about five guineas.

2. A valuable implement has very lately been introduced into the county of Lancaſter, by Mr. Duckett, jun.—It is denominated a *Trench-plough*, and furniſhed with two ſhares, one being directly over the other, ſo that one narrow ſuperficial furrow may be drawn from the ſurface of the ſoil, while another, at a moderate depth, is taken off beneath. This machine is well adapted for ploughing in green crops, or long dung, by way of manure; and, if the ſurface of the ſoil be *foul*, it may be turned under, and freſh ſoil brought up, from the depth of 10 inches, by employing three horſes. The earth being thus looſened, the roots of plants are enabled to ſtrike downwards without any impediment; and, while the land is drained, and expoſed to the influence of the air, it is thereby conſiderably improved.

3. The *Scalp-plough*, or *Extirpator*, as it is generally termed, was lately invented by Mr. Hayward, of Stoke-Aſh, in the county of Suffolk. Its beam is ſeven feet in length, and is furniſhed with two handles. The ſhares are eight inches broad, nine in length, and are fixed to *ſtalks*, about ten inches in height, and eleven inches aſunder. This implement may be adapted to the wheels of a common plough, and will penetrate the ſoil to a greater or leſs depth, in a ſimilar manner. The object of this contrivance is, the eradication of weeds, and the clearing of ploughed lands for ſeed; in which reſpect it is ſaid to be more ſerviceable than any other inſtrument. Before the extirpator is employed, the ſoil ought to be once ploughed; and, if it have lain fallow during a ſummer, the ſcalp is paſſed over it twice; namely, the firſt time about two inches deep, and the next, in a tranſverſe direction, at the depth of about four inches. This operation, together with harrowing the ground once, will not only deſtroy all weeds, but will pulverize and prepare the ſoil for the reception of ſeed, whether drilled, or broad-caſt. Further, if lands, intended for the production of ſpring-crops, be ploughed in autumn, and the extirpator be afterwards paſſed over them, they will be rendered fit for immediate ſowing.—This machine may be drawn either by two or by three horſes, according to the nature of the ſoil, and the depth required: it poſſeſſes the peculiar advantage, that it may be worked on all arable lands, by any perſon capable of directing a plough, and that it will turn over an acre of ground, in one hour, without fatiguing either horſes or oxen.—Should the ſoil, however, be overrun with weeds, it will be adviſable to plough it with the ſcalp, twice; and, in ſome caſes, three times; a ſhort ſpace being allowed to intervene, with a view to deprive the weeds of their vegetating power.

4. Among the moſt valuable implements that have, within a few years, been conſtructed and adopted in this country, is the *Beverſtone-plough*, deſigned, or at leaſt improved, by the ingenious Mr. Lewin Tugwell, of Beverſtone, in the county of Glouceſter. See Pl. 43.

In the Domeſtic Encyclopedia, are given the following dimenſions of this uſeful plough:

	Feet.	*Inches.*
A to B	2	4
A - C	2	5
C - D	1	4
D - E	2	5
Diameter of the wheel	1	9
D to F	0	11
G - H	0	$10\frac{1}{2}$
E - I	1	$3\frac{1}{2}$
K - L	0	9
Breadth at the heel	0	9
Breadth of the fin	0	7
Top of beam at the heel to the ground	0	$8\frac{1}{2}$
The mould-board projects at the top more than the breadth at the heel	0	6
1 to 3	6	0
3 - 4	3	8
3 - 5	4	3
5 - 6	2	5
7 - 6	2	8
1 - 3	1	5
1 - 8	2	10
1 - 9	4	8
From the heel to the tuck-hole of the ſhare	2	$6\frac{1}{2}$
From the tuck-hole to the point of the ſhare	0	$8\frac{1}{2}$

This excellent machine, which conſiderably varies from the Rotherham, and other valuable ploughs, gained the prize at the *ploughing-match* in 1798, held near Pipers-Inn, Somerſetſhire, under the patronage of the Bath and Weſt of England Society. It may be eaſily worked by a pair of oxen, without a driver; and, on account of its ſimplicity, we believe that the repreſentation given in Pl. 43. will be ſufficient to guide a ſkilful carpenter in the conſtruction of a ſimilar implement.

5. The *double* or *two-furrow ſwing* and *wheel-plough*, demands the attention of every enlightened agriculturiſt: we have therefore ſubjoined a repreſentation in the plate, copied from the 2d vol. of *Communications to the Board of Agriculture.*

This machine, we underſtand, was originally invented by Mr. Duckett, but has lately been materially improved by the patriotic Lord Somerville. The conſtruction of the beam is nearly the ſame as that of the Beverſtone Plough; which his lordſhip (in his Addreſs to the Board, in 1798) acknowledges to have adopted, from a conſciouſneſs of his inability to ſubſtitute another more adapted to the purpoſe. The chief and moſt important improvement relates to the mould-board, one end of which was formerly cut off, and the deficiency ſupplied by driving in wedges, to the conſequent injury of the mould-

plate. As this expedient, however, was attended with much trouble, it was generally omitted; and, conſequently, the land imperfectly tilled. With a view to remedy ſuch inconvenience, Lord S. propoſes (after the mould-board is formed, and the plate is fitted in the uſual manner) to cut off the parts marked a, a, in the delineation before communicated, and to connect them again with the fixed part of the board, by means of flat hinges, or of thin, flexible plates of hard-hammered iron; ſo that thoſe parts may be eaſily ſet to have different inclinations with ſuch fixed part, by the aid of two ſcrews that paſs from the inſide through the lower parts of the handle of the plough, oppoſite to the backs of the moveable pieces a, a. The ſcrews, he obſerves, may be ſo regulated as to keep ſuch pieces at any degree of inclination that may be required, according to the nature of the land intended to be broken up.

The two-furrow plough is beſt adapted to light and level ſoils, particularly for ſtirring *ley-grounds*; and, as theſe cannot be laid too flat, or *ſeed-earths* be turned too much on an edge, the plough may be adapted to either purpoſe with the utmoſt facility, by this improvement of the mould-board. When the moveable parts, above alluded to, are ſcrewed outwards, a proportionate convexity or elevation will be left at the baſe of the furrow; and thus more earth will be expoſed for covering the ſeed Laſtly, as the part of the mould plate, marked with the dotted lines C, C, is moſt liable to wear off by repeated friction, Lord Somerville directs it to be made twice as thick as the other parts of the plate; viz double the thickneſs of a new crown-piece, or about one fourth of an inch; in which caſe it will remain unimpaired, nearly as long as the whole of the machinery.

The chief improvement made by Lord Somerville, being in the mould-plate of his uſeful plough, we have engraved two figures, repreſenting its internal ſtructure, in different points of view, by which its mechaniſm may be more clearly underſtood. See fig. 2 and 3 in the plate.

a, a, a, are the ſcrews that advance or withdraw the moveable mould-plate; *b, b,* the moveable plate; *c, c,* ribs, which ſerve to ſtrengthen the plates; *d,* grooves, ſunk in the mould-board for the reception of the ribs, when the mould-plate is withdrawn.

Lord S. obſerves, that "the principle of this moveable plate may not at firſt catch the attention of every reader;" but it deſerves to be generally adopted, and has indeed met with ſtrong advocates in ploughmen; for it not only relieves their right arm of conſiderable labour, that muſt otherwiſe be performed in wedging and hammering mould-plates; but much exertion is alſo ſaved to the right leg, in attempting to tread thoſe furrows flat, which had been left on an edge by the plough. Laſtly, theſe plates are indiſpenſably neceſſary, in order to qualify two-furrow ploughs for all *broad* work, and particularly breaking up leys; and ſuch implements ought (in the technical phraſe) *to work on their own baſe, cloſe at heel*; as otherwiſe the furrow will be irregularly laid; and they will be immediately "thrown out of work."

Before we conclude the account of this valuable contrivance, it is but juſtice to ſtate the reſult of a trial made at Kew, in March, 1799, on His Majeſty's farm, in conſequence of a challenge given to Lord Somerville. The quantity of land, till then in a ſtate of nature, amounted to 17½ ſtatute acres, and was worked by this implement, four Devonſhire oxen (ſix years old), and a man, with a boy as driver, in ſix days and four hours. The cattle were in good condition when they commenced the taſk; after the accompliſhment of which, they appeared in better order than before. They were allowed no corn; conſumed every day, upon an average, about 40lbs. of hay, during their continuance at Kew; and worked eight hours each day including half an hour for bait. The land, thus tilled, was viewed by many gentlemen and able agriculturiſts, who highly approved of it, and were induced to order numbers of theſe ploughs; which, we truſt, will ſoon be generally adopted.

The two-furrow plough has, indeed, been introduced into ſome of the midland counties, where it is employed with five horſes and one man, in tolerably level ſoils, which it divides as effectually as two ſingle ploughs. It is alſo uſed, together with the ſingle-wheel plough, in Staffordſhire; as it requires only a lad to drive the horſes, and to turn the plough at the end of the furrow. For breaking up the turf, an iron *flay* is ſcrewed to the coulter; by which the ſward is cut off, and turned into the furrow, ſo as to be covered with earth. Thus, by the aid of an additional horſe, the ſoil will reſemble a fallow, and may be harrowed with equal facility.

6. The lateſt Britiſh plough, which merits particular notice, is that invented by Mr. J. Turner, jun. of Bockleton, Warwickſhire; and of which the figure in the plate will convey an accurate idea.

A, is the iron at the end of the beam, to which the horſes are hooked; and which is called, in Staffordſhire, the *buck*; in the county of Worceſter, the *ear*; B, B, B, B, B, the beam; W, W, W, W, W, a ſtrong piece of wood, denominated by the inventor a *wing*, that projects in the middle; and in which one of the coulters, C, is fixed. This piece of timber is faſtened, at a proper diſtance from the *ear*, to the ſide of the beam, by means of long ſcrews paſſing throughout the latter; with the oppoſite ſide of which they connect another wing, containing a ſecond coulter, likewiſe marked with the letter C. Theſe two coulters are placed in a parallel direction, and are both ſtrengthened with a piece of iron, called the *ſtay*; one end of which is fixed about two inches beneath the wing, and the other is inſerted in the wing itſelf, F, repreſents the whole *ſtay* of the coulter C; and *f* delineates part of the other coulter C: T, denotes part of the *drock*, a piece of wood, that forms the lower extremity of the plough; and which is about ſix inches in width, three in depth, and rather more than two feet in length. To the top of the drock is faſtened an erect piece of timber, known by the name of *ſpindle*, M, M; and behind which are two tails, D *d*. To the upper end of the ſpindle M, is fixed the beam B, the end of which is faſtened between the tails, by means of an iron pin; P, I, and P, R, are two *ſhelve-boards*, combined with the drock and ſpindle; and which meet at the angular point P. The ends of both theſe boards are ſtrengthened by means of a ſhort *wooden ſtay*, that is fixed in them, as well as in the tails: *g*, repreſents this ſtay; K, a coulter faſtened to the plough-ſhare S, and which is bent at the end, in order that it may be more eaſily admitted through a hole in the beam, behind the two coulters C, C, when the ſhare is put on the end of the drock.

The object of this contrivance is the formation of ſmall drains or gutters in meadows, and paſture-land, with a view to carry off ſtagnant waters; which, by remaining on the ſurface, materially injure the ſoil. To adjuſt the plough for work, a mark is firſt made in the middle of that end of the drock which is contiguous to the tails; when a ſtraight line is traced on a level ſpot of ground, on which ſuch mark and the point of the ſhare are put, and made to coincide. Next, the fore-coulters muſt be equi-diſtant from the line; then let the dotted line, *b, y, p, n,* repreſent a ſtraight line made on level ground; *p* the point of the ſhare S; *m,* the middle point of the end of the drock T; and, if *m* and *p* correſpond with the line *b, y, p, n, x, y,* and *d, t,* will deſcribe the diſtance from each of the fore-coulters.

The moſt effectual method of working this plough is, in the opinion of its inventor, to faſten a chain round the axle-

tree of a pair of cart-wheels (the body of which has been taken off); to hook ſuch chain to the ear A, at the end of the beam; and, by lengthening or ſhortening the chain, this machine may be ſo regulated as to penetrate the ſoil to a greater or leſs depth, according to the nature of the ground. When the plough is at work, the fore-coulters C, C, cut the outſide of the gutter.—K, the coulter, divides the ground exactly in the middle: the further ſhelve-board throws out half the ſoil on one ſide, while the *near* ſhelve-board removes the other half to the oppoſite ſide; and thus a complete gutter is left, which extends from eight to ten inches in width, and is from ſix to eight inches deep.

One of the moſt important advantages reſulting from this invention, is the ſaving in manual labour, which is computed at *three-fourths;* as 400 perches of land may thus be drained in one day, by a team of five horſes, two drivers, and a holder; the expence of which, the inventor calculates at 16s.; whereas, if the ſame quantity of land were to be dug by *hand*, the coſt would amount to 3l. 6s. 8d.

Mr. Turner's plough may be applied to another valuable branch of agriculture; namely, the *planting of potatoes.* His method is as follows: Firſt, trenches are made with the machine, at the diſtance of about two feet from each other; and in which the potatoes are ſet. Some manure is next ſpread on them in ſuch trenches, and they are covered by drawing the plough through the intermediate ſpaces; ſo that each trench is filled by a ridge of ſoil. When the growing potatoes require an additional covering of mould, the weeds are previouſly cut, either by a hoe or weeding-hook; and, the two fore-coulters being taken off the plough, the implement is drawn between the ridges; it throws up an additional portion of ſoil upon them; and thus expeditiouſly effects the operation of *moulding.*

Beſide theſe, now deſcribed, ſeveral other ploughs have been contrived for particular purpoſes; but, having already given an account of the moſt valuable improvements, under the heads of DRAINING, DRILLING, &c. we ſhall refer the reader to a deſcription of M. Simonde's *Tableau de l'Agriculture Toſcany,* for an account of two ploughs, uſed in Tuſcany, and in other parts of Italy, which, from the ſimplicity of their conſtruction, deſerve to be generally known in Britain.

PLUDENTZ, a town of Germany, in the Tyrol, capital of a county of the ſame name. It is ſeated in a pleaſant plain, on the river Ill, 65 miles W. of Inſpruc. Long. 12. 10. E. Lat 47. 10. N.

PLUVIERS, or PITHIVIERS, a town of France, in the department of Eure and Loire, 20 miles N. of Orleans. Long. 2. 0. E. Lat. 48 14. N.

PLYMOUTH DOCK, a town in Devonſhire, contiguous to the royal docks in the harbour of Hamoaze, at Plymouth. It has a chapel in the dock-yard, and a church about a quarter of a mile from the town. The royal hoſpital is ſituate on the right, on an elevated ſpot that is favourable to a ſupply of wholeſome air; and on the left is the governor of Plymouth's houſe, overlooking the harbour from a rocky eminence, which is fortified with ſome regular works for the defence of the dock-yards.

PLYNLIMMON HILL, a vaſt and lofty mountain of Wales, partly in Montgomeryſhire, and partly in Cardiganſhire. The Severn, the Wye, and other rivers, have their ſource in this mountain.

PO, a river of China, in the province of Kiang-ſi. It empties itſelf into the lake Poyang-hou, a ſmall diſtance from Jaotcheou-fou.

POCKLINGTON, a town in the E. riding of Yorkſhire, with a market on Saturday; ſeated n a ſtream that falls into the Derwent, 14 miles E. of York, and 196 N. by W. of London. Long. 0. 40. W. Lat. 53. 58. N.

PODENSTEIN, a town of Franconia, in the biſhopric of Bamberg, ſeated among foreſts, near the ſource of the Putlach, 30 miles S.E. of Bamberg.

PODOLSK, a town of Ruſſia, in the government of Moſcow, 28 miles S. of Moſcow. Long. 37. 29. E. Lat. 55. 16. N.

PODOR, a fortreſs of Africa, on the river Senegal, built by the French, but ceded to the Engliſh in 1763. It was afterward retaken by the French, and confirmed to them by the peace of 1783.

POGGIBONZI, a town of Tuſcany, famous for its excellent tobacco. It had a citadel, now in ruins; and is ſeated near the Elſa, 16 miles S. of Florence.

POGGIO, a town of Tuſcany, near Florence, famous for a handſome palace of the great duke.

POIRINO, or POVERINO, a town of Piedmont, 15 miles S.E. of Turin.

POISONS (*Encycl.*). Under that article, we have noticed various vegetable ſubſtances of a poiſonous nature, and under EARTH-NUT, in this Supplement, have alluded to ſome inſtances in which a root, reſembling the latter in its external form, was eaten by miſtake, and proved fatal. The reference, in the latter, ſhould have been to the article OENANTHE, *Encycl.*

POISSY, an ancient town of France, in the department of Seine and Oiſe, ſeated near the foreſt of St. Germain, 15 miles N.W. of Paris. Long. 2. 12. E. Lat. 48. 56. N.

POL, ST. a town of France, in the department of the Straits of Calais. It is noted for its mineral waters, and is 16 miles N.W. of Arras.

POLA, an ancient and ſtrong ſea-port of Italy, in the S. part of Iſtria, with a citadel, and a biſhop's ſee. Here are the ruins of a Roman amphitheatre and a triumphal arch. It is ſeated at the bottom of a bay, and has a ſpacious harbour, 80 miles S.E. of Venice. Long. 14. 9. E. Lat. 45. 13. N.

POLACHIA, or PODLACHIA, a palatinate of Poland, 88 miles long, and 30 broad; bounded on the N. by Pruſſia and Lithuania, on the E. by Lithuania, on the S. by the palatinate of Lublin, and on the W. by that of Maſovia. Bielſk is the capital.

POLIGNANO, a populous town of Naples, in Terra di Bari, with a biſhop's ſee. It is ſeated on a craggy rock, near the ſea, 16 miles E. of Bari. Long. 17. 24. E. Lat. 41. 25. N.

POLIGNI, a town of France, in the department of Jura, ſeated on a rivulet, 32 miles S.W. of Beſançon. Long. 5. 55. E. Lat. 46. 50. N.

POLINA, an ancient town of Albania, with a Greek archbiſhop's ſee. It was formerly a conſiderable place, but is now almoſt in ruins, and is 12 miles S. of Durazzo. Long. 19. 20. E. Lat. 41. 42. N.

POLITZ, a town of Upper Saxony, in Anterior Pomerania, near the Friſch Haff, celebrated for its hops. It is eight miles N. of Stetin.

POLLOCKSHAWS, a manufacturing town in Renfrewſhire, ſeated on the river White Cart.

POLORE, a town of Hindooſtan, in the Carnatic, 26 miles S.S.W. of Arcot, and 55 N.W. of Pondicherry. Long. 78. 52. E. Lat. 12. 10. N.

POLOTZK, a government of the Ruſſian empire, formed of part of a palatinate of Lithuania, diſmembered from Poland by the treaty of partition in 1772. Its products are chiefly grain, hemp, flax, and paſture; and the foreſts furniſh

great abundance of masts, planks, oak for ship-building, pitch, tar, &c. which are chiefly sent down the Dwina to Riga.

Polotzk, a strong town of Russia, capital of a government of the same name, seated on the Dwina, at the mouth of the small river Polota, 50 miles S.W. of Vitepsk. Long. 27. 50. E. Lat. 55. 43. N.

POLTEN, St. a town of Lower Austria, seated on the Drasam, which falls into the Danube, near Holmburg, eight miles from Vienne.

POMBAL, a town of Portugal, in Estremadura, 16 miles N.E. of Leiria, and 21 S. of Coimbra. Long 8. 16. W. Lat. 39. 50. N.

POMEGUE, an island in the Mediterranean, near Marseilles.

POMERELIA, a district of Polish or Western Prussia, forcibly seized by the King of Prussia. Dantzic is the capital.

POMESANIA, a large county of Western Prussia, which extends from E. to W. from the Passerge as far as the Vistula, between E and W. Prussia. It is full of lakes and morasses.

POMONA, the principal of the Orkney Islands. See Mainland.

POND (*Encycl.*). In the first vol. of the Journal de Physique, we meet with an interesting method of making ponds water-tight, without the aid of masonry, by M. Dambourney. He directs the pit to be dug to a convenient depth; and its sides to be carefully sloped to an angle of about 40 degrees. The cement with which it is to be lined, should then be prepared in the following manner:

A sufficient quantity of brick-clay ought previously to be procured, in a moist state, so that it may be easily worked and incorporated with one-fourth part of quick-lime, slaked the preceding evening, in such a portion of water, as will reduce it to the consistence of cream-cheese; and the whole must be formed into balls, about two feet in circumference. When an adequate stock is collected, the workman descends into the cavity, and an assistant supplies him with a ball, which the former throws with all his strength on the ground, near the centre of the pit: thus, he continues the plastering with other balls, in such a direction that each may come in contact with the next following, till the sides and bottom of the intended pond are perfectly lined. If the whole cannot be finished in one day, the last row laid on in the evening should be moistened, in order that it may be sufficiently adhesive to incorporate exactly with the new part of the work on the subsequent morning. Two or three days after this composition is applied, it should be beaten with a flat piece of wood; and, accordingly as its firmness increases, the beating must be stronger, and the surface occasionally wetted, to prevent cracks, till it become one uniform, solid piece. Lastly, the whole is to be covered with a coat of any cheap oil; and (previously to the admission of water) with gravel, to the thickness of one inch. By this management, the coating will acquire a very remarkable degree of firmness; and, if the pond be constantly full, no repairs will become necessary; as the only injury to be apprehended, may proceed from intense frost, which is apt to damage such parts of the work as are exposed to the air.

In the sixth volume of Annals of Agriculture, an account is given of a simple method of making artificial ponds, in dry soils:—the figure given in Pl. 42. represents an outline of their construction.

The line A describes a circular hole made in the ground, of such size as may be found necessary; and on which a stratum of clay, B, must be carefully beaten, and trodden into a solid, compact body, from four to six inches in thickness; C, represents a layer of quick-lime about an inch, or an inch and a half thick; and which should be uniformly spread over the whole; D, is a second stratum of clay, that ought to be of a thickness similar to that above mentioned, and should be pressed down in the same manner; E, denotes stones, or gravel, either of which must be spread on the second layer of clay, to such depth as may prevent the pond from being injured by the feet of cattle; for otherwise, they will penetrate the stratifications of clay and lime; in consequence of which, the water will be discharged through the pores of the earth. When thus completed, according to the section above given, the pond will remain five feet deep, and forty-five in diameter; at which size these reservoirs are in general constructed; the letter F, representing the line of level, both of the water and of the ground.

This method of forming ponds was contrived in Yorkshire, about 25 or 30 years ago, by a well-sinker: numerous artificial pools have since been made in that, as well as the adjoining counties. The expences attending a work of the dimensions above stated, are computed to be from 4l. to 6l. according to the distance from which the clay is carried. Such a pond will remain unimpaired for a series of years; because the lime prevents worms from striking either upwards or downwards, and consequently from injuring the clay, which naturally resists moisture.

PONDESTURIA, a town of Italy, in Montferrat, seated on the S. side of the Po, 33 miles E. of Turin. Long. 8. 25. E. Lat. 45. 2. N.

PONFERRADA, a town of Spain, in Leon, on the river Sill, 40 miles S.W. of Leon. Long. 6. 6. W. Lat. 42. 30. N.

PONS, St. a town of France, in the department of Herault. It was a bishop's see before the revolution, and is seated in a valley surrounded by mountains, in which are fine marble quarries. It is 24 miles N. of Narbonne. Long. 2. 47. E. Lat 43. 29. N.

PONTA DELGADA, a sea-port of St. Michael, one of the Azores. It is defended by a citadel; and contains about 8,000 inhabitants. Long. 25. 40. W. Lat. 37. 45. N.

PONT-A-MOUSSON, a considerable town of France, in the department of Meurthe, with a university. There were lately several religious houses, and the premonstrantes had a magnificent church here. It is seated on the Moselle, which divides it into two parts, two miles N.W. of Nanci. Long. 6. 16. E. Lat. 48. 43. N.

PONT-ARLIER, an ancient town of France, in the department of Jura, seated on the river Doubs, near Mount Jura. It is a commodious passage into Switzerland, and is defended by a strong castle. Long. 6. 26. E. Lat. 46. 55. N.

PONT AUDEMER, a town of France, in the department of Eure, seated on the Rille, 13 miles E. of Honfleur, and 85 N.W. of Paris. Long. 0. 35. E. Lat. 49. 21. N.

PONT-DE-CE, a town of France, in the department of Maine and Loire, seated on the Loire, three miles from Angers, and 178 S.W. of Paris. Long. 0. 29. W. Lat. 47. 25. N.

PONT-DE-L'ARCHE, a town of France, in the department of Eure, with a castle. It is seated on the Seine, over which is a bridge, five miles N. of Louviers, and 62 N.W. of Paris. Long. 1. 15. E. Lat. 49. 5. N.

PONT-DE-VAUX, a town of France, in the department of Ain, seated on the Ressousse, 8 miles S. of Macon. Long. 4. 55. E. Lat. 46. 28. N.

PONT-DU-VESLE, a town of France, in the department of Ain. It has a manufacture of stuffs called Augustines, and also of tapestry for the coverings of arm-chairs and sofas, of the same kind as those of Aubusson. It is seated on the Vesle, 12 miles W. of Bourg. Long. 5. 4. E. Lat. 46. 16. N.

PONTE-DE-LIMA, a town of Portugal, in Entre-Douero-e-Minho, with a palace. It is ſeated on the Lima, over which is a magnificent bridge, 13 miles N.W. of Braga, and 190 N. of Liſbon. Long. 8. 44. W. Lat. 41. 51. N.

PONTEFA, or PONTAFELLA, a town of Germany, in Carinthia, ſeated on the Fella, over which is a bridge that leads to the beſt paſſage over the Alps. It is 20 miles N.W. of Friuli. Long. 13. 0. E. Lat. 46. 25. N.

PONTE-STURA, a town of Italy, in Montferrat, ſeated at the confluence of the Stura and Po, three miles S.W. of Caſal.

PONTE-VEDRA, a town of Spain, in Galicia, ſeated on the Leris, and famous for its fiſhery of pilchards. It is 10 miles E. of Porto Nova. Long 8. 27. W. Lat. 42. 20. N.

PONT-GIBAUT, a town of France, in the department of Puy de Dome. Near this place is the village of Rore, with a ſilver mine, and a vinous fountain of mineral water. It is 10 miles W.N.W. of Clermont. Long. 2. 58. E. Lat. 45. 51. N.

PONTIVY, a town of France, in the department of Morbihan, ſeated on the river Blavet. It was the firſt town after the revolution of 1789 that ſet the example of national confederations.

PONT-L'EVEQUE, a town of France, in the department of Calvados, ſeated on the Touque, 10 miles N.W. of Liſieux. Long. 0. 6. E. Lat. 49. 17. N.

PONTOISE, a town of France, in the department of Seine and Oiſe. It is ſeated on an eminence, on the Oiſe and Vienne, with a bridge over the former, whence it takes its name. In 1435, the Engliſh took it by a ſingular ſtratagem: the ground being covered with ſnow, the aſſailants dreſſed themſelves in white, with ladders painted white, and ſcaled the walls before the ſentinels could perceive their approach. Charles VII. retook it by ſtorm in 1442. The parliament of Paris was transferred to this place in 1652, 1720, and 1753. It is 43 miles S.E. of Rouen, and 27 N.W. of Paris. Long. 2. 11. E. Lat. 49. 3. N.

PONT-ORSON, a town of France, in the department of the Channel, ſeated on the Coeſnon, 20 miles E. of St. Malo. Long. 1. 30. W. Lat. 48. 30. N.

PONT-REMOLI, a town of Tuſcany, with a ſtrong caſtle, ſeated on the foot of the Apennines, 40 miles E. of Genoa, and 66 N.W. of Florence. Long. 9. 40. E. Lat. 44. 25. N.

PONT ST. ESPRIT, a town of France, in the department of Gard. It is ſeated on the river Rhone, over which is one of the fineſt bridges in Europe, conſiſting of 19 great and 4 ſmall arches. To facilitate the paſſage of the water in time of floods, apertures are made through each pier, ſix feet above the common level of the river; and to ſtem the extreme rapidity of the Rhone, the bridge is not built in a right line, but in the form of a curve. This paſſage is defended by a citadel, within which is the church of the Holy Spirit, projecting into the river. As the bridge is ſo ſlight, the goods are conveyed over in ſledges, by way of precaution. Pont St. Eſprit is 17 miles S. of Viviers, and 55 N.E. of Montpellier. Long. 4. 46. E. Lat. 44. 13. N.

PONT ST. MAIXENCE, a town of France, in the department of Seine and Oiſe, ſeated on the Oiſe, five miles N. of Senlis. Long. 2. 40. E. Lat. 49. 18. N.

PONT-SUR-SEINE, a town of France, in the department of Aube, with a caſtle, ſeated on the Seine, 17 miles N.W. of Troyes, and 55 S.E. of Paris. Long. 3. 40. E. Lat. 48. 28. N.

PONT SUR YONNE, a town of France, in the department of Yonne, ſeated on the Yonne, eight miles N.W. of Sens. Long. 3. 14. E. Lat. 48. 16. N.

PONZONE, a town of Italy, in the duchy of Montferrat, 10 miles S. of Acqui, and 18. N. of Savona. Long. 8. 35. E. Lat. 44. 30. N.

POOLOROON, or POLERON, one of the Banda Iſlands, from which the Dutch expelled the Engliſh, not for any advantage it afforded, it being a barren ſpot, but to ſecure the monopoly of the ſpice trade, by preventing the Engliſh from having any ſettlement in theſe parts. It is 100 miles S.E. of Amboyna. Long. 130. 0. E. Lat. 4. 20. S.

POOLOWOY, one of the Banda Iſlands, on which the Dutch have a regular pentagon, called Fort Revenge. Here nutmegs and the moſt delicious fruits were once abundant.

POONAH, a town of the Deccan of Hindooſtan, in Viſiapour. It is the capital of the Weſtern Mahratta empire; but it is not large, and lies open and defenceleſs. It is 100 miles S.E. of Bombay. Long. 73. 55. E. Lat. 18. 30. N.

POOR *(Encycl.)*. The comforts of the poor lie within a ſmall compaſs: they ſhould therefore be reſpected. Mere animal exiſtence is not ſufficient for rational creatures. To ſweeten the cup of life, to ſooth pain, and to relieve labour, man muſt enjoy comfort here, and his views muſt be directed to happineſs hereafter.

One great ſource of comfort to the poor man is, his wife and children, if he can but earn means of maintaining them. Humble and inſignificant as he may appear abroad, he is of conſequence and authority at home. In his own houſe he finds thoſe who reſpect him, who obey him; thoſe, to whom he may ſay, Go, and they go, and Come, and they come. He is not inſenſible to the charities of father, ſon, and huſband. The parental affection of the poor is increaſed by imperious neceſſity, and by the helpleſs condition of their offſpring. When ſick and diſpirited, it is to them the greateſt of comforts to be attended by thoſe who love and regard them;—by thoſe who have an intereſt and anxiety in their exiſtence. In times of ſickneſs and diſtreſs, the ſtouteſt heart may be overcome by the forcible ſepa ation of huſband and wife, of parent and child; whoſe mutual attachment (even if humanity could for a moment be ſilent on ſo intereſting a ſubject) it would be policy to encourage, as an incentive to virtue, and a ſurety for conduct.

The poor man, poor as he is, loves to cheriſh the idea of property. To talk of my houſe, my garden, my furniture, is always a theme of delight and pleaſure. When, therefore, his whole domeſtic eſtabliſhment is overwhelmed and deſtroyed by a removal to the workhouſe, can we wonder that he ſhould grieve for the loſs of thoſe things, which by uſe were become precious to him? The apartments of the workhouſe may be better than his cottage; but he does not like to exiſt as a mere lodger, or a permitted gueſt, though in a finer manſion than his own. The diet of the workhouſe may be more waſtefully abundant, than any which he poſſeſſes or even deſires at home; but his cottage diet, though poor and ſcanty, is his own; he has earned it by his labour; and it is ſweeter to him than more coſtly food, which he is taught to conſider as gratuitous and unmerited. His paupers coat is warm; but it belongs to the community, and not to himſelf.—And are not theſe prejudices reſpectable? Are they not conſonant to the energy of a free country?

The poor man is reconciled to poverty, by the poſſeſſion of liberty. However preſſed by narrowneſs of circumſtances,—however impelled by neceſſity to labour, yet ſtill it is one of his comforts and pleaſures, that he is free;—that he may go out or come in, work or play, at his own option. He likes to be the judge of his own wants, and to provide for them after his own manner. He even chooſes to have the free and unmoleſted determination, whether he ſhall boil or bake his Sunday's dinner. Under confinement he can enjoy no

comfort; the very thought of being under lock and key is hateful to him: no man, in his opinion, deſerves a priſon, who has not committed a crime. To be of little conſequence in the community, to have no authority beyond the narrow limits of his own cottage and garden, he is reconciled to. Habit, a ſecond nature, has made him eaſy under it; but he has an unconquerable averſion to arbitrary rule being exerciſed over all his actions. And is it in England that one would wiſh to extinguiſh theſe feelings?

Some part of the poor man's comfort (often, it muſt be acknowledged, more than his true friends would wiſh) is placed in ſocial enjoyment. When, however, the labourer does not carry this indulgence to an exceſs prejudicial to his own happineſs, or to that of his family, who will not ſay, "Much good may it do him?"—If, after his week's labour, he ſhould love to relax a little in that place which affords "an hour's importance to the poor man's heart," the gratification cannot be very blameable while it does not paſs the bounds of diſcretion. The evening chat at a neighbour's door, the Sunday's church-yard politics, the holiday feſtivities, the ruſtic games, and athletic exerciſes, are as welcome to the cottager, and afford as much relief after care and labour, as the more coſtly and faſhionable amuſements of the rich*. To get drunk, to ſquander at an alehouſe what ought to maintain his family, is worſe than wrong or imprudent:—it is unjuſt and wicked In this world, it cauſes the ruin of thoſe who depend upon him, and who look up to him for ſubſiſtence;—of that wife, and of thoſe children, to whom he ſhould be attached by every tender tie:—and, as to the next world, we read in holy Scripture (and, "God is not a man, that he ſhould lie") the drunkard ſhall not inherit the kingdom of God.—If, however, you wiſh the cottager to be more domeſtic, and thereby to become more happy, aid and encourage him in the comfort and cleanlineſs of his little manſion;—give him pleaſurable occupation at home, in the care of his pigs and cow, and in the cultivation of his garden;—aſſiſt him in the education of his children; and in the habits and reſources of life. When more intereſting objects preſent themſelves at home, the alehouſe will ſoon be forgotten and neglected. Many in all ranks of life take refuge in a public-houſe, for want of ſatisfactory occupation at home.

Laſtly, the great and eſſential comfort of the poor, and particularly in old age and in ſickneſs, is religion. In labour and fatigue, in ſorrow and anxiety, it is moſt conſoling to the afflicted mind to look up with habitual hope and gratitude to that Being, whoſe tender mercy is over all his works. It is by confidence in his wiſdom and goodneſs, and by the hope of unfailing happineſs hereafter,—by theſe conſolations delivered to us in his revealed will,—and by theſe only,—that the rugged path of life can be ſmoothed; the crooked ways of man be made ſtraight, and the rough places plain. It is, therefore, of infinite conſequence that the poor ſhould have the full benefit of religion; that they ſhould be taught, in the ſanctuary of God, the uſe of thoſe gradations of rank and wealth, which in infinite wiſdom he has thought fit to eſtabliſh in this tranſitory life, as ſtimulants to the induſtry and energy of man;—and that he ſhould be inſtructed to look forward to that bleſſed ſtate, where "they ſhall hunger no more, neither thirſt any more; neither ſhall the ſun light on them, nor any heat. For the Lamb which is in the midſt of the throne ſhall feed them, and ſhall lead them unto living fountains of waters: and God ſhall wipe away all tears from their eyes."—To the aged this comfort is of peculiar importance. At a time, when the power of labour and activity is enfeebled, and the gratification of the ſenſes diminiſhed and exhauſted, it is, indeed, true charity to give the poor the advantage and comfort of religious meditation; and to open their eyes, and raiſe their hopes, to thoſe ſcenes of bliſs, which become brighter, and more enchanting, as we approach the confines of the grave.

Health of the Poor. Under the article Golden-Rules (*Supp.*) will be found ſome valuable admonition to the poor on the ſubject of domeſtic economy. The following extract from a paper written by Dr. Ferriar, of Mancheſter, contains very uſeful information for the preſervation of their health, particularly in manufacturing and other populous towns.

Avoid living in damp cellars: they deſtroy your conſtitutions, and ſhorten your lives. No temptation of low rents can counterbalance their ill effects. You are apt to crowd into the cellars of new buildings, ſuppoſing them to be clean. This is a fatal miſtake. A new houſe is always damp for two years, and the cellars, which you inhabit under them, are generally as moiſt as the bottom of a well. In ſuch places, you are liable to bad fevers, which often throw the patient into a decline; and you are apt to get rheumatic complaints, that continue for a long time, and diſable you from working.

If you cannot help taking a cellar, be attentive to have all the windows put in good repair before you venture into it; and, if poſſible, get it white-waſhed If you attempt to live in a cellar with broken windows, colds and fevers will be the certain conſequences.

In many parts of the town you ſleep in back rooms, behind the front cellar; rooms, which are dark, and have no proper circulation of air. It would be much more healthy to ſleep in the front part: at leaſt, when you have large families, which is often the caſe, you ought to divide them, and not crowd the whole together in the back cellar.

Keep your perſons and houſes as clean as your employments will permit: and do not regret the loſs of an hour's wages, when your time is occupied in attending to cleanlineſs. It is better to give up a little time occaſionally in order to keep your houſes neat, than to ſee your whole family lying ſick, in conſequence of working conſtantly, without cleaning. It would be of great ſervice, if you could contrive to air your beds and bed-clothes out of doors, once or twice a-week.

Always waſh your children from head to foot with cold water, before you ſend them to work in the morning. Take care to keep them dry in their feet, and never allow them to go work, without giving them their breakfaſt, though you ſhould have nothing for them but a cruſt of bread, and a little water. Children who get wet feet, when they go out early faſting, ſeldom eſcape fevers or ſevere colds.

If you know that any of your neighbours are in a ſtarving condition, apply to ſome opulent perſons in the neighbourhood; get them recommended to the overſeer; or, if they are ſick, to the infirmary. Want of neceſſary food produces bad fevers; and many of you may ſuffer from

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* Much of the preceding part of this paper is taken, though with variation and addition, from Obſervations on the Rights and Comforts of the Poor, inſerted in the Gentleman's Magazine of the year 1787. It is ſubmitted to the reader, with a view of ſuggeſting to his mind, how greatly the preſent mode of (what is called) Relief, viz. the removal of the cottager's family from his own dwelling into a pariſh workhouſe, is inimical to the comfort of the poor, and deſtructive of thoſe feelings, and of that energy, among them, which it is our duty and intereſt to preſerve in full force.

neglecting poor diſtreſſed perſons, whom timely relief would have preſerved from the diſeaſe.

Therefore when you know, or have reaſon to believe, that any of your neighbours are afflicted with fevers, and that they have not taken care to procure the aſſiſtance afforded by the infirmary, you ought, both from a regard to them, and to yourſelves, to give immediate information.

You ought to be very cautious in purchaſing old clothes, or ſecond-hand furniture; as they may be brought from houſes infected with fever; and you may introduce the infection with them into your own dwellings. Every article of this kind ought to be ſtoved, or ventilated, before it is admitted into your houſes.

Your ſick neighbours, when the fever gets into their houſes, may often require aſſiſtance from you. It would be cruel to refuſe them, yet it is hard that you ſhould be obliged to expoſe your health, and that of your family. You ought never to viſit them from idle curioſity. But when they require your help in making their beds, waſhing, or turning the ſick, you may preſerve yourſelves from being infected (ſee FEVER, *Supp.*) by tying a kerchief acroſs your face, juſt below the eyes; to prevent the exhalations, from the bodies of the ſick, from entering your mouth and noſtrils. As ſoon as you return to your own houſe, waſh your hands and face in cold water; and avoid touching any of your family for half or three quarters of an hour.

Your health will always be materially injured by the following circumſtances:—living in ſmall back buildings, adjoining to the open vaults of privies;—or in cellars, where the ſtreets are not properly ſoughed, or drained;—or in narrow bye ſtreets, where ſheep are ſlaughtered, and where the blood and garbage are allowed to ſtagnate and corrupt;—and, perhaps more than all, by living crowded together, in dirty lodging houſes, where you cannot have the common comforts of light and air.

It ſhould be unneceſſary to remind you, that much ſickneſs is occaſioned among you, by paſſing your evenings at alehouſes, or in ſtrolling about the ſtreets, or in fields adjoining to the town. Perhaps thoſe who are moſt apt to expoſe themſelves in this manner, would pay little attention to diſſuaſive arguments of any kind. However, thoſe who feel an intereſt in your welfare, cannot omit making the remark.

There is another ſubject of great importance to you, on which you ſeem to want information. A great number of children die of the natural ſmall-pox, almoſt every year. This mortality muſt be imputed in a great degree to your own negligence; for the faculty at the infirmary offer to inoculate your children, and give public notice of the proper time for making your application, twice a-year. The next period for inoculation will be in March; the ſucceeding period in September. The chance of recovery, from the ſmall-pox received by inoculation, is ſo much greater than the chance of recovery from the natural kind, that you ought to conſider yourſelves as performing a duty to your children, and to the public, in bringing thoſe who have not yet had the ſmall-pox, to be inoculated at the infirmary.

You ought to be informed, that there is ſcarcely any thing more injurious to the health of children, than allowing them to work at night in the cotton-mills. It may not always be in your power to prevent their being employed in this manner; but you ſhould be made acquainted with the danger to which you expoſe them. There is no hazard incurred by their working during the day, in clean, well-managed cotton-mills.

It is alſo proper to inform you, that you may be infected with fevers, by working in the ſame place with perſons who have juſt recovered from fevers; or by people who come from infected houſes, where they are at no pains to keep themſelves clean. You had better collect ſomething among yourſelves, to ſupport ſuch perſons for a fortnight after their recovery, than expoſe yourſelves to the riſk of catching a fever, by their returning too early to work.

Management of the POOR. The following is an extract from an account of the management of the poor, in the pariſh of Shipton Moyne, in the county of Glouceſter, by Thomas Bernard, eſq.

On the 27th of February, 1801. a veſtry was called in the pariſh of Shipton Moyne, to conſider of regulations for the better management of the poor. Their firſt object was to provide immediate relief, in ſuch a way as to furniſh employment, and to encourage induſtry. For this purpoſe it was agreed that, upon any pariſhioner applying for relief, an account ſhould be taken of the age and occupation of each individual of the family, and an eſtimate ſhould be made of what they were able to earn; and then, if they could prove that they had earned to that amount, they ſhould receive ſuch relief as would make up the amount of a certain proviſion, fixed by their rules, for the weekly ſupport of each individual in family; no extra earnings, nor any ſuperior induſtry, being ever admitted as a ground of deduction from the calculated amount of relief. In addition to this proviſion, the poor, in caſe of ſickneſs and of inability to provide medical relief for themſelves, were to be allowed whatever the pariſh ſurgeon (with the privity of the overſeer) ſhould deem proper for them.

The general principle of relief being thus eſtabliſhed, the next point was to ſecure them a regular ſupply of employment. For the occupation of the men, Mr. Eſtcourt (who has the honour of being the active promoter of theſe regulations) has agreed to furniſh land for raiſing potatoes; the produce of which is hereafter to be ſold, at a reaſonable price, to the poor of the pariſh. In the cultivation of this ground, every poor man wanting work is to be employed in taſk-work, or as ſhall be moſt uſeful to him.—For the women and children, the workhouſe, by a moſt extraordinary and incredible metamorphoſis, is converted into a real houſe of induſtry; and all the women and children of that pariſh, who are clean and decent in their perſons and orderly in their behaviour, are admitted to work in the houſe (now under the care of an aſſiſtant overſeer, whoſe character and conduct have been well approved) during the day-time; they finding their own proviſions*, and receiving the whole amount of their earnings, without any deduction whatſoever. The work-rooms (with exception of the time of meals and of cleaning the rooms) are open from ſix to ſix in ſummer, and in winter, from ſeven to ſeven: thoſe parents who do not ſend their children to ſchool, or employ them better elſewhere, being entirely excluded from all parochial relief.

In order to encourage attention to their religious duties, it has alſo been agreed, that every poor pariſhioner who has two or more children at home, and who in the enſuing year ſhall regularly attend the morning ſervice, decent and clean in perſon, and being in church before the beginning

* A cheap ordinary for the children, and indeed for adults alſo, where they might get their dinners, if they wiſhed it, might be very uſeful in this inſtance; to be paid for by a weekly deduction from their earnings. See PARISH-DINNER, *Suppl.*

of the prayers, ſhall have an annual allowance of clothing; —for each man, to the value of 20ſ.; for each woman, of 15ſ.; and for each boy or girl, of 10ſ.; a deduction of 6*d.* being made for each abſence from church, unleſs occaſioned by ſevere illneſs.

To promote the eſſential virtue of cleanlineſs, another encouragement has been propoſed: that every poor pariſhioner, who ſhall annually whitewaſh his houſe in the month of September (being ſupplied with lime and bruſhes), and ſhall have the floors waſhed clean with water every Saturday in the winter months, ſhall on every ſuch Saturday in January, February, and March, receive a donation of three pecks of coals. But no ſuch donation of clothing or fuel is to be given to a pariſhioner, in caſe, during the preceding year, any member of his family ſhall have been convicted of any crime, ſubjecting him or her to fine, whipping, or impriſonment; unleſs ſatisfactory information ſhall be given, that the reſt of the family were not privy or concerned, but had uſed all proper means to prevent the ſame.

There is, moreover, a regulation, that the village ſhop, which had been eſtabliſhed in the preceding year for ſelling the moſt neceſſary articles to the poor at prime coſt, ſhall be continued; and a liſt of the articles, and the prices, fixed up every week in a conſpicuous part of the ſhop, and of the work-rooms of the houſe of induſtry.

In addition to theſe, there were added, not only individual encouragement and reward on the part of the rich, but alſo the ſupply of potatoe gardens for the benefit of the poor. For the firſt purpoſe, a liberal ſubſcription was raiſed by the principal inhabitants; each ſubſcriber being yearly or half yearly, at his or her option, to diſtribute, or to direct the diſtribution of, his or her own ſubſcription publicly after divine ſervice; the diſtribution being to be impartially made, with a view to their regular attendance on divine worſhip—their honeſty, ſobriety, decency, and induſtry—their affectionate conduct to their relations and neighbours in ſickneſs or infirmity—the cleanlineſs of their cottages—their attention to the morals, health, and welfare of their children—and their frugality and domeſtic management, in making the beſt uſe of their means of life. The period of probation is to be for one year (from the 1ſt of October, 1801); and all candidates for the rewards are required to enter their names, in the form directed, one month, at leaſt, before the time.

The mode in which Mr. Eſtcourt has provided for his cottagers' potatoe grounds is alſo deſerving of attention. He has appropriated for this purpoſe, a field called North Leas; which has been laid out in lots of a quarter of an acre each; the cottagers being each allowed one lot, or two, according to their families, and to their ability and inclination to cultivate it to advantage. The landlord pays the tithes and taxes; manures the land, finds ſeed-potatoes, and allows the labourer 6*d.* a perch for his family's ſubſiſtence, while he is cultivating the land. For this benefit, the tenant pays the rent of 15ſ. every quarter of an acre; and undertakes to cultivate the ground, according to his landlord's regulations. He alſo agrees (in caſe the money advanced him, together with his rent, is not repaid before the crop is ready* to be taken up) half of the crop ſhall be ſet apart to be ſold at Chriſtmas, to ſecure the rent and money advanced him; the cottager receiving the overplus, and retaining the other moiety. And, in caſe the cottager neglects the cultivation of his land, the landlord may take poſſeſſion, paying him the full value of his labour thereon.

The ſubject of the management of the poor, will alſo be found treated under Cottager, Garden, Land, Houſe, and other heads, in this Supplement.

Feeding the Poor. We have, under various heads in this Supplement, ſpoken of the means by which wholeſome ſuſtenance may be provided for indigent perſons at a cheap rate; but the ſubject ſtill remains to be ſyſtematically treated. The following copy of a letter from Count Rumford to the Rev. Dr. Majendie, of Windſor, will anſwer this purpoſe moſt completely:

"In anſwer," ſays the count, "to the queſtions you have done me the honour to propoſe to me reſpecting *the means that can be uſed with the faireſt proſpect of ſucceſs, for relieving the diſtreſſes to which the poor are expoſed, in conſequence of the preſent ſcarcity of proviſions*, I would take the liberty to ſay, that in my opinion the providing of food for them in public kitchens, and ſelling it to them at ſuch low price as they can afford to pay for it, would be the beſt method that could be adopted for that purpoſe; for, beſides being an effectual relief to the poor in the moment of difficulty and diſtreſs, if in preparing this food care be taken to economize coſtly and ſcarce ingredients (which with due attention may be done to a ſurpriſing degree), the eſtabliſhment of theſe public kitchens would have a direct and very powerful tendency to diminiſh the conſumption of thoſe articles of food, the ſcarcity of which is moſt ſenſibly felt by ſociety at large.

"To this we may add, that the habit which the poor will acquire, in being fed from a public kitchen, of uſing good and palatable, and very cheap food, ſuch as may at any time be prepared by themſelves, in their own dwellings, at a much leſs expence than the victuals to which they are accuſtomed can be provided, may lead to a very important improvement in their ſyſtem of cookery.

"I verily believe that the inhabitants of Great Britain might be well nouriſhed—their hunger perfectly ſatisfied—their health and ſtrength preſerved—and the pleaſure they enjoy in eating increaſed, with two thirds of the food they now conſume, were the art of cookery better underſtood.

"I would beg leave to obſerve, that I would by no means propoſe to furniſh the victuals from the public kitchens to all poor perſons gratis.—The aged and infirm, and young children, cannot earn by their labour enough to defray the expences of their ſubſiſtence; but thoſe who are able to work ſhould not be maintained in idleneſs, at the public expence, and moſt certainly not in times of general diſtreſs. All that they can reaſonably expect is, that they and their families be enabled to ſubſiſt for as ſmall a ſum of money, or for the ſame quantity of labour, in times of ſcarcity, as their ſubſiſtence uſually coſts them in times of plenty. To do more for them at any time would be unwiſe, and in a time of general alarm would be productive of the moſt fatal evils. It would have a tendency to make them careleſs, idle, and profligate; and, inſtead of being grateful for the aſſiſtance received, they would ſoon learn to conſider it as their right; and, if it were diſcontinued, would demand it with clamorous importunity. But if the aſſiſtance afforded to the poor be ſo applied, as to be felt by them as an honourable reward for their good conduct, and as an encouragement to perſevere in their induſtrious habits, in

* This time has a reference to the coming in of harveſt work; a period when the cottager, if ever, would be able to make good his payment.

that caſe, their morals will rather be improved, than injured, by the benefits received.

"In all caſes where it is poſſible, I think that a ſchool of induſtry for children ſhould be connected with a public kitchen; and it is certainly neceſſary that meaſures ſhould be taken, for giving conſtant employment to the poor of all deſcriptions, who are able to work. The full amount of their earnings ſhould always be given to them. This is proper, not only to encourage their induſtry, but alſo to keep alive in them a ſpirit of independence, without which they ſoon become diſheartened, and extremely helpleſs and miſerable. Where the poor are paid for their labour, it is evidently juſt and proper that they ſhould defray, as far at leaſt as it is in their power, the expences of their maintenance. It ſometimes happens, though very rarely, that profitable employment cannot be found for the poor: they ſhould nevertheleſs be put to work; and even be kept to labour conſtantly and diligently, under the direction of thoſe who in ſuch circumſtances muſt provide for their ſubſiſtence. Were no profitable employment to be found for them; and were there no other way of preventing their being idle, ſome public work might be undertaken for the ſole purpoſe of employing them.

"But in the neighbourhood of Windſor, the poor can hardly be in want of uſeful employment. His Majeſty has taken care to prevent that evil. It is much to be wiſhed that his opulent ſubjects in Great Britain and Ireland might be induced to follow his illuſtrious example!

"As induſtry and economy are the preventives and the only cure for indigence, and as want is one of the ſtrongeſt inducements to labour, it is evident that much caution is neceſſary in ſupplying the wants of the poor; leſt we deſtroy the effects of thoſe incitements which Providence, in infinite wiſdom, has contrived, to rouſe mankind from a ſtate of indolence and torpid indifference, and to ſtimulate them to that conſtant exertion of their bodily ſtrength and mental faculties, which we know to be neceſſary to the health of the body and of the mind, and eſſential to happineſs and virtue. It ſeldom requires much ingenuity to make the aſſiſtance, that is given to the poor, operate as an incitement to induſtry; for rewards are as powerful motives as puniſhments, and the truly benevolent will always prefer them. But it ſhould never be forgotten, that all that which is given to the poor, or done for them, that does not encourage their induſtry, never can fail to have a contrary tendency; and conſequently muſt do real harm to them, and to ſociety."

We earneſtly hope theſe traits of the only efficient means by which the wants of the poor can be extenſively relieved, and their virtue and happineſs promoted, will not fail to ſink deeply into the minds of thoſe whoſe duty it is to attend to the ſubject. That there are not wanting in the *higheſt* claſſes of ſociety, honourable inſtances of an *active perſonal attention* to the welfare of thoſe whom Providence has placed in the *loweſt*, has been ſhewn in various articles relative to the poor in this SUPPLEMENT, and the following account of the manner in which the poor have been ſupplied with rice and beef at St. Alban's, by the Counteſs Dowager Spencer, is an additional proof of it:

"I never have found," ſays that amiable lady, "any ſupply of food for the poor of ſo much uſe, and give ſuch thorough ſatisfaction, as that which I have lately eſtabliſhed at St. Alban's. It is a mode which will not only be of uſe in times of ſcarcity, but will be very beneficial every winter when labour is ſcarce, and the weather ſevere.—My plan is, merely ſelling every week, at a low price, rice, and very excellent ſalt beef, to labourers, in proportion to their families.—This is only meant to afford ſuch a ſupply as ſhall enable the man's labour, or the pariſh allowance, with the addition of this cheap and wholeſome food, to ſupport their families in the dead time of the year.—The proportions I have allowed are as follow: the rice being ſold at 3*d.* per pound, and the beef at 4*d.*

Claſs.			
1ſt.	large families with 4, 5, or 6 children	2 lb. of rice 6*d.* 1½ lb. of beef 6*d.*	1*s.* per week
2d.	Families with only 2, or 3 children	1½ lb. of rice 4½*d.* 1 lb. of beef 4*d.*	8½*d.* ditto.
3d.	A man and woman or one child	1 lb. of rice 3*d.* ½ lb. of beef 2*d.*	5*d.* ditto.
4th.	A ſingle perſon	½ lb. of rice 1½ *d.* ½ lb. of beef 2d.	3½*d.* ditto.

"The above is what it coſts the poor; but to engage people to ſubſcribe (as I could not ſupply the whole myſelf), I have made out a plan, by which ſubſcribers may have tickets at 2*d.* a pound for the rice, and 2*d.* a pound for the beef. Thus, if any ſubſcriber wiſhes to aſſiſt any poor family, it will coſt them as follows:

Claſs.	lb.	Per week.	For 6 weeks.	For 12 weeks.	For 18 wee.
1ſt.	2 of rice 4*d.* 1½ of beef 3*d.*	7*d.*	3*s.* 6*d.*	7*s.*	10*s.* 6*d.*
2d.	1½ of rice 3*d.* 1 of beef 2*d.*	5	2 6	5	7 6
3d.	1 of rice 2*d.* ½ of beef 1*d.*	3	1 6	3	4 6
4th.	½ of rice 1*d.* ½ of beef 1*d.*	2	1 0	2	3 0

"I have fixed upon eighteen weeks for the period of ſale, ſtopping a couple of weeks between each ſix weeks. This is intended to make the poor feel the advantage which they derive from this ſupply, and to prevent their growing tired of it. It will likewiſe prolong the time, till the hay harveſt may ſupply them all with employment, and many vegetables will be coming in.

"I pay a woman a farthing a pound for meaſuring out the rice, and a halfpenny a pound for cutting and weighing the beef; but this is more than is neceſſary. If I had been provident, and had bought the rice cheap, the expence would have been trifling. As it is, I am a loſer of above a penny in the pound, when the ſubſcribers have paid their 2*d.* and the poor their 3*d.* but that regards only myſelf. Upon the beef there will likewiſe be ſome loſs, on account of the bones; of theſe I make ſoup, which might be ſold to ſupply that loſs. We have relieved, in this way, between eight and nine hundred families in the town and its environs; which made it neceſſary, in order to avoid confuſion, that they ſhould come on ſtated days:—the firſt claſs is therefore appointed on Mondays; the ſecond on Tueſdays; the third on Wedneſdays; and the fourth on Thurſdays. And as the requeſt for theſe tickets has extended to five, ſix, and ſeven miles diſtant, all which demands cannot be anſwered, I generally give the poor people who have come ſo far an occaſional ticket for that one day only, that they may not be entirely diſappointed.

"I muſt obſerve that, beſides the expreſſions of thankfulneſs from all without exception who have partaken of this charity, ſeveral women have been to tell me, that the excellence of the food has reſtored health and ſtrength to their families: one woman yeſterday informed me, that ſhe and her huſband had been, from mere poverty, got into ſo low and weak a ſtate of health, as to be ſcarcely able to earn any

thing; but that the continuance of this food, for ſome weeks together, had quite ſet them up again."

This mode of feeding the poor is perhaps "*leſs expenſive to the donor, and more acceptable to the receiver*, than any other. If any one was to give a large family half a guinea, or a poor widow three ſhillings, they would not be ſurpriſed at hearing that, in leſs than a month, the money was gone: while the ſame ſum, by this means, will laſt from the middle of January to the middle of June."

POOR'S-RATE *(Encycl.)*. The following moſt intereſting view of this ſubject is prefixed by Mr. Bernard to the ſecond volume of the Reports of the Society for bettering the Condition of the Poor.

"The *increaſe of the poor's-rate*," ſays Mr. Bernard, "has been for ſome years a juſt ſubject of alarm. Complaints have been made, and with too much reaſon, of the prevalence and magnitude of the evil. Two millions and a half annually expended in parochial relief, and a larger ſum in charities and beneſactions, producing no improvement in the condition of the poor, but rather prejudicing their means of life by the general effects of the ſyſtem,—this is a myſtery in our internal polity, difficult, but very important, to be explained.

"To ſome it has appeared the neceſſary conſequence of national proſperity. That, however, muſt be a very equivocal ſpecies of proſperity which is inimical to the comfort and happineſs of the great maſs of the people, and tends to diminiſh their means of life.—By others it has been deemed a ſymptom of national decline, common to all ſtates which have paſſed their zenith;—but this opinion is controverted by increaſe of trade and manufactures, by improvements in agriculture and every art and ſcience, and by the unrivalled energy and glory which attend the Britiſh arms in every quarter of the globe.—Others have conceived that ſpeculation in eſtates, a noxious tribe of land valuers and rent raiſers, and the conſequent preſs on the farmer to make his preſent greateſt profit with the leaſt poſſible out-goings, have given birth to an improvident ſyſtem with regard to the poor; hoſtile to any permanent improvement in their condition, and operating to diſcourage foreſight and good habits among them.

"Efforts have not been wanting to check this growing evil. Laws have been made to compel induſtry and economy; and workhouſes have been erected, and farmed to the beſt bidder, in order to deter the poor from wanting relief: but pariſhes and pariſh officers have not as yet been aware that in every inſtance, in which a poor family is driven by diſtreſs and depreſſion of circumſtances to take refuge in a workhouſe, an incumbrance has been entailed on the funds of the pariſh, never to be redeemed, even in part, except by a change of ſyſtem; by encouraging that induſtry and prudence, which no act of parliament can compel; and by aſſiſting them with increaſed means and advantages of life, calculated to enable them to ſupport themſelves and their families in their own cottages, without parochial relief.

"The poor in ſome parts of England have been deprived of many of their reſources*; and have been reduced, as their ſole ſubſiſtence, to the purchaſe of daily bread with the daily ſtipend of their labour. This has gradually deprived them of foreſight, and of every effort that looks to futurity; and has left them to proceed in a ſpiritleſs continuation of daily labour, until ſickneſs, misfortune, or increaſe of family, drives them into the workhouſe; there to remain the life penſioners of the public, and to leave their widows the nurſes and drudges of the houſe, and their children to acquire idle and unprincipled habits, among the dregs of the pariſh.

"The land owner ſhould be aware that this is waſte committed upon his eſtate, in the moſt deſtructive and irreparable way. It is not the pulling down of an unneceſſary hovel, the premature repetition of a crop of wheat corn, or the ploughing up a ſlip of paſture ground (the uſual trivial objects of impeachment of waſte), that is the ſubject of conſideration; but it is the relaxation of the nerve of the country, the deſtruction of the power of cultivating the land, the converſion of the ſtrength and energy of a people into weakneſs and debility, and the exchange of the means of wealth and proſperity for ſources of enormous and increaſing expence.

"It is an eſſential part of political wiſdom to give ſcope and increaſe to the energy of individuals, by affording to all the opportunity and hope of advancement in life. Where character, conduct, induſtry, and attention, receive their aſſured reward, candidates will not be wanting; and the example of a few will be reflected in the virtues of the many. If the child, in proportion to diligence and good conduct, be better fed, better clothed, more favoured, and have that pittance of reward laid up in ſtore, which in their narrow ſcale of life conſtitutes wealth, the number of induſtrious and well behaved children will increaſe:—If the young man finds that, by reſerving out of his wages a little fund of wealth againſt his marriage, he can convert theſe early ſavings into the means of increaſed produce and comfort during life, and become the poſſeſſor of a cow, a garden, and his own cottage, he will acquire early habits of prudence and economy, and will enter into life with a better and more principled ſyſtem of conduct:—and if the cottager who exerts himſelf in bringing up and placing out his family, is encouraged and aſſiſted in his honeſt endeavours; and, in caſe of any untoward and unfortunate interruption of his plan of economy, receives timely relief, and is preſerved from the apprehenſion of a workhouſe; the thrift and the ſucceſs of a few will produce many imitators; and the proſpect of improved circumſtances will awaken the energy of the poor, in every part of the kingdom.

"Many and various would be the advantages of giving to the poor a pleaſing and beneficial employment for their leiſure hours, and affording them the means of productive huſbandry at home, and within their own cottage and ground;—of ſupplying them to more advantage with the neceſſaries of life, and of relieving them from the burthen of their children, by placing them in a courſe of induſtry and occupation.—Where meaſures of this kind can be brought to produce any effect at all on millions, the benefit muſt be of very great magnitude. We may calculate the number of little hands hitherto idle, and now by a proper ſyſtem of employment to be brought into action; we may eſtimate, in part, the benefit of ſo numerous a claſs of men being protected from petty extortion and impoſition, and being fairly and honeſtly ſupplied with the neceſſaries of life; and we may reckon up, by long arithmetical deduction, the number

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* Whoever travels through the midland counties, and will take the trouble of enquiring, will generally receive for anſwer, that formerly there were a great many cottagers who kept cows, but that the land is now thrown to the farmers: and if he enquires ſtill further, he will find that, in thoſe pariſhes, the poor's-rates have increaſed in an amazing degree. See Cow, Land, Cottager, &c. *Suppl.*

of acres which might be advantageouſly cultivated, and the myriads of hours which would be added to the amount of national labour, if every cottager was permitted and encouraged to improve the ſlips of waſte land, which ſtill remain in every part of the country, a diſcredit to the Engliſh nation:—but it is not within the compaſs of political arithmetic, to calculate the increaſe of proſperity and ſecurity, which we might derive from the general introduction of ſuch a ſyſtem."

It is the endeavour of the Society for bettering the Condition of the Poor (ſee SOCIETY, *Suppl.*) to ſearch for and diſſeminate uſeful and practical knowledge with regard to them; to co-operate in every plan that tends to increaſe their economy and domeſtic comfort; to hold up the induſtrious and thriving cottager as an example of imitation; and to promote his good habits, his induſtry, his welfare, and his happineſs. "At the ſame time," continues Mr. Bernard, "we are not unmindful of *the danger of diminiſhing the inducements to exertion*, by theoretical philanthropy, or by injudicious or miſapplied liberality; which may habituate the mind to a reliance on regular and periodical aſſiſtance, and (making exertion and foreſight of leſs moment) deprive the poor of that beſt and moſt honourable relief, which can only be derived from themſelves. It is of the utmoſt conſequence that charity be directed to her true end—that of elevating and benefiting the object of her attention, inſtead of rendering it helpleſs and without reſource; and that ſhe ſhould operate by increaſing the energy, the virtue, and the hopes of the poor; ſo as to attach them to their ſituation in life, and to give ſtability and principle to the moral and religious character of ſo large and ſo valuable a part of the community.

"Impreſſed with this idea, the ſociety has propoſed that the principle which has directed the reſearches of the preſent age, in natural philoſophy, in agriculture, in medicine, in every art and ſcience in which the limits of human knowledge have been ſucceſsfully extended,—that this principle ſhould be adopted in the concerns of the poor; and actual exiſting facts be made the means of practical and ſyſtematic inveſtigation, into what has really augmented their virtue and happineſs, and has been ſanctioned by uſe and experience.—After a variety of inefficacious attempts, during more than two centuries, to enforce induſtry and prudence by penal laws and compulſory ſtatutes, the ſociety has ventured to ſubmit to the conſideration of the public, whether the ſame object may not be attained by encouragement, by kindneſs, by management,—and by giving effect to that maſter-ſpring of action, 'the deſire implanted in the human breaſt of bettering its condition.' The influence of this invigorating ſpirit on commerce, on manufactures, and on agriculture, has been felt and acknowledged with pride and pleaſure by every Engliſhman: and there can remain no doubt but that the ſame principle, which has produced ſuch beneficial effects among the thriving and active members of the other claſſes of ſociety, would, if properly encouraged, generate among the poor of the ſame nation, that degree of induſtry and prudence, which we have in vain endeavoured to produce by compulſion.

"I am very far from meaning to ſuggeſt upon this ſubject, that nothing is at preſent done, or that all is practicable. Much, I am convinced, has been recently done; and with ſuch effect in exciting induſtry, as affords incontrovertible evidence of its utility.—All, I am ſatisfied, cannot be completely effected; but that, until the corruption of our nature is done away, there will ever be unhappy perſons of every rank and order, and in every claſs of ſociety, ſuffering under the conſequence of an erroneous courſe of life, and placed as landmarks to direct the conduct of others.—In fact, in that and in every important undertaking, there is danger from the expectation of too great, or of too rapid a progreſs. His who advances gently and gradually, and with caution, may have the hope of proceeding ſurely and ſucceſsfully; and if, in a work intereſting to millions, only part of the object be attained, and every ill conſequence avoided, the labour of the individuals employed will be well applied.

"It is not at all eſſential to my purpoſe, that I ſhould write a panegyric on the virtues of the poor. The contagion of bad example is generally caught by the lower from the higher orders; and I ſee nothing very exemplary in our own conduct, to induce me to doubt but that the poor are as good and as prudent, and as induſtrious, as we ſhould have been in the ſame circumſtances, and under the ſame diſadvantages. If this be conceded, the vices and faults of the poor muſt be deemed the vices and faults of an unfavourable ſituation, rather than of individual delinquency. Remove thoſe diſadvantages, and you add as much to moral character as to perſonal comfort.

"In the Reports of the ſociety (to be had, in a cheap form, at Hatchard's, Piccadilly), the rich and the benevolent will find ſubjects of experiment, methods of procedure, and accounts of expence. In the various details they will meet with ſomething or other to put in action every valuable principle of the human mind. They will only have to employ their diſcretion, in proportioning the mode and extent of their operations to their means and circumſtances. 'Many benevolent minds (ſays the Biſhop of Durham) ſuffer their excellent diſpoſitions for doing good to remain unemployed in the great ſervice of chriſtian charity, not for want of means, or of objects, but for want of knowing what good may be done within their own ſphere, and how.'—To remove this difficulty, to ſupply the public with details on every ſubject reſpecting the poor, to ſuggeſt the mode of active and uſeful charity, which in its effects ſhall not contribute to the increaſe of idleneſs and vice,—theſe are, and I truſt will continue to be, the objects of the ſociety.

"Upon the propoſed ſubjects of enquiry, ſome information has been already collected; and the ſociety is much gratified to find that it is producing immediate and beneficial effects, not only in this, but in a neighbouring kingdom. (See DUBLIN and CORK, *Suppl.*) As to pariſh relief, the fact is now pretty well aſcertained, that the beſt and moſt economical application of the parochial funds, is that which tends to aſſiſt and encourage induſtry (ſee OVERSEERS, *Suppl.*) and good management among the poor, in their own cottages, in the care and conduct of their own families, and in placing out their children at an early age in a courſe of employment (ſee PRENTICE, *Suppl.*); and that in thoſe pariſhes, where the cottager has been ſupplied with a good cottage and garden, and the means of keeping his cow at a fair and moderate rent, the labourers are the ſteadieſt and moſt orderly men, the poor's-rate is greatly reduced, and the value of landed eſtates much improved.

"With regard to protecting the poor from impoſition in the purchaſe of the neceſſary articles of life, it appears that, with very little coſt or trouble, great aſſiſtance may be given to them; and that more may be done for their real benefit in this reſpect, at a very trivial expence, than by millions, either added to our poor's-rates, or diſpenſed in the preſent ſyſtem of pecuniary charity:—that, in many parts of England, a weekly ſale of coals in ſmall quantities at prime coſt, is a relief to the diſtreſs, and a preſervative to the morals, of the poor; and that a ſupply of corn, potatoes, milk, cheeſe,

bacon, and other neceſſary articles of food, to the labourer, at the wholeſale price, whether by the farmer for whom he works, or from a village ſhop ſet up by the land proprietor, produces a very great ſaving to the labourer, encourages him in habits of thrift and economy, and attaches him to his ſituation in life.

"The poor have, in general, benefited by the means offered to them much more rapidly and effectually than their moſt ſanguine friends could have expected. All the prejudice againſt Soups and novel cookery has vaniſhed, wherever the experiment has been fairly made. Upon this ſubject, and that of village kitchens, a variety of information is ſubmitted to the reader, reſpecting the village dinners prepared for children and others at Oakham and Epping (ſee Parish-dinner, *Suppl.*); and the ſeveral charities recently eſtabliſhed, for ſupplying the poor with ſoups and other different articles of food, in villages,—in London,—at country manſions,—and in manufacturing towns. It is no ſmall recommendation of theſe charities, that they tend to ſhew the poor their real intereſt, and to inſtruct them in preparing for themſelves a more nouriſhing and more economical diet, than what they at preſent poſſeſs. They alſo give a fourfold effect to the operation of charity. In villages, they ſend comfortable and neceſſary relief into the houſes of many aged and forlorn perſons. In London, they ſupply food to a variety of thoſe objects which the circumſtances of ſuch a city, the corruption of human nature, and the viciſſitudes of things, too abundantly produce in a great metropolis. In country manſions, at a very trifling expence, they extend relief to a wide circle around; and draw bleſſings and affection on the proprietor and his family. But their influence is moſt beneficial among manufactories; in which the conteſts of nations, the mutability of faſhion, and the ebb and flow of proſperity, do perpetually produce objects of diſtreſs, beyond any power of adequate parochial relief. The value of theſe charities can only be appreciated by thoſe who have attended the conduct of them. During the preceding winter above five thouſand manufacturers in London, and almoſt as many more at Birmingham diſtreſſed by the preſſure of the times, have gratefully received from theſe ſoup-ſhops their daily ſupply of food for themſelves and their families, at a fourth of what it muſt otherwiſe have coſt them; and have been thereby preſerved from want and deſpair.

"It has been too clearly proved, that by the converſion of many corn mills into mills for manufactories, and by other circumſtances, the cottager has been ſubjected to a grievous monopoly in reſpect of bread, which is now become his prime neceſſary of life. The injury to the poor by this alone (if we may eſtimate from the facts which have come before us) is nearly equal to two thirds of all the poor's-rates collected in England, and conſiderably exceeds 1,000,000l. a-year. There is no doubt but the eſtabliſhment of parochial mills (ſee Parish Mill, Flour, &c. *Suppl.*) throughout the kingdom, would at once correct this monſtrous and abominable evil, without any loſs of income to the proprietors of the mills; which will afford five per cent. on the expenditure, and leave an annual ſurplus for charity to diſtribute, in the encouragement and ſupport of the induſtrious poor.

"Of Friendly Societies (ſee *Suppl.*) the benefit is well known; and it is enough to ſtate what general experience gives teſtimony to, and what is confirmed by all the information which has been laid before the ſociety, that their effects, when legally and properly eſtabliſhed, are ſure and unvaried in promoting induſtry, economy, philanthropy, and every virtue, among the poor.

"As to Cottages (ſee *Suppl.*), with exception of ſome favoured diſtricts, it is too obvious that they are deficient both in number and condition; the inhabitants ſuffering in health and cleanlineſs, for want of that accomodation, which in this climate is neceſſary to life and well-being. It is due to the cottager, to ourſelves, and to the general appearance of the country, that neatneſs and comfort in theſe habitations, by timely repairs, and by the very trivial expence of frequent White-washing (ſee *Suppl.*), ſhould be allowed to have their full effect in inducing habits of cleanlineſs, and, in the conſequence, of regularity and morality in the poſſeſſors.

"Of pariſh workhouſes (ſee House, Workhouse, and Industry, *Suppl.*) it is not too much to ſay, that, however well managed, yet if they are made the common receptacle of all who apply for relief, they will, in their general effect, be the cauſe of injuſtice and unkindneſs to many individuals, and of prejudice and injury to the pariſh. If none were placed there but the aged and infirm, who have no domeſtic retreat to recur to,—none, who could do better out of them (the diſabled cottager, receiving relief in his cottage, the ſturdy idler being ſubjected to legal correction, and the child finding an aſylum in a *Pariſh* School, *Suppl.*), the poor who, for want of domeſtic connection and the means of ſuſtenance, are compelled to take refuge in a poorhouſe, would find it a decent and well-regulated aſylum; while the cottager would preſerve his little eſtabliſhment at home, and not be compelled, by temporary diſtreſs, to become a permanent burthen to his pariſh; the idle and the ſturdy would receive merited puniſhment; the pariſh-child would be boarded and inſtructed at leſs expence by ſome cottager's widow, from whoſe care he would go, at an earlier age, and with more character and principle, into ſervice.

"There are ſeveral other ſubjects of enquiry, upon which we muſt refer the reader to the Reports themſelves. On one only we ſhall trouble him with any further remarks; and that is upon county Jails and houſes of correction (ſee House, *Suppl.*).—The plan which has been ſucceſsfully adopted at Dorcheſter, and in a very few other inſtances,—that of encouragement and inducement to work, by a liberal ſhare of earnings, and by a diſtinction of food and treatment between the idle and induſtrious, and between the profligate and the well-diſpoſed; the plan of ſending them forth from the priſon, with character, and the means and habits of induſtry and livelihood, is fully developed in the account of the Dorcheſter jail and houſe of correction. The detail of the effects produced there, is confirmed by experience in every other inſtance, to which it has been properly applied. It is congenial to the nature of man, and to our own feelings. Let us not then deſpair, but that the example will be ſpeedily followed in other counties, for the benefit of the inhabitants, and for the reform and reſtoration of many wretched and hopeleſs priſoners, now ſuffering under the ſervitude of vicious habits, without the means or proſpect of releaſe.

"In almoſt every eſtabliſhment for the employment and benefit of the poor, the finding and keeping for them regular and proper work and occupation is one of the greateſt embarraſſments. This, more than any other cauſe, has checked the exertions of thoſe who have been at times very anxious to promote the welfare of their poor neighbours. But, before they give up their labour of love, we entreat them to reflect, that, if the obtaining for a few neceſſitous families, who dwell near them, a regular ſupply of uſeful occupation, is difficult for the rich, and for thoſe who poſſeſs talents, and leiſure, and influence, what muſt be the nature of the difficulties which will attend the induſtrious efforts of the poor, the helpleſs, the ignorant, and the uninſtructed. If

we are impoſed upon, placed in a ſituation of embarraſſment, when we ſeek the means of induſtry for them, what muſt be *their* diſtreſs and confuſion in the ſame attempt.—Surely this conſideration ſhould rouze us to overcome, by activity and perſeverance, that which to them may be inſurmountable; and to provide thoſe means of induſtry and thrift, which, in the preſent ſtate of this country, it is impoſſible for many of the poor to obtain for themſelves.

"The queſtion whether the rich ſupport the poor, or the poor the rich, has been frequently agitated by thoſe who are not aware that, while each does his duty in his ſtation, each is, reciprocally, a ſupport and a bleſſing to the other. All are parts of one harmonious whole; every part contributing to the general maſs of happineſs, if man would but endeavour to repay his debt of gratitude to his Creator; and, by a willing habit of uſefulneſs, to promote the happineſs of himſelf and of his fellow-creatures. In this way the higher claſſes of ſociety may, by ſuperiority of power and education, do more ſervice to the other parts of the community, than what they receive; the welfare of the poor being then, in truth, more promoted and aſſured by the gradations of wealth and rank, than it ever could have been by a perfect equality of condition; even if that equality had not been in its nature chimerical and impracticable; or (if practicable) had not been hoſtile and fatal to the induſtry and energy of mankind. —Rank, power, wealth, influence, conſtitute no exemption from activity or attention to duty; but lay a weight of real, accumulated reſponſibility on the poſſeſſor.

> Is heaven tremendous in its frowns? moſt ſure:
> And, in its favours, formidable too.
> Its favours here are trials, not rewards;
> A call to duty,—no diſcharge from care;
> And ſhould alarm us full as much as woes.
>
> YOUNG.

"If the poor are idle and vicious, they are reduced to ſubſiſt on the benevolence of the rich: and if the rich (I except thoſe to whom health and ability, and not the will, is wanting) are ſelfiſh, indolent, and neglectful of the conditions on which they hold ſuperiority of rank and fortune, they ſink into a ſituation worſe than that of being gratuitouſly maintained by the poor. They become paupers of an elevated and diſtinguiſhed claſs; in no way perſonally contributing to the general ſtock, but ſubſiſting upon the labour of the induſtrious cottager;—and whenever Providence thinks fit to remove ſuch a character, whether in high or in low life, whether rich or poor, the community is relieved from an uſeleſs burthen."

On the motives for co-operation with this excellent Society, Mr. Bernard expreſſes himſelf in the following juſt and forcible terms:—"If," ſays he, "there ſhould be among my readers, any one whoſe views are directed to himſelf only, I could eaſily ſatisfy him, that his means of ſelf-indulgence would be increaſed, his repoſe would be more tranquil, his waking hours leſs languid, his eſtate improved, its advantages augmented, and the enjoyment permanently ſecured, by his activity in the melioration of the condition, the morals, the religion, and the attachment, of a numerous and very uſeful part of his fellow-ſubjects.—To the patriot, who wiſhes to deſerve well of his country, I could prove that, from the increaſe of the reſources and virtues of the poor, the kingdom would derive proſperity—the different claſſes of ſociety, union—and the conſtitution, ſtability. To the rich, who have leiſure, and have unſucceſsfully attempted to fill up their time with other objects, I could offer a permanent ſource of amuſement;—that of encouraging the virtues and induſtry of the poor, with whom by property, reſidence, or occupation, they are connected;—that of adorning the ſkirts of their parks and paddocks, of their farms and commons, with picturesque and habitable cottages, and fruitful gardens; ſo as to increaſe every Engliſhman's affection for an iſland replete with beauty and happineſs;—that of aſſiſting the poor in the means of life, and in placing out their children in the world; ſo as to attach them by an indiſſoluble tie, and a common intereſt, to their country, not only as the ſanctuary of liberty, but as an aſylum, where happineſs and domeſtic comforts are diffuſed, with a liberal and equal hand through every claſs of ſociety."

POOROONDER, a fortreſs of Viſiapour, in the Deccan of Hindooſtan. It is ſeated on a mountain, 18 miles E.S.E. of Poonah; is the place of refuge for that capital in caſe of an invaſion; and here the archives of government are kept.

POOTE, a town of France, in the department of the Mayenne, and chief place of a canton, in the diſtrict of Villaine: two leagues and a half E.N.E. Villaine, and four W.S.W. Alençon.

POPERINGUE, a town of Auſtrian Flanders, on a river of the ſame name. Six miles W. of Ypres. Long. 2. 38. E. Lat. 50. 51. N.

POPO, a kingdom on the Slave Coaſt of Guinea. The inhabitants have ſcarcely any houſes to dwell in, beſide the king's village, which is an iſland in the midſt of a river. Their chief trade is in ſlaves.

PORCAH, a town of the peninſula of Hindooſtan, in the country of Travancore, taken from the Dutch by the Engliſh in 1795. It is 75 miles N.W. of Travancore. Long. 76. 30. E. Lat. 9. 15. N.

PORCHESTER, a village in Hampſhire, four miles N. of Portſmouth, at the upper end of the harbour, between Fareham and Portſea Iſland. In has an ancient caſtle, which has ſerved, of late years, for the reception of priſoners of war.

PORCO, a town of Peru, in the audience of Los Charcos, a little to the W. of Potoſi. Long. 64. 60. W. Lat. 19. 40. S.

PORCUNA, a town of Spain, in the province of Juen, eight miles S.S.W. of Anduxar.

PORSELON, or PORSELOUC, a rich and commercial town of the kingdom of Siam, ſituate on a large river which runs into the gulf of Siam.

PORT AU PRINCE, a ſea-port of St. Domingo, ſeated on a bay on the W. ſide of the iſland, of which part it is the capital. It was taken by the Engliſh and royaliſts in 1794. Long. 72. 10. W. Lat. 18. 45. E.

PORT DE FRANCAIS, a harbour on the W. coaſt of America, diſcovered by M. de la Pérouſe in 1786. It is of a circular form, not to be fathomed in the middle, and bordered by peaked mountains, of an extenſive height, covered with ſnow. The natives on this coaſt are deſcribed as the moſt complete thieves, poſſeſſed of an activity and obſtinacy capable of executing the moſt difficult projects. Skins were found here in great abundance, particularly thoſe of the ſea otter. In this harbour is a ſmall iſland. Long. 137. 30. W. Lat. 58. 37. N.

PORT DESIRE, an harbour of S. America, where ſhips ſometimes touch in their paſſage to the Pacific Ocean. It is 100 miles N.E. of Port St. Julian. Long. 65. 40. W. Lat. 47. 50 S.

PORT LOUIS, a French fortreſs, on the S.W. coaſt of Hiſpaniola, demoliſhed by Admiral Knowles in 1747, but ſince rebuilt. Long. 73. 16. W. Lat. 18. 18. N.

PORT LOUIS, a town and harbour of the Iſle of France, in the Indian Ocean, ſtrongly fortified. Long. 57. 28. E. Lat. 20. 9. S.

PORT PAIX, a town on the N. coaſt of St. Domingo,

in the Weſt Indies, with a good harbour. Long. 72. 55. W. Lat. 19. 58. N.

PORT PATRICK, a ſea-port in Wigtonſhire, confined by the ſea on one ſide, and on the other by over-hanging rocks and hills. It is noted for its ferry to Donaghadee in Ireland, from which it is only 20 miles diſtant; and a packet-boat ſails from hence for that place every day. The harbour is good; and has one of the fineſt quays in Great Britain, with a reflecting light-houſe. It is 107 miles S.W. of Edinburgh, and 487 N.W. of London.

PORT ROYAL, a town and fort of the iſland of Martinico, 21 miles S.E. of St. Pierre. Long. 61. 9. W. Lat. 14. 3. N.

Port Royal, a town of the United States, in Virginia, on the river Rappahannoc.

PORT ST. JULIAN, a harbour on the coaſt of Patagonia, where ſhips uſually touch that are bound for the Pacific Ocean. Long. 68. 44. W. Lat. 49. 10. S.

PORT ST. MARY, a ſea-port of Spain, in Andaluſia. The Engliſh made a deſcent here in 1702, with a deſign to beſiege Cadiz, but without ſucceſs. It is ten miles N.E. of Cadiz. Long. 6. 0. W. Lat. 35. 37. N.

PORT SANDWICH, a harbour in the iſland of Mallicolo, in the S. Pacific Ocean. Long. 167. 53. E. Lat. 16. 25. S.

PORT VENDRE, a ſea-port of France, in the department of the Eaſtern Pyrenées and late province of Rouſillon. It was taken by the Spaniards in 1793, but retaken the next year. It is 25 miles S. by E. of Perpignan.

PORTADOWN, a town of Ireland, in the county of Armagh, with an extenſive linen manufacture. It is ſituate on the river Bann, nine miles N.E. of Armagh, and 16 N. of Newry.

PORTAFERRY, a town of Ireland, in the county of Down, on the rapid ferry of Strongford, 80 miles N. of Dublin.

PORTALEGRE, a ſtrong town of Portugal, in Alentejo, with a biſhop's ſee. It is ſeated at the foot of a high mountain, in a pleaſant country, 30 miles N.W. of Elvas, and 90 N.E. of Liſbon.

PORTARLINGTON, a borough in Ireland, partly in King's and partly in Queen's County. It is ſeated on the river Barrow, 31 miles N. of Kilkenny, and 36 S.W. of Dublin.

PORTERAGE, the ſum paid to a porter who carries home a parcel after its arrival from the country. By the 39 Geo. III. c. 58. the rates of porterage, within the cities of London and Weſtminſter, and the borough of Southwark, and the ſuburbs and liberties thereof reſpectively, and other parts contiguous thereto, not exceeding the diſtance of half a mile from the end of the carriage pavement in the ſeveral ſtreets and places within the ſaid cities, borough, and liberties, are as follow, viz.

For any diſtance not exceeding one quarter of a mile, *three pence*.

For any greater diſtance than a quarter of a mile, but not exceeding half a mile, *four pence*.

For any greater diſtance than half a mile, but not exceeding one mile, *ſix pence*.

For any greater diſtance than one mile, but not exceeding one mile and a half, *eight pence*.

For any greater diſtance than one mile and a half, but not exceeding two miles, *ten pence*; and ſo in the like manner the additional ſum of three pence for every further diſtance not exceeding half a mile.

PORTLAND, a ſea-port of the United States, capital of Cumberland County, in the diſtrict of Main. It is ſeated on a peninſula, and has an excellent harbour, 150 miles N.N.E. of Boſton. Long. 69. 30. W. Lat. 44. 10. N.

PORTLAND ISLANDS, a cluſter of iſlands in the S. Pacific Ocean. They are low, and covered with wood; and the centre one is in long. 149. 8. E. lat. 2. 38. S.

PORTLAND-POWDER, a particular compound, the recipe for which was imported from Switzerland, by an anceſtor of the Duke of Portland. It conſiſts of equal parts of round birthwort (*ariſtolochia rotunda*, L.); of gentian; of the tops and leaves of germander, ground-pine, and centaury; dried, pulverized, and ſifted. Theſe are to be carefully incorporated; and one dram of the compoſition is to be taken every morning in a glaſs of wine and water, tea, or any warm liquid; after which the patient ſhould faſt an hour and a half. Such courſe is to be continued for three months without intermiſſion; at the expiration of which, the doſe muſt be reduced to one half, and taken as before, for the ſpace of ſix months; when it is to be continued every ſecond day, for twelve months longer.—This famous noſtrum has long been held in high eſtimation, for its ſuppoſed efficacy in curing the *gout*; and though, in the hands of judicious perſons, it undoubtedly forms a powerful alterative, yet it muſt be claſſed among thoſe quack-medicines that, by the length of time to which their operation is to be extended, cannot fail of doing frequent miſchief. This indeed has been abundantly ſhewn in a paper lately inſerted, by Dr. Fothergill, in the Medical and Phyſical Journal, where inſtances are adduced of the fatal reſult of the trials made with this remedy, even where it has ſucceeded in removing the gout.

PORTO, a ſmall ſea-port of Italy, in the patrimony of St. Peter. It is the ſee of a biſhop, who is generally a cardinal, and dependent only on the pope. It is ten miles S.W. of Rome.

PORTO CAVALLO, a ſea-port of Terra Firma, on the coaſt of Caraccus. Here the Engliſh were repulſed, when they attacked it, in 1743. Long. 64. 30. E. Lat. 10. 20. N.

PORTO DEL PRINCIPE, a ſea-port on the N. coaſt of Cuba, with a good harbour. It is ſeated in a large meadow, where the Spaniards feed a great number of cattle. Long. 78. 15. W. Lat. 21. 52. N.

PORTO GALLETO, a ſea-port of Spain, in the bay of Biſcay, ſeated on a ſmall river, eight miles N. of Bilboa. Long. 3. 11. W. Lat. 43. 22. N.

PORTO GRUARO, a town of Italy, in Venetian Friuli, with a biſhop's ſee. It is ſeated on the Lema, 15 miles W. of Marano.

PORTO HERCOLE, a ſea-port of Italy, in the ſtate of Preſidii, ſituate on a peninſula, four miles S. of Orbitello. Long. 11. 12. E. Lat. 42. 14. N.

PORTO NOVA, a ſea-port of Spain, in Galicia, ſeated near the mouth of the Leris, 54 miles W. of Orenſe. Long. 8. 36. W. Lat. 42. 19. N.

PORTO PEDRO, a ſea-port in the Iſland of Majorca. Long. 2. 41. E. Lat. 39. 37. N.

PORTO PRAYA, a town and bay of St. Jago, one of the Cape de Verd Iſlands. The town ſtands on an elevated plain, and is the reſidence of the Portugueſe governor of the iſlands. Long. 23. 29. W. Lat. 14. 56. N.

PORTO SANTA MARIA, a ſea-port of Spain, in the bay of Cadiz, containing nearly 10,000 inhabitants. The principal trade is in ſalt. It is ſeven miles N. of Cadiz.

PORTSEA, an iſland between Chicheſter Bay and the harbour of Portſmouth, in Hampſhire. It is a low tract of conſiderable extent, ſeparated from the main-land by a creek, over which is a bridge. At the S.W. extremity of it is ſituate the town of Portſmouth.

PORTSMOUTH, a town of the United States, the largeſt in New Hampſhire, ſeated on Piſcataqua River, two miles from the Atlantic Ocean. Its harbour is one of the fineſt on the continent, well defended by nature, both againſt ſtorms

and an enemy; and it has a light-houſe at the entrance. It is 24 miles N. of Boſton. Long. 70. 37. W. Lat 42. 46. N.

PORTUGALETE, a town of Spain, in the province of Biſcay, ſituate on a bay of the Atlantic, 12 miles N.W. of Bilboa. Long. 3. 18. W. Lat. 43. 40. N.

POSATA, a town of the iſland of Sardinia, on the E. coaſt, 45 miles E.S.E. of Caſtel Aragoneſe. Long. 90. 30. E. Lat. 40. 36. N.

POSEGA, a ſtrong town of Sclavonia, capital of a county of the ſame name. It was taken from the Turks by the Auſtrians, in 1687. It is ſeated in a fertile country, on the river Oriana, 120 miles W. by N. of Belgrade. Long. 18. 59. E. Lat. 45. 36. N.

POSNAIA, or Posen, a commercial town of Great Poland, in a palatinate of the ſame name, with a good caſtle, and a biſhop's ſee. The cathedral is magnificent. By the partition of Poland, it became ſubject to the King of Pruſſia. It is ſeated in a pleaſant plain, on the river Warta, 27 miles W. of Gnefna, and 127 W. of Warſaw.

POSSINHO, a town of Portugal, in Eſtremadura, ten miles N.E. of Santareni.

POSTAGE *(Encycl.)*. By the act 41 Geo. III. c. 7. for repealing the duties of poſtage, and granting other duties in lieu thereof, the former rates of poſtage were, from and after April 5, 1801, to ceaſe, and in lieu of the rates repealed, the following were to take place:

General Poſt.] A diſtance not exceeding fifteen meaſured miles, 3*d.* double 6*d.* treble 9*d.* ounce weight 1*s.*—Above fifteen and not exceeding thirty miles, ſingle 4*d.* double 8*d.* treble 1*s.* ounce 1*s.* 4*d.*—Above thirty and not exceeding fifty miles, ſingle letter 5*d.* double 10*d.* treble 1*s.* 3*d.* ounce 1*s.* 8*d.*—Above fifty and not exceeding eighty miles, ſingle letter 6*d.* double 1*s.* treble 1*s.* 6*d.* ounce 2*s.* 6*d.*—Above eighty and not exceeding one hundred and twenty miles, ſingle letter 7*d.* double 1*s.* 2*d.* treble 1*s.* 9*d.* ounce 2*s.* 4*d.*—Above one hundred and twenty and not exceeding one hundred and ſeventy miles, ſingle letter 8*d.* double 1*s.* 4*d.* treble 2*s.* ounce 2*s.* 8*d.*—Above one hundred and ſeventy and not exceeding two hundred and thirty miles, ſingle letter 9*d.* double 1*s.* 6*d.* treble 2*s.* 3*d.* ounce 3*s.*—Above two hundred and thirty and not exceeding three hundred miles, ſingle letter 10*d.* double 1*s.* 8*d.* treble 2*s.* 6*d.* ounce 3*s.* 4*d.*—For one hundred meaſured miles above three hundred miles, ſingle letter a further ſum of 1*d.* double 2*d.* treble 3*d.* ounce 4*d.*—Above three hundred meaſured miles, and not amounting to one hundred miles, the like further ſum for every ſingle letter 1*d.* double 2*d.* treble 3*d.* ounce 4*d.*—And where the diſtance above three hundred meaſured miles ſhall exceed one hundred miles, and ſo progreſſively for any like exceſs of diſtance of one hundred miles, the like further ſum for every ſingle letter 1*d.* double 2*d.* treble 3*d.* ounce 4*d.*

Foreign Letters.] Letters to or from any part of the United Kingdom of Great Britain and Ireland, from or to any places out of the ſaid kingdom, not within his majeſty's dominions, in addition to all other rates now payable, ſingle letter 4*d.* double 8*d.* treble 1*s.* ounce 1*s.* 4*d.*

Rates by the Two-penny Poſt.] For every letter originally ſent by the poſt known by the name of the penny-poſt (and not firſt paſſing by the general poſt), the poſtage whereof ſhall not be paid on putting the ſame into the office of the ſaid poſt, the rates herein-after mentioned ſhall be paid, viz.

For the conveyance of every letter ſent by the ſaid poſt from any place within the cities of London and Weſtminſter, the borough of Southwark, and the reſpective ſuburbs thereof, the ſum of 2*d.*—For the conveyance of every letter put into ſuch laſt-mentioned poſt office to be forwarded by the general poſt, the ſum of 2*d.*—For every letter or packet firſt paſſing by the general poſt, and then paſſing by the two-penny poſt, over and above the general poſtage, 2*d.*—Merchants' accounts, bills of exchange, and bills of lading, ſhall be rated as ſo many ſeveral letters.

The poſtmaſter general may undertake the conveyance of letters to and from places not being poſt towns, for ſuch ſums for extra ſervice as may be agreed upon between the poſtmaſter general and the inhabitants; but the inhabitants of ſuch places may act as heretofore.

Iriſh Letters.] There ſhall alſo be paid for every letter conveyed by packet boats from or to the ports of Holyhead or Milford haven, to or from any ports in Ireland, over and above the rates payable for ſuch letters, a packet poſtage, viz. for every ſingle letter 2*d.* treble 6*d.* ounce 8*d.*

This act is not to alter the rates of poſtage upon ſingle letters ſent by or to ſeamen or ſoldiers, made payable by 35 Geo. III. c. 53. nor the manner of charging for patterns or ſamples of cloth, &c. under that act.

POST-HORSES *(Encycl.)*. By the act 25 Geo. III. c. 51. all poſtmaſters, innkeepers, or other perſons, ſhall pay annually 5*s.* for a licence. Perſons letting poſt-horſes without a licence, forfeit 10*l.* and keeping more than one inn under one licence, 20*l.* They are to paint *licenſed to let poſt-horſes* on the fronts of their houſes, on pain of 5*l.* And there ſhall be paid for every horſe hired for travelling poſt, one penny halfpenny for every mile ſuch horſe ſhall be hired to travel poſt.

For every horſe hired for a day, or leſs time, if the diſtance ſhall be aſcertained, one penny halfpenny per mile; and if the diſtance ſhall not be aſcertained, 1*s.* 9*d.* for each horſe, to be paid by the perſon by whom the horſe ſhall be hired.

Every licenſed perſon to paint, on the outſide pannel of each door of the chaiſe, his chriſtian and ſurname, and place of abode, on pain of 5*l.*

POT-ASH *(Encycl.)* In June, 1801, a patent was granted to Mr. Howard, of Mancheſter, for a method of making a Britiſh barilla and potaſh, and of obtaining a greater quantity of alkali than by any means hitherto diſcovered. The inventor's method is by ſaturating with quick lime the aſhes made from bleachers' waſte lye, rock ſalt, ſoda, natron, common ſalt, black aſhes of the ſoap-boilers' lye, kelp, tobacco aſhes, &c. ſal enixum, caput mortuums of the vitriolic and muriatic acid; and alſo for ſeparating the vitriolic and muriatic acids as they exiſt in common ſalt, ſea water, bleachers' waſte lye, and the lye or ſalt of ſoap-boilers' waſte lye; theſe, or any or all of them together, or any other ſubſtance, that wholly or in part contains a vegetable mineral or foſſil alkali.

"To obtain the alkali," ſays he, "contained in aſhes made from the bleachers' waſte ley, rock ſalt, common ſalt, ſoda, natron, black aſhes of the ſoap-boilers' waſte lye, kelp, or tobacco aſhes, I take of the rock ſalt, common ſalt, black aſhes from the ſoap-boilers' waſte lye, kelp, or tobacco aſhes, or any or all of them, twenty hundred weight; or of aſhes made from bleachers' waſte lye, ſoda, or natron, or any or all of them, 10 cwt.; and grind, pound, or roll them ſufficiently fine, as to paſs through a fine ſieve. To which I add 16 cwt. of cokes or cinders, charcoal, ſmall coal, dyers' waſte wood, ſawyers' duſt, or any other combuſtible, deſtitute of ſulphur, being firſt ground and ſifted. Theſe I mix till they appear of one ſameneſs, and then ſpread on an even floor a thin layer of them; to which I add a layer of quick lime, on which I ſprinkle as much common water, lye, brine, or ſea water, as the maſs will abſorb. This done, I continue the layers until 1600 weight of lime is added: I let them here ſaturate, and whilſt warm I cut down the layers,

and add a ſufficient quantity of common water, lye, brine, or ſea water, as when ground, beat, or trodden with the feet, or any other mode, it aſſumes the appearance of mortar; which, when done, and perfectly dried, either upon iron plates or pans, or any other more convenient way, introduce it into the reverberating furnace, and bring the ſame into a flux, at a moderate temperature, which in two, three, or four hours, or more (according to quantity), being repeatedly ſtirred, and the ſame temperature kept up, will produce what I call my Britiſh barilla.

"To obtain the alkali contained in ſal enixum and caput mortuums of vitriolic and muriatic acids, I take, if of ſal enixum or reſiduum of muriatic acid, 20 cwt. and if of vitriolic acid, 35 cwt.; to each of which quantities ſeparately, or a due proportion of them jointly, I add of natron 10 cwt. of black aſhes of the ſoap-boilers' waſte lye, 15 cwt. of kelp, 20 cwt. of ſalts obtained from the ſoap-boilers' waſte lye, 20 cwt., or any other neutral ſalt or alkali in proportion to its quality; to which I add 32 cwt. of cokes or cinders, charcoal, or ſmall coal, ſawyers' duſt, or dyers' waſte wood, or any other combuſtible ſubſtance deſtitute of ſulphur. The above, ground, ſifted, and well mixed, to be ſpread on an even floor, as before, until 32 cwt. of quick lime be added, and then proceed as before, which will alſo produce my Britiſh barilla.

"To obtain the ſeparation of the vitriolic and muriatic acids as they exiſt in common ſalt, brine, or ſea water, the bleachers' waſte lye, and the ſoap-boilers' waſte lye, or the ſalts obtained therefrom, I take of ſalts obtained from the ſoap-boilers' waſte lye 20 cwt., or of common ſalt 20 cwt., and 10 cwt. of tobacco aſhes. Theſe, either ſeparately or jointly, in the above proportions; to which, if ſalts obtained from ſoap-boilers' waſte lye is uſed, add 16 cwt., and if common ſalt and tobacco aſhes, 28 cwt. (or a due proportion, according to the ſalts uſed), of cokes or cinders, charcoal, &c. as before, to be ground, ſifted, and mixed, as before. Theſe ſpread in layers, and ſprinkled with lye, brine, or ſea water, until, if ſoap-boilers' ſalts are uſed, 16 cwt. of quick lime is uſed; and if common ſalt and tobacco aſhes, then 28 cwt. of quick lime is uſed, or in that proportion, and then to undergo the aforementioned proceſſes for making the Britiſh barilla.

"If to make potaſhes, I add to every 20 cwt. of the whole maſs 20 cwt. of black aſhes, ſalts obtained from ſoap-boilers waſte lye, or any other neutral ſalt or alkali, in due proportion, which I treat in the manner before mentioned with the aforeſaid maſs, or I introduce it in like proportion at the time of charging the reverberating furnace; but I prefer the former: in two, three, or four hours, from the introduction (according to the quantity), it will become a liquid maſs, which I then tap, and call my Britiſh potaſh."

Notwithſtanding the proportions above preſcribed, the writer is aware that great diverſity of opinion upon the proportions of each ingredient will be found amongſt the conſumers: firſt, on account of the alkaline baſis, and ſecondly, with regard to the cauſticity deſired; but he is of opinion, that the proportions he has laid down are preferable to any other.

POT-ASH-CAKE, a kind of biſcuit, much uſed in the United States of America; and which is baked in the following manner:—Take two pounds of wheaten flour, and half a pound of butter; to theſe muſt be added half a pound of ſugar, that has previouſly been combined with a pint of milk; and a large tea-ſpoonful of ſalt of tartar, cryſtals of ſoda, or any other pure pot-aſh, which has likewiſe been diſſolved in a ſmall quantity of water. The whole is to be carefully mixed, and kneaded together: when properly rolled, it may be formed into cakes, which ought to be expoſed to a briſk heat of an oven; as their lightneſs depends much on the expedition with which they are baked.

Pot-aſh-cake is equally nutritious and wholeſome: being ſpeedily prepared, it deſerves to be adopted, eſpecially where yeaſt cannot be eaſily procured.

POTATOE *(Encycl.)*. From vol. II. of the Reports of the Society for bettering the Condition, &c. of the Poor, we ſhall extract an intereſting paper on the preſervation of potatoes, by Mr. Millington.—According to his ſtatement, three pounds of potatoes were peeled, raſped, and put in a coarſe cloth between two boards, in a napkin-preſs, till they were compreſſed into a very thin cake, that was placed on a ſhelf to dry. The roots yielded, on expreſſion, about one quart of juice; which, being mixed with an equal quantity of cold water, depoſited in the courſe of an hour, upwards of one dram of white flour or ſtarch, in every reſpect fit for making fine paſtry.—Mr. M. preſented in 1799 to the above-mentioned ſociety, a cake, which had been thus prepared in the year 1797. In bulk, it occupied only one-ſixth part of the original roots; and loſt about two-thirds in weight by the proceſs. Mr. Millington's ſecond method of preſerving theſe roots, is as follows: Five pounds of potatoes were properly cleaned and pounded in a mortar, without being previouſly peeled; and then preſſed in a ſmall wine-preſs into a thick cake; the whole being completed in the manner above deſcribed. This cake alſo was ſweet and wholeſome, but did not poſſeſs the clear whiteneſs of the former; nor does it appear that ſuch as were prepared according to the laſt proceſs, will remain ſweet for the ſame length of time as thoſe conſiſting of peeled potatoes.—At all events, this contrivance deſerves to be further purſued and improved; for, independently of the immediate advantages that will reſult from ſupplying mariners with vegetables, it is an object of the greateſt importance, when conſidered as a mean of preſerving ſo uſeful, though periſhable, an article for years; and of laying up a ſtore in plentiful ſeaſons, againſt the time of ſcarcity.

Another mode of keeping potatoes, was lately and ſucceſsfully tried, by the patriotic Bath and Weſt of England ſociety; and which certainly is leſs complex than that before deſcribed. It conſiſts ſimply in ſlicing potatoes, without taking off the rind or ſkin, and afterwards drying them in an oven or kiln. The roots thus prepared will remain ſweet for almoſt any length of time: the ſociety ſent ſome to Jamaica in a barrel, which had been four years from Britain, and, on their return, were found not to be in the leaſt degree affected.

POTENZA, a town of Naples, in Baſilicata, with a biſhop's ſee. It was almoſt ruined by an earthquake in 1694. It is ſeated near the ſource of the Baſiento, eight miles S.E. of Naples.

POTOMAC, or PATOMAC, a river of Virginia, which falls into the bay of Cheſapeak. On the banks of this river is now erecting the city of Waſhington, the intended metropolis of the United States.

POTTON, a town in Bedfordſhire, with a market on Saturday, 12 miles E. of Bedford, and 48 N. by W. of London. Long. 0. 18. W. Lat. 52. 11. N.

POUGHKEEPSIE, the capital of Ducheſs County, in the ſtate of New York, ſituate on the E. ſide of Hudſon's River, N. of Wappinger's Creek.

POUGUES, a village of France, in the department of Nievre, noted for its ferruginous mineral waters. It is five miles N.W. of Nevers.

POULTICES *(Encycl.)*. Theſe are generally prepared of bread and milk, to which is added oil, lard, or other unctuous matter, to prevent their adheſion to the parts inflamed. In

large hoſpitals, the conſumption of theſe articles for ſuch purpoſe being very conſiderable, while the bread and milk are liable to become ſour in warm weather, the following ingredients have, by Mr. Payne, ſurgeon, been propoſed as ſubſtitutes:—Take, of the fineſt pollard, three parts; of genuine linſeed flour, one part; both by meaſure; and, of boiling water, four parts: mix theſe ingredients with a ſpoon or a broad knife; and they will, in general, form a poultice of a proper conſiſtence, without requiring oil, lard, or other emollient ointment: though, if the inflammation be conſiderable, a ſmall quantity of oil may be added, to prevent adheſion.

POULTON, a town in Lancaſhire, with a market on Monday, ſeated near the mouth of the Wyre, 18 miles S.W. of Lancaſter, and 231 N.W. of London. Long. 3. 6. W. Lat. 53. 52. N.

POURSELUC, a town of the kingdom of Siam, 280 miles N. of Siam. Long. 100. 40. E. Lat. 18. 58. N.

PORZAIN, a town of France, in the department of Puy de Dome, ſeated on the Sioule, 36 miles N. by E. of Clermont, and 190 S. of Paris. Long. 3. 15. E. Lat. 46. 21. N.

POYANG-HOU, a lake of China, in the province of Kiang-ſi, formed by the confluence of four conſiderable rivers. It is 250 miles long.

PRABAT, a town of the kingdom of Siam, 100 miles N. of Siam. Long. 101. 10. E. Lat. 15. 40. N.

PRACHALITZ, a town of Bohemia, capital of a circle of the ſame name, 66 miles S. of Prague. Long. 13. 55. E. Lat. 48. 56. N.

PRADES, a ſmall handſome town of France, in the department of the Eaſtern Pyrenées, ſeated on the river Tet, in a fine plain, in the middle of mountains, 22 miles S.E. of Montlouis. Long. 2. 35. E. Lat. 42. 26. N.

PRAGA, or PRAGUE, a town of Poland, in the palatinate of Maſovia, ſeated on the Viſtula, oppoſite to Warſaw, of which it is conſidered as a ſuburb.

PRAGILAS, a town of Piedmont, ſeven miles W. of Turin. Long. 7. 30. E. Lat. 45. 5. N.

PRATO, a town of Tuſcany, ſeated on the Biſentino, 12 miles N.W. of Florence. Long. 19. 54. E. Lat. 43. 52. N.

PRAYA. See PORTO PRAYA, *Supp.*

PRECOP, or PEREKOP, a town and fortreſs of Ruſſia, in the government of Catharinenſlaf, and province of Taurida, ſeated on the iſthmus that joins the Crimea to the continent. Long. 35. 40. E. Lat. 46. 40. N.

PRECOPIA, a town of Turkey in Europe, in Servia, ſeated on the river Morave, 20 miles W. of Niſſa. Long. 22. 5. E. Lat. 43. 31. N.

PREGEL, a river which iſſues from a lake in Poland, and croſſing Eaſt Pruſſia, falls into the eaſtern extremity of the Friſche Haf (an inlet of the Baltic) below Königſberg.

PREGNITZ, a town of Franconia, in the principality of Culmbach, ſituate on a river of the ſame name, 10 miles S. of Bareith. Long. 11. 55. E. Lat. 49. 50. N.

PREMESLAW, a populous town of Auſtrian Poland, with a ſtrong caſtle, and a Greek and Latin biſhop's ſee. It is ſeated on the river Sana, 27 miles W. of Lemburg. Long. 21. 0. E. Lat. 49. 0 N.

PRENSLO, a town of Germany, capital of the Ucker marche of Brandenburg. It contains ſix churches, and is ſeated on the lake and river Ucker, 60 miles N. by E. of Berlin. Long. 13. 52. E. Lat. 53. 25. N.

PRENTICE, or APPRENTICE (*Encycl.*). The following extract from an account of a charity for placing out poor children, at Greetham, in the county of Durham, by the Rev. John Brewſter, is publiſhed by the Society for bettering the Condition of the Poor.

"In November, 1790," ſays Mr. Brewſter, "a fund, ariſing from a rent charge of 6l. a-year, for apprenticing and placing out poor children at Greetham, fell under my direction. The beneficial effects attending this ſmall inſtitution induce me to make this communication; from which, I truſt, it will appear that much good may be done in this way at a ſmall expence.

"The following is a general ſtatement of the truſt account for the laſt ſeven years.

Receipts from November, 1790, to November, 1797.

	£.	s.	d.
Received the balance remaining in hand, November, 1790	12	10	—
Received rent charge of 6l. a-year for ſeven years	42	—	—
	54	10	—

Payments during the ſame period.

Paid for putting out nine apprentices, and for clothing two girls for ſervice, at 2l. 19s. 6d. each	32	14	6
Paid for one apprentice, at 7l. 16s. one at 4l. one at 3l. 3s. one at 1l. 14s. 6d. and two at 1l. 1s. each	18	15	6
Paid for clothing one girl for ſervice	1	1	—
Paid for partly clothing one boy for ſea	—	10	6
	53	1	6
Allowed the overſeer of the poor for receiving the rent, at one ſhilling per annum, for ſeven years	—	7	—
Balance in hand, 7th November, 1797	1	1	6
	54	10	—

"To place the children of the poor, as early as poſſible, in trades or occupations, anſwers two uſeful purpoſes;—the removing the expence of maintenance from the parent or the pariſh, and the training of the child in habits of induſtry and virtue. I have ſtated the ſpecific ſums expended for each child, in order to ſhew how little is required on ſuch occaſions. In one or two inſtances, the pariſh added ſomething, to ſupply the deficiencies of the fund, which could not admit of large deductions; and, with only that aid to this very ſmall fund, fifteen children have been apprenticed, and four clothed for ſervice, in the courſe of the laſt ſeven years.

"Services in huſbandry, or menial trades, are the uſual deſtinations of village children. To adapt, therefore, this plan to the uſe of towns, it will be requiſite to enlarge the ſcale of expence, according to the ſituation. But, in diſtributing charitable funds of this nature, it will not be an unneceſſary caution, that the overſeers of the poor be not entruſted with the *ſole* management of them: for though they are often men of real integrity, yet they will ſometimes be ſo far intereſted, as to wiſh to confine the effects of the inſtitution to the children of *chargeable* poor only, for the ſake of alleviating the burthen of the pariſh. In all pariſhes there are many poor perſons, who receive no charitable ſupport at all, and yet have large families to ſend out into the world. Theſe ought to be the firſt objects of attention: as, in all probability, it is from the exertions of their induſtry that they have been hitherto enabled to preſerve themſelves in an independent ſituation; and with a little aid of this kind, it is moſt likely that they may be able to go on without any call for parochial relief."

Mr. Brewſter, in a ſubſequent report, tranſmits an account of the particular trades to which the children were apprenticed; in order that the quantum of apprentice-fee may be better known for different trades calculated for poor children in country ſituations.

	Sex.	Trade.	Term.	Feet. £. s. d.
No. 1.	male	taylor	6 years	2 19 6
2.	female	ſervice	1 year	2 19 6
3.	male	comb-maker	7 years	2 19 6
4.	female	ſervice	1 year	1 1 0
5.	male	farmer's ſervant	till 21	2 19 6
6.	ditto	ſhoemaker	7 years	4 0 0
7.	ditto	ditto	7 years	2 19 6
8.	ditto	ditto and farmer's ſervant	till 21	7 16 0
9.	ditto	ditto clothed	——	1 1 0
10.	ditto	ditto	7 years	3 3 0
11.	ditto	bricklayer	6 years	2 19 6
12.	ditto	ſhoemaker	7 years	1 14 6
13.	ditto	ſailor	6 years	2 19 6
14.	ditto	ſtone-maſon	7 years	2 19 6
15.	ditto	ſailor clothed	——	0 10 6
16.	female	ſervice	til 21	2 19 6
17.	male	taylor	7 years	1 1 0
18.	ditto	farmer's ſervant	7 years	2 19 6
19.	ditto	taylor	till 21	2 19 6

The variation in the apprentice-fee ariſes from different circumſtances; either of health in the child, ability in the parent, or from the nature of the occupation to which the child is placed; and in ſome inſtances the child is boarded by the maſter, and ſometimes by the parent.

This plan has been adopted by the truſtees of the charity-ſchool at Stockton-upon-Tees; and with good ſucceſs. The ſchool conſiſts of about forty ſcholars of different ſexes. Seven of theſe, two boys and five girls, have been diſcharged in the courſe of the laſt year, and placed either at trades or ſervices at an expence of 40s each: one boy as a writer to an attorney, another as an apprentice to a wool-comber; and one girl as an apprentice to a glover, and four in ſervice.

The adoption of this plan has been attended with the beſt conſequences to the ſchool. It has occaſioned a more regular attendance, and better behaviour in the children; as conduct is indiſpenſably neceſſary, if they expect this reward. The charity-ſchool is, in ſome meaſure, ſupplied with ſcholars from the Sunday-ſchool; and the maſter ſays, this new regulation has a conſiderable influence even upon that.

In towns, where funds of this nature may be made ſufficiently ample, it is likely that the inſtitution may have a further beneficial effect, by reſcuing from a menial trade or occupation, a child of particular abilities.

PRERAU, a town of Moravia, capital of a circle of the ſame name. It is 13 miles miles S E. of Olmutz, and 126 E S.E of Prague Long. 17. 29. E. Lat. 49. 18. N.

PRESENZANO, a town of Naples, in Terra di Lavoro. It appears by an inſcription, that it is the ancient Ruſæ, and its territory has the name of Coſta Rufraria. It is 28 miles N. of Naples. Long. 14. 20. E. Lat. 41. 20. N.

PRESIDII, State of, a territory of Tuſcany, in the Sienneſe. It includes ſix fortreſſes, ſeated on the coaſt of Tuſcany, and which Spain reſerved, when it ceded Sienna to the grand duke. They were deſigned to facilitate the communication between the Milaneſe and the kingdom of Naples. In 1735, they were ceded to the king of the Two Sicilies. Their names are Orbitello, Telemone, Porto Hercole, Porto San-Stephano, Monte Philippo, and Porto Longone.

PRESOVIA, a town of Little Poland, ſeated on the Viſtula, 20 miles E. of Cracow. Long. 20. 16. E. Lat. 50. 10. N.

PRESTIMA, a town of Portugal, in Beira, 11 miles N. of Coimbra.

PRESTON PANS, a village in Haddingtonſhire, noted for its ſalt works, and for the defeat of the royal army by the rebels in 1745. It is four miles W. of Haddington.

PREVESA, a ſea-port of Turkey in Albania, with a biſhop's ſee. It ſtands on the ruins of the ancient Nicopolis, built by Emperor Auguſtus, in memory of his victory over Antony. It belongs to the Venetians, and was taken by them in 1684. It is ſeated on a mountain, on the gulf of Larta, 70 miles N.W. of Lepanto. Long. 21. 5. E. Lat. 39. 14. N.

PREUILLY, a town of France, in the department of Indre and Loire. Near it are mines of iron; and to the S.W. is La Haye, a ſmall town on the Creuſe, famous as the birth-place of Deſcartes. Preuilly is ſeated on the Claiſe, 18 miles S. of Loches.

PRIAMAN, a ſea-port of the Eaſt Indies, in Sumatra, where the Dutch have a factory. Long. 98. 0. E. Lat. 1. 0. S.

PRIBODA, a town of Sweden, in the province of Smaland, 16 miles S.S.W. of Carlſcrona. Long. 15. 18. E. Lat. 56. 10. N.

PRIEBUS, a town of Sileſia, in the principality of Sagan, ſituate on the Neiſſa, 15 miles S.W. of Sagan. Long. 15. 12. E. Lat. 51. 32. N.

PRINCE'S ISLAND, a ſmall iſland on the weſt coaſt of Africa, 250 miles S.W. of Loango. Long. 6. 40. E. Lat. 1. 49. N.

Prince's Island, a ſmall iſland of Aſia, at the S.W. extremity of the ſtraits of Sunda, a few leagues from the coaſt of Java. It is very woody, and not much cleared. The inhabitants are Javaneſe, whoſe rajah is ſubject to the ſultan of Bantam; and their cuſtoms are very ſimilar to thoſe of the natives about Batavia. The beſt anchoring place is in long. 105. 17. E. lat. 0. 36. S.

PRINCE OF WALES, Cape, the moſt weſtern extremity of all America, hitherto known, diſcovered by Captain Cook in 1778. Long. 168. 5. W. Lat. 65. 46. N.

PRINCE OF WALES, Fort, the moſt northern ſettlement of the Hudſon's Bay Company, ſeated on the weſt ſide of Hudſon's Bay, at the mouth of Churchill River. Long. 94. 7. W. Lat. 58. 47 N.

PRINCE WILLIAM HENRY'S ISLAND, an iſland in the Eaſtern Ocean, lying W.N.W. of Tench's iſland. It is pretty high, well wooded, and 70 miles in circuit. The natives are quite naked, and ſeem to be the ſame ſort of people as thoſe on Tench's iſland, and the canoes of the ſame conſtruction. It was diſcovered by Lieutenants Ball and King, in 1790. A high mountain riſing in the centre of it, was called Mount Philip. Long. 149. 30. E. Lat. 1. 32. S.

Prince William Henry's Island, an iſland of the South Pacific Ocean, diſcovered by Captain Wallis, in 1767. Long. 141. 6. W. Lat. 17. 0. S.

PRINCESS ANN TOWN, a town of the United States, in Maryland, 114 miles S. of Philadelphia. Long. 75. 48. W. Lat. 38. 10. N.

PRISDENIA, a town of Turkey in Europe, in Bofnia, with a biſhop's ſee, and a magnificent church. It is ſeated on the Drin, 32 miles N.E. of Albanapolis, and 195 N. of Belgrade. Long. 21. 3. E. Lat. 42. 0. N.

PRISTINA, a town of Turkey in Europe, in Servia. It was pillaged by the Auſtrians in 1689; and is ſeated on the Ruſca, 58 miles N.W. of Niſſa, and 150 S.E. of Belgrade. Long. 22. 5. E. Lat. 42. 43. N.

PRITZWALK, a town of Upper Saxony, in the marche of Prignitz, 44 miles N. of Brandenburg, and 54 N.W. of Berlin. Long. 12. 13. E. Lat. 53. 9. N.

PRIVAS, a town of France, in the department of Ardeche, ſeated on a hill, near the confluence of three ſmall rivers, 16 miles N. of Viviers. Long. 4. 41. E. Lat. 44. 45. N.

PROCIDA, an iſland of Italy, in the gulf of Naples, near that of Iſchia. It is eight miles in circumference, and very fertile and populous. The capital, of the ſame name, is a ſmall fortified place, on a high craggy rock, by the ſea-ſide. Long. 14. 8. E. Lat. 40. 43. N.

PRODANO, an iſland in the Mediterranean, near the weſt coaſt of the Morea, formerly called Sphacteria. It is 36 miles S.S.E. of Zante. Long. 21. 24. E. Lat. 37. 15. N.

PROM, a town of the kingdom of Burmah, ſeated on the Menan, 200 miles N.W. of Pegu. Long. 94. 0. E. Lat. 17. 50. N.

PROSPEROUS, a village of Ireland, in the county of Kildare; it has a conſiderable manufacture of cotton, and is 16 miles S.W. of Dublin.

PROVIDENCE, an iſland in the Atlantic, which the Engliſh buccaniers fortified, but afterwards abandoned. It is 150 miles E. of the coaſt of Nicaragua. Long. 80. 44. W. Lat. 13. 25. N.

PROVIDENCE, a river of North America, which riſes in the ſtate of Maſſachuſets, and waters the town of Providence, from whence it is navigable to Narraganſet Bay, which it enters on the weſt ſide of Rhode Iſland.

PROVIDENCE, a town of the ſtate of Rhode Iſland, with a conſiderable manufacture of cloth, and a large foreign trade. Here is an elegant college, called Rhode Iſland College. Providence is ſeated on both ſides of a river of the ſame name, 30 miles N.W. of Newport. Long. 71. 26. W. Lat. 31. 50. N.

PROVINS, a town of France, in the department of Seine and Marne, famous for its mineral waters and excellent conſerves of roſes. It is ſeated on the Vouzie, 30 miles S.E. of Meaux, and 47 S.E. of Paris. Long. 3. 22. E. Lat. 48. 34. N.

PRUCK, a town of Auſtria, ſeated on the Leita, 22 miles S.W. of Preſburg, and 22 S.E. of Vienna. Long. 16. 58. E. Lat. 48. 5. N.

PRUCK, a town of Stiria, ſeated on the Muehr, 66 miles S.W. of Vienna. Long. 15. 25. E. Lat. 47. 24. N.

PRUTH, a river of Poland, which riſes in Red Ruſſia, in the mountain of Crapach, croſſes part of the palatinate of Lemburg, runs through all Moldavia, and falls into the Danube.

PSKOF, or PLESKOF, a government of Ruſſia, once a republic, ſubdued by Ivan Vaſſilivitch, and formerly compriſed in the government of Novogorod.

PSKOF, or PLESKOF, a lake of Ruſſia, in a government of the ſame name.

PSKOF, or PLESKOF, a town of Ruſſia, capital of a government of the ſame name, with an archbiſhop's ſee, and a ſtrong caſtle. It is ſeated on the river Welika, 80 miles S. of Narva, and 150 S. by W. of Peterſburg. Long. 27. 52. E. Lat. 57. 58. N.

PUCKHOLI, a town of Hindooſtan Proper, in the province of Lahore, 86 miles S.W. of Caſhmere, and 145 N.W. of Lahore. Long. 72. 5. E. Lat. 33. 45. N.

PUDDAR, a river of Hindooſtan Proper, which riſes in the S.W. part of Agimere, divides the provinces of Cutch and Guzerat, and falls into the gulf of Cutch.

PUDOGA, a town of Ruſſia, in the government of Olonetz, ſituate on the eaſt coaſt of the lake Oneſkoe, 108 miles E. of Olonetz. Long. 36. 30. E. Lat. 61. 36. N.

PUEBLA, a town of Spain, in Galicia, near the Atlantic, 25 miles S.S.W. of Compoſtella. Long. 8. 7. W. Lat. 42. 34. N.

PUEBLA, a town of Spain, in Eſtremadura, ſeated near the Guadiana, 15 miles W. of Meridad. Long. 6. 23. W. Lat. 38. 42. N.

PUEBLA-DE-LOS-ANGELOS, a town of New Spain, in the audience of Mexico, and province of Tlaſcala, of which it is the capital, with a biſhop's ſee. It is 62 miles S.E. of Mexico.

PUEBLA-NUOVA, a ſea-port of New Spain, in the audience of Guatimala, and province of Veragua. It is ſeated on a bay of the Pacific Ocean, 200 miles W. of Panama. Long. 83. 28. W. Lat. 8. 48. N.

PUENTE-DEL-ARCOBISPO, a town of Spain, in Eſtremadura, which belongs to the Archbiſhop of Toledo, and is ſeated on the river Tajo, over which is a handſome bridge, 40 miles S.W. of Toledo. Long. 4. 15. W. Lat. 39. 38. N.

PUERTO-BELLO, PUERTO RICO, &c. For all names, which, in the Spaniſh language, ſignify a *port*, ſee PORTO; for, although that word is not Spaniſh, but Italian, it is neceſſary to adhere to it in this work, in conformity to the Engliſh pronunciation.

PUGLIA, the modern name of the ancient Apulia, containing the three provinces of Capitanata, Bari, and Otranto, on the eaſt ſide of the kingdom of Naples.

PULAON, an iſland in the Indian Ocean, lying on the weſt of the Philippines. It is very fertile, and ſubject to its own king, who is tributary to that of Borneo. Long. 129. 12. E. Lat. 9. 30. N.

PULHELY, a ſea-port in Carnarvonſhire, with a market on Wedneſday. It is ſeated at the head of an inlet of Cardigan Bay, between two rivers, ſix miles S. of Newin, and 143 N.W. of London. Long. 4. 15. W. Lat. 52. 52. N.

PULO-CANTON, an iſland in the Indian Ocean, on the coaſt of Cochin-China. Long. 109. 35. E. Lat. 15. 10. N.

PULO-CONDORE, the name of ſeveral iſlands in the Indian Ocean, the principal of which is the only one inhabited. It is 13 miles in length, and nine in breadth, but in ſome places not above a mile over. The ſoil of theſe iſlands is blackiſh, and pretty deep, but the hills are ſomewhat ſtony. The trees are not very thick, but large, tall, and fit for any uſe. The principal fruits are mangoes, a ſort of grapes, and baſtard nutmegs. The animals are hogs, lizards, and guanas; and there are birds of various kinds, not known in other parts. The inhabitants are ſmall of ſtature, of a dark complexion, with ſmall black eyes, thin lips, white teeth, little mouths, and black ſtraight hair. Their chief employment is to get tar out of large trees. They are idolators, and have images of elephants in their temples. Long. 107. 20. E. Lat. 8. 40. N.

PULO-DINDING, an iſland in the Indian Ocean, on the weſt coaſt of the peninſula of Malacca. It belongs to the Dutch.

PULO-TIMON, an iſland in the Indian Ocean, on the eaſt coaſt of the peninſula of Malacca. It is often touched at for taking in wood, water, and other refreſhments, and there is a great plenty of green turtles. Long. 104. 25. E. Lat. 3. 0. N.

PULO-UBY, an iſland in the Indian Ocean, at the entrance of the bay of Siam, 20 miles in circumference. It yields good water and plenty of wood. Long. 105. 56. E. Lat. 8 25. N.

PULO-WAY, an iſland in the Indian Ocean, near the north point of that of Sumatra. It is the largeſt of the iſlands that form the entrance of the channel of Achem, and is peopled by men baniſhed from Achem. Long. 95. 39. E. Lat. 5. 30. N.

PULTAUSK, a town of Great Poland, in the palatinate of Maſovia, ſeated on the Nareu, 20 miles N.E. of Warſaw. Long. 21. 47. E. Lat. 50. 30. N.

PULTOWA, a fortified town of the Ukraine, famous for a battle in 1709, between Peter the Great and Charles XII. of Sweden, wherein the latter was totally defeated. It is 100 miles S.W. of Belgorod. Long. 34. 25. E. Lat. 49. 26. N.

PUMP-ENGINE. See FIRE-ENGINE; *Supp.*

PUNA, an iſland in the Pacific Ocean, 35 miles long and 12 broad, lying at the entrance of the bay of Guiaquil, 115 miles N of Paita. Long. 81. 6. W. Lat. 3. 17. S.

PUNBETE, a town of Portugal, in Eſtremadura, ſix miles W.N.W. of Abrantes.

PUNTA DEL-GUDA, the capital of St. Michael, one of the Azores, with a ſtrong caſtle, and a harbour. Long. 25. 42. W. Lat. 37. 47. N.

PURBECK, ISLE OF, a rough and heathy tract in Dorſetſhire, to the ſouth of Poole Bay.

PURCHENA, a town of Spain, in the province of Granada, 60 miles E. of Granada, and 60 W. of Carthagena. Long. 2. 5. W. Lat. 37. 19. N.

PURFLEET, a village in Eſſex, ſituate on the Thames, four miles W. of Grays-Thurrock. It has extenſive limeworks, and a large magazine of gun-powder.

PURMERENS, a town of North Holland, on a brook of the ſame name, 10 miles N. of Amſterdam, and 13 S.E. of Alcmaer.

PURRYSBURG, a town of the United States, in Georgia, built by a colony of Swiſs. It is ſeated on the river Savannah, 30 miles N.W. of the town of Savannah. Long. 80. 40. W. Lat. 32. 22. N.

PUSCHIAVO, a town of the country of the Griſons, three miles north from a lake to which it gives name. It is 17 miles W.S.W. of Bormio, and 20 E. of Chiavenna. Long. 9. 40. E. Lat. 46. 20. N.

PUTALA, or PATELI, a mountain of Great Thibet, ſeven miles eaſt of Laſſa. On its ſummit is the palace of the grand lama, the high-prieſt and ſovereign of Thibet.

PUTNEY, a village in Surrey, ſeated on the Thames, five miles W.S.W. of London. It is the birth-place of the unfortunate Thomas Cromwell, earl of Eſſex, whoſe father was a blackſmith here; and of Nicholas Weſt, biſhop of Ely, his contemporary, a great ſtateſman, whoſe father was a baker. On Putney-common is an obeliſk, erected in 1786, by the city of London, in commemoration of Mr. Hartley's invention of fire-plates, for ſecuring buildings from fire; and near it is the houſe in which that gentleman made his experiments, one in particular, in 1776, when his majeſty, and ſome of the royal family, were in a room over the ground floor, perfectly ſafe, while the room under them was furiouſly burning.

PUY, a populous town of France, in the department of Upper Loire, ſeated on the mountain Anis, near the river Loire. The principal church is famous for a prodigious quantity of relics; and our Lady of Puy is celebrated in the annals of ſuperſtition. The late canons of Puy have had kings and dauphins of France at their head. Puy has manufactures of lace and ſilk ſtuffs, and is 45 miles N.E. of Mende.

PUYCERDA, a ſtrong town of Spain, in Catalonia, and capital of Cerdagna. It is ſeated between the Carol and Segra, in a plain, at the foot of the Pyrenées, 53 miles W. of Perpignan, and 67 N.W. of Barcelona. Long. 1. 50. E. Lat. 42. 36. N.

PUY-DE-DOME, a department of France, containing part of the late province of Auvergne, and almoſt all Limagne, a territory 12 leagues long and ſix broad, one of the moſt fertile plains in France. The borders of this circular plain are mountainous, once ſo many volcanoes, but now covered with habitations, herds, and flocks. Clermont is the capital.

PUY-EN-ANJOU, a town of France, in the department of Maine and Loire, 10 miles S.W. of Saumur, and 160 of Paris. Long. 0. 13. W. Lat. 47. 6. N.

PUYLAURENS, a town of France, in the department of Tarn, eight miles S.W. of Caſtres, and 23 E. of Toulouſe. Long. 1. 57. E. Lat. 43. 35. N.

PUY L'EVEQUE, a town of France, in the department of Lot, 14 miles W. of Cahors. Long. 1. 17. E. Lat. 44. 25. N.

PUY MOISSON, a town of France, in the department of Lower Alps, 15 miles S. of Digne. Long. 6. 10. E. Lat. 43. 55. N.

PUZZOLI, a celebrated, but now inconſiderable town of Italy, on the bay of Naples. Here is a temple of Jupiter Serapis, an intereſting monument of antiquity, being quite different from the Roman and Greek temples, and built in the manner of the Aſiatics; probably by the Egyptian and Aſiatic merchans ſettled at Puzzoli, which was the great emporium of Italy, till the Romans built Oſtia and Antium. The ruins of Cicero's villa, near this place, are of ſuch extent, as to give a high idea of the wealth of this great orator. Puzzoli is 10 miles W. of Naples.

PYRBAUM, a town of the upper palatinate of Bavaria, capital of a lordſhip of the ſame name. It is 13 miles S.E. of Nuremberg.

PYRENEES, EASTERN, a department of France, containing the late province of Rouſſillon. Although great part of the country is mountainous, it is fertile; producing corn, excellent wines, olives, oranges, and leather of a ſuperior quality. Perpignan is the capital.

PYRENEES, LOWER, a department of France, containing the late provinces of Baſques and Bearn. Pau is the capital. See NAVARRE.

PYRENEES, UPPER, a department of France, containing the late province of Bigorre. Here are excellent horſes and good partridges. The valleys are very fertile; furniſhing rye, millet, Spaniſh corn, and flax. The mountains have mines of lead, iron, and copper, and quarries of ſlate, marble, and jaſper. Tarbes is the capital.

PYRNA, a town of the electorate of Saxony, in Miſnia. It has a caſtle, on a mountain called Sonnenſtein, which has been ſometimes uſed as a ſtate priſon. Near it is a fine quarry of ſtone, which is tranſported to different places by the river Elbe. Pyrna is ſeated on the Elbe, 10 miles S.E. of Dreſden. Long. 13. 56. E. Lat. 51. 6. N.

PYRSTEIN, a town of Bavaria, in the biſhopric of Paſſau, 10 miles N. of Lintz, and 22 E. of Paſſau.

PYSECK, a town of Bohemia, in the circle of Prachin, ſeated on the Attoway, near the Muldaw, 50 miles S. of Prague. Long. 14. 46. E. Lat. 49. 16. N.

Q.

QUACK MEDICINES; vile compounds, calculated to defraud the credulous of their money and health.

By the act 25 Geo. III. c. 79. the quack medicine venders within the limits of the two-penny poſt are to take out a licence annually, and pay 20s: in any other part of the kingdom, 5s.

And upon every packet, box, bottle, phial, or other incloſure, containing any drugs, oils, waters, eſſences, tinctures, powders, or other preparation or compoſition whatſoever, uſed or applied, or to be uſed or applied, externally or internally, as medicines or medicaments for the prevention, cure, or relief of any diſorder or complaint incident to, or in any wiſe affecting the human body, which ſhall be uttered or vended in Great Britain, there ſhall be charged a ſtamp duty according to the rates following; (that is to ſay), where the contents of any ſuch packet, box, bottle, phial, or other incloſure aforeſaid, ſhall not exceed the price or value of 1s. there ſhall be charged a ſtamp duty of one penny halfpenny.

Where the contents of any ſuch packet, box, bottle, &c. ſhall exceed the price of 1s. and not exceed 2s. 6d. there ſhall be charged a ſtamp duty of 3d.:—above 2s. 6d. and under 5s. a ſtamp duty of 6d.:—and if of the price of 5s. or upwards, a ſtamp duty of 1s.

The above duties not to extend to articles mentioned in the books of rates; nor to unmixed drugs ſold by a ſurgeon, apothecary, chemiſt, or druggiſt, not claiming an excluſive right to the ſame; and which are not prepared or ſold under letters patent, nor by any public notice, or advertiſement, or recommended as noſtrums.

Perſons vending quack medicines without a licence, are to forfeit 5l. Venders are to uſe ſtamped labels; and if they vend or expoſe to ſale any medicines without a proper ſtamp, they are to forfeit 5l. for each box, bottle, or phial. The diſcount on theſe ſtamps, for prompt payment, is, if the duty amounts to 10l. or upwards, 2l. per cent. per annum; and if the duty amounts to 50l. or upwards, 5l. per cent. per annum.

Perſons uſing ſtamps fraudulently, after they have been once ſold or uſed, forfeit 10l. Buyer or ſeller may inform. Places of making and of vending are to be entered at the neareſt ſtamp-office, on pain of 10l.

The penalties are recoverable either by action or information in the courts at Weſtminſter, and half are to the informer and half to the king, if the informer proſecutes within ſix months; afterwards the crown is entitled to the whole, and the informer is to be rewarded at the diſcretion of the commiſſioners of ſtamps, by not exceeding one moiety after deducting the coſts.

QUADRA AND VANCOUVER'S ISLAND, an iſland on the N.W. coaſt of America, on the W. coaſt of which Nootka Sound is ſituate. It was ſo named by Captain Vancouver in compliment to Senor Quadra, the Spaniſh commandant at Nootka. It is about 300 miles in length, and 80 in its greateſt breadth.

QUADRANT (*Encycl.*). An ingenious paper pointing out an eaſy and accurate method of adjuſting the glaſſes of Hadley's quadrant on land, for the back-obſervation, appear in the Tranſactions of the American Philoſophical Society.

"Various methods of adjuſting the glaſſes for the back-obſervation," ſays the author of the paper, Mr. Robert Patterſon, "have been propoſed; but theſe are either very inaccurate and troubleſome, or inapplicable to the common octant, and require ſome appendage to the inſtrument, with which but very few have yet been made.

"The following method of making this adjuſtment will not, I flatter myſelf, be found liable to any of the above objections.—It may be made on land, in a few minutes, at any time of the day when the ſun ſhines; requires no additional apparatus, but what any perſon may readily make for himſelf; and the adjuſtment may be relied upon as equally accurate with that for the fore-obſervation.

"*Deſcription of the neceſſary apparatus.*—Take a piece of plane glaſs (a piece of looking glaſs will do very well)—take the poliſh off one ſide of it, and cement it, with the rough ſide down, on the flat ſide of the ſegment of a wooden ball. The ball may be about three or four inches in diameter, and the piece of glaſs of about the ſame dimenſions. Or the glaſs may be cemented to a piece of board, and this board to a three or four pound ſhot, or ſmall hand-granade, when either of theſe may be conveniently had.

"Next take a piece of triangular board, of about four inches on the ſide. Near the corners of this board let there be inſerted three ſmall nails, or pieces of wire, to ſerve as feet for it to ſtand on."

Method of making the adjuſtment, or finding the quantity of the index-error.—"At any time when the ſun ſhines ſet your triangular board on a table, the ſill of a window, or any other convenient ſtand, expoſed to the ſun, and place the ball, with the piece of glaſs, on the triangular mortice; which, touching the ball only in three points, will conſequently keep it ſteady in any poſition. Turn the ball into ſuch a poſition that the plane of the glaſs may be, as nearly as you can judge, parallel to the equator; and then incline this plane, in the direction of the meridian paſſing through the ſun, till the ſun be about 45° above it.

"Now take your octant, and, by the fore-obſervation, bring one of the limbs of the ſun's image, ſeen by a double reflection from the ſpecula of the inſtrument, exactly into contact with the image of the ſame limb, ſeen by a ſingle reflection from the ſurface of the glaſs plane, and read off the angle pointed out by the index. Immediately turn round your inſtrument, and bring the ſame limbs into contact by the back-obſervation. If the angle now pointed out by the index be exactly the ſupplement (to 180°) of the former angle, the horizon-glaſs for the back-obſervation will be truly adjuſted, or exactly at right angles with the horizon-glaſs for the fore-obſervation: but if theſe two be not equal, then take half their difference, which will be the correction or index-error for the back-obſervation; ſuppoſing the fore-horizon-glaſs to have been previouſly well adjuſted. This correction will be additive to all angles meaſured by the back-obſervation, when the angle pointed out by the index in the firſt of the above obſervations is greater than the ſupplement of the other, and *vice verſa*.

"For the ſake of greater accuracy, you may repeat theſe obſervations till you have taken two, four, or ſix ſets: obſerving that if in your firſt ſet you begin with the fore-obſervation, as above directed, then in your ſecond ſet you muſt begin with the back-obſervation, and ſo on. A mean of the corrections thus obtained may be taken as the *true* correction of adjuſtment."

Mr. P. concludes his paper with the following miſcellaneous remarks, relative to this ſubject.

1. "If the arch of exceſs beyond 90° be but ſmall, as

in ſome octants is the caſe, then it may be neceſſary to place the index one or two degrees before the 0, on the extra arch, and adjuſt the fore-horizon-glaſs to this poſition of the index. You will thus obtain a greater range for the index in adjuſting the back-horizon-glaſs.

2. " When the reflecting glaſs plane is placed in the poſition above mentioned, viz. at right angles to the plane of the meridian paſſing through the ſun, then the ſun's path in the heavens will, for ſeveral minutes, be very nearly parallel to the ſaid plane; and therefore no ſenſible error is to be apprehended from the increaſe or decreaſe of the ſun's altitude above this plane during the interval between the firſt and ſecond obſervations in the ſame ſet. But even if this ſhould be the caſe, from the glaſs plane being placed conſiderably *out* of the above poſition, yet, by conducting the obſervations as above directed, the ſmall errors ariſing from this ſource will naturally correct one another.

3. " When the poliſh is taken off one ſurface of a piece of glaſs, then the image of the ſun, being reflected only from one ſurface, will appear ſingle and diſtinct; whereas the image reflected from both ſurfaces will, moſt frequently, appear double or indiſtinct; ariſing from the want of paralleliſm between the ſurfaces.

4. " The image of the ſun ſeen by a ſingle reflection from one ſurface of the glaſs plane, and that ſeen by a double reflection from the ſpecula of the inſtrument, will both appear nearly of the ſame ſhade or degree of brightneſs; and this will ſeldom be ſo intenſe as to require any ſcreen or coloured glaſs to be interpoſed between the eye and the image.

5. " In making obſervations with this inſtrument, whether for the purpoſe of adjuſting the glaſſes, or for any other purpoſe, where great accuracy is required, it is neceſſary that the point on the index-ſpeculum from which the firſt reflection is made, that on the horizon-glaſs from which the ſecond reflection is made, and the eye-hole through which the image is viewed, be all in a plane, parallel to the plane of the inſtrument. This will be effected by wrapping a piece of tape, or the like, round the index ſpeculum, leaving only a bare ſtrip, of about a quarter of an inch broad, parallel to the plane of the inſtrument, and at the ſame height above it as the eye-hole, and tranſparent part of the horizon-glaſs.

6. " The eye-hole is generally made too ſmall. In meaſuring angles on land, as in the practice of ſurveying (for which purpoſe this inſtrument is much preferable to any other in common uſe), in taking altitudes at ſea, in meaſuring the angular diſtance of the ſun and moon, but eſpecially of the moon and a ſtar, the eye has generally need of all the light that can be admitted from the object ſeen by direct viſion.—The eye-hole, therefore, ſhould, I think, be nearly as large as the ordinary ſize of the pupil of the eye; nor is any inaccuracy, in this caſe, to be apprehended from the line of viſion not being parallel to the plane of the inſtrument; the eye being capable of placing itſelf, with great exactneſs, oppoſite the *centre* of the eye-hole.

" The ſame objection and remedy are applicable to the ſlits in the ſight-vanes, of the common ſurveying inſtruments.

7. " Mr. Maſkyline, and others, recommend the ſun itſelf as the beſt object by which to adjuſt the fore-horizon-glaſs.—There is however conſiderable difficulty attending this mode of adjuſtment.—The ſun is too bright to be viewed directly without a piece of coloured glaſs interpoſed between it and the eye; and even if the eye-piece be furniſhed with ſuch an appendage (which in the common octant is ſeldom the caſe), ſtill the two images will be of very different ſhades; and either the one ſeen by direct viſion will be too bright, or that ſeen by reflection will be too faint, for an accurate obſervation of their coincidence or contact.—This difficulty may, however, be obviated in the following manner:

" Every octant is furniſhed with at leaſt two coloured glaſſes, of different ſhades:—take the darkeſt of theſe out of its frame, and with a thread faſten it on *behind* the horizon-glaſs, and turn down the other, between this and the index-ſpeculum: the two images of the ſun will thus be generally of the ſame ſhade, or nearly ſo, and the adjuſtment may then be made with the utmoſt eaſe and ſafety to the eye. Or, which is perhaps better, place your eye behind the fore-horizon-glaſs, and, looking through this towards the centre of the index-ſpeculum, hold the inſtrument in ſuch a poſition as that the line of viſion may be directed to any point in the heavens, &c. at the angular diſtance of 90 degrees from the ſun; and then, the index being placed at 0, two images of the ſun will appear, both by a ſingle reflection, one from the index-ſpeculum, and the other from the back part of the fore-horizon-glaſs; and by bringing theſe images into coincidence or contact, as when you look directly at the ſun, the adjuſtment may be made, or the index-error found, with great eaſe and exactneſs. If the images of the ſun ſhould be too bright for the eye, one of the coloured glaſſes belonging to the inſtrument may be held before the eye. The two images of the ſun, thus viewed, will appear nearly of the ſame ſhade, ſince the one, from the index-ſpeculum, which would otherwiſe appear the brighteſt, will loſe part of its light by paſſing through the horizon-glaſs.

" After all, I am of opinion, that this adjuſtment may be made with equal accuracy, and much more eaſe, by any well-defined object on land, as the edge of a chimney, the roof of a houſe, or the like, at a ſufficient diſtance.

" Any one may ſatisfy himſelf that this is the caſe, by repeatedly meaſuring the error of adjuſtment in the common way, *viz.* by moving the index till he produces an apparent coincidence between the object ſeen directly, and by reflection. If a chimney, or the like, be the object viewed, he will ſcarce ever find any of theſe errors to differ from the mean error more than *one minute*; and the difference of ſuch errors, when the ſun is uſed, will not be leſs, but generally greater.

" If the diſtance between the index-ſpeculum and the line of direct viſion (*viz.* a line joining the eye-hole and horizon-glaſs) ſhould not exceed three inches, which it ſeldom does, then the parallax of the inſtrument will not amount to a quarter of a minute, and may therefore be ſafely neglected; provided the object viewed be at the diſtance of two-thirds of a mile. If a ſuitable object, at ſuch a diſtance, cannot be readily found, then you may take one at any given diſtance, and compute the parallax to be allowed for that diſtance, thus—multiply the conſtant number 95 (the nat. tang. of 1′ to rad. $\frac{1}{3\,6}$) by the diſtance, in inches, of the centre of the index-ſpeculum above the line of direct viſion, and dividing the product by the diſtance of the object in yards, the quotient will be the parallax of the inſtrument, or correction of adjuſtment, for that diſtance in minutes. For example, if the height of the index-ſpeculum above the line of viſion be three inches, and the diſtance of the object 150 yards: then $\frac{95 \times 3}{150} = 1'.9$ will be the error of adjuſtment. If, therefore, you place the index ſo much behind the 0, on the limb of the inſtrument, and then adjuſting the horizon glaſs by an object at the above diſtance, the adjuſtment will be true for an object conſidered as at an infinite diſtance.

" From the above rule it is obvious, that much exactneſs in meaſuring or eſtimating the diſtance of the object you adjuſt it by is not neceſſary, provided that diſtance be not

very ſmall; for, in the above example, an error in the diſtance even of ten yards would have produced an error of no more than about $\frac{1}{10}$ of a minute in computing the parallax of the inſtrument.

8. "In meaſuring angles by this inſtrument, when the object ſeen by direct viſion is at no great diſtance, the parallax of the inſtrument muſt be taken into conſideration. In ſuch caſes it is commonly recommended previouſly to adjuſt the horizon-glaſs by that object; but this, in the back-obſervation, would be attended with very great difficulty;—it will therefore be beſt always to keep the back-horizon-glaſs at the ſame adjuſtment, and make the neceſſary correction, as above directed, for the diſtance of the object."

QUADRELLA, a town of Naples, in Terra di Lavoro, 20 miles E.N.E. of Naples.

QUAKENBRUGGE, or QUAKENBURG, a town of Weſtphalia, in the biſhopric of Oſnaburg, ſeated on the Haſe, 22 miles W. of Oſnaburg. Long. 8. 20. E. Lat. 52. 46. N.

QUARTEN, a town of Switzerland, near the lake Wallenſtadt,, five miles E. of Glarus.

QUEAUX, a town of France, in the department of Vienne, 21 miles S.E. of Poitiers. Long. 0. 40. E. Lat. 46. 25. N.

QUEENSTADT, a town of Lower Saxony, in the principality of Halberſtadt, five miles N.E. of Halberſtadt.

QUEICH, a river of Germany, which paſſes by Landau, and runs into the Rhine, near Germerſheim.

QUENTIN, ST. a ſtrong town of France, in the department of Aiſne, with a conſiderable manufacture of lawns and cambrics. Near this place, in 1557, Philip II. of Spain, gained a ſignal victory over the French, and afterwards took the town by ſtorm. In memory of this, he built the Eſcurial. The town was reſtored to France in 1559. It is ſeated on an eminence, on the river Somme, 21 miles S. of Cambray, and 83 N. by E. of Paris. Long. 3. 29. E. Lat. 49. 50. N.

QUERFURT, a town of Upper Saxony, capital of a principality of the ſame name, ſubject to the Prince of Saxe-Weiſſenfels. It is 12 miles S.E. of Mansfeldt. Long. 12. 20. E. Lat. 51. 27. N.

QUERGUENECY, an iſland of the Mediterranean, on the coaſt of Tripoli. It has a fort and ſeveral villages.

QUESNOY, a town of France, in the department of the North, with an old caſtle. It was taken by the allies in 1711, and retaken the ſame year. In 1793 it was taken by the Auſtrians, and retaken the next year. It is ſeated in an extenſive plain, on the little river Ronelle, nine miles S.E. of Valenciennes, and 122 N.E. of Paris. Long. 3. 40. E. Lat. 50. 15. N.

QUIBERON, a peninſula of France, in the department of Morbian, to the N. of Belleiſle. It has a village of the ſame name, and a fort, on the bay of Quiberon. In July 1795 it was taken by ſome French regiments in the pay of Great Britain; but owing to the deſertion and treachery of ſome of the ſoldiers, the republicans retook it by ſurpriſe ſoon afterward.

QUICARO, an iſland in the North Pacific Ocean, near the coaſt of Veragua, in New Spain, about 20 miles long and ſix broad. Long. 82. 30. W. Lat. 7. 25. N.

QUILLAN, a town of France, in the department of Aude, 11 miles S. of Limoux, and 21 S. of Carcaſſone. Long 2. 10. E. Lat. 42. 52. N.

QUILLEBOEUF, a town of France, in the department of Lower Seine, ſeated on the Seine, eight miles S.W. of Caudebec, and 22 W. of Rouen.

QUILLOTA, a town, and juriſdiction, of Chili. Long. 35. 41. W. Lat. 32. 45. S.

QUILMANCI, a town on the coaſt of Zanguebar, in the kingdom of Melinda. It is ſituate at the mouth of a river of the ſame name, and belongs to the Portugueſe. Long. 39. 40. E. Lat. 33. 30. S.

QUILOA, a ſea-port on the coaſt of Zanguebar, with a ſmall citadel. It is tributary to the Portugueſe; and is ſeated in a fertile country, 300 miles N. of Moſambique. Long. 39. 9. E. Lat. 9. 30. S.

QUILON, or COYLON, a Dutch factory, on the coaſt of Malabar, in Travancore, 14 miles N.N.W. of Anjengo. It was taken by the Engliſh in 1795. Long. 76. 32. E. Lat. 9. 2. N.

QUIMPER, a town of France, in the department of Finiſterre, with a biſhop's ſee; ſeated at the confluence of the Oder and Benaudet, 30 miles S.E. of Breſt, and 332 W. by S. of Paris. Long. 4. 2. W. Lat. 47 58. N.

QUIMPERLAY, a town of France, in the department of Finiſterre, ſeated on the Iſotte, ſeven miles from the ſea, and 20. E. by S. of Quimper. Long. 3. 33. E. Lat. 47. 52. N.

QUINGEY, a town of France, in the department of Doubs, ſeated on the Louve, 12 miles S.W. of Beſançon. Long. 6. 5. E. Lat. 47. 5 N.

QUIN-NONG, or CHIN-CHIN, a bay on the eaſt coaſt of the kingdom of Ciampa, much frequented by the veſſels of the country, being an excellent harbour. The entrance is very narrow, and ſhips of burthen can only get in at high water. Long. 109. 15. E. Lat. 13. 52. N.

QUIRIEU, a town of France, in the department of Rhone and Loire, ſeated on an eminence, near the river Rhone, 12 miles S. of Lyons. Long. 4. 55. E. Lat. 45. 35. N.

QUIRIMBA, the name of ſeveral iſlands on the coaſt of Zanguebar. They are all fertile in fruits and paſtures.

QUIRPON, an iſland in the North Atlantic Ocean, near the north coaſt of Newfoundland. Long. 55. 22. W. Lat. 51. 40. N.

QUISAMA, a maritime province of the kingdom of Angola, lying along the river Coanza. It is a mountainous country, and very little cultivated, but the Portugueſe get abundance of ſalt there.

QUITEOA, a town of Morocco, in the province of Draſs, with a caſtle. Long. 5. 0. W. Lat. 28. 6 N.

QUISTELLO, a town of Italy, in the duchy of Mantua, ſeated on the Seccia, three miles from its confluence with the Po. It is famous for an action between the French and Auſtrians in 1734, when Marſhal Broglio was ſurpriſed in his bed. It is 15 miles S.E. of Mantua. Long 11. 1. E. Lat. 45. 0. N.

QUITO, an audience of Peru, lying between two chains of the high mountains called the Andes. Several diſtricts of this country are occupied almoſt entirely by Indians; and the city of Quito alone contains between 50 and 60,000 of all the different races. This is the only province in Spaniſh America that can be called a manufacturing country.

QUIXOS, a province of Peru, in the audience of Quito.

QUIZAMA, a province in the ſouth part of the kingdom of Angola. It is full of mountains, and badly cultivated, but produces honey, wax, and ſalt. The inhabitants are warlike, and have not ſubmitted to the Portugueſe.

QUIZINA, a chain of mountains in the kingdom of Fez, 100 miles in length, extending from the deſert of Gret to the river Nocor.

QUOJA, a kingdom on the coaſt of Guinea, which reaches from Sierra Leone to the Grain Coaſt.

R.

RAAJEGUR, a town of Hindoostan Proper, in the province of Malwa, 74 miles N.E. of Ougein, and 214 S.S.W. of Agra. Long. 76. 56. E. Lat. 24. 2. N.

RABASTEINS, a town of France, in the department of Tarn, with a decayed castle, seated on the Tarn, 18 miles W. by S. of Alby. Long. 1. 52. E. Lat. 43. 46. N.

RACHORE, or ADONI-RACHORE, a city of the peninsula of Hindoostan, capital of a district of the same name, subject to the nizam of the Deccan. It is seated on the south bank of the Kistna, near its confluence with the Tungebadra, 315 miles N. by . of Seringapatam. Long. 78. 15. E. Lat. 16. 30. N.

RACKERSBURG, a strong town of Austria, in Stiria, with a castle on a mountain. It is seated on an island, formed by the Muehr, 22 miles S.E. of Gratz, and 100 S. of Vienna. Long. 15. 58. E. Lat. 46. 54. N.

RACLIA, a small uninhabited island of the Archipelago, near that of Nio.

RADEBERG, a town of Upper Saxony, in the margravate of Meissen, 10 miles N.E. of Dresden. Long. 13. 56. E. Lat. 51. 5. N.

RADICOFANI, a town of Tuscany, seated on a mountain, and defended by a citadel on an adjacent hill, 56 miles S.E of Sienna. Long. 11. 40. E. Lat. 42. 42. N.

RADIMPOUR, or RADUNPOUR, a town of Hindoostan Proper, in the provinces of Agimere, situate on the Puddar, 175 miles N. of Surat, and 250 S.W. of Agimere. Long. 71. 48. E. Lat. 23. 58. N.

RADMANDORF, a town of Germany, in Carniola, near the source of the river Save, 16 miles West of Crainburg.

RADOM, a town of Little Poland, in the palatinate of Sandomir, capital of a county of the same name. It is seated on a brook that falls into the Vistula, 30 miles N. of Sandomir, and 50 S. of Warsaw. Long. 21. 1. E. Lat. 51. 25. N.

RAGIVOLO, a town of Italy, in the Mantuan, seated between Mantua and Reggio, 42 miles from each.

RAGNITZ, a town of Prussian Lithuania, with a very ancient castle, situate on the Niemen, 56 miles E.N.E. of Konigsberg. Long. 21. 30. E. Lat. 55. 30. N.

RAGOOGUR, a town of Hindoostan Proper, in the province of Malwa, 116 miles NE of Oudein, and 256 S. of Delhi. Long. 77. 30. E. Lat. 24. 23. N.

RAGUSEN, or RAGUSIAN DALMATIA, a territory of Dalmatia, lying along the coast of the gulf of Venice, about 55 miles in length, and 20 in breadth. It is a republic, under the protection of the Turks and Venetians, to each of whom it pays an annual tribute. Ragusa is the capital.

RAHNIS, or RANIS, a town of Upper Saxony, in the circle of Neustadt, 54 miles S.S.W. of Leipsic. Long. 11. 30. E. Lat. 50. 33. N.

RAJAMUNDRY, the capital of one of the Northern Circars, in the peninsula of Hindoostan, 150 miles S.W. of Cicacole. Long. 81. 57. E. Lat. 17. 10. N.

RAJAPOUR, a town of the Deccan of Hindoostan, in the Concan, seated on a river of the same name, 50 miles N. of Goa. Long. 73. 56. E. Lat. 16. 19. N.

RAJEMAL, a town of Hindoostan Proper, in Bengal, formerly a place of great trade, but now in a ruinous state. It is seated on the west bank of the Ganges, 190 miles N. by W. of Calcutta.

RAIN, a town of Austria, in Stiria, capital of a county of the same name, with a castle. It is seated on the Save, 68 miles S. of Gratz. Long. 15. 32. E. Lat. 46. 20. N.

RAIN LAKE, or LONG LAKE, a lake of North America, lying to the east of the Lake of the Woods, with which it communicates by a river, and to the west of the Lake Superior. It is nearly 100 miles long, but in no part more than 20 wide.

RAKESBURG, or RAKELSPURG, a town of Austria, in Stiria, which has a considerable trade with Hungary and Croatia. It is situate on an island in the river Muehr, 36 miles S.E. of Gratz, and 90 S. of Vienna. Long. 16. 10. E. Lat. 46. 45. N

RAKKA, a town of Turkey in Asia, in Diarbeck, seated on the Euphrates. It has a castle going to decay, and is an indifferent place; but old Rakka, whose ruins are near it, was a magnificent city. It is 100 miles S.W. of Diarbekar. Long. 38. 55. E Lat 36. 1 N

RAKONITZ, a town of Bohemia, capital of a circle of the same name. It is seated on a river, which falls into the Miza, 30 miles W. of Prague. Long. 14. 5. E. Lat. 52. 4. N.

RAMA, an ancient town of Palestine, now called Ramula by the Turks. The streets are narrow, and the houses contemptible; but there are many fine ruins of Christian churches and other buildings, which shew what it has been formerly. It is 20 miles W. by N. of Jerusalem. Long. 34. 55. E. Lat. 32. 0 N.

RAMADA, a sea-port of New Granada, 100 miles E. of St. Martha. Long 72. 20. W. Lat 11. 10. N.

RAMANAD, a town of Hindoostan, in the Carnatic, 54 miles S.W. of Madura, and 88 S. of Tanjore. Long. 78. 56. W. Lat. 9. 20. N.

RAMANANCOR, an island of Asia, lying toward Cape Comorin. It is 23 miles in circumference; is very sandy, and has only a few villages and a temple. Long. 79. 45. E. Lat. 9. 25. N.

RAMBERT-LE-JOUG, St. a town of France, in the department of Ain, seated near a branch of Mont Jura, called le Joug, 18 miles N.W. of Belley. Long. 5. 30. E. Lat. 45. 53 N.

RAMBERVILLIERS, a town of France, in the department of the Vosges, 30 miles S.E. of Nanci. Long. 6. 44. E. Lat. 48. 21. N.

RAMBOUILLET, a town of France, in the department of Seine and Oise. Here was a palace, in which Francis I. died, in 1547, and Lewis XVI. made it a magnificent royal residence; but it was demolished in 179[illegible], by order of the National Convention. It is 27 miles S.W. of Paris.

RAMEHEAD, a promontory of Cornwall, S.W. of

Plymouth, at the entrance of Plymouth Sound. On its summit is a chapel (a sea-mark) belonging to the village of Rame. Long. 4. 20. W. Lat. 50. 18. N.

RAMERA, a town of France, in the department of Aube, seated on the Aube, 18 miles N.E. of Troyes. Long. 4. 30. E. Lat. 48. 32. N.

RAMLA, a town of Palestine, the ancient Arimathea, now in a ruinous state; it is, however, the residence of a Turkish aga, who has about 200 troops under him. Here is a manufacture of soap, which is sent into all parts of Egypt. It is 18 miles N.W. of Jerusalem. Long. 35. 15. E. Lat 32. 8. N.

RAMMEKENS, a sea-port of the isle of Walcheren, in the Dutch province of Zealand. It was one of the towns put into the hands of the English, as a security for a loan in the reign of Queen Elizabeth. It is four miles S. of Middleburg. Long. 3. 40. E. Lat. 51. 29. N.

RAMMELSBERG, a lofty, steep, and extensive mountain of Germany, in that part of the Hartz Forest which lies within the principality of Grubenhagen. On this mountain are twelve silver mines; and at the foot of it is seated the city of Goslar.

RAMPANO, a town of Turkey in Europe, in the Morea. Long. 20. 17. E. Lat. 36. 54. N.

RANDERAT, a town of Westphalia, in the duchy of Juliers, 10 miles N.W. of Juliers. Long. 6. 30. E. Lat. 51. 5. N.

RANDERSON, or RANDERS, an ancient town of Denmark, in North Jutland, seated near the mouth of the Gude, 25 miles E. of Wiburg. Long. 10. 35. E. Lat. 56. 20. N.

RANNOCH, LOCH, a lake in the north part of Perthshire, 11 miles in length. It receives the waters of Loch Ericht, from the north, and communicates with Loch Tumel on the east, and Loch Lidoch on the west. On its south side is an ancient forest of birch and pine.

RANTAMPOUR, a fortress of Hindoostan Proper, in the east quarter of Agimere. It is very celebrated in the Indian histories, and is 120 miles from Agra.

RANTZOW, a town of Lower Saxony, in the duchy of Holstein, 24 miles N. of Lubec. Long. 10. 42. E. Lat. 54. 16. N.

RAOLCONDA, a town of the Deccan of Hindoostan, in Golconda, near which is a rich diamond mine. It is 270 miles S.W. of Hydrabad. Long. 76. 40. E. Lat. 14. 30. N.

RAON, L'ETAPE, a town of France, in the department of Meurthe, seated at the foot of Vosges, at the confluence of the Etape and Marte, 30 miles S.E. of Nanci. Long. 6. 47. E. Lat. 48. 26. N.

RAPALLO, a town of Italy, in the territory of Genoa, seated on a gulf of the same name, 20 miles E. of Genoa. Long. 9. 11. E. Lat. 44. 26. N.

RAPE (*Encycl.*). The oil which these seeds yield by expression, is employed for various useful purposes in domestic life, and particularly for burning in lamps; but, as it is apt to become rancid, M. Thenard has published the following practical method of purifying it. He directs one-half or two parts of concentrated sulphuric acid to be added to 100 parts of oil, and the whole to be perfectly incorporated by agitation: the fluid immediately becomes turbid, assuming a dark green cast; and, in the course of three quarters of an hour, the colouring particles begin to collect in lumps. The agitation must now cease; and double the weight of oil of vitriol, diluted with pure water, should be added:—in order to mingle these different ingredients, the stirring ought to be renewed for the space of half an hour; after which the whole may be left to settle for seven or eight days. At the end of that time, the oil will be found on the surface; on being gently drawn off, and filtered through cotton or wool, it will be almost entirely divested of colour, smell, and taste; so that it will burn clear, without any interruption. The refuse of rape, after expressing the oil, is known by the name of rape-cake, the economical uses of which are various.

RAPHOE, a town of Ireland, in the county of Donegal, with a bishop's see. The cathedral serves as a parish church. It is eleven miles S.W. of Londonderry, and 21 N.E. of Donegal.

RAPOLLA, a town of Naples, in Basilicata, with a bishop's see, 56 miles W. of Bari, and 70 E. of Naples. Long. 15. 51. E. Lat. 40. 56. N.

RAPPAHANNOC, a river of Virginia, which rises in the mountains, called the Blue Ridge, and running E.S.E. falls into the Chesapeak, in lat. 35. 30. N.

RARITAN, a river of New Jersey, which, passing by Brunswick and Amboy, enters Arthur Kull Sound, and helps to form the fine harbour of Amboy.

RASEBORG, a sea-port of Sweden, capital of a canton in Nyland. It is seated on the gulf of Finland, 37 miles S.E. of Abo. Long. 23. 18. E. Lat. 60. 16. N.

RASEN. See MARKET RASEN, *Supp.*

RASOCALMO, a cape on the north coast of Sicily, near a town of the same name, W. of Cape Faro, and N. of Messina.

RASTADT, a town of Bavaria, in the archbishopric of Saltzburg, seated on the Ens, 48 miles E. by S. of Saltzburg. Long. 14. 10. E. Lat. 47. 31. N.

RAT (*Encycl.*). Besides the remedies already mentioned, there are many other contrivances for exterminating rats: and, as the subject is of considerable importance to every house-keeper, we shall subjoin an account of some other means, which have been found remarkably successful.

Mr. Charles Taylor, secretary to the Society for the Encouragement of Arts, &c. directs one or two table-spoonfuls of dry oatmeal to be uniformly, but thinly, spread on a tile or plate, in order that the quantity taken away may be more easily ascertained. The rats, if not interrupted, will regularly feed there; and they must be supplied for two or three successive days with fresh meal, when three drops of oil of aniseed are to be mixed with a double portion of oatmeal; and the composition deposited at the usual place, for a similar period of time. On the fourth day, one half only of the usual quantity must be given of the scented preparation, and on the succeeding night, the following mixture must be placed at the hole:—Let four ounces of dry oatmeal, perfumed with six drops of the oil of aniseed, be thoroughly incorporated with half an ounce of carbonated barytes (aerated heavy spar of Derbyshire), which has been previously pulverized, and sifted through fine cambric or muslin. This compound must be spread on the tile or slate, and exposed as usual; all the doors, or other communications, being shut for the space of twenty-four hours, that the vermin may eat it undisturbed by any cats, dogs, or other animals; and also to prevent the possibility of any accident happening to the latter. In the course of a few hours, after the rats have eaten the composition, they will be seen frequently to reel about, as if they were intoxicated, or paralytic; though, at length, they return to their haunts and perish. Mr. Taylor observes that, as they are very cunning, the mixture ought to be left for forty-eight hours, in case a small portion only be eaten; after which time the remainder should be burnt.

Mr. Funke, in his valuable Natural History, calculated for German schools, communicates the following curious

method of expelling, or rather dispersing, rats from dwelling-houses:—Take one or more of these predatory creatures caught alive in a trap, and immerse them to the neck in a mixture consisting of equal quantities of tar and train oil: thus anointed, set the animals at liberty. The offensive smell of this preparation compels them to traverse all the holes of their companions with the most distressing anxiety; in consequence of which they collectively disappear.—Another expedient practised in Germany, is that of confining a live rat in a cage, and feeding it exclusively with living mice or rats. Having been for some time accustomed to such food, the captive animal is, after a short fasting, suffered to return to its former habitation, where it is said to persecute, and indiscriminately devour its own species.

RATENAU, a town of Germany, in the middle marche of Brandenburgh, seated on the Havel, 15 miles N.W. of Brandenburgh. Long. 13. 49. E. Lat 52. 46. N.

RATENBURG, a town of Germany, in the Tyrol, with a castle, seated on the river Inn, 15 miles S. by W. of Kufstein. Long. 12. 5 E. Lat. 47. 30. N.

RATINGEN, or Rattingen, a town of Westphalia, in the duchy of Berg, four miles N.E. of Dusseldorf. Long. 6. 53. E. Lat. 51. 16. N.

RATTENBERG, a town of Germany, in the Tyrol, with a citadel, situate on the Inn, 26 miles E.N.E. of Inspruck, and 44 S.W. of Saltzburg.

RATZIA, or Rascia, the eastern division of Sclavonia, subject to the house of Austria. It takes its name from the river Rasca, which falls into the Morave; and its inhabitants are called Rascians.

RAVELLO, a sea-port of Naples, in the Principato Citeriore, with a bishop's see. It has magnificent palaces and fine houses, and is 10 miles W. of Salerno, and 25 S.E. of Naples. Long. 14. 41. E. Lat. 40. 36. N.

RAVENSTEIN, a town of Dutch Brabant, capital of a county of the same name, with an ancient and strong castle. It belongs to the elector palatinate, but has a Dutch garrison. It is seated on the Maese, 10 miles S.W. of Nimeguen. Long. 5. 35. E. Lat. 51. 46. N.

RAVITZ, a town of Poland, in the palatinate of Posnania, with a considerable manufacture of cloth, 24 miles S. of Posen.

RAUSCHENBERG, a town of Germany, in the principality of Hesse, four miles N. of Marpurg, and 32 S.S.W. of Cassel. Lon. 8. 46. E. Lat. 50. 32. N.

RAWA, a town of Poland, capital of a palatinate of the same name, 56 miles S.W. of Warsaw.

RAWEE, a river of Hindoostan Proper, one of the five E. branches of the Indus, into which river it falls, about 20 miles W. of Moultan, after having received the united waters of the Chelum and Chunaub. The Rawee is the Hydraotes of Alexander.

RAYNAL (Abbé), whose baptismal names were William Thomas, was one of the society of Jesuits, for their extensive learning no less universally known than for the happy talents which its superiors possessed, of assigning to each member his proper employment. Raynal, however, after having acquired among them a taste for literature and science, had probably become refractory, for he was expelled from the order; and the cause of his expulsion, according to the Abbé Barruel, was his impiety, though our author himself assures us, that he did not utter his atrocious declarations against Christianity till he had ceased to be a member of the order of Jesuits. He then associated himself with Voltaire, D'Alembert, and Diderot, and was by them employed to furnish the theological articles for the *Encyclopédie*. But though his religious opinions were certainly lax, and his moral principles very exceptionable, he could not even then be what, in a Protestant country, would be deemed a man remarkable for impiety; for he employed the Abbé Yvon, whom M. Barruel calls an odd metaphysician, but an inoffensive and upright man, to write the articles which he was engaged to furnish. In the conducting of this transaction, he shewed, indeed, that he possessed not a proper sense of honour; for he paid poor Yvon with twenty-five louis d'ors for writing theological articles, for which he received himself six times that sum. This trick was discovered, Raynal was disgraced, and compelled to pay up the balance to Abbé Yvon; but though he had thus shewn himself to be without honour, it is difficult to believe that he had yet proceeded so far as to blaspheme Christ, since he had employed a Christian divine to supply his place in the *Encyclopédie*.

His first work of eminence, and that indeed upon which his fame is chiefly built, is his Political and Philosophical History of the European Settlements in the East and West Indies. That this history is written in an animated style, and that it contains many just reflections, both political and philosophical, is known to all Europe; for it has been translated into every European language. Its beauties, however, are deformed by many sentiments that are irreligious, and by some that are impure. It was followed, we think in 1780, by a small tract, entitled The Revolution of America; in which the author pleads the cause of the revolted colonists with a degree of zeal, censures the conduct of the British government with a keenness of asperity, and displays a knowledge of the principles and intrigues of the different factions which at that period divided the English nation, that surely was not natural to the impartial pen of a philosophic foreigner. Hence he has been supposed to have been incited to the undertaking, and to have been furnished with part of his materials, by that desperate faction which uniformly opposed the measures of Lord North, and secretly fomented the rebellion in America. Be this as it may, he propagated, both in this tract and in his history, a number of licentious opinions respecting government and religion, of which he lived to regret the consequences.

A prosecution was instituted against him by the French government on account of his History of the East and West Indies; but it was conducted with so little severity, that he had sufficient time to retire to the dominions of the King of Prussia, who afforded him the protection he solicited, although his majesty's character was treated by the author in his book with no great degree of veneration. Raynal also experienced the kindness of the Empress of Russia: and it is not a little remarkable of this singular personage, that, although he was always severe in discussing the characters of princes, yet the most despotic among these heaped upon him many marks of favour and generosity.

The great trait of Raynal's character was a love of liberty, which, in his earlier writings, he did not properly define; but when he lived to see some of the consequences of this, in the progress of the French Revolution, he made one glorious effort to retrieve his errors. In the month of May, 1791, he addressed to the constituent assembly one of the most eloquent, argumentative, and impressive letters that ever was written on any subject; a letter which, if the majority of them had not been intoxicated with their newly acquired consequence, must have given some check to their mad career. He proved very completely, that it was not the business of the assembly to abolish every ancient institution; that the genius of the French people is such, that they never can be happy or prosperous but un-

der a well-regulated monarchical government; and that, if they wished not the nation to fall under the worst kind of despotism—the despotism of a low faction—they must increase the power of the king. "Alas! (says he) what are my sufferings, when in the heart of the capital, in the centre of knowledge, I see this misguided people welcome, with a ferocious joy, the most criminal propositions, smile at the recital of murder, and celebrate their crimes as conquests!" He had then seen comparatively but little; but he lived to see more—to see his countrymen celebrate, as virtues, crimes, compared with which the atrocities of 1790 appear almost harmless. Being stripped of all his property, which was large, by the robbers of the revolution, he died in poverty in March, 1796, and in the 84th year of his age.

Besides the works which we have already mentioned, he wrote a History of the Parliament of England, and a History of the Stadholderate; but these are both of them more remarkable for a species of style and loftiness of invention than for useful observation or solid argument. He wrote likewise The History of the Divorce of Catharine of Arragon by Henry the Eighth, which is not so much a recital of, and commentary upon, the fact from which he takes the title, as it is an able picture of universal Europe at that period, of the views, interests, and power, of all the different potentates. At the time of his death he was preparing a new edition of all his works, in which were to be made many alterations; and he is said to have left among his manuscripts a History of the Revocation of the Edict of Nantes, in four volumes; but it is also very certain, that, during the sanguinary reign of Robespierre, he burnt a great part of his papers.

READING, the capital of the county of Berks, in Pennsylvania, seated on the Schuykill, 46 miles N.W. of Philadelphia. Long. 75. 54. W. Lat. 40. 22. N.

REALMONT, a town of France, in the department of Upper Garonne, 31 miles N.E. of Toulouse. Long. 2. 0. E. Lat. 43. 50. N.

REALVILLE, a town of France, in the department of Lot, eight miles N.E. of Montauban, and 20 S. of Cahors. Long. 1. 24. E. Lat. 44. 7. N.

REBEL, a town of Lower Saxony, in the duchy of Mecklenburg, seated on the lake Muritz, 30 miles S.E. of Gustrow. Long. 12. 36. E. Lat. 53. 32. N.

REBNICK, a populous town of Turkey in Europe, in Walachia, with a bishop's see, seated on the Aluta, 45 miles S.W. of Targowisco.

RECCANATI, a town in Italy, in the marquisate of Ancona, with a bishop's see. It is a trading place, and has a great fair in September, which continues 15 days. The tomb of Pope Gregory VII. is in the cathedral. It is seated on a mountain, near the river Munsone, 14 miles S. of Ancona, and 110 N.E. of Rome. Long. 13. 34. E. Lat. 43. 24. N.

RECEIPTS (*Encycl.*). The following duties have been laid on receipts by the act 31 Geo. III. c. 25.—For every piece, &c. upon which shall be written, &c. any receipt, discharge, or acquittance for money, amounting to 40*s.* and not amounting to 20*l.*—two pence.

Amounting to 20*l.* and not 50*l.*—four pence.

Amounting to 50*l.* and upwards—six pence.

And by 35 Geo. III. c. 55. from and after July 5, 1795, if amounting to 100*l.* and not amounting to 500*l.* an additional six pence. Total one shilling. If amounting to 500*l.* or upwards, a further additional duty of one shilling. Total two shillings. To be paid by the person by whom such receipts shall be required; salaries, pensions, debts, or other sums payable from the crown, excepted; in which case the duty shall be paid by the person giving such receipts.

The following exemptions from the above duties are allowed.—Nothing in the above acts shall extend to any receipt for any legacy, or share of a personal estate, or to any receipt given by the treasurer of the navy, for money received for the service of the navy; or to the receipt of any agent for money imprested to him on account of the pay of the army or ordnance; or to any receipt by any officer, seaman, or soldier, for wages, pay, or pension, due from the navy, army, or ordnance; nor to any receipt to be given for the consideration of the purchase of any share in any public stock or fund; or in the stocks of the bank, East-India, or South-Sea companies, or for the dividends thereof; nor to any receipt given for money deposited in the banks of England or Scotland, or in the house of any banker; nor to any receipt on the back of any bill of exchange, promissory or other note; nor to any release by deed.

Nor shall this act extend to any receipt to be given upon any bill or note of the bank of England; or to any letter acknowledging the receipt of any bills, notes, or securities for money; or to any receipt for the consideration of money on or in any deed, bond, mortgage, or instrument; nor to any receipt for drawbacks or bounties; nor to any certificates of over-entry of customs.

The following new regulations respecting receipts have been established by the act 35 Geo. III. c. 55.—The full sum, and the true date, shall be inserted; and all notes, memorandums, or writings whatever, whereby any money shall be acknowledged to have been paid, settled, received, accounted for, balanced, discharged, released, or in any manner satisfied, or which shall in any manner signify such acknowledgment, and whether the same shall or shall not be signed, shall be deemed a receipt, and liable to the duties. *f.* 5.

Every receipt, discharge, or acquittance, note, memorandum, or writing, which shall express any general acknowledgment of any debt, claim, account, or demand, being paid, settled, received, accounted for, balanced, discharged, released, or satisfied, or whereby any money shall be acknowledged to be in full, and whether signed or not, shall be deemed a receipt for 500*l.* and be liable to the duty of two shillings; and no such receipt, &c. shall be available in law or equity for any other money than the sum therein expressed, unless the same shall be stamped with the stamp of two shillings. *f.* 6.

Every note, memorandum, or writing whatever, which shall signify any acknowledgment of any part of any debt, claim, account, or demand, being paid, settled, received, accounted for, balanced, discharged, released, or satified, whether signed or not, shall be deemed a receipt, and liable to duty. *f.* 7.

And every person who shall write or sign, or cause to be written or signed, any receipt, discharge, or acquittance, liable to duty, without the same being first duly stamped, or upon which there shall be a stamp of lower denomination than is charged in respect thereof, shall forfeit 10*l.* if the sum paid shall not amount to 100*l.*—and 20*l.* if it amounts to 100*l.* or upwards. *f.* 8.

And any person who shall give any receipt, discharge, or acquittance, or any note, memorandum, or writing, acknowledging the payment of money, in which a less sum shall be expressed than the sum actually paid, or who shall separate the sum paid into divers sums with intent to evade the duties, or shall, with the like intent, write off any part

of any debt, claim, or demand, or who shall be guilty of or concerned in any fraudulent contrivance whatever with intent to defraud his majesty of any of the duties, shall forfeit 50*l.* *f.* 9.

Receipts on unstamped paper, brought to the stamp-office within 14 days after given, may be stamped on payment of 5*l.* over the duty; and if brought to be stamped after 14 days, and within one calendar month after given, may be stamped on payment of 10*l.* above the duty; and in that case the parties are not to be liable to any of the penalties above mentioned.

One moiety of all penalties shall, if sued for within three months, be to his majesty; and the other, with full costs, to the person who shall inform, &c. and which may be recovered in any of the courts at Westminster, within England; and in the exchequer at Edinburgh, within Scotland.—But one justice may hear and determine any offence which subjects the offender to any pecuniary punalties—and persons aggrieved may appeal to the quarter-sessions.—The justice may mitigate penalties, not less than one moiety besides costs.—Witnesses refusing to attend the justices, &c. to forfeit 40*s.*—and if the penalties are not prosecuted for within the limited time, they are only recoverable by the crown; and if the whole penalty is recovered by the crown, the informer is to be rewarded by the commissioners of stamps, at their discretion—not exceeding one moiety.

RECHLINGHAUSEN, a town of Germany, in the archbishopric of Cologne, capital of a county of the same name, with a strong citadel, and a chapter of noble ladies. It is seated on the Lippe, 20 miles W. of Ham. Long. 8. 36. E. Lat. 51. 27. N.

RECULVER, a village in Kent, the regulbium of the Romans, seated near the mouth of the Thames, 12 miles W. of Margate. It is noted for its church, which was anciently collegiate, and has two spires, which serve for a sea-mark, and are called by mariners the Two Sisters.

RED *(Encycl.)*. The following observations on dyeing with madder, followed by a simple and invariable process for obtaining, in its greatest beauty and solidity, the colour known by the appellation of *Levant* or *Adrianople* RED, by Citizen Haussman, were sent to the editor of the Annales de Chimie, by the celebrated Chaptal, who is minister of the interior of the French Republic.

"I have already shewn," says Citizen Haussman, "in the Annales de Chimie and Journal de Physique, that metallic earths and oxids possess neither in a greater nor less degree the property of attracting or retaining the colouring parts of vegetable and animal substances; alum and oxid of iron possess it more powerfully than oxid of tin, the power of attraction of the latter, nevertheless, far surpasses that of other metallic earths and oxids, as far as regards the colouring parts of the said substances.

"Alum, as well as metallic oxids, does not retain with the same power of adhesion the colouring parts of all vegetable and animal substances indiscriminately; those of madder adhere more strongly than of other colouring substances, which may be classed in the following order: grains of kermes, cochineal, campeachy wood, yellow India wood, quercitron, fernambuc wood, red India wood, Avignon nuts, &c. gall nuts, sumach, and other astringent, colouring substances act principally by means of the gallic acid, and may, with regard to their degree of solidity, be placed immediately after madder: it is not the same with Prussian acid, which colours different metallic oxids, from which it may be extracted, when cold, by alcaline lyes.

"To judge of the solidity of the colours produced by vegetable and animal substances, the best method is to make use of a lye of oxygenated muriate of pot-ash, or of soda with alcaline carbonate. The longer or shorter resistance which the colours make in this lye will shew what they will do, if acid, alcaline, soapy and other counteragents are employed.

"In the art of dyeing and manufacture of printed calico, by staining with madder (garançage), is understood the process whereby the colouring particles of the madder are transferred by the alum or oxide of iron, and attached to any kind of stuff by means of water assisted by heat.

"The brightness and solidity of colours obtained from madder, depend not only on the management, but likewise on the state of the purity of the water, as well as of the madder. It is therefore absolutely necessary to avoid or to render inactive every acid, alkaline, or saline substance, that may be contained in the water or madder itself. I have shewn that by means of the addition of carbonate of lime (pulverised chalk) you may correct the madder, which I had imagined contained the gallic acid, but which my friend Charles Bertholdi, professor of the central school of the Upper Rhine, afterwards discovered to be sulphuric acid in conjunction with magnesia.

"The important discovery of this addition of chalk, which I made 25 years ago, has given birth to many fabrics, and has brought to perfection all those established near waters which do not carry with them, or retain in a dissolved state, that earthy salt without which it is absolutely impossible to obtain bright and solid colours from madder. This chalk has, since that period, become a new article of commerce, and as its price is very moderate, I have not yet determined the exact proportion to be used; I usually take one part to 4, 5, and 6 parts of madder.

"In order to obtain the colours of madder of a perfect brightness, it is not sufficient to attend to the quality of the water and of the madder; it is likewise of importance to observe the degree of heat of the bath. A low temperature will retard the extraction and attraction of the colouring particles, whilst, on the other hand, if too high, it at the same time promotes the adhesion of the dark particles of the madder, which tarnish and obscure the tints intended to be produced; black only is improved by augmenting the heat. I have invariably observed, that by taking the fire from under the cauldrons, as soon as one can no longer bear to hold one's hand in the liquid they contain, and afterwards suffering the dye to remain two or three hours, one procures the most satisfactory results: for the copper then retains a sufficient heat to keep the liquid at the same temperature, particularly when, according to custom, large cauldrons are used. It would otherwise be extremely difficult to fix a degree of heat, by means of thermometers, with spacious furnaces.

"The dusky particles of madder, as well as of other colouring substances, are probably only parts of the colouring substances themselves combined with oxygen. The produce of this combination, although it acquires a greater degree of solubility, proves, nevertheless, more difficult to be removed in the finishing, if the heat has not been properly attended to in dyeing. I have frequently observed, that madder and other colouring substances, after being long exposed to the atmospheric air, no longer afforded such deep and bright colours as before, either because these substances absorb the oxygen of the atmosphere, or because this essential is supplied by the water which they attract, or naturally contain as a constituting principle, and which is decomposed by a slow and imperceptible fermentation. A piece of cotton or linen cloth dyed red, heightened with madder, and exposed in a field, may con-

firm the idea of its changing to a dusky hue; but this deep colour becomes clearer and clearer, after growing dull, and at length assumes a more agreeable crimson tint in the finishing. I have demonstrated in a Memoir on Indigo, inserted in the *Journal de Phyſique*, of the year 1788, that the nitric acid changes this blue to a yellowish sediment (see INDIGO, *Supp.*). A similar change takes place in exposing in a field this same sediment attached to any kind of stuff whatever, and the yellow that results from both methods is more soluble in warm water than in the same liquid when cold. It appears, however, that the combination of the oxygen is not the only cause of the changing of the colours, for curtains of any kind of stuff dyed, or coloured in any manner whatever, by vegetable or animal substances and exposed to the day-light, lose their colour entirely, in process of time, on the side exposed to the rays of the sun, whilst the opposite side preserves the same colour for a great length of time. Although, therefore, the sun's rays give more vigour to the animated bodies of the animal and vegetable kingdom, by disengaging from them the oxygen gas, yet they appear to act destructively on the same inanimate bodies, by decomposing their constituting principles. At any rate, it will be the best way to keep the colouring ingredients in dry places and covered up from the light, which probably acts no otherwise on these bodies, than by decomposing the aqueous constituting part, whose two essential principles may transfer themselves to the carbone, to form carbonic acid, and likewise other resinous and oily substances. These conjectures prove, at least, that the action of the sun's rays, or more properly of light, on bodies in general, presents an extensive field for interesting experiments.

"If, in dyeing with madder, we obtain more lively colours by a careful management of the heat, we, at the same time, sacrifice a small portion of the colouring particles of the madder, which cannot be entirely exhausted, except by adding thereto gall-nuts or sumach, and afterwards augmenting the heat to ebullition; but as the colours obtained by this method fade more or less in proportion to the quantity of the madder, of the gall-nuts, or of sumach, it must not be used but with precaution, and principally for common purposes, for calicoes, cotton yarn, or thread. To prevent, as much as possible, the waste of madder, one might, after having finished dyeing the articles of value, and before the common ones are put into the cauldron, add thereto gall-nuts or powder of sumach, with a fresh and small portion of madder; attention must then be paid not to suffer the ebullition to take place till two hours after.

"I have endeavoured, in various trials, to exhaust the madder by simple ebullition, and without any other addition than that of chalk; but it always appeared to me to be attended with injury to all the colours excepting black; I thought that even the effect of the madder was far superior when the heat was managed with moderation, and that accumulated heat easily decomposed the colouring substance. This tendency to decomposition, and particularly by fermentation, if ever so little damped or diluted with water, has hitherto prevented my obtaining from it a substantial colour, sufficiently deep and solid to be applied to any stuff whatever. I have moreover observed, that too great a degree of heat in the first instance, when the dye is intended to be used a second and third time, not only prevented my obtaining lively and agreeable tints, but also the requisite strength. The aqueous vehicle of the madder at too a high a temperature never fails to weaken the power of adhesion of alum and oxid of iron to stuffs, and to take away a portion of them, which, upon examining the bath, is easily discovered by persons accustomed to the business.

"I repeat, that, for common articles and of little value, it is indispensably necessary to use gall-nuts or sumach, in order to save one-half, or even two-thirds, of the madder; but the colours thus obtained are less brilliant and less solid. The addition of chalk must nevertheless not be forgot; without it the gallic acid would carry away a portion of the alum and coloured oxid of iron, the loss of which would weaken and tarnish the tints; it would likewise injure the white that might have been preserved in the stuffs. Without adding gall-nuts or sumach, I consider it impossible totally to exhaust the madder of colouring particles; whence I presume that their adhesion is promoted by the viscid nature of the tanning principle of those astringent substances, which carries away the colouring particles by its combination with them. I must further observe, that gall-nuts, as well as sumach, lose the quality of staining black, and on the contrary acquire the property of staining or colouring alum yellow, and oxid of iron a green olive, with the addition of chalk, whose calcareous basis unites with the gallic acid. Are these yellow and olive-green colours produced by any particular substance contained in the gall-nuts and sumach, or do they originate in the tanning principle? This question remains to be examined.

"The quantity of madder to be used in dyeing ought not only to be proportionate to the extent of surface to be dyed, but also to the concentration of the liquors of *acetite of alum and iron*, improperly denominated mordants: that is to say, to the greater or less quantity of alum or oxid of iron which these saline liquors, either separate or combined, may have left or deposited by the evaporation of the acetic acid, when drying upon the articles to be coloured. If the articles to be dyed are not very numerous, or particularly if most of them are to exhibit only vivid tints, the madder may be applied but once; but the application of madder may be repeated twice and even thrice, when the articles are numerous, and are intended to present deeper tints. Three quarters of a pound of madder of a good quality are sufficient for dyeing a piece of calico of a white ground, six ells in length (three quarters wide), and which is to contain but few coloured objects: the quantity of this colouring substance will increase in proportion to the mass of alum or oxid of iron, expended on a piece of stuff of the same dimensions: it may be augmented to 6, 8, 10, and even 12 pounds for well covered grounds, of a brilliant colour, and of the utmost deepness. Attention and experience in the management of a dyeing establishment will not fail to point out, with sufficient accuracy, the proper proportions.

"Whatever care may have been taken with the madder, to prevent the adhesion of dusky particles, it requires much more, that the colours obtained may possess all the beauty and solidity they can possibly acquire in the finishing, preceded by a very long ebullition in perfectly clear water. This ebullition alone may be made to answer the purposes of finishing by the addition of bran; the reds will assume a more lively hue by using soap, with or without the addition of bran; carbonate of potash or soda substituted for soap will extract the tints from crimson: but I must observe, that to prevent the danger of turning the reds into brown, and in such a manner as never to be able to recover them, they must, by all means, previous to the application of soap or alkali, be exposed to the action of

the most violent heat that can be given to water; the success of this operation will be the more complete by giving very little vent to the aqueous vapours, and by forming, as it were, a digester with the cauldrons employed. The solidity of the colours will be proportionate to the time they have been exposed to the action of the boiling water. It is needless to mention, that the same risk is not incurred of injuring the colours by soap and alkaline carbonates, when the madder, instead of being kept at a moderate heat, has been made to boil, as is customary in many dye-houses; but in this case the colours obtained are more difficult to be finished.

"As water charged with oxygenated muriatic acid destroys the colouring particles of madder, and also of other vegetable and animal substances by decomposing them, and afterwards more concentrated acids can, in their turn, clear away from the surface of stuffs the colourless alum and oxid of iron, I cannot possibly countenance the idea of a chemical combination of colouring particles with alum and metallic oxids, which, being fixed and coloured upon any stuff whatever, make in my opinion only compound aggregates.

"The finishing of impressions with objects in white, requires modifications, which I shall detail at another opportunity, as soon as I shall find leisure: it will therefore now be sufficient to state, that, after having for some time prosecuted the experiments inserted in the Annales de Chimie of the year 1792, I discovered a red infinitely more beautiful and solid than the Levant, by fixing alum on cotton yarn or on thread by an alkaline solution of that earth mixed with linseed oil. The following is the process I employed.

"After having made a caustic lye, with one part of good potash of the shops, dissolved in four parts of boiling water and half a part of quick lime, which I afterwards killed, I dissolved one part of pulverised alum in two parts of boiling water, and whilst this solution of sulphate of alum was still quite hot, I, with all possible expedition, to prevent the recrystallisation, kept pouring into it, and stirring at the same time without intermission, the above caustic lye, till the alum it had at first precipitated after the saturation of the sulphuric acid was re-dissolved. I afterwards suffered this solution of alum to stand; it exhaled ammoniac, and as it cooled formed a precipitate of sulphate of potash in very small crystals; after which I mixed with it a 33d part of linseed oil, with which the alkaline solution of alum forms a kind of milk. As the oil by degrees separates from this mixture under the appearance of cream, it ought to be stirred again before it is used; the skains of cotton or thread should successively be dipped in it, pressed equally, and hung to dry on a line in the order in which they were taken out of the mixture: they must be dried under cover from the rain in summer, and in a warmed place in winter, and remain 24 hours; they should then be washed in clear running water, and again dried; then dipped in the alkaline lye, squeezed and dried a second time, in the same manner as before; taking care, however, to recommence the immersion in the lye with those skains which came last out of the oily composition, because the first invariably take away a greater portion of the oil than the latter: it will be advisable also to use the whole of the mixture at once, that it may not have time to attract the carbonic acid with which the lower region of the atmosphere, particularly of workshops, is always charged; for the alkali in returning to the state of carbonic suffers the alum to precipitate, and loses the property of commixing with oil.

"Two impregnations of the alkaline solution of alum, mixed with linseed oil, are sufficient to obtain a fine red; but, by continuing to impregnate the skains a third and even a fourth time under the same circumstances as the first, colours of the utmost brilliancy will be obtained.

"The deepness of the red intended to be obtained will be proportionate to the quantity of madder employed in dyeing; by taking the same weight of madder as that of the skains, it will produce a red which the finishing will turn to a roseate tint; on the contrary, you will obtain a more or less lively carmine by using two, three, and even four parts of madder, never forgetting the addition of chalk, if the water employed containeth none; four parts of this colouring substance will produce a red of such beauty and brilliancy, that it could never be brought into circulation in commerce, on account of its high price. By diluting the alkaline solution of oily alum with two or three parts of water, and impregnating the skains twice, thrice, and even four times in the manner mentioned above, bright tints will be produced without using much madder; but they will not be so deep as those produced by means of the same solution concentrated, and as small a quantity of madder.

"The best manner of procuring clear and lively tints at the same time would be to expose, for a sufficient length of time, deep and finished reds to the action of the lye of oxygenated muriate of potash or of soda, with the addition of alkaline carbonate to procure such a degree of colour as might be required; but it may easily be conceived that this method would be the most expensive.

"To have the alkaline solution of oily alum always as nearly as possible in the same state of concentration, it will be necessary to use an aerometer, to determine the degree of strength of the caustic lye, before it is employed in the process of the solution of alum. This caustic lye may, at first, be made of the best potash that can be procured in the shops, and the degree it may give to the aerometer should be noticed, that, if afterwards one were obliged to use potash of inferior quality, one might by evaporation bring the lye obtained therefrom to the degree fixed.

"The caustic lye, made with four parts of good potash of the shops [or perhaps soda], cannot contain much extraneous salt. In making a great quantity, and after having poured off the limpid part, it will be necessary to shake the vessel twice every day for some time, in order to be able to pour off the rest of the alkaline liquor; and, that no part of what remains in the vessel may be lost, it should be diluted with fresh water, which may afterwards be used for dipping the cotton, which, before it is subjected to the dye, should be purified and cleaned; which may be done by lie, soap, or simply boiling it in water, and afterwards rinsing and drying it. As squeezing with the hands might derange the filaments of the skains of cotton yarn and thread, and consequently weaken the thread, it will be advisable, in operations on a large scale, to squeeze them by means of a press.

"As to the thread, intended to be dyed a deep, beautiful, and solid red, it should be previously well bleached, and impregnated at least four times successively with the alkaline solution of oily alum; not only because alum and metallic oxids adhere less readily to thread than to cotton, but likewise because these mineral substances, after being coloured, more easily quit thread than cotton in the finishing. It still remains to be examined, whether, between each impregnation of the alkaline solution of oily alum, the cotton yarn or thread requires to be left a longer or shorter time before being rinsed and dried.

" All gross oils may be used for this mixture with proper precaution, but linseed oil mixes best, and remains longest suspended in the alkaline solution of alum; but I never tried fish oil; perhaps it might be preferable. Perhaps, likewise, in processes on a large scale, it might be advisable to diminish the quantity of linseed oil in the mixture with the alkaline solution of alum; for I have frequently had occasion to observe, that too much oil was injurious to the attraction of the colouring parts of the madder: a 33d part of linseed oil always produced the best effect in my experiments on a small scale.

" As to the process of dyeing thread or cotton yarn sufficiently charged with alum by the oily alkaline solution of that earth, the skains must first be cleared from every saline substance, and likewise from superfluous oil, by rinsing them for a considerable time in clear running water; after this they must be arranged, without drying, in a machine that it will be necessary for every one to adapt to the form of the cauldron wherein it is to be placed, so that during the operation of dyeing the skains may be continually moved and turned about, in order to imbibe equally and throughout, the colouring particles. The bath must be composed of madder mixed with a sixth part of pulverized chalk, diluted with about 30 or 40 parts of water. The heat must not be carried beyond such a point that a person might hold his hand in the bath, for an hour, without scalding; and it should be kept at that degree two hours longer, either by taking away the fire, if the furnace preserve sufficient heat, or by supplying it with a little fuel from time to time. Three hours' dyeing are sufficient to exhaust the madder: upon leaving the bath, the skains should be washed in plenty of water to clear them; they must then be submitted to the action of the finishing, which consists in boiling them a long time in water containing a quantity of bran tied in a bag, and adding thereto soap and alkaline carbonate, to give the red a roseate or crimson hue.

" As I never had occasion to dye cotton yarn or thread upon a large scale, I performed the process in a small copper, which served me at the same time for finishing: with regard to the last operation, I confined myself to boiling the skains, after well arranging them, in water, containing a small bagful of bran, for eight hours successively; and, in order not to interrupt the ebullition, I replaced the part evaporated with fresh boiling water. In this finishing I used neither soap nor alkali, and, notwithstanding, I obtained a red surpassing in beauty and solidity that of the Levant, and capable in every respect of standing a comparison with the best dyes of France, or Paul Remy and Son's, of Lausanne.

" For dyeing my red, I used three parts of the best madder to one part in weight of the dry cotton yarn.

" With the precaution I took to obtain an equal colour, I could dye at once; but I would advise this operation to be always performed at twice, taking, each time, half the quantity of madder and chalk, if one cannot continually keep turning the skains in the cauldron; it may likewise serve for finishing, by adapting to it a cover, leaving but a confined passage for the vapours, which one should endeavour to condense as much as possible, because it would be expensive to replace the evaporated part with fresh boiling water. Perhaps, in working upon a larger scale, and by concentrating the heat in cauldrons shut almost close, there might be no necessity to employ eight hours of ebullition to finish and give solidity to the colours. I have every reason to believe, that it was the finishing of Levant red that gave birth to the idea of bleaching with vapours: it might have been observed, that, in finishing, colours lose considerably in deepness; perhaps, at the same time, it may have been seen, that the pieces of packthread, used to arrange the skains, were bleached in finishing, and particularly by the addition of alkalis.

" A very great variety of colours, and of different tints, may be procured by adhering to the same process as I have detailed for obtaining beautiful and solid reds. For this purpose, the alkaline solution of oily alum must only be made use of, when such a tint of oxid of iron, or indigo blue, has been given as may be thought proper; but, whatever colour or tint may be intended to be given previous to fixing the alum on the skains of cotton, yarn, or of thread, these skains ought always to be first thoroughly boiled and cleansed, the power of adhesion of the sediment of indigo, as well as that of oxid of iron, and likewise of coloured alum, being augmented by the colouring particles of the madder, if they are submitted to the action of the heat of boiling water, before they are impregnated with the alkaline solution of oily alum. The manner of dyeing all kinds of blue tints with indigo being already well known, it is not worth while to detail it; and as to producing a yellow rust colour, which is done with very little expence, it depends only on soaking the skains thoroughly in a solution of sulphate of iron, on pressing them equally, and immersing them afterwards in a caustic lye of potash, which will precipitate and fix the oxid of iron of a disagreeable colour, but which will uniformly assume a yellow tint like rust, by attracting and saturating itself with the oxygen of the atmospheric air: this yellow will be more or less deep, in proportion to the greater or less quantity of iron contained in the solution; one may likewise give more brilliancy, and even more equality, to yellow rust-colour, by soaking the skains a second time in the ferruginous solution, and immersing them in the caustic lye. Care must be taken not to use soda for this operation, as it generally contains sulphur which turns black the oxid of iron by mineralizing it.

" Skains coloured blue and yellow rust-colour, treated with the alkaline solution of oily alum, will procure, with the madder, purple colours, violet, lilac, &c. &c. It may easily be imagined, that if, instead of madder, the same skains prepared for dyeing with madder are coloured with kermes, cochineal, fernambuc, campeachy wood, Santa Martha wood, woad, yellow wood, Avignon nuts, &c. &c. a vast variety of tints will be obtained: these tints may even be multiplied to infinity, by mixing the colouring ingredients of one, with the other, in various proportions.

The affinity of adhesion of the colouring parts of all these ingredients, varies also in this particular, that the tints produced by a yellow or olive green dye, are changed or totally metamorphosed by a second tincture of madder, kermes, cochineal, or fernambuc; and will furnish orange tints, capuchin, carmelite, brass, &c. &c. As the previous preparation of the skains by the alkaline solution of oily alum, may be too expensive for some of these colours, the process which I detailed in the Annales de Chimie of the year 1792, page 250, 17, 18, and 19, may be substituted in its stead, which consists in treating the skains alternately with soap and sulphate of alum, whose excess of acid has been saturated, either with carbonate of alkali or of lime: this process is very expeditious; the skains may be prepared and dyed, on the same day, particularly in summer, red, as well as any other colours, which, for the most part, may be subjected to ebullition; and the operation of finishing with bran, for a quarter of an hour, half an hour, and some even for a whole hour. It must still be obsery-

ed, that it is only the colours of madder, whose bases of alum and oxid of iron have been fixed upon stuffs, by means of an alkaline oily solution, that can acquire perfect solidity by the action of the heat of boiling water; and that the solidity is far inferior in all those colours of madder whose earthy and ferruginous bases have been transferred to the stuffs by acid dissolvents.

"Alum, plentifully fixed on cotton or linen stuff, by means of one of the most concentrated alkaline solutions, very readily attracts the colouring particles in dyeing with madder. The effect is not the same, if the same earth is transferred to it by means of the most concentrated acetic solution of alum; it is absolutely impossible to complete dyeing at one single time, even if one were to be so lavish of madder as to take infinitely more than would be required to obtain a satisfactory result, from repeating the process three or four times*. This singularity will give occasion for new and interesting experiments; my observations prove, mean while, that dyeing with madder in general requires to be managed with the most scrupulous attention."

REDHEAD, a promontory in Angusshire, on the German Ocean, lying S. of Montrose. Here are the ruins of a castle, almost surrounded by the sea. Till the year 1793, this cape was the point beyond which coal was not permitted to pass without paying a heavy duty, which was taken off by a commutation duty on spirits.

REDON, a town of France, in the department of Isle and Vilaine. It serves as a mart for the commerce of Rennes, and is seated on the Vilaine, 20 miles E of Vannes, 225 E. by S. of Paris. Long. 2. 10. W. Lat. 37. 48. N.

REDONDELLA, a commercial town of Spain, in Galicia, with a castle. It was pillaged by the English in 1702. There is a fishery for anchovies on the coast. It is seated at the bottom of a bay of the Atlantic, eight miles S of Ponte Vedra. Long. 8. 15. W. Lat. 42. 18. N.

REDONDO, a town of Portugal, in Beira, with a castle. It has a manufacture of cloth, and is seated at the mouth of the Mondego, 17 miles S.W. of Coimbra. Long. 8. 34. W. Lat. 40. 4. N.

REES, a strong town of Germany, in the duchy of Cleves, seated on the Rhine, 10 miles S.E. of Cleves, and 10 N.W. of Wesel. Long. 6. 4. E. Lat. 51. 40. N.

REFINING (*Encycl.*). The following is extracted from the specification of a Patent granted to Mr. Wakefield, of Northwich, in Cheshire, for a new method of refining sugar. It is dated June 2, 1801.

"Pressure is to be applied to the sugar intended to be refined, which may be done by weight, or by rollers, or by the screw or wedge, with the help of a steam-engine, or any engine, mill, or power capable of acting, by way of pressure, with great force. The sugar so to be refined is to be placed in such a situation as to be conveniently acted upon by the pressure to be applied, and is to be contained or inclosed in a cloth, felt, vessel, or covering, either having pores or holes therein, or otherwise so constructed that moisture may be discharged from the sugar through, or out of, the cloth, vessel, or covering; and to such sugar, previously containing moisture in it, or having moisture added or given to the substance thereof, or by such moisture being communicated to the inclosing cloth, felt, or vessel, or other covering, the pressure is to be applied forcibly, so as to make the moisture, or a part thereof, pass from the sugar, and out of, or through, the said covering. And thus a part of the colouring matter, and of the impurities of the sugar, will be expelled; and the degree of refinement procured will be proportioned to the quantity of pressure applied, and the quantity of moisture expelled or squeezed out of the sugar. From the moisture or substance thus forced out, there may be extracted some sugar, melasses, and rum, or other spirits, by the usual processes. And every sort of sugar, from the lowest to the highest degree in quality and value, will be very much accelerated in the refinement thereof, in several stages of the progress towards refinement, by pressure applied in the manner above described; the pressure being used as often as the workman shall think fit, according to the previous quality and state of the sugar, and the nature of the operations that are to follow."

REFORM, a building or receptacle in the vicinity of London, opened by the PHILANTHROPIC SOCIETY, for the reception of criminal poor children, and for the protection and maintenance of the innocent offspring of persons who have been executed or transported.

"The great object of the society (say the committee in their *address to the public*), which has now been instituted upwards of twelve years, is to unite the purposes of charity with those of industry and police; and thereby, while it affords relief to a description of persons of all others the most to be pitied, to make it the interest of every individual to contribute to the support and extension of this institution.

"Among the calamities to which the children of indigent parents are exposed, the want of moral and religious instruction, with early habits of industry, is the most to be lamented; such wretched objects are not only subjected to the temptations attendant upon poverty, but are without the disposition and ability to gain an honest livelihood. When to these circumstances are added the baneful example of parents, whose crimes have subjected them to banishment, or an ignominious death, the condition of such children is truly deplorable, and demands the benevolence of the Christian, the interference of the statesman, and the exertions of the patriot.

"There are no reflecting minds, or feeling hearts, but must have frequently lamented the fatal depravity which pervades the lower classes of the people, especially in the more populous part of this kingdom; and there are few who have not, at one time or other, trembled for their own safety in consequence of this depravity.

"With the increase of crimes our penal laws have multiplied; but while it is obvious that to prevent crimes is better than to punish them; and while every humane person must view with the deepest compassion and regret the numbers that are annually swept away by banishment, or consigned to an ignominious death, it is worthy of observation, that previous to this institution, the proper remedy for these disorders had not been adverted to, nor any plan of *preventive police* so much as projected.

"No nation has been more distinguished than Great Britain, for its various and excellent charities.—The truth, however, is, that most of our charitable institutions have confined their beneficence to the deserving, but unfortunate part of the community; whilst the offspring of the vicious and dishonest have been unhappily involved in the guilt of their parents. Those who have violated the laws in any instance have been excluded from society, or at least have been treated with extreme severity when received again within its protection; and before this institution, no asylum

* The concentrated acetic solution of oxid of iron is attended with nearly the same difficulties.

was ever opened for the repenting culprit, where the wanderer might be recalled from the error of his way, not by harsh and cruel treatment, but by gentleness and kindness; where he might prove the excellence and benefits of virtue, and contemplate her no longer under an austere and threatening aspect; where, by his own industry, he might contribute to his own subsistence, and be no longer under the *necessity* of stealing for bread*. It is the peculiar characteristic of this Society, to continue its care and attention till its objects have attained to such a mature age, as to be able to think and act for themselves, and have acquired such habits as will probably ensure their future good conduct through life.

"It is a well-known fact, that of the multitudes who fall victims to the violated laws of their country, the majority are trained and educated by experienced thieves, in a course of dishonesty, and are as regularly brought up to this way of life, as other persons are to common trades and professions. Hence their dexterity and adroitness in all the departments of this dangerous system; hence their union with each other, which renders their attempts so much the more formidable; which frequently eludes the pursuit of justice, and even intimidates those who see the wrong publicly committed.

"To break the chain of these pernicious confederacies, and to cut off all their supplies, is the intention of the Philanthropic Society, which aims at the prevention of crimes, by removing out of the way of evil counsel and example, those children, whose destruction, without their assistance, would be inevitable.

"In order to carry into effect these desirable purposes, the doors of the Reform have been thrown open for the reception of the infant offspring of convicted felons; for although such children may not have begun as yet the criminal practices of their profligate parents, yet it is to be feared, the pernicious sentiments and principles imbibed from those parents, and their wretched connections, will operate so forcibly on their youthful minds, as to render them more open to temptation than the children of parents of an opposite description.

"Another class still more wretched, and the next object of this institution, are those who have already commenced their criminal course by the commission of petty thefts or fraudulent practices, and, in consequence of detection, have been brought before a magistrate and discharged for want of legal evidence to produce conviction, although no doubt remained of their actual guilt; also those who have been tried and convicted; but by reason of their tender years, or some other mitigating circumstances, are recommended by the judges of assize, or other magistrates, before whom such trial took place. Such recommendations are particularly attended to by the committee."

For the employment of the children the REFORM has been erected with suitable workshops, &c. in St. George's Fields, London. There, under the direction of the several master workmen, are carried on the trades of a Printer, Copper-plate Printer, Book-binder, Shoemaker, Taylor, Ropemaker and Twine-spinner; to one or other of which the boys are apprenticed, carefully instructed, and excited to industry by rewards that bear a proportion to their exertions. The girls are educated as menial servants, and have otherwise abundant employment in washing the linen, making their own clothing, shirts for the boys, &c. Several of them have been placed out in service, and, upon producing testimonials of their good behaviour, have received the rewards which the committee have thought it right to hold out for their encouragement. A steward resides upon the spot to keep the accounts, distribute the provisions, &c. and the whole is under the care of a superintendant, also resident on the spot, who sees that the master tradesmen do their duty, and that the children conduct themselves properly in every respect.

The important task of inculcating religion and morals is assigned to the society's chaplain; and the children are supplied with such books as are likely to promote those salutary ends.

The whole number of children of both sexes that have been received by the society amount to 464, and the number now in the Reform (1802) is 165. Among these were many who, though young in years, were yet old in iniquity. There are amongst them boys who have been guilty of felonies, burglaries, and other crimes: yet, singular as it may appear, these very children are now become no less remarkable for their industry, decency, and obedience, than they formerly were for the opposite vices.

In order to extend its benefits to a still greater number of objects than the funds will enable them to maintain within the Reform, the committee endeavour to obtain masters out of the Reform, for those boys that have become entitled to good characters, by paying an annual sum with each for the two or three first years of their apprenticeship; and propose to distribute rewards to such of those boys who behave well, either at the end of their several apprenticeships, or at any intermediate periods, when they appear to merit them.

It is impossible not to feel interested in behalf of this very superior public charity, which does *more* than provide for the *temporal wants* of the objects under its protection. We heartily wish it perpetuity and extension.

REGEN, a town of Bavaria, on a river of the same name, 12 miles N.N.E. of Deckendorf, and 40 E. of Ratisbon. Long. 13. 2. E. Lat. 48. 50. N.

REGENSTEIN, a town of Lower Saxony, in the bishopric of Halberstadt, six miles S. Halberstadt, and seven W. of Quedlingburg. Long. 0. 41. E. Lat. 51. 26. N.

REGGIO, an ancient city of Italy, in a duchy of the same name, with a citadel, and a bishop's see. It has been ruined several times by the Goths and other nations. In the cathedral are paintings by the greatest masters; and in the square is the statue of Brennus, chief of the Gauls. The inhabitants are about 22,000, who carry on a great trade in silk. It was taken by Prince Eugene in 1706, and by the King of Sardinia in 1742. It is seated in a fertile country, 15 miles N.W. of Modena, and 80 S.E. of Milan. Long. 11. 5. E. Lat. 44. 43. N.

REGINA, a town of Naples, in Calabria Citeriore, 14 miles N. of Cozenza. Long. 16. 21. E. Lat. 39. 34. N.

REGNANO, a town of Italy, in the patrimony of St. Peter, seated near the Tiber, 17 miles N. of Rome. Long. 12. 36. E. Lat. 42. 11. N.

REICHENAU, an island of Suabia, in the Zeller See, or lower lake of Constance. It is three miles long and one broad; contains about 1600 inhabitants, all catholics; three parishes, and a rich abbey, of which the Bishop of Constance is abbot. In this convent was interred Charles le Gros, who was emperor, and king of France, but was

* These unfortunate children are frequently forced on desperate courses; with blasted reputations, with dangerous connections, and coming from suspicious places, what private family will open a door to receive them?

deposed in 887, and died in extreme want and misery. This island is three miles W. of Constance, and belongs to the bishop of that place.

REICHENAU, a town of Switzerland, in the country of the Grisons, seated in a rich and fertile valley, at the conflux of the two branches that form the Rhine. Here are two curious bridges. One of these is thrown across the lower branch of the Rhine, and is 105 feet in length. The other, built across the Rhine, below the point of union, is a wooden one, of a single arch, the span of which is 220 feet. Reichenau is seven miles S.W. of Coire.

REICHENBACH, a river of Switzerland, which has its source at the foot of Mount Wetterhorn, and rolls its numerous cataracts down the steep sides of Mount Sheidec, till it unites with the Aar, near Meyringen. It conveys into the Aar the gold dust that is found in the bed of that river.

REICHENFELLS, a town of Germany, in the duchy of Carinthia, 24 miles N.E. of Clagenfurt, and 24 E. of Muhrau. Long. 14. 4. E. Lat. 47. 9. N.

REICHENHALL, a town of Upper Bavaria, on the Sala, with a rich salt spring, nine miles S.W. of Saltzburg, and 64 S.W. of Munich. Long. 13. 2. E. Lat. 47. 28. m.

REICHENSTEIN, a town of Silesia, famous for the silver mines in its neighbourhood. It is 12 miles W. of Grotskaw.

REICHSHOFEN, a town of France, in the department of Lower Rhine, with a castle, in the neighbourhood of Haguenau.

REID (Thomas) a distinguished moral and metaphysical writer, was the son of the Rev. Lewis Reid, minister of the parish of Strachan, in the county of Kincardine, North Britain. He was born at the parsonage house of Strachan in April 1710, and received the rudiments of his education at the parish school of Kincardine-oniel; and was removed from thence to the Marischal College, Aberdeen, when not more than twelve years of age.

After the usual course of four years employed in the study of Latin, Greek, Mathematics, and Philosophy, he probably took his degree of M. A. which at that period, and for a long time subsequent to it, was the universal practice in the university of Aberdeen, and then commenced the study of theology. In due time he was licensed to preach the gospel according to the forms of the church of Scotland; but continued to reside for some years in Aberdeen, cultivating his favourite science, mathematics.

The mathematical chair in the Marischal College was then filled by Mr John Stuart, a man of great eminence in his profession; but who, like many other profound mathematicians, was not happy in his mode of communicating science, at least to the duller part of his pupils. Mr. Reid occasionally read lectures for the professor, and became very popular with his fellow pupils. He could not however spend his life in the study of mathematics, and in reading barren lectures for other men. He had been educated for the church; and it was in the church only that he had the prospect of gaining a livelihood. He was accordingly presented, we know not in what year, to the church of *New Machar* in Aberdeenshire, at a time when the good people of Scotland were very far from being reconciled to the rights of patronage; and the consequence was, that his settlement met with much popular opposition. Even a little riot took place in the church at his ordination; but he soon gained the affections of his flock by his good sense, his acknowledged worth, and his unwearied attention to all their wants, which he was ever ready to relieve to the utmost extent of his abilities. So deeply rooted indeed was their regard for him at last, that though it is now almost half a century since his relation to the parish of New Machar ceased, his memory continues to be revered in that parish even at the present day.

In the year 1751, about the beginning of the session or annual term, one of the professors of philosophy in King's College, Aberdeen, died; and the late Dr. John Gregory, then professor of medicine, with the Rev. Dr. Macleod, the present sub-principal of King's College, were deputed to visit Mr. Reid, and to request his immediate acceptance of the vacant professorship. He yielded to the request, not without some hesitation, and was admitted professor of philosophy on the 22d of November.

He was now in the very situation for which Nature seemed to have intended him. He had not only an opportunity, but it was his duty to cultivate the science to which his attachment was so strong; and the duties of his office made him turn his attention more closely than he had hitherto done to another science, in which he was destined to make a more conspicuous figure than he ever made even in his favourite mathematics.

It was during his professorship in the university of Aberdeen that he wrote his Essay on Quantity, which was published in the 45th volume of the Philosophical Transactions, and is perhaps the finest specimen of metaphysical mathematics, if we may use such an expression, that is extant in our own or in any other language. It was during the same period that he published his Enquiry into the Human Mind on the Principles of Common Sense; a work of unquestionable merit, which has contributed more than any other work whatever to give a rational turn to metaphysical speculations. It was about this period that the degree of D. D. was conferred upon him by his mother-college,

The well-earned fame of Dr. Reid attracted the attention of the University of Glasgow to him as the fittest person to succeed the celebrated Dr. Adam Smith; and he was admitted professor of moral philosophy in that university on the 11th of June, 1764. There his attention was not distracted by a multitude of sciences, which it was his duty to teach; and he had leisure to improve his metaphysical system, though he continued through life to amuse himself occasionally with mathematical speculations.

In the year 1773 appeared, in Lord Kames's Sketches of the History of Man, A brief Account of Aristotle's Logic: with remarks by Dr. Reid. It would seem that he had entered upon this task rather reluctantly, and merely in compliance with the solicitations of his friend, the author of the Sketches.

But when it is known that the late Dr. Doig of Stirling, to whom Greek was as familiar as his mother tongue, and an equally learned doctor of Oxford, who has been reading Aristotle ever since he was fourteen years of age, agreed in opinion, that a more accurate view of his logic could not be given in the same compass than had been given by Dr. Reid, we may surely affirm, with some degree of confidence, that this small work adds much to the fame of its author.

Though Dr. Reid's health continued good, and his mental faculties unimpaired, till a very short time before his death, he ceased for some years to read lectures from his professorial chair, employing that time in preparations for eternity, and in fitting his lectures for the press. These were published in two volumes 4to: the first in 1785, under the title of Essays on the Intellectual Powers of Man, dedicated to his friends Dr. Gregory and Professor Stewart, both of the University of Edinburgh; and the second in

1788, under the title of Essays on the Active Powers of Man, without any dedication or preface. He continued to enjoy the fame acquired by this work, as well as the affection of his friends, and the reverence of the public for eight years, dying at Glasgow in the end of September, or the beginning of October, 1796, in the 87th year of his age. He had been married, and he left behind him one daughter.

To do justice to the biography of such a man as this, we should here attempt to draw his intellectual character, and to appreciate the merits of his works; but to perform this task in a manner at all worthy of him, or we hope of ourselves, would require more room than our limits permit us to allot to any article of the kind; and our readers will be pleased to learn, that they may confidently expect an account of his life, with a critique on his works, by a man better qualified to do justice to both, than the writer of this short sketch pretends to be. His works are in the hands of the speculative public; and by that public will be duly valued, as long as sound sense shall be preferred to impious jargon. How long that may be, God only knows; but if any thing can guard the minds of our youth against that sophistry of which the object is to attribute real agency to material fluids, and to represent the elective attractions of chemistry as perfectly similar to human volitions, it will be the unbiassed study of Dr. Reid's Essays on the Intellectual and Active Powers of Man. They will there find metaphysics divested of mystery, and the profoundest speculations rendered intelligible by the constant use of words in one determined sense.

Candour however obliges us to acknowledge, that he has advanced some doctrines which we cannot admit as true. Though not in general partial to Locke, he has adopted his notions respecting our power of abstraction, with hardly any other variation than the substituting of the term *conceptions* for Locke's favourite phrase *ideas*. He has likewise endeavoured to prove, that we may distinctly conceive what cannot possibly exist. These mistakes, however, for such they appear to us, are infinitely more than counterbalanced by his clear, acurate, and satisfactory disquisitions on our notions of *active power*. Had Dr. Reid never written a sentence but the essay which treats of this delicate and important subject, he would have been entitled to a place in the very first rank of useful metaphysicians; for, previous to the appearance of his works, we had nothing written directly on *power* but contradictory and unintelligible jargon. We recommend the serious perusal of this essay, the first in his second volume, to such of our readers as fancy that they distinctly conceive the powers of chemical agents, and that intelligence and volition may result from mechanical organization, or any combination whatever of matter and motion.

REIFFERSCHEID, a town of Germany, capital of a county of the same name, in the archbishopric of Cologne. It is 32 miles S. W. of Cologne, and 42 W. of Coblentz. Long. 6. 50. E. Lat. 50. 20. N.

REISSENBURG, a town of Prussia, in the province of Oberland, anciently the residence of the bishops of Pomerania. Near it is an ancient castle. It is 78 miles S. W. of Konigsburg. Long. 20. 5. E. Lat. 53. 52. N.

REMIREMONT, a town of France, in the department of the Vosges. It had lately a chapter of canonesses, who were obliged to prove their nobility, and whose abbess was a princess of the empire. It is seated on the Moselle, at the foot of Mount Vosges, 42 miles S. by E. of Nanci. Long. 6. 47. E. Lat. 48. 3. N.

REMY, St. a town of France, in the department of the Mouths of the Rhone. A triumphal arch, and a mausoleum, in the neighbourhood, display the taste of the Augustan age: the first is not entire; but the second is in the best state of preservation. St. Remy is 10 miles N. E. of Arles.

RENDSBURG, a town of Lower Saxony, in the duchy of Holstein, with a castle. It is seated in an island formed by the river Eyder, 12 miles S.E. of Sleswick. Long. 10. 6. E. Lat. 54. 30. N.

RENNEBON, a town of Germany, in the bishopric of Strasburg, 10 miles E. of Strasburg.

RENTI, a town of France, in the department of the Straits of Calais, seated on the River Aa, 12 miles S. W. of Aire, and 50 N. W. of Arras. Long. 2. 20. E. Lat. 50. 36. N.

REOLE, a town of France, in the department of Girone, seated on the Garonne, 20 miles S.E. of Bourdeaux. Long. 0. 4. W. Lat. 44. 30. N.

REPAILLE, a town of Savoy, in Chablais, seated on a river which falls into the lake of Geneva, and famous for the retreat of Amadeus, duke of Savoy, in 1440, where he went to enjoy the pleasures of a country life. Here is a Carthusian monastery, remarkable for its extensive prospects. It is three miles from Thonon, and 20 N.E. of Geneva. Long. 6. 21. E. Lat. 46. 26. N.

REPEHAM, a town in Norfolk, with a market on Saturday. It has two churches in one church-yard, and is seated in a valley, 15 miles N.W. of Norwich, and 109 N.E. of London. Long. 1. 7. E. Lat. 52. 50. N.

REPOSITORY, a building or apartment destined to receive any collection of curious or valuable articles either for inspection or sale. Thus the collection of models and new inventions at Woolwich (lately destroyed by fire) was called "The Repository." The same appellation is also given to a charitable institution at Bath, where a *Repository for the Benefit of the Poor* has been opened, and is thus described by Mrs. Bernard in the Reports of the Society for bettering the Condition of the Poor.

Towards the end of the year 1796, a Repository was opened at Bath by several ladies, for the reception of works of industry and ingenuity, to be sold for the benefit of the poor. It is supported by subscription, and is conducted by a committee of ladies chosen from among the subscribers; of whom one attends the sale every day from twelve to three, and three or four meet on Saturday, to look over the books, and to pay the poor people. During the two first years articles were sold for the benefit of 200 poor persons, and the receipts amounted to 1133*l.* 11*s.* 4*d.* The last year's receipt was 700*l.*

There are at present sixty-three poor women, who regularly bring their work, and come every Saturday to be paid for such part as is sold; many of them are widows with large families, and some very infirm; particularly one poor woman, who employs herself in making stay-laces, and is paralytic; so much so, as to be unable even to lift her head from the pillow. Her work is remarkably neat, and well done; and she not only earns some addition to her means of subsistence, but relieves herself from the weariness of many painful hours. The articles sold consist of sets of childbed linen for the poor, shifts, shirts, stockings, gloves, garters, laces, purses, rugs, and the like. These are chiefly the work of the poor; besides which there are all kinds of fancy works, contributed by the ladies, and sold for the benefit of particular poor persons, whose names are written on each article, and who attend to receive the money; it being a rule that the poor object, for whose benefit any charitable person may wish to em-

ploy her ingenuity, should be the bearer of the work, his or her name being ticketed upon it by the donor, and should *in person* receive the money.

The plan is similar to that adopted in London; the substance of its regulations being the same, except where it has been deemed expedient to omit any part, or vary the form of them, from local circumstances, or the relative situation of the two cities. With it is connected a very useful charity, for lending out childbed linen to the poor. The School of Industry at Bath also receives assistance from it, by its affording a vent for the work of the children.

A charity box is placed at the door of the apartment; into which, to prevent the inconvenience that might arise from idle visits of curiosity, sixpence is requested to be put by those who do not purchase any thing.

The object of this institution (to use the words of its conductors) is "the encouragement of industry, in all descriptions of persons reduced to distress; by affording them a ready sale for the articles which are admitted into the Repository, at the price fixed by the owners; the value whereof is paid to them, without any deduction, as soon as they are sold.

This charity is very beneficial; not only in the means of acceptable employment which it offers to the poor, but in the useful occupation that it affords to the rich; converting caprice and fashion into sources of relief, and making the amusements of the idle and the young, contributory to charity and benevolence. Amid the pleasures and dissipation of Bath, it must be no small satisfaction to those parents whose health obliges their families to be occasionally resident there, that a place of amusement of this kind should be opened for their children, and that it should be powerfully recommended by fashion:—a place, where they may, at an early age, be instructed to employ the means, and enjoy the gratification, of being useful to the poor, and of soothing and relieving their distresses. For it must occur to them, before it can be suggested, that habits of this kind, when, at an early and teachable age, they are acquired and enjoyed, will remain through life a blessing, and an ornament, to the possessor.

Particular circumstances, in Bath and London, may make this charity peculiarly proper and commendable; but there is no country town in England, where the rich may not derive pleasure, the poor receive benefit, and society in general be improved, by the imitation of this example.

REPPEN, a town of Upper Saxony, in the new marche of Brandenburg, 16 miles S.S.E. of Custrin. Long. 14. 28. E. Lat. 52. 30. N.

REQUENA, a town of Spain, in New Castile, with a castle. It was taken by the English in 1706, and retaken by the French the next year. It is seated on the Oliana, 40 miles W. of Valencia, and 130 E. by S. of Madrid. Long. 0. 40. W. Lat. 39. 24. N.

REQUESTS, Court of *(Encyl.)*. By the act called the *London Small Debt Act*, 39 and 40 Geo. III. c. 104. so much of the former acts relating to the Court of Requests within London, viz. 3 Jac. I. c. 15. and 14 Geo. II. c. 10. as restrains the jurisdiction of that court to debts not exceeding 40s. is repealed.

And it is enacted, that it shall be lawful for any person, whether residing within the city of London or elsewhere, and who may have any debt, not exceeding 5l. owing to him from any person residing within the city of London, and the liberties thereof, or keeping any house, warehouse, shop, shed, stall, or stand, or seeking a livelihood, or trading or dealing within the same city or liberties, to cause such debtor to be summoned before the commissioners of the said Court of Requests, who may order and direct payment, either in one sum, or by instalments at stated periods, and no certiorari is to be allowed to remove the proceedings.

Debts due by persons under age for necessaries may be recovered; and servants under age may recover wages: also attorneys are subject to the processes of the court.

But the act does not extend to any debt arising upon title of freehold or leasehold, or to any debt by speciality, which shall not be for payment of a sum certain; nor to any debt concerning testaments, or matrimony, or any ecclesiastical matter, although the same shall not exceed 5l.

And if any action be commenced in any other court than the said Court of Requests, for any debt not exceeding 5l. and the plaintiff obtain a verdict, he shall not be entitled to costs; and if the verdict be given for the defendant, and the judge shall certify that the debt ought to have been sued for in the Court of Requests, he shall have double costs.

But this is not to restrain persons from recovering rents by distress or action, though the rent does not exceed 5l.

And debtors may plead the statute of limitations.

Debtors committed in execution are to remain in custody as follows, and for no longer time, viz. when the debt does not exceed 20s. (exclusive of costs) twenty days; 40s. forty days; 3l. sixty days; 5l one hundred days.

RESHT, a town of Persia, capital of Ghilan, seated on the S.W. coast of the Caspian Sea, 110 miles N. of Casbin. Long. 52. 16. E. Lat. 37. 18. N.

RETHEL, an ancient town of France, in the department of the Ardennes, seated on a mountain, near the river Aisne, 20 miles N.E. of Rheims, and 108 N.E. of Paris. Long. 4. 26. E. Lat. 49. 30. N.

RETIMO, a sea-port of Candia, with a bishop's see, and a citadel, where the bashaw resides. It was taken in 1647, by the Turks, who have kept it ever since. The silk, wool, honey, wax, laudanum, and oil, are preferred to all others. It is seated on the N. coast of the island, 45 miles from Candia. Long. 24. 45. E. Lat. 35. 22. N.

REVEL, a town of France, in the department of Upper Garonne, nine miles N. of St. Papoul. Long. 2. 10. E. Lat. 43. 26. N.

Revel, a government of Russia. See Esthonia.

REVELLO, a town of Piedmont, in the marquisate of Saluzzo, near the Po, on the top of a very high mountain, strongly fortified by nature and art. It is three miles N.W. of Saluzzo.

REVERO, a strong town of Italy, in the Mantuan, seated on the Po, opposite Ostiglia, 10 miles N.E. of Mirandola, and 20 S.E. of Mantua. Long. 1. 9. E. Lat. 44. 58. N.

REUS, a town of Spain, in Catalonia. It has a considerable trade in wine, brandy, and nuts, which are carted down to Salo, an open but safe road, five miles off. About 20,000 pipes of brandy are annually exported. It is seated in the middle of a most fruitful plain, 35 miles N.E. of Tortola, and 60 W.S.W. of Barcelona.

REUSS, a river of Switzerland, which rises in the lake of Locendro, between the mountains of Petina and Locendro, flows through the lake of Lucern, and the town of that name, and adjoining the Aar, falls into the Rhine, below Zurzach.

REUX, a fortified town of the Netherlands, in Austrian Hainault, eight miles N.E. of Mons.

REWAH, a town of Hindoostan Proper, in the province of Allahabad, 57 miles S.S.W. of Allahabad. Long. 81. 36. E. Lat. 24. 35. N.

REYNA, an ancient town of Spain, in Andalusia, seated in a plain, with a castle, built upon an eminence, three miles from Lerna, and in a territory abounding in wine and cattle.

REZAN, a government of Russia, formerly a province of the government of Moscow. It is fertile in corn, and populous; and had anciently its own princes.

RHE, an island on the W. coast of France, in the department of Lower Charente. It is four leagues long and two broad, and very populous. Its products are bitter wine, abundance of salt, excellent brandy, and the liquor called aniseed. It is defended by four forts, and is eight miles W. of Rochelle. St. Martin is the capital.

RHEDA, a town of Westphalia, in the county of Lingen 10 miles N. of Lipstadt. Long. 7. 22. E. Lat. 51. 17. N.

RHEINAU, a town of Switzerland, in Thurgau, with an abbey, on an island formed by the Rhine, between Schaffhausen and Eglisau.

RHEINBACH, a town of Germany, in the electorate of Cologne, 19 miles S. of Cologne, and 53 E. of Liege. Long. 6. 9. E. Lat. 51. 39. N.

RHEINFELDEN, a strong town of Suabia, the best of the four forest-towns, belonging to the house of Austria. It has been often taken and retaken, and is seated on the Rhine, over which is a bridge of several arches, eight miles E. of Basle. Long. 7. 46. E. Lat. 47. 36. N.

RHEINHAUSEN, a town of Germany, in the bishopric of Spire, situate on the Rhine, three miles S.E. of Spire.

RHEINMAGEN, or REMAGEN, a town of Westphalia, situate near the Rhine, 19 miles N.N.W. of Coblentz. Long. 6. 30. E. Lat. 50. 38. N.

RHEINSABERN, a town of Germany, in the bishopric of Spire, with a castle, 15 miles S. of Spire.

RHEINTHAL, a fertile valley of Switzerland, lying along the Rhine, which divides it from a territory of Austria, till it reaches the lake of Constance. It belongs to the eight ancient cantons, and to that of Appenzel. The Protestant inhabitants are the most numerous.

RHEINWALD, a large valley in the country of the Grisons; so called from the Hinder Rhine, which takes its rise on Mount Vogelsberg, at the distance of 12 miles, and runs through the valley. Splugen is the capital.

RHENEN, a city of the United Provinces, in Utrecht, seated on the Leck, 20 miles S.E. of Utrecht. It was taken by the French in 1672, and 1795. Long. 5. 22. E. Lat. 51. 59. N.

RHINE, Lower, a department of France, containing the late province of Lower Alsace. Strasburg is the capital.

Rhine, Upper, a department of France, containing the late province of Upper Alsace. Colmar is the capital.

Rhine, Palatinate of the, an electorate of Germany, in the circle of the Lower Rhine; bounded on the N. by the archbishoprics of Mentz and Treves, on the E. by Franconia and Suabia, and on the W. and S. by France. It is 100 miles in length, and 70 in breadth, and the principal rivers are the Rhine and Neckar. It has suffered more by the wars with France, than all the provinces of Germany put together; for, in the last century, Lewis XIV. ordered the whole country to be laid waste by fire and sword. Heidelberg is the principal town, but Manheim is the electorate residence. This electorate is also called the Lower Palatinate, to distinguish it from the Upper Palatinate of Bavaria.

RHODE ISLAND, one of the United States of America, bounded on the N. and E. by Massachusets, on the S. by the Atlantic, and on the W. by Connecticut. These limits comprehend what has been called Rhode Island and Providence Plantations. It contains five counties, and 29 townships. It is as heathful as any part of North America, and is principally a country for pasture. Providence and Newport are the chief towns.

Rhode Island, an island of North America, in a state of the same name. It is 13 miles long and four broad, and divided into three townships. This island is a noted resort of invalids from the southern climates, being exceedingly pleasant and healthful, and is called with propriety the Eden of America.

RHONE, Mouths of the, a department of France, containing part of the late province of Provence. Aix is the capital.

RHONE AND LOIRE, a department of France, including the late provinces of Forez and Lyonois. The capital is Lyons.

RHYNDS, or Rinns of Galoway, the W. division of Wigtonshire, almost cut off from the other parts of the country by Loch Ryan and the bay of Luce.

RIALEXA, a town of New Spain, in Nicaragua, seated on a small river, five miles from the Pacific Ocean, where there is a good harbour. The air is unwholesome, on account of the morasses. It is 60 miles W. of Leon de Nicaragua. Long. 89. 10. W. Lat. 12. 25. N.

RIBADEO, a sea-port of Spain, in Galicia, situate at the mouth of the Eo, with a good harbour, defended by two castles. It is 15 miles N.E. of Mondonedo. Long. 7. 2. W. Lat. 43. 30. N.

RIBAS, a town of Spain, in New Castile, on the river Xarama, eight miles from Madrid.

RIBEIRA GRANDE, a town of St. Jago, the principal of the Cape de Verd Islands, with a good harbour. It is seated between two high mountains. Long. 23. 24. W. Lat. 15. 0. N.

RIBEMONT, a town of France, in the department of Aisne, seated on an eminence, near the river Oise, 10 miles W. by S. of St. Quentin. Long. 3. 21. E. Lat. 49. 48. N.

RIBERAC, a town of France, in the department of Dordogne, 17 miles E. of Perigueux, and 27 S.S.E. of Angoulesme. Long. 1. 5. E. Lat. 45. 15. N.

RIBNIC, a town of Turkey in Europe, in Walachia, with a bishop's see, 44 miles S. of Hermanstadt, and 130 E.S.E. of Temeswar. Long. 23. 40. E. Lat. 45. 19. N.

RIBNITZ, a town of Lower Saxony, in the duchy of Mecklenburg, with a nunnery for noble women. It is seated on a bay of the Baltic, 12 miles N. of Rostock. Long. 12. 55. E. Lat. 54. 10. N.

RICE *(Encycl.)*. The following account of some experiments in cultivating rice in Britain, by Sir Joseph Banks, bart. were communicated in a letter to the President of the Board of Agriculture, dated April 15, 1799. "As I conceive," says Sir Joseph, "the introduction of new esculent vegetables, a matter of material importance to the agricultural interests of this country, and that even an unsuccessful experiment on this subject may be, though not perhaps fitting for publication, a proper document to be lodged in the archives of the Board of Agriculture, I take the liberty of submitting the following remarks to your lordship's better judgment.

"The dry, or mountain rice, which I received last year from the Board of Agriculture, for trial, had been procured at some considerable expence by Sir John Murray, from the neighbourhood of Serinagur, a city in India, situated at the foot of Mount Imaus, where snow lies till

late in the spring; and where the climate has been supposed to resemble that of England, sufficiently to make it probable, that the vegetable productions of the one, would equally succeed in the other country; I consider it as a duty owing to the patriotic exertions of Sir John, to give your lordship and the Board some account of the result of the trial of it, made by me at Spring Grove, near Hounslow, in Middlesex.

"It was not till near the end of May, when the samples, being six sorts, were delivered out by the Board, and they were sown immediately, on the 21st day of that month, on six small beds in a garden, under the shelter of a pale, in a south exposure.

"The grains were sown very thin, in order that the progress of their vegetation might be better noted; in a very few days they appeared above ground. The season being warm, with a moderate supply of rain, it was seldom necessary to water them: however, when they appeared to flag, which generally happened after three or four dry days had taken place, they were well sprinkled with a watering pot.

"In less than a month they had grown several inches high: each sort had acquired an appearance very different from the rest; some were pale green, and had broader blades; some were deeper coloured, and narrower in the blade; and one sort had a brown hue on the whole plant; and the bases of the leaves in this kind were nearly black.

"During the month of August, they tillowed much more than I have observed any other corn to do: so much so, that although they had been sown very thin, they became a dense compact bed of plants; the blades in some of the kinds standing as close or closer to each other, than the thickest sown barley ever does.

"At the close of the month, the blades were from a foot to eighteen inches high; the plants continued to tillow, each root having by this time produced from ten to twenty offsets, but no symptom of a rising stem was at all observable.

"In the middle of September, they had still continued to tillow, and the blades to lengthen, so that some of them were at least two feet long. As the frosts of the autumn were nearly now approaching, it became an object of some importance to examine the state in which the plants really were, in order to ascertain the probability of their having produced ears, or possibly of their having ripened corn, if they had been sown a month or two earlier. The most careful inspection was therefore made by dissection, but no traces could be found of the rudiment of a joint beginning to form itself on the crown of the root, or of the embrio of the glumes of the ear, which in all kinds of corn are first discernible in that part.

"About this period I was taken ill, and obliged to desist from observing their future progress; but a frost soon after followed, which cut the blade down to the earth, and at once destroyed all hopes of these kinds of rice producing grain in our climate: the quantity of the blade was however so uncommonly great, that it is not impossible it might be advantageous to sow it as food for cattle, for a very large proportion of stock might certainly be maintained upon an acre of it.

"Before the frost set in, I had ordered a tuft of each kind of the rice to be transplanted into a pot, and placed in a hot-house, in order, if possible, to ascertain the natural period of this grain; whether, like winter corn, it requires eight or nine months to come to perfection, or, like our Lent corn, arrives at the same period in five or six; but all of these died, notwithstanding great attention was paid to them: some seed, however, which I had given to Mr. Lambert, succeeded better; it was sown in his hot-house in the month of June, where it throve well, but did not produce ears till near Christmas, a period of seven months; from whence, as it is not probable the grain would have ripened in less than two months from the time when the ear appeared, it is easy to deduce, that in the neighbourhood of Serinagur these kinds of rice are either sown as winter corn, or the climate there is far better suited to promote the quick progress of vegetation, than ours is. It was, when it produced ears, about three feet and a half high, and some of the stems had five joints, including the radical one: had it been in a more suitable climate, it would certainly have grown taller, for the flowers dropped off without producing seed.

"In the course of this spring I have forwarded a few seeds, which were left from Sir John Murray's importation, to Portugal; if they succeed, I shall probably hear of it; and in that case, if your lordship feels interest on the subject, I shall certainly do myself the honour of communicating such information concerning them, as I am able to obtain."

The following extract from an account of the benefit of the use of rice, by the matron of the Foundling Hospital, is published by the Society for bettering the Condition of the Poor.

"During the scarcity of wheat in July, 1795, one of the measures adopted at the Foundling Hospital, with a view of lessening the consumption of flour, was the substitution of rice puddings for those of flour, which, by the table of diet, were used for the children's dinner twice a-week. The flour puddings, for each day, had taken about 168lb. weight of flour; the rice puddings, substituted in their place, required only 21lb. of rice, to make the same quantity of pudding; the result of the experiments being that, in a baked pudding made with milk, one pound of rice will go very nearly as far as eight pounds of flour.

"The use of the puddings has ever since been continued in the Hospital, with this variation, that the quantity of rice has been increased to 24lb. weight for each day's dinner; and it now continues the substitute for near 168lb. of flour before used: the ingredients in the rice puddings at present, being 24lb. of rice, 6lb. of treacle, and 18 gallons of milk; and the produce, upon an average*, 180lb. of

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* In order to ascertain correctly the comparative weight of the materials in their liquid state, with that of the pudding after it is baked, the weight has been carefully taken several times. The amount has not always been *precisely* the same, but the average is nearly as follows:

Weight of 18 gallons of milk, being about 1 lb. 3 oz. the pint - -	171 lb.
24lb. of rice - - - - - - - - - - - -	24 lb.
6lb. of treacle - - - - - - - - - - -	6 lb.
Total of the ingredients - - - - - - - - - -	201 lb.
Average weight of the rice pudding in a solid state - - - -	180 lb.
Average waste in dressing - - - - - - - - -	21 lb.

good substantial pudding; a very sufficient dinner for the 170 persons who dine on it.

"The milk is the better kind of London milk; about equal to good skim-milk in the country. The expence of the dinner is as follows:—24lb. of rice, five shillings; 6lb. of treacle, two shillings; and 18 gallons of milk, twelve shillings: the total for 170 persons being nineteen shillings, or rather more than five farthings per head.* The saving to the Hospital, by this use of rice during the year, was something more than 200l. and the national saving in the consumption of flour, from that circumstance only, during the same period of scarcity, being one year ending July 1796, appears to be nearly 17,472lb. weight of flour."

From this account it will appear how much benefit, as well national as individual, may be derived from the general use of rice. There is hardly any way in which it can be stewed down, either with bacon, or with meat seasoned with salt and pepper, and some leeks or onions, or with cheese, in which it will not make a cheap, pleasant, and nutritious dish: and it is particularly proper for poor families, or for workhouses and public charities.

RICHELIEU, a town of France, in the department of Indre and Loire, with a fine palace and extensive park. It was built by Cardinal Richelieu in 1637. The streets are as straight as a line, and it contains a handsome square. It is seated on the Amable and Vide, 27 N. of Poitiers, and 152 S.W. of Paris. Long. 0. 20. E. Lat. 47. 2. N.

RICHMOND, the capital of the state of Virginia. It has an elegant state-house, on a hill in the upper part of the town, and is seated on the north side of James river, at the foot of the falls, 60 miles W. by N. of Williamsburg. Long. 77. 30. W. Lat. 37. 25. N.

Richmond, a town of Staten Island, in the state of New York and county of Richmond. Its inhabitants are chiefly Dutch and French. It is nine miles S.W. of New York.

Richmond, a borough in the north riding of Yorkshire, with a market on Saturday. It was inclosed by a wall, with three gates, now in ruins; and it has a castle, on an inaccessible mount, and two churches. It sends two members to parliament, is governed by a mayor, and has a manufacture of woollen stockings, caps, &c. It is seated on the Swale, over which is a bridge, 40 miles N.W. of York, and 230 N.N.W. of London. Long. 1. 55. W. Lat. 54. 28. N.

Richmond, a village in Surrey, with a stone bridge over the Thames, nine miles west-south-west of London. It was anciently called Sheen; but Henry VII. called it Richmond, on account of his having been earl of Richmond in Yorkshire. Here was a palace, in which Edward III. Henry VII. and Queen Elizabeth, expired. Richmond is still distinguished by its beautiful royal gardens, which, in summer, are open every Sunday; and in these is a noble observatory. Here is an extensive royal park, called Richmond, or the New Park; surrounded by a brick wall, built by Charles I.

RICHMONDSHIRE, a district in the north riding of Yorkshire, formerly a county of itself. It abounds in romantic situations, and is noted for the industry of its inhabitants, who manufacture knit stockings and other coarse goods. Many lead mines are in this district, of which Richmond is the chief town.

RICHTENBURG, a town of Germany, in Anterior Pomerania, 25 miles E.N.E. of Rostock. Long. 12. 50. E. Lat. 54. 10. N.

RICKMANSWORTH, a town in Hertfordshire, with a market on Saturday, seated on the Coln, eight miles S.W. of St. Alban's, and 18 W.N.W. of London. Long. 0. 16. W. Lat. 51. 42. N.

RIDLEY (James), the supposed author of the *Tales of the Genii*, under the feigned name of "*Sir Charles Morell.*" This assumed title, with the addition of "*formerly ambassador from the British settlements in India, to the great mogul,*" is annexed to the title pages of the volumes in question, and concurred with the rest of the fiction, viz. the assertion in the same page of the tales being translated from "*a Persian MS.*" to impress the public mind with the idea of their being really of Eastern origin. The name of "Morell" perhaps occurred to the author as a proper name to designate the *moral* tendency of his writings; be that as it may, the fictitious appellations of Sir Charles Morell have too long usurped the laurels which belonged to our author.

This gentleman was the second son of the Rev. Dr. Glocester Ridley, well known by his very masterly life of his ancestor, Bishop Ridley, the martyr, who suffered for his attachment to the reformed religion, in the reign of Mary. James Ridley was educated at Winchester school, under Dr. Barton: and, as it is related by a contemporary of Ridley's now living, he then, in his boyish days, shewed a great inclination and talents for theatrical exhibitions. He, at any time, willingly left the play-ground if he could persuade his companions to join him in acting the parts of some favourite dramatic writer. He was, at the usual time, elected fellow of New College, where he staid but a little time, for in the graduate book his name is not inserted; a proof that he did not take the degree generally conferred at the expiration of seven years. Ridley married when very young; and the chaplaincy of Romford was conferred on him by his father, to whom the tithes of that parish were let by the New College. About this time, probably, his 26th year, he published his Tales of the Genii, but with what success is not apparent; for the Monthly Review, the only one which took notice of the publication, considered the volumes worthy only of the nursery; and ranked them with the frivolous productions of fairy tales, &c. This review appeared about the year 1763. So unjust a criticism, on a work of uncommon genius, could have arisen only from the haste or a total want of taste in the writer of that article, which is also unworthily placed in the Monthly Catalogue. Neither the Biographia Britannica, nor any other biographical publication, has mentioned (as the writer of this article believes) the name of the author of the Tales of the Genii. This omission seemed to call aloud for some notices of the author and his work: and the present attempt to bring both before the public in an advantageous light, claims the indulgence of the reader, from the willingness, rather than from the capacity to do justice to the talents of a man who contributed to sink into oblivion his own merits, by too great diffidence. Previous to his great work, Ridley, always ardent in the cause of virtue, determined to stem the torrent of those pernicious writings which endeavour to substitute sentimental feelings for the sound and sacred principles of religion and morality: a proceeding so perverse or so base, that the genius of Fielding or Rousseau can in no degree

* Where skim-milk, as in the country, may be had at 2d. a gallon, the price of this dinner would hardly exceed a halfpenny a head.

compensate for the badness of the design. In the life of James Lovegrove, Ridley pourtrays a young man without the advantages of personal beauty, but by the mere influence of good principles, aspiring to, and at length obtaining, a lady of beauty and fortune in marriage. Whilst other novelists exhibited their heroes in all the splendor of youth, elegance, wealth, and extraordinary graces, Ridley led his hero to honour and happiness, under the disadvantages of a very moderate share of health, wealth, or beauty: and he also differed essentially from his brother novelists, as Lovegrove was neither exquisitely handsome, nor infamously profligate. He thought with the great poet—

Virtue can see to do what virtue would,
By her own radiant light, &c.

Since the time of the immortal Spenser, the powers of allegorical instruction have never been so nobly and so beautifully exerted. The moral duties are enforced by the profoundest philosophy; and on their personifications all the ornaments of a very rich imagination are most profusely bestowed. The good Genii, according to the mythology of the East, assemble before their king, and, at his command, report by what exertions they rescued Virtue from persecution, supported her under temptations and dangers, and crowned her ardent enterprises with merited success, against the machination of their enemies, the evil Genii. The important lesson, that neither riches, honour, nor pleasure, lead to happiness, is set forth in the very entertaining and variegated History of the Talisman of Orosmades, or of the Merchant of Abudah. The Adventures of Urad, or the Fair Wanderer, is an impressive and instructive lesson to every beautiful unprotected female. In the words of the author, "to guard the soft female heart from the delusions of the faithless, said Icaragem (the king of the Genii), is worthy of our race; and the sage Honadir (the good Genius and narrator of the tale) has wisely combined chastity and prudence in her delightful instructions: but female delicacy makes an unequal opposition to brutal cunning, unless the protection of the just one overshadow the footsteps of the virtuous maid. Wherefore, Alla is the first and chief supporter of the female sex, who will, assuredly, when requested, confound the vain artifices of man, and exalt the prudent counsels of the modest fair-one:" (end of the Tale of Urad, the Fair Wanderer). The above tales are taken by chance, from the rest, as a specimen of the useful subjects on which they treat, and to obviate any suspicions that they are formed for the meridian of the nursery. Spenser, sometimes, strives to produce very complicated allegories to set off circumstances and reflections of little value; but the author of the Tales of the Genii, has strictly followed the precept of Horace—

Nec Deus intersit nisi dignus Vindice nodus.

No *Genius* is employed to disturb the order of nature, but for some great moral purpose; nor his attributes ostentatiously displayed for the sake of exhibiting the writer's well-known faculty of imagination. In the Tale of the Inchanters, or Misnar, Sultan of India, those potent agents of magic power are described as leaving the divan, after the virtuous sultan had refused their wicked councils, with so much horrific and satanic majesty, that neither Milton, nor Spenser, nor Dante, nor Tasso, would have blushed to own these congenial efforts at ideal character.

A very delightful fiction is introduced in the Tale of Mirglip, the Dervise of the Groves. The dervise shews his royal pupil his pleasure-grounds: the latter observing various seats disposed in very opposite situations of hill and dale, shade and sun-shine, enquires their purpose of erection. The dervise here describes his friends; and, in a charming allegorical strain, describes their manners, disposition, and acquisitions, by the peculiar situation and adjunct circumstances which distinguish one seat and situation from another. The names of the persons are anagrammatised thus—Phesoj Ecneps, Joseph Spence, &c. The writer of this article apprehends that these valuable fictions are not sufficiently known to men of taste and knowledge. His fears are that the term *Tales of the Genii* may convey to many minds the same opinion of puerile fiction and grotesque imagery, which they appear to have excited in the judgment of the writer of the critique in the Monthly Review before alluded to. But the following sublime and interesting passage alone, that concludes these entertaining volumes, must be sufficient to rescue them from such a sentence. After the author closes his reign of fiction, and acknowledges the regions of his fancy are exhausted, he addresses the reader as follows:—

"Kind reader, the Genii are no more; and Horam, the phantom of my mind, speaks not again. Fiction himself, and fiction all he seemed to write; nor useless shall his life be deemed by those who blush at worse than pagan vices in enlightened climes. In friendly guise, these sheets were written to lead thee unto virtue; and the proud gaudy trappings of the East, with all its wild romantic monsters, have risen far above their usual sphere to serve the cause of moral truth. But then, perchance, you'll ask, what shall that truth avail, now all the beauteous wildness is no more, which was the spring and mover of this pagan virtue? The Genii all are fled, who watched attendant the virtuous mind, and crowned it with success; and the reward ceasing, the incentive to noble actions ceases with it. If, then, you will yet spare a few moments and listen to me, I trust you shall not long lament the loss of Horam and his friendly Genii; for were the foundations of morality laid only in phantom and imagination, persuasion would be so fruitless that every moral writer, dissatisfied with his ill success, might justly cast his works into the flames.

"Prepare, then, for a scene more worthy of your sight than human fancy could conceive. A scene tremendous, wonderful, and great; full of mercy and of truth; where heaven itself inclines to earth, and God becomes an offering to mankind. Behold the moral veil rent in twain, and from thick clouds of darkness the sun of righteousness arise!—Behold death nailed on the cross, and Mercy springing from the grave; redemption brought to man by an heavenly being far superior to angels or ministering spirits; and the voice of God declared to us by his son, whom he hath appointed heir of all things; by whom also he made the worlds; who being the brightness of his glory, and the express image of his person, and upholding all things by the word of his power, when he had by himself purged our sins on the cross, sat down on the right hand of the Majesty on high."

RIESBERG, a town of Westphalia, capital of a county of the same name; situate on the Ems, 12 miles N.N.W. of Paderborn. Long. 8. 50. E. Lat. 51. 55. N.

RIETI, a town of Italy, in the duchy of Spoleto, with a bishop's see; seated on the river Veline, near the lake Rieti, 27 miles S. by E. of Spoleto, and 37 N.E. of Rome. Long. 13. 5. E. Lat. 42. 23. N.

RIEUX, a town in France, in the department of Upper Garonne. Before the revolution of 1789, it was a bishop's see. It is seated on the Rise, 25 miles S.W. of Toulouse, and 83 W. of Narbonne. Long. 1. 17. E. Lat 43. 16. N.

RIEZ, a town of France, in the department of the Lower Alps. Before the revolution of 1789, it was a

bishop's see. It is populous, though small, but was formerly much larger than at present. It is seated in a plain, abounding with good wine and excellent fruits, 35 miles N.E. of Aix, and 50 N.E. of Toulon. Long. 6. 22. E. Lat. 43. 51. N.

RIMMEGEN, a town of Westphalia, in the duchy of Juliers, seated on the Rhine, and remarkable for several Roman antiquities.

RINCOPING, or RINKIOBING, a town of Denmark, in North Jutland, seated on the west coast, 50 miles N. by W. of Ripen.

RINGLEBEN, a town of Upper Saxony, in the principality of Eisenach, six miles N. of Erfurt, and 26 E.N.E. of Eisenach. Long. 11. 25. E. Lat. 51. 5. N.

RINGSTED, an ancient town of Denmark, in the isle of Zealand, where the kings of Denmark formerly resided and were buried. It is 30 miles S.W. of Copenhagen. Long. 12. 10. E. Lat. 55. 28. N.

RINGWOOD, a town in Hampshire, with a market on Wednesday, and a considerable manufacture of worsted knit hose; seated on the Avon, 30 miles S.W. of Winchester, and 91 W. by S. of London. Long. 1. 41. W. Lat. 50. 49. N.

RINTLEN, or RINTELN, a town of Westphalia, in the county of Schawenburg, with an university. It is subject to the Landgrave of Hesse-Cassel, and seated on the Weser, 15 miles S.E. of Minden, and 35 S.W. of Hanover. Long. 9. 20. E. Lat 52. 13. N.

RIO-DE-LA-HACHA, a small province of Terra-Firma, in the form of a peninsula, between the gulf of Venezeula on the east, and a bay of the Caribbean Sea on the west. Rio-de-la-Hacha, the capital, is seated at the mouth of a river of the same name, 100 miles E. of St. Martha. Long. 72. 34. W. Lat. 11. 30. N.

RIO-DE-LA-MADALENA, a river in Terra-Firma, which rises in the mountains north of Popayan, and running north, falls into the Carribbean Sea, between Carthagena and St. Martha. It is also called Rio Grande.

RIO-DE-LA-PLATA. See PLATA.

RIO-DE-MIRANDO, a river of Spain, which rises in the mountains of Austrias, and separating that city from Galicio, enters the bay of Biscay at Rivadeo.

RIO-GRANDE, a river of Africa, which runs from east to west through Negroland, and falls into the Atlantic Ocean, 11°. N. latitude.

RIONS, a town of France, in the department of Gironde, seated on the Garonne, 18 miles S.E. of Bourdeaux.

RIPA TRANSONE, a populous and strong town of Italy, in the marquisate of Ancona, with a bishop's see, five miles W. of the gulf of Venice, and eight S. of Fermo. Long. 13. 50. E. Lat. 42. 59. N.

RIPLEY, a town in the west riding of Yorkshire, with a market on Monday, seated on the Nyd, 23 miles W.N.W. of York, and 221 N. by W. of London. Long. 1. 30. W. Lat. 54. 4. N.

RIPPON, an ancient borough in the west riding of Yorkshire, with a market on Thursday. In its neighbourhood is the celebrated park of Studley, including the venerable remains of Fountain's Abbey. Rippon was once famous for its religious houses, and has now a collegiate church, adorned with three lofty spires. It is noted for its manufacture of hardwares, particularly spurs, and the market-place is one of the finest squares of the kind in England. It is governed by a mayor, sends two members to parliament, and is seated on the Ure, 28 miles N.W. of York, and 218 N.N.W. of London. Long. 1. 29. W. Lat. 54. 11. N.

RIQUIER, an ancient town of France, in the department of Somme, seated on the Cardon, five miles N.E. of Abbeville, and 95 N. of Paris. Long. 1. 59. E. Lat. 50. 10. N.

RISBOROUGH, a town in Buckinghamshire, with a market on Saturday, 20 miles S. of Aylesbury, and 37 W.N.W. of London. Long. 0. 42. W. Lat. 51. 40. N.

RITBERG, a town of Westphalia, capital of a county of the same name, with a castle seated on the Ems, 12 miles N.W. of Paderborn. Long. 8. 42. E. Lat. 51. 52. N.

RIVA, a strong town of Germany, in the bishopric of Trent. It was taken by the French in 1703, but soon abandoned. It is seated at the mouth of a small river, on the lake Garda, 17 miles S.W. of Trent. Long. 11. 7. W. Lat. 46. 4. N.

RIVADAVIA, a town of Spain, in Galicia, seated at the confluence of the Minho and Avia, in a territory that produces the best wine in Spain, 15 miles W.S.W. of Orense. Long. 7. 55. W. Lat 42. 13. N.

RIVADEO, a sea-port of Spain, in Galicia, seated on a rock, at the mouth of the Rio-de-Mirando, 45 miles N.N.E. of Lugo. Long. 6. 47. W. Lat 43. 38. N.

RIVALLO, a town of Naples, in Terra di Lavoro, seated on a mountain, 20 miles from Naples.

RIVALLO, a town of Piedmont, situate on the Sangon, six miles S.W. of Turin, and 19 E.S.E. of Susa.

RIVALTA, a town of Italy, in the duchy of Milan, situate on the Adda, 15 miles E. of Milan.

RIVAROLO, a town of Piedmont, situate on the Orio, 15 miles N. of Turin, and 12 N.W. of Carmagnola.

RIVESALTES, a town of France, in the department of eastern Pyrenées, famous for fine wine. It is seated on the Egly, eight miles N. of Perpignan.

RIVOLI, a town of Piedmont, with a magnificent castle, nine miles W. of Turin. Long. 7. 32. E. Lat. 45. 4. N.

RIVOLO, a town of Italy, in the Veronese, seated on the lake Garda, 20 miles N.W. of Verona. Long. 11. 1. N. Lat. 45. 34. N.

ROA, a strong town of Spain, in Old Castile, with a citadel, seated on the Douero, in a country fertile in corn and wine, 10 miles S.W. of Aranda, and 70 N. of Madrid. Long. 3. 22. W. Lat. 41. 35. N.

ROAD-HARROW *(Encycl.)*. Roads being frequently disfigured, and otherwise injured, by the deep ruts which are necessarily made by the continual passing and re-passing of narrow-wheel carriages, various machines have been contrived, with a view to facilitate the repairing of highways, and to fill up such excavations. From these, we shall first communicate the *Road-Harrow*, invented by Mr. Harriott, to whom the Society for the Encouragement of Arts, &c. in 1789, voted a reward of ten guineas. As this machine may not only be employed with great advantage by the surveyors of public roads, but will also be found very serviceable in repairing and improving the private ways, or avenues, belonging to manors, we have given a representation in 2d pl. 43.

The model, from which the figure was taken, is on the scale of two inches to one foot; so that the head of the harrow is three feet wide from one side of the bar to the other externally. These bars are four inches square, five feet long, and, to prevent them from being split, they are contrived lengthwise, instead of being in a transverse direction. The mould-boards are four feet two inches in length, ten inches in depth, and two in thickness: they extend eleven inches beyond the bars, in order that the stones (which are brought to the surface by the teeth of

the harrow) may be drawn into a smaller compass. These mould-boards are, further, shod with an iron bar, and lined with a plate of the same metal, to the height of the spot where they are marked black, in the engraved figure; and such parts of the delineation as are represented of a deeper colour, distinguish the iron from the wood-work. The teeth are one foot in length from the inferior side of the bars to their points, which ought to be steeled: they are 1¼ inch square, and are fixed by means of strong nuts and screws, with collars both on the upper and lower side of such bars.

Mr. Harriott's road-harrow is drawn by two horses abreast: the outside animal is led by a boy on that quarter; while the other horse walks in the proper path, and a man keeps the harrow steady by the handles: consequently they take one inside and one outside quarter in their progress, and the remainder two quarters in their return.

By this excellent machine, a man, boy, and two horses, may with ease repair three miles in length in one day; harrowing down the quarters, and drawing the stones together, which are dropped into the ruts, by means of the mould-boards, in a more effectual manner than if they were stubbed in by a man. Lastly, the work is performed not only more expeditiously, but also at one tenth part of the expence incurred, when the roads are repaired by manual labour.

In the 8th volume of the *Repertory of Arts*, &c. we meet with an account of a contrivance for preventing the wheels of carriages from making ruts in roads, by Robert Beatson, esq. This object is effected by fixing between the other wheels a *protector*, or small roller, or broad wheel: the circumference of its upper part should be about 1½ inch beneath the axletree, while the lower one ought to be at a similar distance from the ground. Such roller must be secured to the axletree, so as to be able to support the whole weight of the carriage, in case the principal wheels descend into any deep ruts. The size of the protector varies according to the proportions of these wheels; but Mr. B. observes, that two feet in diameter will be sufficient for single carts; and that double carriages, or waggons, will require it to be rather larger and broader. By thus elevating the roller a little distance above the lower surface of the wheels, the latter will, on good roads, support the weight of the load; and, if the middle or horse-path be firm, they cannot sink into old, or form any new, ruts; because the protector will roll in the middle, and thus afford an easier draught to the cattle. The additional weight of the machine, if it be properly constructed, Mr. Beatson conceives, will be inconsiderable; when compared with the utility of such contrivance, and the great reduction in the expence both of making and of repairing roads. A more comprehensive account of this invention the reader will find in the work above cited.

ROANNE, a populous and commercial town of France, in the department of Rhone and Loire, seated on the Loire, where it begins to be navigable for barks. Hence the merchandise of Lyons, Marseilles, and the Levant, is conveyed down the Loire, and by the canal of Braire, into the Seine, and thence to Paris. Roanne is 50 miles N.E. of Clermont, and 210 S.E. of Paris. Long. 4. 12. E. Lat. 46. 13. N.

ROASTER, a most ingenious kind of oven, lately invented by Count Rumford, by means of which the culinary process of *roasting* meat is effected in the most complete way, and with the least possible consumption of fuel. Under the article Oven, in this supplement, we have described, from Part II. of the Count's 10th Essay, an invention little inferior to this as a *roaster*, and more desirable in small families, since it also answers the purpose of *baking* at the same time.

Count Rumford gives the following account of the *roaster*, and of the principles on which it is constructed: "When I first set about to contrive this machine," says he, "meditating on the nature of the mechanical and chemical operations that take place in the culinary process in question, it appeared to me that there could not possibly be any thing more necessary to the roasting of meat than heat, in certain degrees of intensity, accompanied by certain degrees of dryness; and I thought, if matters could be so arranged, by means of simple mechanical contrivances, that the cook should be enabled, not only to regulate the degrees of heat at pleasure, but also to combine any given degree of heat with any degree of moisture or of dryness required; this would unquestionably put it in her power to perform every process of roasting in the highest possible perfection.

"The means I used for attaining these ends, will appear by the following description of the machinery I caused to be constructed for that purpose.

"The most essential part of this machinery, which I shall call the body of the roaster (see 2d pl. 43. fig. 1), is a hollow cylinder of sheet-iron, which, for a roaster of a moderate size, may be made about 18 inches in diameter, and 24 inches long; closed at one end, and set in an horizontal position in a mass of brick-work, in such a manner that the flame of a small fire, which is made in a closed fire-place directly under it, may play all round it, and heat it equally and expeditiously. The open end of this cylinder, which should be even with the front of the brick-work in which it is set, is closed either with a double door of sheet-iron, or with a single door of sheet-iron covered on the outside with a pannel of wood; and in the cylinder there is an horizontal shelf, made of a flat plate of sheet-iron, which is supported on ledges rivetted to the inside of the cylinder, on each side of it. This shelf is situated about three inches below the centre or level of the axis of the body of the roaster, and it serves as a support for a dripping-pan, in which, or rather over which, the meat to be roasted is placed.

"This dripping-pan, which is made of sheet-iron, is about two inches deep, 16 inches wide above, 15¼ inches in width below, and 22 inches long; and it is placed on four short feet, or, what is better, on two long sliders, bent upwards at their two extremities, and fastened to the ends of the dripping-pan, forming, together with the dripping-pan, a kind of sledge; the bottom of the dripping-pan being raised by these means about an inch above the horizontal shelf on which it is supported.

"In order that the dripping-pan on being pushed into or drawn out of the roaster may be made to preserve its direction, two straight grooves are made in the shelf on which it is supported, which, receiving the sliders of the dripping pan, prevent it from slipping about from side to side, and striking against the sides of the roaster. The front ends of these grooves are seen in fig. 1, as are also the front ends of the sliders of the dripping-pan, and one of its handles.

"In the dripping-pan, a gridiron (seen in fig. 1) is placed, the horizontal bars of which are on a level with the sides or brim of the dripping-pan, and on this gridiron the meat to be roasted is laid; care being taken that there be always a sufficient quantity of water in the dripping-pan to cover the whole of its bottom to the height of at least half or three quarters of an inch.

" This water is essential to the success of the process of roasting: it is designed for receiving the drippings from the meat, and preventing their falling on the heated bottom of the dripping-pan, where they would be evaporated, and their oily parts burnt or volatilized, filling the roaster with ill-scented vapours, which would spoil the meat, by giving it a disagreeable taste and smell.

" It was with a view more effectually to defend the bottom of the dripping-pan from the fire, and prevent as much as possible the evaporation of the water it contains, that the dripping pan was raised on feet or sliders, instead of being merely set down on its bottom on the shelf which supports it in the roaster.

" A late improvement has been made in the arrangement of the dripping-pan, by an ingenious workman at Norwich, Mr. Frost, who has been employed in putting up roasters in that part of the country; an invention which I think will, in many cases, if not in all, be found very useful. Having put a certain quantity of water into the principal dripping-pan, which is constructed of sheet-iron, he places a second, shallower, made of tin, and standing on four short feet, into the first, and then places the gridiron which is to support the meat in this second dripping-pan. As the water in the first keeps the second cool, there is no necessity for putting water into this; and the drippings of the meat may, without danger, be suffered to fall in o it, and to remain there unmixed with water. When Yorkshire puddings, or potatoes, are cooked under roasting meat, this arrangement will be found very convenient.

" In constructing the dripping-pans, and fitting them to each other, care must be taken that the second do not touch the first, except by the ends of its feet; and especially that the bottom of the second (which may be made dishing) do not touch the bottom of the first. The lengths and widths of the two dripping-pans above, or at their brims, may be equal, and the brim of the second may stand about half an inch above the level of the brim of the first. The horizontal level of the upper surface of the gridiron should not be lower than the level of the brim of the second dripping-pan; and the meat should be so placed on the gridiron that the drippings from it cannot fail to fall into the dripping-pan, and never upon the hot bottom or sides of the roaster.

" To carry off the steam which arises from the water in the dripping-pan, and that which escapes from the meat in roasting, there is a steam tube belonging to the roaster, which is situated at the upper part of the roaster, commonly a little on one side, and near the front of it, to which tube there is a damper, which is so contrived as to be easily regulated without opening the door of the roaster. This steam-tube is distinctly seen in fig. 1; and the end of the handle by which its damper is moved, may be seen in fig. 2.

" The heat of the roaster is regulated at pleasure, and to the greatest nicety, by means of the register in the ash-pit door of its fire-place (seen in fig. 2.) and by the damper in the canal, by which the smoke goes off into the chimney; which damper is not represented in any of the figures.

" The dryness in the roaster is regulated by the damper of the steam-tube, and also by means of a very essential part of the apparatus—the blow pipes—which still remain to be described. They are distinctly represented in the figs. 1, 2, and 3.

" These blow-pipes, which lie immediately under the roaster, are two tubes of iron, about 2½ inches in diameter, and 23 inches long, or about one inch shorter than the roaster; which tubes, by means of elbows at their further ends, are firmly fixed to the bottom of the roaster, and communicate with the inside of it. The hither ends of these tubes come through the brick-work, and are seen in front of the roaster, being even with its face.

" These blow-pipes have stoppers, by which they are accurately closed: but when the meat is to be browned, these stoppers are removed, or drawn out a little, and the damper in the steam-tube of the roaster being at the same time opened, a strong current of hot air presses in through the tubes into the roaster, and through the roaster into and through the steam-tube, carrying and driving away all the moist air and vapour out of the roaster.

" As these blow-pipes are situated immediately below the roaster, and just over the fire, and are surrounded on every side by the flame of the burning fuel (see fig. 3), they are much exposed to the heat; and when the fire is made to burn briskly, which should always be done when the meat is to be browned, they will be heated red hot, consequently the air which passes through them into the roaster will be much heated; and this hot wind, which blows over the meat, will suddenly heat and dry its surface in every part, and give it that appearance and taste which are peculiar to meat that is well roasted.

" When these roasters were first proposed, and before their merit was established, many doubts were entertained respecting the taste of the food prepared in them. As the meat was shut up in a confined space, which has much the appearance of an oven, it was natural enough to suspect that it would be rather baked than roasted; but all those who have tried the experiment have found that this is by no means the case. The meat is roasted, and not baked: and however bold the assertion may appear, I will venture to affirm, that meat of every kind, without any exception, roasted in a roaster, is better tasted—higher flavoured—and much more juicy and delicate, than when roasted on a spit before an open fire.

" In enumerating the excellences of this new implement of cookery, there is one of indisputable importance, which ought not to be omitted. When meat is roasted in this machine, its quantity, determined by weight, is considerably greater than if it were roasted upon a spit before a fire. To ascertain this fact, two legs of mutton, taken from the same carcase, and made perfectly equal in weight before they were cooked, were roasted on the same day, the one in a roaster, the other on a spit before the fire; and, to prevent all deception, the persons employed in roasting them were not informed of the principal design of the experiment. When these pieces of roasted meat came from the fire, they were carefully weighed; when it appeared, that the piece which had been roasted in the roaster was heavier than the other, by a difference which was equal to six per cent, or six pounds in an hundred. But this even is not all; nor is it indeed the most important result of the experiment. These two legs of mutton were brought upon table at the same time, and a large and perfectly unprejudiced company was assembled to eat them. They were both declared to be very good; but a decided preference was unanimously given to that which had been roasted in the roaster, it was much more juicy, and was thought better tasted. They were both fairly eaten up; nothing remaining of either of them that was eatable. Their fragments, which had been carefully preserved, being now collected and placed in their separate dishes; it was a comparison of these fragments which afforded the most striking proof of the relative merit of these two methods of roasting meat, in respect to the economy of food. Of the leg of mutton which had been roasted in the roaster,

hardly any thing visible remained except the bare bone; while a considerable heap was formed of scraps not eatable, which remained of that roasted on a spit."

"I believe," adds the Count, "I may venture to say, that the result of this experiment is deserving of the most serious attention, especially in this country, where so much roasted meat is eaten, and where the economy of food is every day growing to be more and more an object of public concern."

We must refer our readers to Count Rumford's Essay for directions respecting the management of this valuable invention, and for various other important particulars relating to it. Many persons of rank have been induced to prefer them in their kitchens; and they may be inspected at the Royal Institution in London.

Description of the figures in the plate.—Fig. 1. Represents the iron roaster with its materials complete; *a* is the body or the roaster, of cast-iron; *b* the hollow door, formed of two circular pieces of plate-iron; *c* a pipe of sheet-iron for carrying off the steam from the meat, having a small register at *g*; *d d* two cast-iron blow-pipes, which being placed within the fire-place, transmit *hot air*, when the stopper is drawn forth, for the purpose of *browning* the meat; *e* the dripping pan, placed on a horizontal shelf, and containing a trivet on which the meat is to be placed; *f f* the two turn-buckles which fasten the door, seen more distinctly in fig. 2; *g* a small wire handle which turns the register within the steam-pipe *c*; *h* a square frame of iron, through which a small twisted-wire brush may be introduced to sweep the soot, when necessary, from the top and sides of the roaster. The same letters refer to the same parts in the other figures.

Fig. 2. Shews the roaster set in brick-work, with its closed fire-place; *i* is the double door of sheet iron, more distinctly shewn at *i*, *m*, in fig. 3; *k* the ash-pit door with its register *l*.

Fig. 3. Is a section of the roaster, fire-place, and brick-work; *m* is the inner plate of the fire-place door; *n* the grate on which the burning fuel B rests above the ash-pit; A C D the open space which surrounds and passes behind the roaster from the fire-place beneath; E F the passages by which the smoke escapes; G shews the inside of the roaster which contains a piece of meat, *o*, supposed to be roasting.

ROBBEN ISLAND, sometimes called Penguin Island, a barran sandy island, near the Cape of Good Hope. Long. 18. 22. E. Lat. 33. 50. S.

ROBIL, a town of Lower Saxony, in the duchy of Mecklenburg, seated on the river Muretz.

ROCAMADOUR, a town of France, in the department of Lot, 23 miles N. of Cahors. Long. 1. 32. E. Lat. 44. 48. N.

ROCCA-D'ANFO, a strong town of Italy, in the Bresciano, seated on the lake Idro, 25 miles S.E. of Trent. Long. 11. 40. E. Lat. 45. 50. N.

ROCCA-ANNONE, and ROCCA-D'ARBAZZE, two forts of Italy, in Montferrat, each of which is seated on a mountain, in the road from Asti to Alexandria.

ROCELLA, a town of Naples, in Calabria Ulteriore, near which is a celebrated coral fishery, 10 miles N.E. of Geirace. Long. 16. 47. E. Lat. 38. 20. N.

ROCHE, a town of Switzerland, subject to the canton of Bern, which has here a director of the salt works. Roche is celebrated for the residence of the celebrated Haller, who filled that office from 1758 to 1766.

ROCHE, or ROCHE-EN-ARDENNES, a town of the Netherlands, in the duchy of Luxemberg, with a strong castle, seated on a rock, near the river Ourte, 22 miles S. of Liege, and 32 N.W. of Luxemberg. Long. 5. 40. E. Lat. 50. 15. N.

ROCHE BERNARD, a town of France, in the department of Morbihan, seated on the river Vilaine, 23 miles E. of Vannes.

ROCHE CHOUART, a town of France, in the department of Upper Vienne, with a castle on the top of a mountain, on the declivity of which the town is seated, near a small river that falls into the Vienne, 60 miles S. by E. of Poitiers, and 189 S. by W. of Paris. Long. 0. 53. E. Lat. 45. 46. N.

ROCHE MACHERAN, a town of the Netherlands, in the duchy of Luxemburg, with a strong castle, 15 miles N.E. of Luxemburg. Long. 6. 25. E. Lat. 49. 46. N.

ROCHE-POSAY, a town of France, in the department of Indre and Loire, remarkable for its mineral waters. It is seated on the Creuse, 25 miles S. of Roche. Long. 0. 50. E. Lat. 45. 46. N.

ROCHE-SUR-YON, a town of France, in the department of Vendee, seated near the Yon, 20 miles N.W. of Luçon, and 202 S.W. of Paris. Long. 1. 31. W. Lat. 46. 40. N.

ROCHEFORT, a town of the Netherlands, in the duchy of Luxemburg, with a castle, said to have been built by the Romans. Here the celebrated general La Fayette was seized and made prisoner by the Austrians. It is surrounded by rocks, 15 miles S.E. of Diant, and 50 N.W. of Luxemburg. Long. 5. 10. E. Lat. 50. 12. N.

ROCHEFORT, a town of France, in the department of Morbihan, 17 miles E. of Vannes, and 40 S.W. of Rennes. Long. 2. 26. W. Lat. 47. 42. N.

ROCHEFOUCAULT, a town of France, in the department of Charente, with a castle. It is seated on the Tardouere, 12 miles N.W. of Angoulême, and 208 S. by W. of Paris. Long. 0. 29. E. Lat. 45. 46. N.

ROCHESTER, a village in Northumberland, on the Watling-street, N.W. of Otterburn, and near the source of the Read. It has some Roman altars, inscriptions, and and other antiquities.

ROCHETTA, a town of Italy, in the county of Nice, 16 miles N.E. of Nice. Long. 7. 33. E. Lat. 43. 52 N.

ROCHILZ, a town of Upper Saxony, in the territory of Leipsic, with a castle, copper-mines, and a handsome bridge over the Muldaw, 24 miles S.E. of Leipsic, and 36 W. of Dresden. Long. 12. 46. E. Lat. 51. 10. N.

ROCKBRIDGE, a county in the state of Virginia, between the Allegany Mountains and the Blue Ridge, which receives its name from a curious natural bridge. See CEDAR CREEK.

ROCKINGHAUSEN, a town of Germany, in the palatinate of the Rhine, 26 miles W. of Worms.

ROCKISAW, a town of Bohemia, in the circle of Pilsen, 11 miles E. of Pilsen.

ROCOUX, a village of the Netherlands, near Liege, remarkable for a victory gained by the French over the allies in the year 1746.

ROCROY, a town of France, in the department of Ardennes, seated in a plain surrounded by forests. It is celebrated for the victory which the Prince of Condé, then Duke of Enghien, gained over the Spaniards, in 1643. It is 26 miles N. of Rethel. Long. 4. 27. E. Lat. 49. 56. N.

RODACH, a town of Upper Saxony, in the principality of Coburg, situate on a river of the same name, six miles W.N.W. of Coburg.

RODESTO, RODOSTO, or RUDISTO, a populous seaport of Turkey in Europe, in Romania, with a Greek

bishop's see. It is seated on the side of a hill, on the sea of Marmora, 62 miles S.W. of Constantinople. Long. 27. 37. E. Lat. 41. 1. N.

RODEZ, an ancient town of France, in the department of Aveiron. Here are four great annual fairs, where mules are sold for Spain; and some manufactures of grey cloths and surges. It is a bishop's see; and the steeple of the cathedral, remarkable for its height, is much admired for its architecture. It is seated in the midst of mountains, on a hill, at the foot of which flows the rapid Aveiron, 30 miles W. by S. of Mende. Long. 2. 39. E. Lat. 44. 21. N.

RODOK, a town of Hindoostan Proper, in the province of Delhi, 50 miles E. of Hissar, and 60 W.N.W. of Delhi. Long. 76. 30. E. Lat. 29. 10. N.

ROER, a river of Westphalia, which rises in the duchy of Juliers, passes by the town of that name, and falls into the Maese above Runemonde.

ROER, a river of Germany, which rises in the circle of Upper Rhine, waters Arensberg, and falls into the Rhine below Duisburg.

ROEUX, a town of the Netherlands, in the Austrian Hainault, eight miles N.E. of Mons. Long. 4. 12. E. Lat. 50. 31. N.

ROGLIANO, a town of Naples, in Calabria Citeriore, nine miles S.S.E. of Cosenza. Long. 16. 23. E. Lat. 39. 15. N.

ROGONATPOUR, a town of Hindoostan Proper, in the country of Bengal, 106 miles S.W. of Moorshedabad, and 108 N.W. of Calcutta.

ROHACZOW, a town of Lithuania, capital of a district of the same name; seated at the confluence of the Dnieper and Ordrwa, 37 miles N.W. of Rzeczica, and 158 N. of Kiof. Long. 30. 40. E. Lat. 53. 2. N.

ROHAN, a town of France, in the department of Morbihan, seated on the Aoust, 20 miles N. of Vannes. Long. 2. 42. W. Lat. 48. 0. N.

ROHILCUND, or ROHILLA, a territory of Hindoostan Proper, whose inhabitants are called Rohillas. It lies to the N. of Delhi, and is subject to the nabob of Oude, by whom it was conquered in 1774. Bereilly is the capital.

ROLDUC, a town of the Netherlands, in the duchy of Limburg, capital of a territory of the same name, with a castle, seven miles N. of Aix-la-Chapelle. Long. 6. 6. E. Lat. 50. 55. N.

ROLLRICH STONES, in Oxfordshire, N. of Stanton Harcourt, six miles W. of Oxford. It is a circle of stones standing upright, which the vulgar have a notion were men petrified. Antiquaries disagree with respect to the origin and intention of this ancient monument.

ROM, or ROEM, an island of Denmark, on the E. coast of South Jutland. It is five miles in length, and half as much in breadth, and contains a few villages.

ROMAIN-MOTIER, a town of Switzerland, in Pays de Vaud, capital of a bailiwic, with a castle. It is seated at the foot of a mountain, in a narrow valley, through which flows the river Diaz.

ROMANO, a strong and populous sown of Italy, in Bergamosco. It carries on a great trade in corn, and is seated on a river that runs between the Oglio and Serio.

ROMANS, an ancient town of France, in the department of Drome, seated in a fine plain, on the river Isere, 22 miles S.W. of Grenoble, and 30 S. of Vienne. Long. 5. 12. E. Lat. 45. 2. N.

ROMELIA, the general name given by the Turks to their European dominions.

ROMENAY, a town of France, in the department of Saone and Loire, eight miles S.E. of Tournus, and 15 N.N.E. of Macon. Long. 5. 5. E. Lat. 46. 30. N.

ROMERSTADT, a town of Moravia, in the neighbourhood of which are some iron mines. It is 20 miles N.N.E. of Olmutz. Long. 17. 45. E. Lat. 52. 20. N.

ROMHILDEN, a town of Franconia, with a castle. It belongs to the Duke of Saxe Altenburg.

ROMNA, a town of Russia, in the government of Tchernigof, 28 miles S.S.E. of Tchernigof. Long. 33. 24. E. Lat. 50. 36. N.

ROMONT, or RODMONT, a strong town of Switzerland, in the canton of Friburg, seated on a mountain, 10 miles from Friburg, and 12 from Bern. Long. 7. 1. E. Lat. 46. 50. N.

ROMSDAL, a town of Norway, capital of a provostship, in the diocese of Drontheim, 100 miles S.S.W. of Drontheim. Long. 7. 54. E. Lat. 62. 28. N.

RONCEVALLOS, a town of Spain, in Navarre, situate in a valley to which it gives name, 14 miles N.N.E. of Pampeluna. Long. 1. 25. W. Lat. 42. 54. N.

RONDA, a strong town of Spain, in Grenada, with a castle. It was taken from the Moors in 1485, and is seated on a craggy rock near the Rio Verde, 20 miles N.W. of Gibraltar, and 62. S.E. of Seville. Long. 5. 12. W. Lat. 36. 40. N.

RONNEBURG, a town of Upper Saxony, in the principality of Altenburg, 12 miles S.W. of Altenburg, and 60 W. of Dresden. Long. 12. 7. E. Lat. 50. 48. N.

ROOM (*Encycl.*). In June, 1801, a patent was granted to Mr. Winter, of Shacklewell, in Middlesex, for a kind of paper manufacture for covering the floors of rooms, for packing goods, and various other purposes.

"*First*," says the patentee, "I procure from the tanners' yards the waste tan or bark, after it has been used for the purposes of tanning. This I cause to be well washed, and freed from dirt, and the fibrous parts picked and separated from those which are more brittle. The tan or bark so prepared I cause to be boiled for a considerable time until the fibres are so softened as readily to separate, and be bruised. I then bruise this softened tan or bark, either by passing it through large iron or wooden rollers, after the manner of flattening mills, except that the rollers are placed by the side of each other in a horizontal position, in order to their being fed, instead of being placed one above the other; or by large wooden stampers or mallets, shod with iron. When it has been thus bruised, I cause it to be again well washed in large sieves, through which pass the remaining brittle particles, and leave the fibres fit for use.

"*Secondly*, I procure, from the different manufacturers of leather, the shreds, or scrapings, or parings of leather, of any description, which are the refuse of sweepings of their shops or warehouses; which pieces of leather I cause to undergo the same operations of picking, washing, and bruising, as before mentioned, with respect to the tan or bark, until it becomes a pulp; but I do not wash it again after it is reduced into that state.

"*Thirdly*, I procure the short hair of animals, of any description, which I cause to be also well washed, and (when it is dry) separated by being beaten with sticks, so that it may the more completely interweave and unite with the other before-mentioned ingredients of the fibres of the tan or bark, and pulp of the leather.

"My principal ingredients being so prepared, I take a proportionate quantity of each, accordingly as I want my

manufacture to be firm or flexible, fit to be used in the sheathing of ships, covering of floors, for button-boards, or the common packages of merchandize, but generally in the proportion of one hundred weight of the fibres of the tan or bark to half a hundred weight of the pulp of the leather, and one quarter of a hundred weight of the hair; the whole of which I cause to be well mixed together, adding thereto, and strewing, as equally as possible, amongst the whole mass, a small quantity (that is, in the proportion of five pounds to one hundred weight of the principal mixture) of refuse tow or wadding, or the sweepings or refuse of wool-chambers, previously cut short and separated. This mixture is then beaten altogether with hammers or stampers, in large mortars, and a little water added to it, as occasion may require, to keep, as much as possible, any particular ingredient from adhering together. After being thus beaten, until the ingredients are fully blended and intermixed, the whole is conveyed into receivers or vats, and warm water (previously made a little glutinous by boiling in it a few pounds of the pieces of pelts or skins from which glue is made, or of the glue itself, in quantity accordingly as I want my water to be of a stronger or weaker gluten, but generally in the proportion of four pounds of the skins, or two pounds of glue, to ten gallons of water, skimming off the fat which arises on the boiling of the pieces of pelts) added by degrees, the whole of the mass being kept constantly stirred until the particles float in the water. In this state it is moulded in frames, similar to those commonly used in the manufacture of paper; from which frames it is turned out and pressed between flannels, till the water has drained from it; and, when nearly dry, it is taken from the flannels, and again put into a press without the flannels; whence it is taken out, and hung up to dry: when dried, it is fit for use."

ROOT-STEAMER, an useful machine, employed in America, for steaming potatoes, carrots, and other roots, with the view of feeding cattle; and which, for the simplicity of its contrivance, and the facility with which vegetables may be thus prepared, deserves to be more generally known in Britain. We have therefore given a representation of it in Pl. 45.

The apparatus there delineated, consists of a brick-stove, in which a pot or kettle is fixed: over this boiler is placed a hogshead or cask, the top of which is open (we believe it might with more advantage be covered with a wooden lid); while the bottom is drilled with numerous holes, about one inch in diameter; so that the steam may freely pass through the roots. In this vessel, the potatoes, &c. after being washed, are deposited; and, when sufficiently steamed, they afford a more invigorating and fattening food for cattle, than in a raw state.

A root-steamer on an improved construction is sold by the Rev. Mr. Cook, the inventor of the drill machine. This is so contrived as to be easily lifted off the boiler by means of a compound lever, and the roots discharged in an instant by withdrawing a pin which keeps the perforated bottom of the cask in its place.

ROQUE, St. a large village of Spain, in Andalusia, at the entrance of the Isthmus which separates Gibraltar from the continent. It is seated on the top of a hill, overlooking the bay, and has several batteries, and a fort at each end, to defend the lines which run across the isthmus.

ROQUE DE MARSAN, a town of France, in the department of Landes, seated on the Douese, 10 miles N.E. of Monte de Marsan.

ROQUEBRUNE, a town of Italy, in the principality of Monaco, with a castle, seated near the sea, three miles from Monaco.

ROQUEMAURE, a town of France, in the department of Gard, seated on a craggy rock, near the Rhone, 22 miles N.E. of Nismes. Long. 4. 48. E. Lat. 44. 2. N.

ROQUETAS, a town of Spain, in Granada, on the coast of the Mediterranean, 10 miles S.W. of Almeria, and 52 S.E. of Granada. Long. 2. 5. W. Lat. 56. 51. N.

ROSANA, a town of Lithuania, in the palatinate of Novogrodec, seated near the Zolva, 20 miles S.W. of Novogrodec. Long. 25. 45. E. Lat 55. 30. N.

ROSCHAD, a commercial town of Switzerland, in a bailiwic of the abbey of St. Gallen, with a castle on a mountain. It is seated on the lake of Constance.

ROSES, a sea-port of Spain, in Catalonia, with a citadel, seated on the bay of Roses, in the Mediterranean, 15 miles N.E. of Gironna. It was taken by the French in 1693, and in 1795. Long. 3. 1. E. Lat. 42. 16. N.

ROSES, OTTAR OF (*Encycl.*). The Royal Society of Edinburgh received from Dr D. Monro the following account of the manner in which that costly perfume is prepared in the East It was given him by a gentleman who had actually assisted in making it. A large quantity of the petals of the rose, freed from every extraneous matter, are steeped in pure water, in an earthern or wooden vessel, which is exposed daily to the sun, and housed at night, till a scum rises to the surface. This scum, which is the *ottar*, is carefully absorbed by a very small bit of cotton tied to the end of a stick. The oil, as it is collected, is squeezed out of the cotton into a very diminutive vial, and stopped for use. The collection of it should be continued from time to time whilst any scum is produced.

ROSHAAN, a country of Asia, lying to the W. of the kingdom of Burmah, to which it is subject.

ROSIENNE, a town of Samogitia, seated on the Dubisse, 70 miles S. of Mittau, and 188 N.E. of Warsaw. Long. 23. 45. E. Lat. 55. 30. N.

ROSOY, a town of France, in the department of Seine and Marne, with a magnificent castle, 15 miles S. of Meaux. Long. 2. 59. E. Lat. 48. 40. N.

ROSS, a sea-port of Ireland, in the county of Cork. It is united to Cork as an episcopal see, and is seated on a bay of the Atlantic, 20 miles S.W. of Kinsdale. Long. 8. 58. W. Lat. 51. 32. E.

ROSS, NEW, a sea-port of Ireland, in Wexford, situate on the Barrow, which is navigable for large vessels up to the quay. The town has a considerable trade, and exports a great quantity of butter and beef. It is 11 miles N.E. of Waterford, and 17 W. of Wexford. Long. 6. 58. W. Lat. 51. 22. N.

ROTA, a town and castle of Spain, in Andalusia, at the entrance of the bay of Cadiz, seven miles N. of Cadiz. Long. 6. 16. W. Lat. 36. 35. N.

ROTA, an island of Asia, one of the principal of the Ladrones.

ROTAS, a town of Hindoostan Proper, in the country of Bahar, 65 miles S.E. of Benares, and 85 S.W. of Patna. Long. 83. 50. E. Lat. 24. 50. N.

ROTENBERG, a town of Germany, in Bavaria, the capital of a lordship of the same name, 12 miles N.E. of Nuremberg, and 46 N.W. of Ratisbon. Long. 11. 20. E. Lat. 49. 35. N.

ROTENBERG, a town of Switzerland, in the canton of Lucern, four miles N. of Lucern.

ROTENBURG, a free imperial town of Franconia, seated on the Tauber, 15 miles N.W. of Anspach. Long. 10. 23. E. Lat. 49. 23. N.

Rotenburg, a town of Suabia, in the county of Hoenburg, with a castle. It belongs to the house of Austria, and is remarkable for its mineral waters. It is seated on the Neckar, seven miles W. of Tubingen. Long. 8. 55. E. Lat. 48. 28. N.

Rotenburg, a town of Germany, in the langravate of Hesse-Cassel, with a castle, seated on the Fulde, 25 miles S. of Cassel. Long. 9. 30. E. Lat. 50. 55. N.

ROTTERDAM, one of the Friendly Islands, in the S. Pacific Ocean, discovered by Tasman. Long. 174. 30. W. Lat. 20. 16. S.

ROTTINGEN, a town of Franconia, in the bishopric of Wurtzburg, situate on the Tauber, nine miles N.E. of Mergentheim, and 13 W.N.W. of Rottenburg. Long. 8. 55. E. Lat. 49. 35. N.

ROTHWEIL, a free imperial city of Suabia, in alliance with the Swiss cantons since the year 1513. A mile and a half from this place is a famous abbey, where they receive none but noble women. It is seated on the Neckar, near its source, and also near the Danube, 27 miles S.S.W. of Tubingen. Long. 8. 44. E. Lat. 58. 9. N.

ROVERBELLA, a town of Italy, in the duchy of Mantua, 12 miles N.N.W. of Mantua. Long. 10. 42. E. Lat. 45. 18. N.

ROUBLE. See St. George, *Supp.*

ROUSSELART, a town of France, in the department of the north, 10 miles N.E. of Ypres, and 20 S.E. of Ostend. Long. 3. 0. E. Lat. 50. 58. N.

ROXBURGH, a town and castle of Scotland, which gives name to a county. It is situate near the Tiviot, 19 miles S.W. of Berwick, and 32 S.E. of Edinburgh. Long. 2. 47. W. Lat. 55. 46. N.

ROYAN, once a large town of France, in the department of Lower Charente, famous for a siege maintained by the Huguenots against Lewis XIII. in 1622. It is now almost in ruins, and is seated at the mouth of the Garonne, 30 miles S. of Rochelle. Long. 0. 57. W. Lat. 45. 38. N.

ROYES, a strong town of France, in the department of Somme. Some mineral waters were discovered here a few years ago. It is 12 miles N.W. of Noyon, and 60 N. by E. of Paris. Long. 2. 51. E. Lat. 49. 46. N.

RUATAN, an island of New Spain, in the bay of Honduras, 10 miles from the coast, with a good harbour.

RUBIERA, a small but strong town of Italy, one of the keys of the Modenese, seated on the Seccia, eight miles N.W. of Modena. Long. 11. 14. E. Lat. 44. 39. N.

RUDAW, a town of Prussia, remarkable for the victory obtained by the knights of the Teutonic order in 1370, over Kinstud, great-duke of Lithuania; in memory of which a stone pillar was erected, which is still remaining. It is 12 miles N.N.W. of Konigsberg.

RUDDER (*Encycl.*). The following is extracted from the specification of a patent granted to Capt. Bolton, of the Royal Navy, for an improved rudder, and the means of preserving the rudder of a vessel: it is dated June 23, 1801.

His invention consists in fixing the rudder, so that when the vessel touches the ground, it will rise of itself, or it may be lifted at will by any of the ordinary mechanical powers, as screws, lever, tooth and pinion, &c. This is effected by hanging the rudder on a metal bar, bolt, or slide, passing through the braces, or a solid frame fixed to the stern-post; those braces on the aft side being made to correspond to the bar, bolt, or slide. In Pl. 41. fig. 1, A is the rudder; B the bar, bolt, or slide, to which the rudder is hung; C, Braces corresponding to B, and which confine it to the stern-post; D, the stern-post; E, screw-bolt, passes through the head of B (which is tapped), by turning the lever *d*, raises the rudder; F, iron tiller, which spars the rudder-head, and through which the rudder and B slide when lifting. *a*, pintles; *b*, goodings, cast solid with B. Capt. Bolton's *improved rudder* consists of the means of enlarging its size whenever it may be necessary. The rudder is slit down, or it may be made in two parts, in which is inserted a piece of wood, or metal plate, similar to A, fig. 2, the upper end of which is circular, and furnished with teeth, and turns on its centre. A bolt, B, passes through, or at the back of the rudder, and either throws out or draws in A, by turning to the right or left. In order to strengthen the rudder, either screw or shoulder-bolts, as *b*, *b*, may be fitted; and grooves, as *a*, *a*, will traverse over them.

RUDKIOBING, a sea-port of Denmark, in the island of Langeland, which has a considerable trade in corn and provisions. Long. 10. 45. E. Lat. 55. 1. N.

RUDOLFWERD, a strong town of Germany, in Carniola, with an abbey. It is seated on the Gurck, in a country fertile in good wine, 45 miles S.E. of Laubach. Long. 15. 20. E. Lat. 46. 8. N.

RUFFAC, a town of France, in the department of Upper Rhine, seated on the Rotbach, seven miles S. of Colmar, and 17 N.W. of Basle. Long. 7. 27. E. Lat. 47. 58. N.

RUFFEC, a town of France, in the department of Charente, seated on the Anche, 24 miles N. of Angoulême.

RUGBY, a town in Warwickshire, with a market on Saturday, and a famous free-school. It is 11 miles S.E. of Coventry, and 85 N.N.W. of London. Long. 1. 12. W. Lat. 52. 24. N.

RUGLEY, a town in Staffordshire, with a market on Tuesday, seated on the Trent, 10 miles S.E. of Stafford, and 126 N.W. of London. Long. 1. 48. W. Lat. 52. 57. N.

RUGENWALD, a town of Prussian Pomerania, the chief place of the duchy of Wenden, with a castle, seated on the Wipper, eight miles from the Baltic, and 35 N.E. of Colberg. Long. 16. 27. E. Lat. 54. 35. N.

RUMFORD, a town in Essex, with a market for hogs on Tuesday, and for corn on Wednesday, 12 miles E.N.E. of London. Long. 0. 13. E. Lat. 51. 36. N.

RUMILLY, a town of Savoy, seated on an elevated plain, at the confluence of the Seram and Nepha, five miles from Annecy. Long. 6. 10. E. Lat. 45. 56. N.

RUMSEY, a corporate town in Hampshire, with a market on Saturday. It is governed by a mayor, has a manufacture of shalloons, and several paper and corn mills. It is eight miles N.N.W. of Southampton, and 74 W. by S. of London. Long. 131. W. Lat. 51. 2. N.

RUNGPOUR, a town of Hindoostan Proper, in Bengal, 73 miles N.E. of Mauldah, and 106 N.N.E. of Moorshedabad.

RUNKEL, a town of Westphalia, situate on the Lahn, with a citadel, on a high hill, formerly the residence of the counts, 14 miles E. of Nassau. Long. 8. 5. E. Lat. 50. 23. N.

RUNNYMEAD, a celebrated mead, near Egham, in Surrey, where King John was compelled to sign Magna Charta and Charta de Foresta. See Wraysbury.

RUPEL, a river of the Austrian Netherlands, formed by the junction of the Senne and Demer, below Mechlin. After

receiving the canal from Brussels, it joins the Scheldt, at Rupelmonde.

RUPELMONDE, a town of Austrian Flanders, seated on the Scheldt, opposite the mouth of the Rupel, eight miles S.W. of Antwerp, and 22 N.E. of Ghent. Long. 4. 23. E. Lat. 51. 7. N.

RUPERDORF, a town of Bohemia, in the circle of Konigingratz, four miles N.N.W. of Braunau.

RUPERT, Fort, a fort belonging to the Hudson's Bay Company, seated on the E. side of the S. end of Hudson's Bay. Long. 80. 0. W. Lat. 51. 3. N.

RUREMONDE, a strong town of Austrian Guelderland, with a bishop's see. It suffered greatly by fire in 1665, and has been taken and retaken several times; particularly in 1793, by the French, who were obliged to evacuate it soon after, but took it again the next year. It is seated near the confluence of the Maese and Roer, 12 miles S. of Venlo, and 70 N.E. of Mechlin. Long. 5. 50. E. Lat. 51. 8. N.

RUSS, a town of Prussian Lithuania, and principal place of a district, situate at the mouth of the river Russe, 20 miles N.W. of Tilsit. Long. 21. 50. E. Lat. 55. 20. N.

RUSSELSHEIM, a town of Germany, in the principality of Hesse Darmstadt, situate on the Maine, six miles E. of Mentz, and 13 N.W. of Darmstadt. Long. 8. 16. E. Lat. 49. 55. N.

RUSTGADEN, a town of Sweden, in the province of Dalecarlia, 23 miles S.S.W. of Fahlun. Long. 16. 30. E. Lat. 60. 18. N.

RUTCHESTER, a village in Northumberland, the Vindobala of the Romans. Severus' wall runs on the middle of the E. rampart, and Adrian's vallum passes about the distance of a chain to the S. of it. This fort has been very considerable, and the ruins of it are remarkable. It is six miles N. of Hexham.

RUTHIN, a town in Denbighshire, with a market on Monday. It is seated in a vale, on the river Clwyd, and had a strong castle, now in ruins. It is 15 miles S.W. of Holywell, and 206 N.W. of London. Long. 3. 30. W. Lat. 53. 7. N.

RUTLAM, a town of Hindoostan Proper, in the province of Malwa, 48 miles W. of Ougein, and 136 E. of Amedabad. Long. 74. 58. E. Lat. 23. 25. N.

RUTIGLIANO, a town of Naples, in Terra di Bari, five miles S.E. of Bari.

RUTTUNPOUR, a city of the peninsula of Hindoostan, in Orissa, and the capital of one of the Western Mahratta chiefs. Long. 82. 36. E. Lat. 22. 16. N.

RUVO, a populous town of Naples, in Terra di Bari, with a bishop's see, 16 miles W. of Bari. Long. 16. 44. E. Lat. 41. 26. N.

RUZA, a town of Russia, in the government of Moscow, 48 miles W.N.W. of Moscow. Long. 36. 2. E. Lat. 55. 46. N.

RYACOTTA, a town of Hindoostan, in the Mysore country, 75 miles S. of Seringapatam, and 85 W.S.W. of Arcot. Long. 76. 45. E. Lat. 30. 15. N.

RYAN, Loch, a lake in the N.W. angle of Wigtonshire. The sea flows into it through a narrow pass; and it was formerly crowded, in the season, with shoals of herrings.

RYDAL-WATER, a lake in Westmoreland, a little to the W. of Ambleside. It is one mile in length, spotted with little islands; and communicates, by a narrow channel, with Grasmere-water to the W. and, by the river Rothay, with Windermere-water to the S.

RYDROOG, a town and fortress of Hindoostan, in the Mysore country, 128 miles N. of Seringapatam. Long. 76. 52. E. Lat. 14. 40. N.

RYEGATE, a borough in Surrey, with a market on Tuesday. It had a castle, some ruins of which are still to be seen; particularly a long vault, with a room at the end, large enough to hold 500 persons, where (according to tradition) the barons, who took up arms against King John, held their private meetings. It is seated in a valley, called Holmesdale, 16 miles E. of Guilford, and 21 S.W. of London. Long. 0. 15. W. Lat. 51. 16. N.

RYMENAUT, a town of Brabant, situate on the Dyle, five miles E. of Mechlin.

RZECZICA, a town of Lithuania, capital of a territory of the same name. It is seated at the confluence of the Wyedszwck and Dnieper, 125 miles N. of Kiof. Long. 31. 5. E. Lat. 50. 32. N.

S.

SAADAH, a ſtrong and populous town of Arabia Felix, where much Turkey leather is made. It is 140 miles W.N.W. of Sanaa. Long. 44. 55. E. Lat. 17. 50. N.

SAALEFELD, a town of Upper Saxony, in the principality of Altenburg. Here are manufactures of cloth and ſilk ſtuffs: it is likewiſe the mint-town for the circle of Upper Saxony. It ſtands on the Saal, 20 miles N.N.E. of Coburg, and 46 S.W. of Altenburg. Long. 11. 22. E. Lat. 50. 31. N.

SAATZ, or ZATEC, a town of Bohemia, which gives name to a circle. It is ſituate on the Eger, 25 miles S.W. of Leutmeritz, and 44 S. of Dreſden. Long. 4. 15. E. Lat. 50. 16. N.

SABA, a town of Perſia, in Irac-Agemi, on the road from Sultania to Kom. Long. 52. 15. E. Lat. 34. 56. N.

SABANDGE, a town of Turkey in Aſia, in Natolia. Here all the roads from Aſia to Conſtantinople meet. It is ſituate on a lake which abounds in fiſh, 60 miles E.S.E. of Conſtantinople. Long. 29. 40. E. Lat. 40. 30. N.

SABATZ, or SABACZ, a town and fortreſs of Turkey in Europe, in Servia. It was taken by the Imperialiſts in 1789. It is ſituate on the Drave, 22 miles S. of Peterwaradin, and 28 W. of Belgrade. Long. 20. 2. E. Lat. 45. 5. N.

SABIA, a kingdom on the E. coaſt of Africa, bounded on the N. by Sofala, on the E. by the Moſambique, on the S. by unknown regions, and on the W. by Manica. It has mines of gold, and many elephants. Manbone is the capital.

SABIA, a cape of Africa, in the kingdom of Tripoli, at the bottom of the gulf of Sidra.

SABIE, a ſea-port of Denmark, ſituate on the E. coaſt of N. Jutland, at the mouth of a river of the ſame name, 23 miles N.N.E. of Alburg. Long. 10. 18. E. Lat. 57. 20. N.

SABIONCELLO, a peninſula of Dalmatia, to the S. of the gulf of Narenta, and to the N. of a channel which ſeparates the iſlands of Curzola and Melida.

SABIONCELLO, a town of Dalmatia, in the republic of Raguſa, ſituate on the peninſula of the ſame name, 45 miles N.W. of Raguſa. Long. 17. 40. E. Lat. 43. 20. N.

SABIONETTA, a ſtrong town of Italy, in the Milaneſe, capital of a duchy of the ſame name, with a caſtle. It belongs to the houſe of Auſtria, and is 20 miles E. of Cremona. Long. 10. 30. E. Lat. 45. 0. N.

SABLE, an ancient and populous town of France, in the department of Sarte, with a caſtle. In the neighbourhood are ſome quarries of black marble. It is ſeated on the Sarte, 25 miles N.E. of Angers, and 135 S.W. of Paris. Long. 0. 24. W. Lat. 47. 50. N.

SABLES D'OLONNE, a commercial town of France, in the department of Vendée, with a port capable of containing veſſels of 150 tons. It is ſeated on the bay of Biſcay, 31 miles W. of Luçon. Long. 1. 36. W. Lat. 46. 30. N.

SACCAI, a ſtrong city and ſea-port, one of the moſt famous in Japan, with ſeveral caſtles, temples, and palaces. It is ſeated on the ſea, and has a mountain on one ſide, which ſerves as a rampart, 300 miles S.W. of Jedo. Long. 134. 5. E. Lat. 35. 0. N.

SACCHAROMETER, an inſtrument contrived by Mr. Richardſon of Hull, upon the principle of the HYDROMETER, for *meaſuring the ſweetneſs of* WORTS, or malt infuſions; by compariſon with the ſpecific gravity of the water employed in the proceſs. The principle is well known, and the making of ſuch an inſtrument is in every one's power without any preciſe inſtructions.

SADDLE (*Encycl.*). The following is the ſpecification of a patent granted to Mr. Inglis, of Chelmsford, in Eſſex, for a ſaddle upon a new conſtruction, the ſtirrup-bars of which are ſo contrived that ſhould the rider, by accident, be thrown off, or fall from, his horſe, he will immediately upon falling be diſengaged. It is dated May 21, 1801.

"The nature of my invention," ſays Mr. Inglis, "is to give elaſticity to the ſeat of the ſaddle, and conſequently eaſe to the rider, by means of a ſpring introduced into the long ſtraining web; and to attach the ſtirrup-bar to the ſaddle by means of a bolt or faſtening, connected with the rider in ſuch a manner, that on falling off, or by being thrown, he draws the bolt or faſtening, and detaches the ſtirrup from the ſaddle. The manner in which this is performed is as follows: Take a common ſaddle-tree, and being provided with a ſtrong ſpring of ſteel, or other metal (ſee Pl. 44. fig. 2), inſtead of fixing the long ſtrained web in the uſual manner, take a piece, of a ſufficient length, when doubled, and put over one arm of the ſpring, as at *a*, and nailed to the head of the tree in the uſual manner, will juſt ſuffer the ſpring to clear the head, and work free; the other part of the web is to go over the other arm of the ſpring at *b*, and inſtead of being nailed down on each ſide upon the bar of the ſaddle-tree, within ſide the cantle, is to be paſſed through two ſlits, to be cut in the two ſides of the cantle, about three quarters of an inch above the bar, and nailed on the lower part of the outſide of the cantle, as deſcribed in fig. 3. By the web being thus elevated, and paſſed through the cantle, it will be allowed to play with the elaſticity of the ſpring without being preſſed down upon the tree, and in fixing this part of the long web, care muſt be taken that the ſpring be not ſtretched in doing it, nor the web left ſlack, but it muſt be drawn and fixed in a workman-like manner; the ſpring will then reſt in a horizontal poſition over the gullet of the ſaddle, immediately behind the head, and the long web will receive its elaſtic effect therefrom. The ſaddle in this ſtate is repreſented in the drawing fig. 1. The ſteel ſpring, as ſeen naked in this drawing, is then to be covered with two pieces of web, each three quarters of an inch broader than the diſtance between the parts of the web already on the ſpring at *a* and *b*, and of ſufficient length to nail on each ſide on the bar of the tree. One of theſe pieces muſt be ſtrongly ſewed underneath the ſpring to each part of the web at *a* and *b*, and the other piece over the ſpring to the web in the ſame manner, which will not only prevent the ſpring being over ſtretched, but will alſo prevent the ſtuffing of the ſaddle from interfering with it. Then ſew a piece of ſmall, but ſtrong, cord or ſtring round and over the ſpring, through the parts of the web, drawing the ſtring or cord tight, and faſten both ends on the under ſide of the web, which will prevent the ſpring from

being ſtretched during the croſs-ſtraining. Then croſs-ſtrain the long web to a proper form, in the uſual manner, except that the croſs-ſtraining muſt not be brought quite ſo forward as the ſpring, but muſt be ſewed behind, and not upon the ſpring, ſo as not to interrupt its motion. Then proceed to finiſh the ſaddle, as uſual; and immediately previous to putting in the pannel, remove the cord or ſtring from the ſpring, and ſuffer it to have its freedom. This deſcription is equally ſufficient to enable a workman to make a lady's ſaddle, as the ſpring is to be fixed in the ſame manner.

"The ſtirrup-bar conſiſts of three parts. Fig. 4, is an open box, rivetted on the bar of the ſaddle-tree, a little higher than the bar, on a common tree. Fig. 5, is the ſtirrup-bar, which ſupports the ſtirrup, with a ſhort ſhank to be introduced into the box, where it is bolted by a double ſpring bolt, fig. 6; the two prongs of which paſs through two correſponding holes in the bar and box, and thus attach the bar and ſtirrup to the ſaddle: to this bolt, fig. 6, a ſmall ſtrap is ſewed. The rider being then ſeated, is to button the ſtraps round his thighs a little above each knee; or ſhould he fall, or be thrown from his horſe, the ſtraps will draw the bolts, and the ſtirrups will immediately drop from the ſaddle. Before he diſmounts he muſt unbutton the ſtraps; or, if he wiſh to try the effect of the invention, he may diſmount with the ſtraps on, when the ſpring bolts will be drawn, and the ſtirrups diſengaged from the ſaddle. Inſtead of the ſtraps going round the thighs, they may be attached to the body in any other manner, ſo as to draw the bolts on falling or being thrown."

SAFFI, a trading town of Morocco, with a caſtle. The Portugueſe were long in poſſeſſion of it, but they forſook it in 1641. It is ſurrounded by ſeveral eminences, which command the town. Long. 8. 58 W. Lat 32. 28. N.

SAGAN, a town of Sileſia, capital of a principality of the ſame name, belonging to Prince Lobkowitz. It has double walls, a caſtle, and a priory of the Auguſtine order. By permiſſion of the emperor, in 1709, a Lutheran ſchool was founded here. It is ſeated on the Bober and Queis, 62 miles N.W. of Breſlaw. Long 15. 22. E Lat. 51. 42. N.

SAGREZ, a ſtrong town of Portugal, in Algarva, with a harbour and a fort, four miles W of Cape St. Vincent, and 125 S. of Liſbon. Long. 9. 4. W. Lat. 37. 4. N.

SAGUR, a town of Hindooſtan Proper, in the province of Malwa, ſituate near the Bunnaſs River, 87 miles N.W. of Gurrah, and 112 S. of Agra. Long. 78. 53. E. Lat. 23. 45 N.

SAID, a town of Upper Egypt, ſeated on the Nile, 150 miles S. of Cairo. Long 31. 20. E. Lat. 27. 32. N.

SAL, one of the Cape de Verd Iſlands, 42 miles in circumference, lying to the E. of St. Nicholas. It has its name from the great quantity of ſalt made here from the ſea water, which overflows part of it, from time to time. It is 300 miles W. of the coaſt of Africa. Long. 22. 56. W. Lat. 16. 38. N.

SALA, or SALBERG, a town of Sweden, in Weſtmania, near which is a very large ancient ſilver mine. This town was firſt built by King Guſtavus Adolphus in 1624, and deſtroyed by fire in 1736. It is ſeated on a river, 30 miles W. of Upſal, and 50 N.W. of Stockholm. Long. 17. 45. E. Lat. 59. 50 N.

SALARANO, a town of Italy, in the Milaneſe, ſituate on the Lambro, five miles W.S.W of Lodi, and 15 S.E. of Milan. Long. 9. 22. E. Lat. 42. 44. N.

SALECTO, a town of the kingdom of Tunis, near which are the remains of a large caſtle. It is ſeated near the Mediterranean, 22 miles S.S.E. of Monaſter. Long. 11. 3. E. Lat. 35. 13. N.

SALEM, a ſea-port of the ſtate of Maſſachuſets, capital of the county of Eſſex. It is the oldeſt town in the ſtate, except Plymouth, and carries on a large foreign trade. It is 15 miles N.E. of Boſton. Long. 71. 30. W. Lat. 42. 16. N.

SALEM, a ſea-port of the ſtate of New Jerſey, 37 miles S.S.W. of Philadelphia. Long. 75. 32. W. Lat. 39. 37. N.

SALEM, a town of North Carolina, in the county of Surrey. It is the principal ſettlement of the Moravians in this ſtate, and 170 miles W. of Edenton. Long. 80. 21. W. Lat. 36. 2. N.

SALERS, a town of France, in the department of Cantal, ſeated among the mountains, nine miles N. of Aurillac.

SALIES, a town of France, in the department of Lower Pyrenées, remarkable for its ſprings of ſalt water, from which the white ſalt is made. It is ſeven miles W. of Orthez.

SALIGNAC, a town of France, in the department of Upper Vienne, 10 miles S. by W. of Limoges. Long. 1. 18. E. Lat. 45. 42. N.

SALIGNAS, a town of Spain, in Biſcay, ſeated on the Deva, at the foot of a mountain, eight miles N. by E. of Vittoria, and 28 S.S.E. of Bilboa. Long. 2. 54. W. Lat. 43. 5. N.

SALINAS, a town of Spain, in Guipuſcoa, near Mount St. Adrian, 16 miles N.E of Vittoria, and 28 S.S.W. of St. Sebaſtian. Long. 2. 45 W. Lat. 43. 5. N.

SALINS, a conſiderable town of France, in the department of Jura, with a ſtrong fort. It is remarkable for its ſalt-works, the largeſt of which is in the middle of the town, and is like a little fortified place. It is ſeated in a fertile valley, on a ſtream that has its ſource in the town, 29 miles S. of Benſançon, and 200 S.E. of Paris. Long. 6. 5. E. Lat. 46. 56. N.

SALM, a town of Germany, capital of a county in the duchy of Luxemburg, 11 miles S S.E. of Spa, and 38 N. of Luxemburg. Long. 5. 55. E. Lat. 50. 25. N.

SALM, a town of France, in the department of Meurthe, with a caſtle, ſeated at the ſource of the Sar, 20 miles W. of Straſburg, and 55 S.E. of Nanci. Long. 7. 15. E. Lat. 48. 34. N.

SALO, a town of Italy, in the Breſciano; taken by the French in Auguſt, 1796. It is ſeated on the lake Digarpa, 17 miles N.E. of Breſcia. Long. 10. 49. E. Lat. 45. 38. N.

SALOBRENA, a ſea-port of Spain, in Granada, with a caſtle. It carries on a great trade in ſugar and fiſh, and is ſeated on a rock, near the mouth of a river of the ſame name, 12 miles E. of Almunecar, and 36 S. of Granada. Long. 3. 30. W. Lat. 36. 31. N.

SALON, a town of France, in the department of the Mouths of the Rhone, ſeated on the canal of Craponne, 20 miles N.W. of Aix. Long. 5. 5. E. Lat. 43. 38. N.

SALONE, a town of Livadia, with a biſhop's ſee. The inhabitants are Chriſtians and Turks, pretty equal in number; and Jews are not ſuffered to live here. It is ſeated on a mountain, on the top of which is a citadel, 20 miles N.E. of Lepanto. Long. 23 1. E. Lat. 38. 50. N.

SALPE, a town of Naples, in Capitanata, near which are ſome ſaltworks. It is ſituate on a lake, near the ſea, 23 miles S. of Manfredonia, and 92 E.N.E. of Naples. Long. 16. 10. E. Lat. 41. 12. N.

SALSONNA, a town of Spain, in Catalonia, ſeated on the Lobregat, 44 miles N.W. of Barcelona. Long. 1. 38. E. Lat. 41. 56. N.

SALT (*Encycl.*). To remove and leſſen the known inconveniences in the manufacture of ſalt, Mr. Manley, of

Great Budworth in Cheſhire, invented and adopted the following apparatus, and proceſſes, for which he has obtained a patent.

"My firſt head of improvement (ſays he in his ſpecification) conſiſts in adding to the common apparatus for ſalt-making another pan, which I call a heating ciſtern, or preparing-pan. This is placed contiguous to the common ſalting-pan, and is heated by an extenſion of the flues from the ſaid ſalting-pan, and therefore without requiring any additional fuel. The preparing-pan may be made of iron, or any other ſuitable material, and of a form the beſt adapted to different ſalt-works, and either with or without a cover. It ſhould hold at leaſt as much brine as will ſerve for one charge of the ſalting-pan.

"The conſtruction of the pans will be explained by a reference to the drawing hereto annexed or ſubjoined. In Plate 44. fig. 1, is the ground plan of a ſalting-pan, of the uſual form, with a preparing-pan adjoining to it. *a, a, a, a,* is the ſalting-pan; *b, b, b, b,* the preparing-pan; *c, c, c, c,* flues which convey the flame from beneath the ſalting-pan to the preparing-pan; *d,* the chimney; *e,* a damper; *f, f, f, f,* fire-doors; *g, g, g, g,* grates. The arrows ſhew the courſe of the flame through the flues.

"Theſe pans may be uſed in the following manner: (allowing for ſuch variations as may be found adviſable from occaſional differences in the quality of the brine, or the particular convenience of the manufacturer). The rough brine, in the ſtate in which it is pumped out from the well, or drawn from the reſervoir, is to be ſent directly to the preparing-pan, inſtead of going at once into the ſalting-pan, which is done in the preſent method of manufacture. The rough brine is then heated in the preparing-pan, by means of the ſame fire which is heating the brine already in the ſalting-pan. The rough brine, by being thus heated in the preparing-pan, is brought, without expence of fuel, to the degree of heat requiſite for depoſiting the earthy and metallic impurities ſeparable from it by mere heat. Theſe impurities ſubſide to the bottom, leaving the brine above them clear and hot, ready to be afterwards evaporated in the ſalting-pan before uſed, as ſoon as this pan is able to receive it, or in any contiguous ſalting-pan. The clarified brine may be drawn off from the ſediment by a ſyphon, or by any other ſuitable method; after which the ſediment is to be let off through a waſte-pipe at the bottom of the preparing-pan, and the whole well waſhed out. The preparing-pan is then to be filled with freſh brine, and heated as before, by the ſame fire which is ſupplying the ſalting-pan, ſo as to prepare a change of clear and hot brine for a ſubſequent evaporation.

"The improvement in the proceſs of ſalt-making, which I have here ſpecified, will ſave a conſiderable quantity of fuel, inaſmuch as the brine may be brought in the preparing-pan, without any additional expence of fuel, to the ſame ſtate, for which in the uſual mode of manufacture a fire muſt be kept up for ſeveral hours under the ſalting-pan.

"The above improvement will likewiſe ſave much of the time neceſſary to the proceſs of evaporation, as well as much of the time and labour now employed in clearing out the ſediment, and it will contribute to leſſen the quantity of the pickings, and conſequently the frequency of their removal.

"My ſecond head of improvement in the manufacture of ſalt, which is quite diſtinct from the firſt, is to add to the brine a certain quantity of fixed alkali, eſpecially of barilla, or any other ſpecies of the mineral alkali, whereby ſeveral of the earthy ſalts contained in the brine, and not ſeparable from it by mere heat, are decompoſed, and the earth precipitated in the form of a ſediment, which may be removed without much difficulty. The quantity of the alkali, and the time at which it ſhould be added, muſt depend on the degree of concentration of the brine, and eſpecially on the nature and proportion of its contents; and as theſe differ much in different ſprings, and even in the water of the ſame ſpring at different times, they muſt therefore be left to the manufacturer to determine for himſelf according to circumſtances.

"My third head of improvement in the manufacture of ſalt, which is quite diſtinct from the two former, conſiſts of a peculiar method of conſtructing the flues for conveying the flame and heated air of the furnaces beneath the pans, ſo as to leſſen the requiſite conſumption of fuel. Many attempts have been made at various times to increaſe or retain the heat under ſalt-pans by means of circuitous, angular, or otherwiſe lengthened flues, all of which attempts have been fruſtrated by the heaving or riſing of the pan, when the liquor which it contains is fully boiling, which has allowed the flame to paſs directly over the croſs and midfeather walls to the chimneys, inſtead of circulating through the flues.

"To remedy this inconvenience, let flue-plates be formed of plates of iron bent to an angle lengthwiſe, in order to afford a face or flanch part, to be rivetted, or otherwiſe faſtened, to the bottom of the boiler, whilſt the other part of the width of the plates project downwards from the bottom of the pan, and is either to be received looſely in a groove of the croſs and midfeather walls, or elſe to hang down for ſome inches beſide them. By this method the flame and heated air will be kept within the flues, notwithſtanding the riſe and fall of the pan, and the advantage in ſaving fuel which is derived from the circuitous courſe of the flues will be ſecured.

"Figure 2, exhibits one of the methods of applying theſe plates. *a, a, a, a,* is the ſalt-pan; *b, b, b,* grates; *c, c, c,* flues; *d,* the chimney; *e, e, e,* dampers; *f, f, f,* fire-doors. The dark lines repreſent the iron plates, and the lighter parts on each ſide repreſent the brick partition walls of ſupport, between which the plates are received looſely. The arrows ſhew the courſe of the fires through the flues.

"The above conſtruction may be applied both to ſalt-pans and to pans of any deſcription which are intended to bear the fire."

SALTZA, a town of Lower Saxony, in the duchy of Magdeburg. It takes its name from the ſalt-pits, and is 12 miles S.S.E. of Magdeburg. Long. 11. 54. E. Lat. 52. 3. N.

SALTZWEDEL, a town of Upper Saxony, in the old marche of Brandenburg, formerly reckoned one of the Hanſe towns. Here are flouriſhing manufactures of cloth, ſerge, and ſtockings. It is ſituate on the Jetze, 20 miles N.N.W. of Gardeleben, and 48 E.N.E. of Zell. Long. 11. 30. E. Lat. 52. 55. N.

SALVADOR, St. the capital of the kingdom of Congo, with a large palace, where the king and a Portugueſe biſhop reſide. It is ſeated on a craggy mountain, 240 miles E. by S. of Loango. Long. 15. 39. E. Lat. 4. 50. S.

SALVADOR, St. a populous city of Braſil, with an archbiſhop's ſee, and ſeveral forts. It contains many religious houſes, and carries on a conſiderable trade. The houſes are two or three ſtories high, and the walls thick and ſtrong, being built of ſtone. The principal ſtreets are large, and there are many gardens, full of great variety of fruit-trees, herbs, and flowers. The chief commodities are ſugar, tobacco, woad for dyers, raw hides, tallow, and train-oil. It is ſeated on an eminence, on the bay of All Saints, 120 miles S.W. of Sergippy. Long. 40. 10. W. Lat. 13. 30. S.

SALVATERRA, a town of Portugal, in Eſtremadura, with a royal palace, ſeated on the Tajo. Long. 7. 51. W. Lat. 38. 59. N.

SALVATERRA, a ſtrong town of Portugal, in Beira. It

was taken by the French in 1704, and by the allies in 1705. It is ſeated on the Elia, 12 miles N.E. of Alcantara. Long. 6. 14. W. Lat. 39. 30. N.

SALVATIERRA, a town of Spain, in Galicia, ſeated on the Minho, 56 miles S. of Compoſtella. Long. 8. 16. W. Lat. 41. 48. N.

SALVATIERRA, a town of Spain, in Biſcay, ſeated at the foot of Mount St. Adrian, 30 miles E. by S. of Vittoria. Long. 2. 17. W. Lat. 42. 54. N.

SAMARAND, a populous town on the eaſtern part of the iſland of Java.

SAMARCAND, an ancient and populous city, in the country of the Uſbec Tartars, with a caſtle and a univerſity. It was the birth-place and ſeat of Tamerlane the Great. It carries on a trade in excellent fruits, and is ſeated near the Sogde, which runs into the Amo, 138 miles E. by N. of Bokhara. Long. 65. 15. E. Lat. 39. 50. N.

SAMATHAN, a town of France, in the department of Eure, with a ſtrong caſtle on a mountain. It is ſeated in a valley, on the river Save, five miles N. of Lombez. Long. 1. 0. E. Lat. 43. 34. N.

SAMBAS, a town of the iſland of Borneo, capital of a kingdom of the ſame name, near the W. coaſt. In its vicinity diamonds are found. Long. 109. 0. E. Lat. 2. 20. N.

SAMBRE, a river of the Netherlands, which riſes in Picardy, and paſſing by Landrecy, Maubeuge, Thun, and Charleroy, falls into the Maeſe, at Namur.

SAMOGITIA, a province of Poland, 175 miles long, and 125 broad; bounded on the N. by Courland, on the E. by Lithuania, on the W. by the Baltic, and on the S. by Weſtern Pruſſia. It is full of foreſts and high mountains, which feed a great number of cattle, and produce abundance of honey. Here are alſo very active horſes, in high eſteem. The inhabitants are clowniſh, but honeſt; and they will not allow a young woman to go out in the night without a candle in her hand, and two bells at her girdle. Roſienne is the principal town.

SAMSO, or SAMSOI, an iſland of Denmark, on the E. coaſt of North Jutland. It is eight miles long, and three broad, and very fertile. Long. 10. 33. E. Lat. 56. 2. N.

SAMSON, ST. a town of France, in the department of Eure, ſeated on the river Rille, five miles from Pontaudemer.

SANA, or ZANA, a town of Peru, and capital of a juriſdiction in the biſhopric of Truxillo. It is ſituate in a charming valley, fertile in fruit and corn, and adorned with the moſt beautiful flowers, whence it has been ſometimes called Miraſloris. It is 90 miles N. of Truxillo. Long. 78. 30. W. Lat. 40. 35. N.

SANCERRE, a town of France, in the department of Cher. The wines produced in its environs are ſcarcely inferior to thoſe of Burgundy. It is ſeated on a mountain, near the river Loire, 22 miles N.W. of Nevers, and 110 N. of Paris. Long 2. 59. E. Lat. 47. 18. N.

SANCIAN, an iſland of China, on the coaſt of Quan-tong, 40 miles in circumference, and famous for being the burying place of St. Francis Xavier, whoſe tomb is to be ſeen on a ſmall hill.

SANCOINS, a town of France, in the department of Cher, ſeated on the Argent, 15 miles S.W. of Nevers.

SANDECZ, a ſtrong town of Little Poland, in the palatinate of Cracow. There are mines of gold and copper in its territory, and it is ſeated at the foot of Mount Krapack, 32 miles S.E. of Cracow. Long. 20. 32. E. Lat. 49. 43. N.

SANDERSLEBEN, a town of Upper Saxony, in the principality of Anhalt Deſſau, ſituate on the Wipper, 16 miles S.E. of Quedlingburg, and 31 S.W. of Deſſau. Long. 11. 22. E. Lat. 51. 38. N.

SANDHAMN, a ſea-port of Sweden, in the province of Upland, where all veſſels on their paſſage to and from Stockholm are examined. It is 10 miles E. of Stockholm. Long. 18. 20. E. Lat. 59. 20. N.

SANDO, an iſland of Japan, on the N. coaſt of Niphon; with a town of the ſame name. It is 87 miles in circumference. Long. 139. 30. E. Lat. 38. 35. N.

SANDUGAL, a town of Portugal, in Beira, ſeated on the Coa, 12 miles S.S.E of Guarda.

SANDVLIET, a town of Brabant, on the river Scheldt, 12 miles N.W. of Antwerp. Long. 1. 12. E. Lat. 51. 22. N.

SANDY HOOK, a ſmall iſland of the United States, near the coaſt of New Jerſey. It was formerly a peninſula, but the ſea broke through the iſthmus and formed it into an iſland in the winter between 1777 and 1778. It is ſeven miles S. of Long Iſland.

SANEN, or GESSENAY, a town of Switzerland, in the canton of Bern, ſituate on a river of the ſame name, 24 miles S. of Friburg, and 25 E.S.E. of Lauſanne.

SANGUESA, a town of Spain, in Navarre, ſeated on the Arragon, 20 miles S.E. of Pampeluna. Long. 1. 17. W. Lat. 42. 34. N.

SANOKE-BANCABOUR, a town of Hindooſtan, in the kingdom of Myſore, 117 miles E. by N. of Goa. Long. 75. 44. E. Lat. 15. 39. N.

SANTA CLARA, an iſland of Peru, in the bay of Guyaquil, 90 miles W. of Guyaquil. Long. 82. 36. W. Lat. 2. 18. S.

SANTA FE', the capital of New Mexico, ſeated among mountains, near the Rio-del-Norte, 950 miles N. of Mexico. Long. 106. 35. W. Lat. 35. 32. N.

SANTORINI, an iſland of the Archipelago, to the N. of Candia, and to the S. of Nio. It is eight miles in length, and nearly as much in breadth; and near it are three or four other ſmall iſlands, each of which bears evident marks of a volcanic origin. It produces plenty of barley, cotton, and wine, in which, and the cotton manufactures, its trade conſiſts. Fruit is ſcarce, except figs, and it has neither oil nor wood. The inhabitants are all Greeks, about 10,000 in number, and though ſubject to the Turks, they chooſe their own magiſtrates. Pyrgos is the capital. Long. 26. 1. E. Lat. 36. 10. N.

SAONE AND LOIRE, a department of France, including part of the late province of Burgundy. Macon is the capital.

SAOIGIS, a town of Piedmont, in the county of Nice, ſituate on the ſummit of a rock. It was taken by the French in 1794. It is 17 miles N.E. of Nice. Long. 7. 33. E. Lat. 36. 38. N.

SAPIENZA, three ſmall iſlands, and a cape, near the S. coaſt of the Morea. The largeſt iſland was anciently named Sphracteria. The pirates of Barbary conceal themſelves behind it, to ſurpriſe veſſels which come from the gulf of Venice, or the coaſt of Sicily. Long. 21. 35. E. Lat. 36. 50. N.

SARATOF, a government of Ruſſia, formerly a province of Aſtracan. It is divided into 12 diſtricts, of which that of the ſame name is the principal.

SARATOF, a town of Ruſſia, capital of the government of that name. It is ſeated on the ſide of a mountain, near the river Volga, 220 miles S. of Kaſan, and 300 N.W. of Aſtracan. Long. 49. 25. E. Lat. 52. 4. N.

SARATOGA, a fort of the ſtate of New York, memorable for the ſurrender of an army of Britiſh and Heſſians, under the command of General Burgoyne, to the Americans, in 1777. It is ſeated on the E. ſide of Hudſon's River, 50 miles N. of Albany.

SARBOURG, a town of Germany, in the electorate of Treves, ſeated on the Sare, eight miles S. of Treves. Long. 6. 40. E. Lat. 49. 37. N.

SARBOURG, a town of France, in the department of Meurthe, ſeated on the Sare, at the foot of a mountain, 15 miles E. of Marſal, and 50 S.E. of Metz. Long. 7. 9. E. Lat. 48. 46. N.

SARBRUCK, a town of France, in the department of Moſelle, ſeated on the Sare, 14 miles E.S.E. of Sarlouis, and 40 E. by N. of Metz. Long. 7. 2. E. Lat. 49. 14. N.

SARDAM, a ſea-port of North Holland, where there are vaſt magazines of timber for building ſhips, and naval ſtores, with a great number of ſhipwrights; and here is ſeen the hut in which Peter the Great reſided, while he worked as a ſhipwright in this town. Sardam is ſeated on the Wye, ſeven miles N.W. of Amſterdam. Long. 4. 45. E. Lat. 52. 28. N.

SARDO, a town of Turkey in Aſia, in Natolia. It was formerly called Sardis, and was the capital of Lydia, under the famous King Crœſus. It was afterwards one of the ſeven churches of Aſia, celebrated in the book of Revelation, but was deſtroyed by an earthquake in the reign of Tiberius. It now contains only a few wretched huts. However, here is a large caravanſary, where there are handſome lodgings for travellers, it lying in the great road from Smyrna to Aleppo; and the Turks have a moſque, formerly a chriſtian church. The inhabitants are now almoſt all ſhepherds, who feed their flocks in the neighbouring plains. There are alſo a few Chriſtians, who employ themſelves in gardening, but they have neither church nor prieſts. It is 70 miles E. of Smyrna. Long. 28. 30. E. Lat. 38. 44. N.

SARGANS, a town of Switzerland, capital of a county of the ſame name, in the canton of Zuric, with a caſtle on a rock, where Andrew Doria was defeated by Barbaroſſa. It is ſeated on the top of a hill; and near it are mineral ſprings.

SARGEL, a large and ancient ſea-port of Africa, in Tremeſen, with a caſtle, ſeated on the ſea-coaſt, 25 miles S.S.W. of Algiers. Long. 2. 15. E. Lat. 36. 30. N.

SARGUEMINE, a town of France, in the department of Moſelle, ſeated on the Sare, nine miles S. by E. of Sarbruck. Long. 7. 6. E. Lat. 49. 8. N.

SARK, a little iſland belonging to Great Britain, lying between Guernſey and Jerſey, on the coaſt of Normandy.

SARK, a river of Scotland, which riſes in the E. part of Dumfrieſſhire, and for many miles forms the boundary with England.

SARLAT, a town of France, in the department of Dordogne. It was lately a biſhop's ſee, but is a poor place, ſeated in a bottom, ſurrounded by mountains, 27 miles S.E. of Perigueux, and 87 E. by N. of Bourdeaux. Long. 1. 19. E. Lat. 44. 5. N.

SARLOUIS, a ſtrong town of France, in the department of Moſelle, ſeated on the iſthmus of a peninſula formed by the river Sare, 20 miles E. of Thionville, and 32 N.E. of Metz. Long. 6. 48. E. Lat. 49. 21. N.

SARNEN, a town of Switzerland, in the canton of Underwalden, near a lake to which it gives name. It had formerly a ſtrong caſtle, and is nine miles S. of Lucern. Long. 8. 7. E. Lat. 46. 55. N.

SARNO, a river of the kingdom of Naples, which riſes near Sarno, and falls into the bay of Naples.

SARNO, a town of Naples, in Principato Citeriore, with a biſhop's ſee. It is ſeated on the Sarno, near its ſource, 12 miles N.E. of Salerno, and 20 S.E. of Naples. Long. 14. 49. E. Lat. 40. 46. N.

SARP, or SARPEN, a town of Norway, in the province of Chriſtianſand. Near it is a great cataract, the noiſe of which may be heard to the diſtance of 20 miles. It is ten miles W.S.W. of Fredericſtadt. Long. 10. 47. E. Lat. 59. 9. N.

SARREAL, a town of Spain, in Catalonia, ſeated on the Francoli, in the neighbourhood of which are quarries of alabaſter, ſo tranſparent that windows are glazed with it. Long. 2. 0. E. Lat. 41. 30. N.

SARTE, a department of France, including the late province of Maine. It takes its name from a river which joins the Maine and the Loire, above Angers. The capital is Mans.

SARVERDEN, a town of France, in the department of Moſelle, ſeated on the Sare, 18 miles S. of Sarbruck. Long. 7. 7. E. Lat. 48. 58. N.

SARWAR, a town of Lower Hungary, capital of a county of the ſame name, ſeated on the Raab, 50 miles W. by N. of Buda. Long. 16. 48. E. Lat. 47. 30. N.

SARZANA, a ſtrong town of Italy, in the territory of Genoa, with a biſhop's ſee. It was given to the Genoeſe, by the Great Duke of Tuſcany, in lieu of Leghorn. It is ſeated at the mouth of the Magra, 50 miles S.E. of Genoa. Long. 9. 52. E. Lat. 44. 8. N.

SASERAM,, a town of Hindooſtan Proper, in Bengal, ſeated at the foot of a mountain, near a great lake, in the middle of which is an iſland with the magnificent mauſoleum of the Emperor Shere Shah, which had a fine bridge leading to it; but both are greatly decayed. It is 50 miles S.E. of Benares. Long. 86. 44. E. Lat. 26. 10. N.

SASSARI, a city of Sardinia, capital of the territory of Lugari, with a caſtle and an archbiſhop's ſee. It contains 30,000 inhabitants, and is famous for a fountain called Roſſel, which is ſaid to be more magnificent than the beſt at Rome. It is ſeated in a plain, ſix miles N. of Alghero. Long. 8. 39. E. Lat. 40. 46. N.

SASSEBES, a ſtrong town of Tranſylvania, capital of a county of the ſame name; ſeated at the confluence of two rivers, which fall into the Maroch. Long. 26. 40. E. Lat. 46. 26. N.

SAS VAN GHENT, a ſtrong town of Dutch Flanders. It has fine ſluices, and is ſeated on a canal, which communicates with Ghent, about eight miles N. from it. It was built by the inhabitants of Ghent, as a bulwark to that town, but was taken, in 1644, by the Dutch, from whom the French took it in 1794. Long. 3. 49. E. Lat. 51. 11. N.

SATALIA, a ſtrong ſea-port of Natolia, on the coaſt of Caramania. It is divided into three towns, and has a ſuperb moſque, which was formerly a church. The country around is very fertile; and the citrons and oranges are extremely fine. It is 150 miles W. by S. of Cogni, and 265 S. by E. of Conſtantinople. Long. 32. 21. E. Lat. 37. 1. N.

SATGONG, or SATAGONG, a village of Hindooſtan Proper, in Bengal. In the 16th century it was a large city, in which the European traders in Bengal had their factories. It is ſeated on a creek of the Hoogly River, four miles N.W. of Hoogly.

SATTARAH, a town of the Deccan of Hindooſtan, in the province of Viſiapour, formerly the capital of the Mahrattah ſtate. It is ſituate near the ſource of the Kiſtnah, 50 miles S. of Poonah, and 77 W. of Viſiapour. Long. 74. 8. E. Lat. 17. 45. N.

SAVENAY, a town of France, in the department of Lower Loire, 18 miles N.W. of Nantes, and 32 W. of Ancenis. Long. 1. 55. W. Lat. 47. 23. N.

SAVENDROOG, a ſtrong fortreſs of Hindooſtan, in the kingdom of Myſore. It is ſituate on the top of a vaſt rock, riſing half a mile in perpendicular height, from a baſe of above eight miles in circumference, and divided at the ſummit by a chaſm, that forms it into two hills; theſe having each its

peculiar defences, ſerve as two citadels, capable of being maintained, independently of the lower works, which are alſo wonderfully ſtrong. Notwithſtanding this, it was taken by the Engliſh, in 1791, after a ſiege of ſeven days. It is 18 miles W. of Bangalore.

SAVERDUN, a town of France, in the department of Arriege, ſeated on the Arriege, 25 miles S.S.E. of Toulouſe. Long. 1. 36. E. Lat. 43. 14. N.

SAVERNE, a town of France, in the department of Lower Rhine, with a palace, the occaſional reſidence of the late archbiſhops of Straſburgh. It is ſeated at the foot of Mont Voſges, in a fertile country, which produces plenty of wine, 18 miles N.W. of Straſburgh, and 120 E. of Paris. Long. 7. 33. E. Lat. 48. 41. N.

SAVGILIANO, a ſtrong town of Piedmont, capital of a territory of the ſame name, with a rich Benedictine abbey. It is ſeated on the Maira, five miles W. of Foſſano, and 26 S. of Turin. Long. 7. 44. E. Lat. 44. 30. N.

SAULGEN, a town of Suabia, capital of a county of the ſame name, which belongs to the Baron of Walburg.

SAULIEU, a town of France, in the department of Côte d'Or. Here was anciently a college of the Druids, and a wood in which they performed their ſacrifices, and where the ruins of a druidical temple are ſtill viſible. It is ſeated on an eminence, 25 miles W. of Dijon, and 142 S.E. of Paris. Long. 4. 7. E. Lat. 47. 17. N.

SAVOLAX, a diſtrict of Sweden, in the province of Finland, about 200 miles in length, and 100 in breadth, bordering on Ruſſia.

SAVONIERS, a town of France, in the department of Indre and Loire, five miles from Tours. Near it are caverns, famous for their petrifications.

SAURUNGPOUR, a town of Hindooſtan Proper, in the province of Malwa, 42 miles N.N.E. of Indore, and 43 N.E. of Ougein. Long. 76. 32. E. Lat. 23. 35. N.

SAUVES, a town of France, in the department of Gard, ſeated on the Vidoure, 12 miles S.W. of Alais.

SAUVETERRE, a town of France, in the department of Lower Pyrenées, with an old ruined caſtle, 20 miles W.N.W. of Pau.

SAUVETERRE, a town of France, in the department of Aveiron, 12 miles S.E. of Villefranche.

SAVU, an iſland in the Indian Ocean, to which the Dutch have a kind of excluſive trade, having entered into an agreement with the rajahs that their ſubjects ſhall trade with no ſhips, but thoſe of the Dutch Eaſt-India Company. Long. 122. 30. E. Lat. 10. 35. S.

SAXENBURG, a town of Germany, in the duchy of Carinthia, ſituate on the Drave, 38 miles W. of Clagenfurt. Long. 13. 40. E. Lat. 46. 52. N.

SAXENHAGEN, a town of Weſtphalia, in the county of Schawenburg, 20 miles N.W. of Hanover. Long. 9. 36. E. Lat. 52. 30. N.

SAXMUNDHAM, a town in Suffolk, with a market on Thurſday, ſeated on a hill, 29 miles N.E. of Ipſwich, and 89 N.E. of London. Long. 1. 40. E. Lat. 52. 18. N.

SAYBROOK, a town of the United States, in Connecticut. It is the moſt ancient town in the ſtate, and ſituate on Connecticut River, 18 miles W. of New London. Long. 73. 2. W. Lat. 41. 16. N.

SAYCOCK, one of the iſlands of Japan, divided from Niphon by a narrow channel. The Dutch factors are permitted to reſide in the little iſland of Diſnia, which is on the W. ſide of this. Long. 132. 28. E. Lat. 34. 0. N.

SAYPAN, one of the Ladrone Iſlands, larger and pleaſanter than that of Tinian; lying between 140 and 150° E. long. and in 15. 22. N. lat.

SCALE-BEAM. Under the article BALANCE we have ſpoken fully on the conſtruction of ſcale-beams. To what we have there ſaid we purpoſe to add the deſcription of a *ſtand* or *ſupport* applicable to ſcale-beams of every ſize, and calculated to render the operations, for which theſe inſtruments are uſed, more expeditious and convenient, without diminiſhing their accuracy. This account is the production of Citizen Prony, member of the National Inſtitute of France, and publiſhed in the Annales de Chimie.

"Several experiments," ſays he, "in which I was engaged during the courſe of the laſt winter, put me under the neceſſity of contriving a ſupport, which might be applied promiſcuouſly to every kind of balance, whether provided with a ſuſpending handle or not, and which, without detriment to its accuracy, ſhould afford me commodious means of ſucceſſively raiſing and lowering it. It is well known how embarraſſing and laborious the operation of weighing is, when performed with balances ſupported by the hand; though this is often only the ſmalleſt inconvenience with which their uſe is attended.

"Various artiſts have contrived ſupports, commodious in their uſe, and ingenious in their principle; but as each of theſe ſupports can only be adapted to a ſingle balance, they become ſo expenſive as to be out of the reach of the majority of artiſts and experimentaliſts. I think, therefore, I ſhall do them an acceptable ſervice, by publiſhing, in compliance with the requeſt of ſeveral eminent chemiſts, the deſcription of a ſupport, which, beſides the advantage of being adapted for all kinds of balances, poſſeſſes that of being conſtructed, at a ſmall expence, either in wood or metal.

"It was my intention to have added to this deſcription ſome views relative to the theory and conſtruction of balances, of which I conceived that artiſts, acquainted with the elements of geometry and arithmetic, might avail themſelves for perfecting the machines uſed for weighing; but as this part of my labour has extended itſelf to a greater length than I had at firſt imagined, I ſhall publiſh it ſeparately.

"A triangular foot of copper A *a*, *a*, *a* (figs. 1 and 2, Plate 45. repreſenting the elevation and ſection of my apparatus), has its three extremities *a*, *a*, *a*, firmly ſcrewed down upon a table or horizontal plane. Into the part A of this foot is ſcrewed a cylindrical rod A B, which may be of any arbitrary length: it may even be convenient to have two of theſe of different lengths, in order that they may be changed, when we wiſh to employ the machine for very large balances. Thoſe which I have made uſe of are, the one half a metre, and the other one metre, in length.

"A vertical pulley, P, is placed at the top of the ſtem A B, in ſuch a manner that the ſame vertical plane paſſes through the axis of the rod, and through the horizontal axis of the pulley; the block or collar C D of this pulley has at its lower part a tube C B, into which enters, with a gentle friction, the ſuperior extremity of the rod A B; a ſcrew E ſerves to keep the pulley in a fixed poſition.

"Another pulley P is fixed at the bottom of the rod A B, in ſuch a poſition, that the tangent of the pulleys P and *p* is parallel with the axis of the rod A B.

"A cord K *t p* H G P F, to the end of which is ſuſpended, on the outſide of the vertical table K, a ſmall weight *k*, paſſes through a hole *t* made in the foot *a*, rolls over the pulleys *p* and P, and is attached at F to a piece *m m*' *n q*, which has the form of a fork, and to which are ſuſpended (as I ſhall ſhortly explain) the balance, the weights, and the ſubſtances that are to be weighed. F *m* is a button, which being ſcrewed at the top of the fork, receives the end of the cord, and by means of a knot made on it ſuſtains the fork.

"The tail or handle of this fork is of a priſmatic form at the part *m*' *n*; this priſmatic part enters a groove *f f* made at

the extremity N of the horizontal piece N O, ſo that it can ſlide freely in this groove either upwards or downwards, its courſe being however limited at m^1, where it is ſtopped by the enlarged handle of the fork, and at n by the greater width produced by the ſeparation of the two branches of the fork.

"The piece N O, which is hollow, and interſected, at O, by the ſtem A B, can ſlide along and turn round this ſtem: when it is brought to its proper height, it is ſecured by means of the ſcrew V, and it is then neceſſary, firſt, that it ſhould be at ſuch a height that, when the ſtop m reſts on the ſide of the groove $f f$, or when N O can move no further down, the ſcales of the balance ſhall be in contact with the table or horizontal plane, in order that we may afterwards be able to raiſe it the whole height of $f n$; ſecondly, that the cord F F be in one and the ſame vertical plane with H G.

"The groove at T ought to be ſituated in ſuch a manner that the axis of the priſmatic part of the tail of the fork, and the cord F F^1, ſhall always be in the ſame vertical plane, or in a parallel line with the axis of the ſtem A B.

"Theſe diſpoſitions being made, let us imagine the two branches $n q$ of the fork to be perforated with holes of different diameters, in order to receive horizontal pins ($g g$) of different ſizes; and we ſhall have all that is requiſite for the ordinary operations of weighing, performed in the air, with balances, the beams of which are ſuſpended from above.

"In fact, whatever kind of balance we uſe, we are to introduce the extremity of its ſuſpending handle into the fork $n q$, and inſert into the round hole, which the handle of the balance always has at its ſuperior extremity, any one of the pins that will enter with eaſe; we then apply the piece O N, in ſuch a manner as to fulfil the conditions above laid down for the poſition of this piece; after which, it is to be fixed by the ſcrew V. This being done, the ſcales of the balance are to be charged, which being in contact with the table, or horizontal plane, can have no motion. When the ſcales are charged, we lay hold of the ſmall ball k, and draw the cord which ſuſpends it ſo as to raiſe the balance very ſlowly: if the ſcales be not in equilibrio, the cord is to be looſened till they reſt again upon the table, and ſo ſucceſſively.

"A counterpoiſe Q, ſuſpended to the cord F G, ought to preſerve the equilibrium with the weight of the balance. By means of this precaution, it comes to paſs, that the common centre of gravity of all the forces ſupported by the pulley P falls in all caſes upon the axis of the ſtem A B, which thus has no tendency to bend.

"If we wiſh now to uſe a hydroſtatic balance, we adapt to the ſtem A B a ſmall board O N, fig. 3, which, by means of a cylindrical hole at O, may ſlide along the rod A B, and be fixed at any arbitrary height by a ſcrew at V. Another piece, or board, K^1 K^1, is placed upon V^1 N^1, in ſuch a manner that the holes T T correſpond with the centre of the ſcales, under which are placed the hooks intended for holding the ſubſtances ſuſpended in the water, and K^1 K^1 is fixed upon V^1 N^1 by means of ſcrews V^1.

"Theſe arrangements being made, let the piece N^1 O^1 and the board K^1 K^1, be placed in ſuch a manner that, firſt, the whole height of the balance be placed between this piece and the board, and that the ſcales L L be in contact with the board K^1 K^1, their centres correſponding with holes made in T T. Secondly, that K^1 K^1 be ſufficiently elevated to enable us to place under it the veſſels W W, filled with water, and conveniently to immerſe, in one of theſe veſſels, the ſubſtances which we wiſh to weigh hydroſtatically.

"According to the common practice, theſe ſubſtances are ſuſpended by a very thin wire; but by placing, after my method, two veſſels, and ſuſpending to the two ſcales wires of equal diameter, the one of which ſupports the ſubſtance that is to be weighed, and the other merely in part immerſed, the magnitude of the diameter will have no influence upon the accuracy of the operation; for, let us ſuppoſe the apparatus to be adjuſted in ſuch a manner, that at firſt the two wires were in equilibrio with each other (which may eaſily be obtained by varying the height of the water in the veſſels), theſe two wires will ſtill be in equilibrio, when the beam F F^1, being elevated, will remain in its horizontal poſition: whence it follows, that if one of the wires have ſuſpended to it a ſubſtance immerſed in the water, and we place in the oppoſite ſcale, and conſequently out of the water, a weight adequate to keep the equilibrium with the immerſed ſubſtance, for a horizontal poſition of the beam, the equilibrium will ſtill be maintained, whatever may be the elevation or depreſſion of the beam, provided it continue in a horizontal poſition; for the lengths of the wires, either above or below the ſurface of the water, being equal, the difference between the ſpecific weight of the water and that of the metal will operate equally upon both extremities of the beam. It is evident that this advantage will not be obtained if we employ only the wire to which the ſubſtance is ſuſpended, and that the equilibrium, eſtabliſhed for a certain elevation and a horizontal poſition of the beam, will not apply to other elevations of the beam by preſerving it in the horizontal poſition.

"It is to be remarked, that my method compenſates not only for the exceſs of the ſpecific weight of the wires over that of the water, but alſo for that which depends upon the adheſion of the fluid to the wires, and the covering of water which they carry along with them.

"All that has been ſaid hitherto applies only to balances that are provided with ſuſpending handles; but, in order to render this ſupport abſolutely univerſal in its uſe, it was neceſſary that it ſhould be poſſible to adapt it to a beam which had nothing but its centres; for which purpoſe I contrived an apparatus, which is ſuſpended, like thoſe of a common balance, to the fork $n q$, and which may receive the centres of any beam. The engraved plates of my machine repreſent it provided with this apparatus, the conſtruction of which is as follows.

"A piece $s s^1$ has a ſcrewed hole bored into it at s^1, into which the ſcrew $d d$ is inſerted half its length. Another hole, made at s, in a perpendicular direction to the firſt, receives the pin $g g$, to which all the inferior apparatus is ſuſpended. This hole s ſupplies the place of that which is found at the upper extremity of the ſuſpending handles of balances.

The two other vertical pieces r, r, fig. 4, have at their upper part cylindrical holes not ſcrewed, in which the ſcrew $d d$ can turn freely. Theſe ſuperior parts are placed at an arbitrary diſtance, and retained in their ſituation by means of four nut-ſcrews u, u, u, u, each of the pieces being faſtened between two of theſe nut-ſcrews. A cylindrical rod $h h$ traverſes the inferior parts of theſe pieces $r r$, and is fixed there by means of nut-ſcrews, in ſuch a manner that the ſuperior and inferior points of the pieces $r r$ are invariably at the ſame diſtance.

"Each of theſe pieces $r r$ has, upon the ſurface which is perpendicular to the direction of $d d$ and $h h$, a groove $e e$, and a circular aperture X, having at its lower part a ſmall bracket of poliſhed ſteel $a a$, intended to ſupport one of the centres of the beam. Into the upper part of the grooves $e e$ a rule e^1 e^1 is introduced, which muſt enter with tightneſs, and which, with the pieces $d d$ and $h h$, give ſuch a ſolidity to the apparatus, that the adjuſtment of its parts cannot be in the ſmalleſt degree deranged. The remainder of the groove, which is not occupied by e^1 e^1, ought to be of a length ſomewhat greater than that of the largeſt cock or index adapted to the beams which we ſhall have to uſe.

"The method of uſing the apparatus which I have juſt de-

ſcribed, is very ſimple. The beam which we intend to employ is placed between the two branches *r r*, which are removed from each other till the centres can be brought oppoſite to the circular holes X; the pieces *r*, *r*, are then brought together in ſuch a manner that the centres enter theſe holes X, and ſo as ſtill to leave ſome room for motion between theſe pieces and the body of the beam, in order that the oſcillations of the balance may be perfectly free. The pieces *r*, *r*, are brought parallel with each other, and the adjuſtment of the apparatus is rendered perfectly firm, by means of nut-ſcrews, by the ſmall cylindrical rod *h h*, and by the rule e^1 e^1. The apparatus being adjuſted in this manner, it is ſuſpended to the fork *n q*, hy inſerting the pin *g g* into the hole *s*, and the balance is uſed in the manner that has already been explained. We know the equilibrium to be eſtabliſhed, and the beam to be horizontal, when the index *y y* divides the breadth of the ſpace *e e* into two equal parts; but, in order to aſcertain the circumſtance with greater accuracy, I have ſuſpended to the rule e^1 e^1 a plummet e^1 *i*. by means of which we may diſtinguiſh the ſlighteſt deviations of the index from the perpendicular direction."

Such is the deſcription and uſe of Cit. Prony's ſupport for the ſcale-beam, which, in practice, he ſays, perfectly anſwered his expectations.

SCALITZ, or SCALA, a town of Upper Hungary, in the county of Poſon. There is a very advantageous paſſage by it, from Moravia to Hungary, and it is ſeated on the Marck, 50 miles N. of Preſburg. Long. 17. 17. E. Lat. 49. 4. N.

SCHAGEN, or SCAGERIF, a promontory of North Jutland, in Denmark, at the entrance of the paſſage out of the ocean into the Categate. Long. 10. 6. E. Lat. 57. 16. N.

SCHAMACHIE, a town of Perſia, capital of Schirvan. It was formerly very large, but is now decayed, above 6000 houſes having been thrown down by an earthquake. It has manufactures of ſilks and cottons, and is ſeated on the W. ſide of the Caſpian Sea, 250 miles N.E. of Taurus. Long. 37. 5. E. Lat. 40. 50. N.

SCHANTZ STERNEY, a fortreſs in the Ruſſian government of Wiburg, ſeated on the Neva, a little E. of Peterſburgh. Long. 31. 15. E. Lat. 60. 0. N.

SCHARNITZ, a fortified town of Germany, in the Tirol. It is a paſſage of great importance, on the confines of Bavaria, 12 miles N of Inſpruc.

SCHAUENBURG, a territory of Weſtphalia, 22 miles long, and 10 broad, belonging to the landgrave of Heſſe Caſſel.

SCHAUMBURG, a town and caſtle of Germany, which give name to a lordſhip, in the circle of Lower Rhine, 23 miles N.N.W. of Mentz, and 25 W.S.W. of Wetzlar. Long. 8. 2. E. Lat. 50. 10. N.

SCHELESTADT, a ſtrong town of France, in the department of Upper Rhine, ſeated on the river Ill, 20 miles S.W. of Straſburg. Long. 7. 40. E. Lat. 48. 17. N.

SCHELLENBURG, a fortreſs of Bavaria, remarkable for a victory obtained here by the allies, over the French and Bavarians, in 1704. It is 22 miles W. of Ingolſtadt. Long. 10. 58. E. Lat. 48. 46. N.

SCHELLING, an iſland of the United Provinces, in Frieſland, lying at the entrance of the Zuider-Zee. Long. 5. 10. E. Lat 53. 20. N.

SCHENCK, a fortreſs of Dutch Guelderland, ſeated on the point where the Rhine divides into two branches, the Rhine and the Wahal. It is of great importance, as the centre of communication between Holland and Germany, and is 13 miles E. of Nimeguen. Long. 5. 26. E. Lat. 51. 55 N.

SCHENINGEN, a town of Lower Saxony, which gives name to a diſtrict, in the principality of Wolfenbuttle. It is 16 miles N. of Halberſtadt, and 18 E.S.E. of Wolfenbuttle. Long. 11. 25. E. Lat. 52. 22. N.

SCHIEDAM, a town of the United Provinces, in Holland, ſeated on a canal, which communicates with the Maeſe, four miles E. by S. of Rotterdam. Long. 4. 30. E. Lat. 51. 54. N.

SCHILTA, a ſtrong town of Upper Hungary, in the county of Neitra, ſeated on the river Waag.

SCHINTZNACH, a town of Switzerland, in the canton of Bern, remarkable for its agreeable poſition on the Aar, and its tepid mineral waters. Near it, on a lofty eminence, are the ruins of the famous caſtle of Hapſburg.

SCHIRVAN, a province of Perſia, bounded on the N. by Dagheſtan, on the E. and S.E. by the Caſpian Sea, on the S.W. by Erivan, and on the W. by Georgia. It is about 150 miles in length, and 90 in breadth. Schamachie is the capital.

SCHLEUSSINGEN, a town of Franconia, in the county of Henneburg, ſeated on the Schleuſs, 10 miles S.E. of Smalkald, and 19 N.N.E. of Schweinfurt. Long. 11. 2. E. Lat. 50. 43. N.

SCHLEYDEN, a town of Weſtphalia, in a county of the ſame name, annexed to the county of Mark. It is 40 miles N. of Treves. Long. 6. 40. E. Lat. 50. 45. N.

SCHLITZ, a town of Suabia, which gives name to a county. It is ſituate on a ſmall river that runs into the Fulda, ſeven miles N.N.W. of Fulda, and 33 E. of Gieſen. Long. 9. 40. E. Lat. 50. 45. N.

SCHLUSSERBURG, a town and fortreſs of Ruſſia, ſituate on the Neva, near lake Ladoga. The fortreſs ſtands on an iſland in the river, and has frequently been uſed as a ſtate-priſon. It is 36 miles E. of Peterſburg. Long. 30. 55. E. Lat. 50. 55. N.

SCHMIDBERG, a town of Sileſia, in the duchy of Jauer. Almoſt all the inhabitants are ſmiths, whence the place takes its name. It is ſeated at the foot of a mountain, near the ſource of the Bauber.

SCHNEEBERG, a town of Upper Saxony, ſituate on an eminence near the Mulda. Here are manufactures of thread, ſilk, gold, and ſilver-lace; and in the neighbourhood are ſilver mines, which formerly were very productive. It is ſeven miles N.W. of Schwartzburg.

SCHOMBERG, a town of Germany, in the electorate of Treves, ſeated on a mountain, 15 miles from Limbourg.

SCHONECK, or SCHOENECK, a town of Germany, in the electorate of Treves, with a caſtle, ſeated on the Eyms, 27 miles N. of Treves. Long. 6. 26. E. Lat. 50. 12. N.

SCONEN, SCANIA, or SKONE, a province of Sweden, bounded on the W. by the Sound, which ſeparates it from Zealand; on the N. by Halland and Smoland; and on the E. and S. by Bleckingen and the Baltic. It is 58 miles long, and 40 broad, and is a fertile country. Lunden is the capital.

SCHONGAW, a town of Upper Bavaria, ſeated on the Lech, 30 miles S. of Augſburg.

SCHOOL (*Encycl.*). We have given an account of various ſchools eſtabliſhed in Britain already; but ſome more recently eſtabliſhed muſt not be overlooked. The following is extracted from an account of two ſchools founded by the Rev. Mr. Gilpin at Boldre in Hampſhire; publiſhed by the Society for bettering the Condition of the Poor.

Two ſchools at Boldre in the New Foreſt, Hants, were eſtabliſhed and opened on the firſt of July, 1791, by the Rev. Mr. Gilpin; one for twenty boys, the other for twenty girls, to be ſelected from the children of the day-labouring poor of the pariſh; a preference being given (in order to encourage reading) to children who have learnt to read a chapter in the

Teſtament: but, if the preſcribed number of ſuch ſcholars cannot be found, the deficiency is ſupplied by ſuch children as cannot read.

Sixty-three boys and fifty-nine girls have already been admitted, including thoſe at preſent in the ſchools. Their attendance commences at nine o'clock, when all the ſcholars are aſſembled for prayers. From twelve to one is allowed for dinner, which the children bring with them to ſchool; they are diſmiſſed in ſummer at five, and in winter at four o'clock; except on Saturdays, when the ſchool breaks up at twelve. If any one is abſent, or is beyond the fixed time, without a proper excuſe, ſuch child is puniſhed by an hour's confinement and employment, at noon in winter, and in the evening in ſummer: and if the children have been kept at home, ſo as to continue abſent, without leave (which leave is to be entered in a book for the inſpection of the viſitors), they are uſually diſmiſſed the ſchool, and their places filled up by ſuch as will attend and make a better uſe of their time. As to vacation, a week is allowed at Whitſuntide, a fortnight at Chriſtmas, and a month at harveſt, in order to give them an opportunity of benefiting by harveſt work.

The girls are taught to read, knit, ſpin, ſew, and mend their own clothes, ſo as to fit them to be uſeful daughters, and good wives: the boys (beſides being improved in their reading), are inſtructed in writing and arithmetic; in the firſt, ſo far as to write a legible hand, for which one copy a day is thought ſufficient; and in arithmetic, ſo far as the four firſt rules, and particularly in the tables that belong to thoſe rules.

No preciſe time is fixed for admiſſion: in order that the children in the pariſh may be encouraged to an early proficiency in reading, as the qualification for a place in the ſchool: nor is any preciſe time fixed for the removal of either the boys or girls; as it is preſumed that as ſoon as thay are made *really uſeful*, their parents will wiſh to take them away, and thereby room will be left for the admiſſion of other children. They uſually come from ſeven to nine years of age, and quit the ſchool at thirteen or fourteen. As an incitement to induſtry, a ſeparate account is kept of the produce of each girl's ſale-work; and ſuch produce is laid out for them in clothes and neceſſaries, at the end of the year. Petty offences are puniſhed by a little extra confinement in play-hours; but no corporal correction is allowed, except for lying, ſwearing, ſtealing, indecent language, or immorality.

At the end of November, the annual account of the work of the girls is made up; and from thence to Chriſtmas, their working hours are employed *gratis*, in making up ſhirts and ſhifts for the children in the ſchool, and in knitting ſtockings (a pair each for the boys and girls) the worſted for which is given them.—At the end of the year all the children attend at the vicarage; where their clothes are examined: if there has been neglect on their part, it is noticed: and additions are, at the ſame time, made to their clothing.

The great object of the founder of theſe ſchools is to promote in theſe children the *knowledge and practice* of religion; in order that they may be able therein to inſtruct their own children, when they have families; an inſtruction, that, from local circumſtances, is much wanted in the neighbourhood of the New Foreſt. For this purpoſe, Mr. Gilpin has drawn up an eaſy explanation of the duties of religion, by way of queſtion and anſwer. This the children are taught to repeat, as well as their catechiſm, and are examined in it on Tueſday and Friday after dinner, and on Sunday afternoon.

The annual expence of this uſeful eſtabliſhment does not exceed 40 guineas a-year. The maſter, who lives in the houſe, has for ſalary, and finding fuel, &c. 21. year, and the habitation and garden. The miſtreſs lives in the village; ſhe has ten guineas a-year: and Mr. Gilpin's donations of clothing to the children, and ſome other incidental expences, amount to nearly ten guineas a-year more.

The ſchool-houſe is a neat brick building, with the boys' ſchool at the end next the road; and, at the other, the dwelling houſe, compriſing the ſchool of the girls, and looking into the garden. It is built on a healthy and beautiful ſituation, with a gradual deſcent to Lymington river. It coſt 210l. On the walls of the ſchool rooms are various texts of ſcripture inſcribed in tablets. The children ſtand round the table at particular times, and read them over, with a view of imprinting on their memory ſome of the moſt uſeful precepts in the Teſtament.

For the permanent endowment of theſe ſchools after his death, Mr. Gilpin purpoſes to provide by the ſale of his drawings and ſketches, which, as we have been told, he has formed for that purpoſe into eighty-nine lots, each lot containing ſeveral drawings. How valuable an addition they will make to the collections of the artiſt, the connoiſſeur, and the lover of the fine arts, it will be unneceſſary and preſumptuous in us to endeavour to explain. The value of the drawings, enhanced by the object to which the produce is deſtined to to be applied, muſt render them an enviable poſſeſſion to every one, whenever (in conſequence of that event which the friends of humanity hope may be long delayed) they ſhall be offered to the public.

The benefit of ſuch ſchools, as thoſe founded by Mr. Gilpin at Boldre, is important in every ſituation, and at all times; but, in the New Foreſt, where the children of the poor have too much diſpoſition to partake of the natural wildneſs of the place, they are peculiarly neceſſary and beneficial.

To this we ſhall add the *Rules of a Spinning School* at Oakham, in the county of Rutland, publiſhed by Lord Winchilſea in the ſame work, with the hope of encouraging the eſtabliſhment of ſimilar inſtitutions in other parts.

1ſt, All inhabitants of the pariſh ſhall be admitted.

2d, No perſons to receive relief from the pariſh upon account of their families, who refuſe to ſend their children to the ſchool: unleſs they can prove, to the ſatisfaction of the overſeers, that they can employ them to more advantage elſewhere.

3d, They are to be inſtructed gratis in ſpinning jerſey, and linen, and in knitting: thoſe who chooſe it, in reading; and thoſe who can bring work with them, in ſewing.

4th, The hours of work to be from eight to one, and from two to ſeven; from one to two, dinner and reſt. No work after dinner on Saturdays.

5th, A dinner to be provided for thoſe who chooſe to dine at the ſchool on the working days: for which they are to pay each 6d. per week.

6th, In caſe of illneſs, the dinner may be ſent for to their homes.

7th, The portions, if the dinner is ſent out, to be as follows:

One pint and half of peas porridge.
ditto ditto of rice milk.
One pint and half of rice broth.
One pound and half of potatoe pudding.

Thoſe who dine at the ſchool, to have as much as they chooſe to eat, and a quarter of a pound of bread each: except on the pudding and rice milk days, when no bread is allowed.

8th, The *whole of the earnings* to belong to the children.

A ſpinning ſchool had been eſtabliſhed at Oakham, in 1787: but, till this arrangement took place, the children uſed to go home to their dinner; which was attended with great inconvenience in wet and bad weather, and with loſs of time; as, frequently, when the weather was very

bad, they did not return after dinner; and ſometimes did not go at all.

In order to eſtabliſh the preſent ſyſtem, the dinners, for the firſt fortnight, were given gratis, and the parents invited to taſte them; after that they were informed, that the children of thoſe who approved of the plan, *might* dine there, upon paying *ſixpence a-week*; and thoſe whoſe parents preferred their dining at home, *might* continue to do ſo. The whole of the parents approved much of their dining at the ſchool; and the whole number, which amounts to between ſixty and ſeventy, dine there, and pay their money. They do more work in the week by theſe means, and get a much better dinner than they could at home. Several children come there, whoſe parents do not receive relief.

By purchaſing the different articles wholeſale, by the uſe of barley bread (which is cuſtomary at that place), and by means of a Rumford copper, the expence for the dinners and fuel has never exceeded the *ſixpence per head*. The peas porridge, and pudding, are thoſe recommended in Count Rumford's eſſay.

Lord Winchilſea conceives, that the ſucceſs, which has hitherto attended this plan, is owing to its having been left to the *option* of the parents, whether their children ſhould dine there or not.

SCHOONHOVEN, a ſtrong town of the United Provinces, in Holland, with a commodious haven, ſeated on the Leck, 14 miles E. of Rotterdam. Long. 4. 54. E. Lat. 51. 58. N.

SCHORNDORF, a town of Suabia, in the duchy of Wirtemburg, with a ſtrong caſtle. Here are ſalt ſprings, from which a great deal of ſalt is made. This place was poſſeſſed by the French in Auguſt, 1796. It is ſeated on the Rems, 11 miles N.E. of Stutgard. Long. 8. 54. E. Lat. 48. 56. N.

SCHWALBACH, a village of Germany, in the circle of Upper Rhine and county of Naſſau, frequented for its mineral waters, which are of a ſimilar nature to thoſe of Spa. It is ſeated on the river Aa, nine miles N. of Mentz.

SCHWARTZ, a town of Germany, in the Tirol, famous for its mines of different metals. It is ſeated on the river Ill, 14 miles N.E of Inſpruc. Long. 11. 42. E. Lat. 47. 19. N.

SCHWELM, a town of Weſtphalia, in the county of Mark. Near it are ſome medicinal ſprings. It is 22 miles N.E. of Cologne, and 22 E. of Duſſeldorf. Long. 7. 25. E. Lat. 51. 10. N.

SCHWERIN, a town of Lower Saxony, capital of the duchy of Mecklenburgh Schwerin. It is divided into four parts; namely, Schwerin, the New Town, the iſland of Schelf, and the Moor, which are all nearly encircled by a beautiful lake. The cathedral is a fine Gothic pile, with a lofty ſpire. The ducal palace and gardens are on an iſland in the lake, and have a communication with the town by a drawbridge. It is 33 miles W. by S. of Guſtrow. Long. 11. 48. E. Lat. 53. 48. N.

SCIATI, an iſland of the Archipelago, near the coaſt of Janna, 20 miles to the N. of Negropont, and almoſt at the entrance of the gulf of Salonichi. It is 22 miles in length, and eight in breadth. Long. 23. 40. E. Lat. 39. 26. N.

SCOPELO, an iſland of the Archipelago, five miles E. of Sciati, and 17 N. of Negropont. It lies at the entrance of the gulf of Salonichi, and is 10 miles long and five broad. It is very fertile, produces plenty of good wine, and contains 12,000 inhabitants, who are almoſt all Greeks.

SCOPIA, or Uscapia, a town of Turkey in Europe, in Bulgaria, with an archbiſhop's ſee. It is ſeated on the Vardar, over which is a bridge of 12 arches, 67 miles W.S.W. of Soffa. Long. 22. 25. E. Lat. 42. 10. N.

SCUTARI, a ſtrong town of Turkey in Europe, capital of Upper Albania, with a biſhop's ſee. It is ſeated on the lake Zeta, at the mouth of the river Bocana, 20 miles N E. of Antivari, and 47 N.W. of Albanopolis. Long. 10. 25. E. Lat. 42. 35. N.

Scutari, a town of Turkey in Aſia, in Natolia, with a good harbour, ſeated on the E. ſide of Conſtantinople, of which it is conſidered as a ſuburb, being directly oppoſite. It contains a handſome moſque, and is built on the ſide of a hill. Long. 29. 4. E. Lat. 41. 0. N.

SCYTHE, or Sithe, an inſtrument of huſbandry employed for the purpoſe of cutting graſs, and alſo for the mowing of corn.

Before we attempt a deſcription of the lateſt improvements on this rural inſtrument, we ſhall briefly obſerve, that the well known *Hainault*, or *French ſcythe*, for reaping wheat, has of late years met with many advocates in Britain. It conſiſts, according to the deſcription given by Dr. Templeman, of a ſhort blade, being one-third of the length of thoſe commonly uſed in England; with a wooden handle to be held in the right hand, having a bend and a broad rounded piece at the upper end, for the ſupport of the arm. Further, an iron hook is fixed to a ſtaff, four feet in length, made of oak or aſh, to be uſed with the left hand, with a mortiſe near the end, for the conveniency of the huſbandman's carrying the ſcythe on his ſhoulder. On the handle of the ſcythe, and ſtaff of the hook, at about half a yard from the bottom, are placed leather loops for the fingers, to keep the two graſps at proper diſtances from the ground.

Having already ſtated the diſadvantages, which cannot be avoided in the uſe of *ſickles* for cutting corn under the head of huſbandry, and likewiſe pointed out the ſuperior utility of ſcythes, we ſhall now give a deſcription of *two* inſtruments, which are eminently calculated for both purpoſes. Theſe ſcythes were firſt introduced to public notice by the Patriotic Society of Milan, in one of the earlier volumes of their Tranſactions. Convinced of the inconveniences ariſing from the uſe of the common inſtruments, they procured a model of a *Sileſian ſcythe*, with which the corn of that country is uniformly mown. Having cauſed a ſimilar inſtrument to be conſtructed, it was accordingly tried; and, notwithſtanding its imperfect manufacture, as well as this circumſtance, that the labourer had never uſed a ſcythe on ſuch principles, it was fully proved, that *nearly half the uſual time was ſaved*, and the fatigue or labour was conſiderably leſſened. Further, the corn was thus cut without receiving any injury from the concuſſion in falling to the ground, on which it was ſpread in a regular manner, ſo that it could be eaſily formed into ſheaves. The Milaneſe Society was afterwards preſented with an Auſtrian implement, different from the Sileſian in a few reſpects, which will be noticed in the ſubſequent account.

Figure 1, Pl. 46. repreſents the *Sileſian ſcythe*, which varies little from that commonly employed for mowing graſs: the blade, however, is ſomewhat ſmaller, and has four wooden teeth which are fixed parallel to it, with a view to prevent the grain from being ſcattered, when it is cut: ſo that the labourer is enabled to lay it on the ground in an even and regular way. *a*, *b*, the handle, which is two Milaneſe braſſes and nine inches and a half, or about four feet and four inches Engliſh meaſure, in length. *b*, *c*, repreſents the blade, being one braſs, and three and a half Milaneſe inches, or about two feet one inch long.—The piece of wood, in which the teeth are inſerted, is one braſs, one inch and a half, or nearly two feet in length.

The *Auſtrian ſcythe* greatly reſembles the inſtrument above delineated, excepting that the blade is larger, and the number of wooden teeth is increaſed to five, which are conſequently longer.

The Patriotic Society of Milan obſerve in their Memoir, that the difference in the conſtruction of theſe two implements, will render it neceſſary to employ each of them in a peculiar manner, which can only be acquired by practice. They further remark, that though, in mowing graſs, the feet are kept in a direction nearly parallel to each other, it will be adviſable to place them, when corn is reaping, in a line, one behind the other, the right foot being thruſt forward, and the left drawn towards it; becauſe, in the latter caſe, if they were advanced in a parallel manner, the labourer would be obliged to turn and bend his body in a very inconvenient poſture.

Such of our agricultural readers as are accuſtomed to the uſe of the common ſcythe, will eaſily aſcertain the moſt ſuitable and advantageous mode of employing the inſtrument now deſcribed: and, before we complete the hiſtory of the new implements, it will not be too great a digreſſion from the ſubject to give (from the Domeſtic Encyclopædia) the manner of reaping wheat in Flanders, by means of a very ſimple ſcythe, greatly reſembling that above explained by Dr. Templeman; and a model of which is preſerved in the Repoſitory of the "Society for the Encouragement of Arts, &c." in London. Another account, as well as a repreſentation of this uſeful implement, was communicated to the public by Mr. Adam Walker, in 1788, and inſerted in the 9th volume of *Annals of Agriculture*, where he obſerves, that corn, thick clover, and vetches, are thus cut down with great regularity, and ſuch expedition, as to ſurpaſs the ſickle, in the proportion of three to one.

After the above-given deſcriptions, and obſervations, relative to the *Sileſian ſcythe*, had been publiſhed, the Milaneſe Patriotic Society made additional experiments, from which it appeared, that when the ſtalks of corn are bent down in conſequence of heavy rains, the wooden teeth are apt to catch ſome of the ears, to the ſtalks of which the blade does not extend; and this not being cut below, the ears are pulled down and the grain is ſcattered. This accident happens principally, when the labourers, not being ſufficiently acquainted with the uſe of the ſcythe, are unable to adapt it to particular circumſtances.

To remedy theſe inconveniences, it occurred to an ingenious blackſmith, to add a *collector* or *gatherer*, made of cloth, the conſtruction of which is repreſented in the plate at fig. 2. *a, b, c,* is a common ſcythe. *c, d, m, l, o, f, n, e,* The *gatherer*; which at *c, d, e,* is compoſed of a thin iron plate; having a cavity at its extremity, for receiving the point of the blade. At *e, d,* are holes for ſewing in the cloth, which is light, coarſe, and cheap: it is likewiſe fixed to two thick iron wires, the upper of which is continued to *f,* where it terminates in a hole, in the handle:—the other is ſecured to the back of the blade. The method of fixing the gatherer to ſuch blade, will be more clearly underſtood by referring to the figure, delineated in the plate, fig. 2. and repreſenting one of the irons, which are ſecured by means of ſcrews to the back of the ſcythe. Theſe irons proceed from, and conſtitute a part of, the upright irons, *m, n, l, o,* that ſerve to keep the gatherer extended.

This contrivance is very ſimple and cheap; an attempt, however, has been made to ſimplify it ſtill further, by ſubſtituting for the gatherer two iron hoops, repreſented in the figure laſt referred to, by the dotted lines, marked *h, g, k, i,* with a croſs-piece that ſerves to connect them; thus ſaving the cloth and iron plate before deſcribed.—Experiments, however, have been made with both theſe implements; from the reſult of which it appears, that the gatherer is, upon the whole, preferable to the hoops, as no ears of corn are left behind; and that the latter alteration promiſes to be moſt ſerviceable, when there is no ſhort corn, that can inſinuate itſelf between ſuch iron hoops.

SEAFORD, a borough and ſea-port in Suſſex, which ſends two members to parliament, but has no market. It is eight miles S.S.E. of Lewes, and 59 S. by E. of London. Long. 0. 10. E. Lat. 50. 50. N.

SEATON, or Port Seaton, a ſea-port, in Haddingtonſhire. Here is a ruinous palace, in which Mary queen of Scots occaſionally kept her court, after her return from France. In the chapel are ſeveral curious monuments of marble. Seaton has a conſiderable trade in ſalt and coal, and is ſituate on the Frith of Forth, nine miles E. of Edinburgh. Long. 2. 54. W. Lat. 56. 0. N.

SEBASTIA, a town of Turkey in Aſia, in Paleſtine, the remains of the ancient city of Samaria. It is 34 miles N.N.E. of Jeruſalem. Long. 35. 40. E. Lat. 32. 15. N.

SEBASTIAN, St. a large city of Braſil, capital of the province of Rio Janeiro, and a biſhop's ſee. It has a very extenſive and commodious harbour, defended by numerous forts. The city ſtands on low ground, which was formerly ſwampy, and is ſurrounded by high hills, which exclude the benefit of the refreſhing ſea and land breezes; ſo that it is ſuffocatingly hot, and unhealthy, in the ſummer. The different mechanics carry on their buſineſs in diſtinct parts of the town; particular ſtreets being ſet apart for particular trades. On the S. ſide of a ſpacious ſquare is the palace of the viceroy; and there are ſeveral other ſquares, in which are fountains, ſupplied with water by an aqueduct, of conſiderable length, brought over valleys by a double row of arches. A Benedictine convent and a fort are on the extreme point, jutting into the harbour, oppoſite to which is Serpent Iſland, where there are a dock-yard, magazines, and naval ſtore-houſes. In another part of the harbour, at a place called Val Longo, are the warehouſes for the reception, and preparation for ſale, of the ſlaves imported from Africa. St. Sebaſtian is ſeated near the mouth of the Rio Janeiro, in the Atlantic. Long. 42. 44. W. Lat. 22. 54. S.

SEBASTOPOLIS, or Sagatopoli, a town of Mingrelia, on the Black Sea. It was put under the protection of Ruſſia, in 1783. It is 220 miles W.N.W. of Tefflis, and 260 N.N.W. of Erivan. Long. 55. 15. E. Lat. 46. 10. N.

SEBOURG, a town of France, in the department of the North, 12 miles E. of Valenciennes, and 12 S.E. of Condé. Long. 3. 50. E. Lat. 50. 22. N.

SECHURA, a town of Peru, in the biſhopric of Truxillo, ſituate near the mouth of a river of the ſame name, 30 miles S.S.E. of Paita, and 180 N.N.W. of Truxillo. Long. 81. 10. E. Lat. 5. 55. S.

SECKAU, a town of Germany, in Upper Stiria, with a biſhop's ſee; ſeated on the Gayle, nine miles N. of Judenburg, and 90 S.W. of Vienna. Long. 14. 27. E. Lat. 47. 19. N.

SECKENHEIM, a town of Germany, in the palatinate of the Rhine, near which the elector, Frederic I. gained an important victory in 1462. It is four miles E. of Manheim.

SECKINGEN, a town of Suabia, one of the foreſt towns. It belongs to the houſe of Auſtria, and is ſeated on an iſle, formed by the Rhine, ſix miles S.E. of Rheinfelden, and 27 W. of Scaffhauſen. Long. 7. 57. E. Lat. 47. 34. N.

SECKINGTON, a village in Warwickſhire, near Tamworth; famous for a battle, fought in 757, between Cuthred, king of the Weſt Saxons, and Ethelbald, king of the

Mercians. On the north ſide of its church are the ruins of a fort, and near it an artificial hill, 45 feet high.

SEECHING, a town in Norfolk, with a market on Tueſday, ſeated on a ſmall navigable river, four miles S. of Lynn, and 93 N.E. of London. Long. 0. 24. E. Lat. 52. 44. N.

SEER, a town of Arabia, capital of a principality, in the province of Oman. It is 108 miles W.S.W. of Julfar. Long. 54. 38. E. Lat. 25. 10. N.

SEEZ, an ancient and conſiderable town of France, in the department of Orne, with a biſhop's ſee; ſeated in a fine country, near the ſource of the Orne, 12 miles N. of Alençon, and 102 W. by S. of Paris. Long. 0. 15. E. Lat. 48. 36. N.

SEGESTAN, a province of Perſia, bounded on the north by Koraſan and Balck, on the eaſt by Candahar and Sableſtan, on the S. by Mackerran, on the S.W. by Kerman, and on the W. by Covheſtan and Farſiſtan.

SEGESWAR, a town of Tranſylvania, capital of a county of the ſame name. It is built in the form of an amphitheatre, on the ſide of a hill, near the river Kokel, 47 miles north of Hermanſtadt. Long. 24. 55. E. Lat. 47. 4. N.

SEGRA, a river of Spain, which riſes in the Pyrenées, and runs S.W. through Catalonia, paſſing by Puy-Cerda, Urgel, Belaguer, Lerida, and Mequinenza, where it falls into the Ebro.

SEGURA, a town of Portugal, in Beira, with a caſtle on a mountain. It is near the rivers Elia and Tago, eight miles S.E. of Caſtel-Branco, and 30 N.W. of Alcantara.

Segura, a town of Spain, in New Caſtile, and territory of La Mancha, ſeated among the mountains of Segura, 35 miles N.E. of Baeza. Long. 2. 39. W. Lat. 37. 56. N.

Segura, a river of Spain, which riſes in the mountains of Segura, in New Caſtile, and croſſing Murcia, and the ſouth part of Valencia, falls into the Mediterranean.

SEHARANPOUR, a town of Hindooſtan Proper, capital of a diſtrict of the ſame name, between the Jumma and the Ganges, in the country of Delhi. It is 86 miles N. of Delhi. Long. 77. 15. E. Lat. 30. 4. N.

SEINE, a river of France, which riſes in the department of Côte d'Or, and flowing by Troyes, Melun, Paris, and Rouen, falls into the Engliſh Channel, at Havre de Grace.

Seine, Lower, a department of France, including part of the late province of Normandy. Rouen is the capital.

SEINE AND MARNE, a department of France, including part of the late province of the Iſle of France. Meux is the capital.

SEINE AND OISE, a department of France, including part of the late province of the Iſle of France. Verſailles is the capital.

SEINSHEIM, a town of Franconia, with a caſtle, 33 miles N.W. of Nuremburg. Long. 10. 28. E. Lat. 49. 40. N.

SEIR, or Hor, a mountain in Arabia Petræa, which formerly bounded Judea on the S. and ſeparated it from Idumea. It is now called Sardeny, and is 140 miles E. of Cairo, in Egypt.

SELAM, a town of Mexico, in the province of Jucatan, ſituate near the ſea-coaſt, 45 miles N.W. of Merida. Long. 90. 28. W. Lat. 39. 12. N.

SELBY, a town in the Weſt Riding of Yorkſhire, with a market on Monday, ſeated on the Ouſe, 12 miles S. of York, and 182 N. by W. of London. Long. 1. 2. W. Lat. 53. 47. N.

SELESHIA, anciently Seleucia, a town of Turkey, in Aſia, in Caramania, 10 miles from the ſea, and 58 W. of Teratſo.

SELIGENSTADT, a town of Germany, in the electorate of Mentz, formerly imperial. It is ſeated at the confluence of the Gernſpentz and Maine, 14 miles E. of Francfort, and 27 E. of Mentz. Long. 8. 32. E. Lat. 49. 54. N.

SELIVREA, a town of Turkey in Europe, in Romania, with an archbiſhop's ſee. It was a large place, but is now much decayed. It is ſeated on the ſea of Marmora, 35 miles W. of Conſtantinople. Long. 28. 12. E. Lat. 41. 4. N.

SELLES, a town of France, in the department of Loir and Cher, with a caſtle, over which is a bridge, 12 miles S.E. of Blois, and 105 S.S.W. of Paris. Long. 1. 36. E. Lat. 47. 25 N.

SELTZ, a town of France, in the department of Lower Rhine, ſeated on the Rhine, 270 miles E. of Paris. Long. 8. 12. E. Lat. 48. 53. N.

SEMENNUD, a town of Egypt, on the E. branch of the Nile, eight miles S.S.W. of Manſoura, and 53 N. of Cairo. Long. 31. 30. E. Lat. 31. 5. N.

SEMIGALLIA, the E. part of the duchy of Courland, ſeparated by the river Mafza, from Courland Proper. Mittau is the capital.

SEMINARI, a town of Naples, in Calabria Ulteriore, 22 miles N.E. of Reggio. Long. 10. 21. E. Lat. 38. 20. N.

SEMINOLAS, a diviſion of the Creek Indians, which inhabit a fertile country on the rivers Appalachikola and Flint, in the ſtate of Georgia, in North America.

SEMLIN, a town of Sclavonia, on the W. ſide of the Danube and Save, oppoſite Belgrade, and 70 miles S.E. of Eſſeck. Long. 21. 0. E. Lat. 45. 20. N.

SEMPACH, a lake of Switzerland, in the canton of Lucern, three miles long and one broad. The banks on each ſide ſlope gently to the edge of the water, and are checkered with wood.

Sempach, a town of Switzerland, in the canton of Lucern: celebrated for the battle which eſtabliſhed the liberty of the Swiſs, and in which Leopold duke of Auſtria was defeated and ſlain. The anniverſary of this battle, which happened July 9, 1386, is commemorated with great ſolemnity, both at Sempach and Lucern. Sempach is ſeated on a lake of the ſame name, ſeven miles N.W. of Lucern. Long. 7. 57. E. Lat. 47. 10. N.

SEMUR, a town of France, in the department of Côte d'Or, with a caſtle. It has a manufacture of cloth, and is ſeated on the Armançon, over which are two bridges, 37 miles N. of Autun, and 135 S.E. of Paris. Long. 4. 19. E. Lat. 47. 28. N.

SEMUR-EN-BRIENNOIS, an ancient town of France, in the department of Saone and Loire, 40 miles N.W. of Lyons, and 175 S. of Paris. Long. 4. 22. E. Lat. 46. 14. N.

SENA, or Marzali, a town of Monomotapa, on the river Zambeze, where the Portugueſe have a factory. Long. 32. 3. E. Lat. 18. 2. S.

SENEFFE, a town of Auſtrian Brabant, four miles S. of Nivelle; famous for a battle gained by the French over the Prince of Orange, in 1674.

SENEZ, a town of France, in the department of Lower Alps, ſeated in a rough barren country, 46 miles N.E. of Aix, and 49 N.W. of Nice. Long. 6. 40. E. Lat. 43. 59. N.

SENLIS, an ancient town of France, in the department of Oiſe, lately a biſhop's ſee. The cathedral has one of the higheſt ſteeples in France. It is ſeated on the ſide of a hill, on the river Nonnette, almoſt ſurrounded by a large foreſt, 20 miles N.W. of Meaux, and 27 N.E. of Paris. Long. 2. 40. E. Lat. 49. 12. N.

SENS, an ancient town of France, in the department of Yonne, with a biſhop's ſee. The metropolitan church is a handſome Gothic ſtructure. The dauphin and dauphineſs, parents of Lewis XVI. were interred in this church; and here was lately their monument, a maſter-piece of Couſton's,

crowned by two urns united, expreſſive of the unalterable affection of this virtuous pair. It was the laſt requeſt of the unfortunate monarch, their ſon, to the National Convention, that his remains might be interred with theirs; a requeſt which they refuſed. Sens is ſeated in a fertile country, at the confluence of the Vanne with the Yonne, 25 miles N. of Auxerre, and 60 S.E. of Paris. Long. 3. 22. E. Lat. 48. 12. N.

SERA, a town of the peninſula of Hindooſtan, in the Myſore country, 55 miles N. of Seringapatam, and 58 N.W. of Bangalore. Long. 75. 54. E. Lat. 13. 28. N.

SERAIO, a town of Turkey in Europe, capital of Boſnia, 110 miles S.W. of Belgrade. Long. 18. 5. E. Lat. 44. 24. N.

SERAMPOUR, a town of Hindooſtan Proper, in Bengal, ſeated on Hoogly River, a ſmall diſtance above Calcutta. It is a Daniſh ſettlement, and carries on a conſiderable trade.

SERAVALLE, a town of Italy, in the duchy of Milan, 24 miles N. of Genoa. Long. 8. 36. E. Lat. 44. 44. N.

SERCELLI, a ſea-port of the kingdom of Algiers, a little to the W. of Algiers. Long. 2. 20. E. Lat. 36. 50. N.

SERDOBOL, a town of Ruſſia, in the government of Wiburg, ſituate on the lake Ladoga, 60 miles N.N.E. of Wiburg. Long. 30. 15. E. Lat. 61. 45. N.

SERFO, or SERFANTE, an iſland of the Archipelago, 50 miles N.W. of Naxia. It is eight miles long and five broad, and full of mountains and rocks, in which are mines of iron and loadſtone. The inhabitants are all Greeks, and have but one town, called St. Nicholo, which is a poor place. Long. 25. 10. E. Lat. 37. 19. N.

SERGAG, a town of Ruſſia, in the government of Niznei Novogorod, 48 miles S.E. of Niznei Novogorod. Long. 45. 20. E. Lat. 56. 50. N.

SERGIPPY, a ſea-port of Braſil, capital of a government of the ſame name. It is ſeated at the mouth of the Rey, 120 miles N.E. of St. Salvador. Long. 39. 46. W. Lat. 31. 30. N.

SERPA, a ſtrong town of Portugal, in Alentejo, ſeated on a rugged eminence, with a caſtle, three miles from the Guadiana, and 83 S.E. of Liſbon. Long. 7. 45. W. Lat. 37. 47. N.

SERRES, a town of France, in the department of Upper Alps, 15 miles S.W. of Gap.

SERVULO, a caſtle of Auſtrian Iſtria, ſeated on a high mountain, four miles from Trieſt. Near it is a famous cavern, in which the ſparry exudations have formed various figures of blue and white colours.

SESSA, an ancient town of Naples, in Terra di Lavoro, with a biſhop's ſee. It was formerly very conſiderable, and is 30 miles N. of Naples. Long. 14. 19. E. Lat. 41. 20. N.

SESTRI-DI-LEVANT, an ancient town of Italy, in the territory of Genoa, 30 miles W. of Genoa. Long. 9. 28. E. Lat. 44 23. N.

SE-TCHUEN, a province of China, bounded on the N. by Chen-ſi, on the E. by Hou-quang, on the S. by Koeitcheou, and on the W. by Thibet. It is watered by the great river Yang-tſe-king, and is rich, not only on account of the great quantity of ſilk it produces, but its mines of iron, tin, and lead, as well as its amber, ſugar-canes, and lapis lazuli. It likewiſe abounds in muſk, rhubarb, &c. Tching-tou-fou is the capital.

SETIMO, a town of Piedmont, ſeated on the Po, eight miles N. of Turin. Long. 7. 47. E. Lat. 45. 14 N.

SETLEGE, a river of Hindooſtan Proper, the moſt eaſterly of the five eaſtern branches of the Indus. About midway between its ſource and the Indus, it receives the Beyah, and joins the Indus a great way to the S. of Moultan.

SETTENIL, a town of Spain, in Granada, eight miles N. of Ronda, and 38 N.W. of Malaga. Long. 5. 10. W. Lat. 36. 48. N.

SETTIA, a town of the iſland of Candia, with a Greek biſhop's ſee, 48 miles E.S.E. of Candia. Long. 26. 2. E. Lat. 35. 3. N.

SETTLE, a town in the Weſt Riding of Yorkſhire, with a market on Tueſday. It is ſeated on the Ribble, over which is a bridge, 28 miles E. by N. of Lancaſter, and 235 N.N.W. of London. Long. 2. 15. W. Lat. 54. 6. N.

SEVEN ISLANDS, iſlands to that number, in the Frozen Ocean, lying in long. 18. 48. E. lat. 80. 31. N. Among thoſe iſlands Captain Phipps, with the Race-horſe and Carcaſs, were ſurrounded by the ice, from the 31ſt of July to the 10th of Auguſt, 1773, when a briſk wind at N.N.E. effected their deliverance.

SEVENOAKS, a town in Kent, with a market on Saturday. It obtained its name from ſeven large oaks which were near it when it was firſt built. Here is an hoſpital for the maintenance of aged people, with a free ſchool, firſt erected by Sir William Sevenoaks, lord mayor of London in 1418, who is ſaid to have been a foundling, charitably educated by a perſon of this town. Queen Elizabeth having augmented the revenues of the ſchool, it was called Queen Elizabeth's School; and the whole was rebuilt of ſtone in 1727. Near this town is Knole, an ancient palace of the ſee of Canterbury, which Archbiſhop Cranmer exchanged with the crown for other lands, and Queen Elizabeth gave to Thomas lord Buckhurſt, afterward earl of Dorſet, from whom it deſcended to the preſent Duke of Dorſet. In 1450, the rebel John Cade defeated the royal army near this town. It is ſix miles N.W. of Tunbridge, and 23 S.S.E. of London. Long. 0. 18. E. Lat. 51. 19. N.

SEVER, ST. a town of France, in the department of Landes, ſeated on the Adour, 20 miles E. of Dax, and 65 S. by E. of Bourdeaux. Long. 0. 35. W. Lat. 43. 45. N.

SEVERNDROOG, an iſland of Hindooſtan Proper, 60 miles S. of Bombay. Here was a ſtrong fort that belonged to Angria the pirate, which was taken by Commodore James, in 1756.

SEVERO, a town of Naples, in Capitanata, with a biſhop's ſee, ſeated in a plain, 75 miles N.E. of Naples. Long. 15. 34. E. Lat. 41. 40. N.

SEVRES, Two, a department of France, including part of the late province of Poitou. It is ſo named from two rivers, one of which flows W. by St. Maxient and Niort, into the bay of Biſcay, oppoſite the iſle of Rhé, and the other takes a N.W. direction, paſſes by Cliſſon, and enters the river Loire, oppoſite Nantes. St. Maixent is the capital.

SEWALICK, MOUNT, a chain of mountains that borders on the level country, on the N. of the province of Delhi, in Hindooſtan Proper. At Hudwar, the Ganges forces its way through this ridge into the plains of Hindooſtan.

SEYSSEL, a town of France, in the department of Ain. It is divided by the Rhone, which here begins to be navigable, into two parts; of which the eaſtern was ceded to the King of Sardinia, by the treaty of Turin, in 1760. It is 14 miles N E. of Belley. Long. 7. 45. E. Lat. 46. 6. N.

SEZANNE, a town of France, in the department of Marne, ſeated on a little river, 27 miles N.W. of Troyes, and 65 S.E. of Paris. Long. 4. 10. E. Lat. 48. 41. N.

SEZZA, a town of Naples, in Terra di Lavoro, with a biſhop's ſee, 29 miles N N.W. of Naples, and 72 S.E. of Rome. Long. 13. 45 E. Lat. 41. 19. N.

SHABUR, a town of Egypt, on the W. branch of the

Nile, 48 miles S.E. of Alexandria, and 50 N.N.W. of Cairo. Long. 30. 58. E. Lat 30. 47. N.

SHAHJEHANPOUR, a town of Hindooſtan Proper, in the province of Malwa, 20 miles N.E. of Ougein, and 196 S. of Agimere. Long. 76. 18. E. Lat. 23. 26. N.

SHEFFORD, a town of Bedfordſhire, with a market on Friday, ſeated between two rivulets, which unite their ſtreams below the town, and fall into the Ouſe. It is eight miles S.E. of Bedford, and 41 N. by W. of London. Long. 0. 21. W. Lat. 52. 8. N.

SHEFNAL, a town in Shropſhire, with a market on Friday, nine miles N.E. of Bridgenorth, and 136 N.W. of London. Long. 2. 22. W. Lat. 52. 42. N.

SHELBURNE, a town of Nova Scotia, ſituate at Port Roſeway. It extends two miles on the water ſide, and one mile backward, with wide ſtreets croſſing each other at right angles. The harbour is deep, capacious, and ſecure. About a mile from Shelburne, and ſeparated from it by a ſmall river, is the Black Town, containing about 1200 free blacks, who ſerved on the royal ſide during the American war. Shelburne is 100 miles S.W. of Halifax. Long. 65. 0. W. Lat. 43. 46. N.

SHELLA; a town of Morocco. It is conſidered as a ſacred aſylum, and none are allowed to enter it but Mahometans. It is four miles E. of Sallee.

SHENAN (*Encycl.*). The note referred to in that article is to the following effect. Shenan, an eaſtern dyeing-drug, may be procured at any of the ports in the Levant. It is the *Salicornia*—the eaſtern jointed-kali, and grows in that part of the world plentifully. The leſſer ſpecies of *ſalicornia* found on the coaſts of Britain is not found to equal the foreign in the proceſs of dyeing; though the experiments yet made towards aſcertaining the fact are by no means deciſive.

SHEPTON MALLET, a town in Somerſetſhire, with a market on Friday, and a conſiderable manufacture of ſecond cloths, the principal material of which is fine Engliſh wool. It is ſeated under Mendip Hills, 17 miles S.W. of Bath, and 114 W. of London. Long. 2. 30. W. Lat. 51. 9. N.

SHERBORN, a town in Dorſetſhire, with a market on Thurſday and Saturday. It was formerly a biſhop's ſee, and had three churches, though now but one, which was the cathedral, and in it are interred the Saxon kings Ethelbard and Ethelbert. It had alſo a caſtle, now in ruins. Here is a famous free-ſchool, founded by Edward VI.: two large ſilk mills; and a conduit of excellent water, which is continually running. It is 16 miles N. by W. of Dorcheſter, and 118 W. by S. of London. Long. 2. 41. E. Lat. 50. 54. N.

SHEVAGUNGA, a town of the peninſula of Hindooſtan, in the Myſore country, 25 miles N.W. of Bangalore. Long. 77. 18. E. Lat. 13. 20. N.

SHIPPENSBURG, a town of Pennſylvania, in Cumberland County, 21 miles N.E. of Chambersburg. Long. 77. 35. W. Lat. 45. 50. N.

SHIPTON, an ancient town in Worceſterſhire, though ſurrounded by Warwickſhire, with a market on Saturday. It is ſeated on the Stour, 14 miles W. of Banbury, and 83 N.W. of London. Long. 1. 25. W. Lat. 52. 5. N.

SHOALES, Isles of, in North America, on the coaſt of New Hampſhire. They lie conveniently for the cod fiſhery, which was formerly carried on here to great advantage; but the inhabitants are now few and poor.

SHOGLE, a town of Syria, ſeated on the Aſi, anciently called Orontes, over which is a bridge of 13 arches. It is 18 miles S. by E. of Antioch, and 45 S.W. of Aleppo. Long. 36. 40. E. Lat. 35. 20. N.

SHOOMSKA, one of the Kurile Iſlands, three leagues S. of Cape Lopatka, in Kamtſchatka. Its inhabitants conſiſt of a mixture of natives and Kamtſchadales.

SHOP, the lower front apartment of a houſe in which goods are diſplayed for ſale by retail. Shops of this deſcription are too generally known to require particular notice; but the following extract from an account of a *Village* SHOP at Greenford, in Middleſex, by the Rev. Dr. Glaſſe, will ſhew that ſome recent eſtabliſhments uſeful to the poor have been opened under the appellation of ſhops.

"In January, 1800," ſays Dr. Glaſſe, "I reſolved to open a village ſhop at Greenford, as nearly as poſſible on the plan of that at Mongewell: for this purpoſe I fitted up a room near my houſe, and appointed an intelligent young woman, one of my ſervants, to the office of ſhop-keeper; the time of ſale being limited to the hour between twelve and one o'clock; which I knew would not be inconvenient to thoſe for whom the ſhop was intended, as they almoſt all live near to my houſe. I propoſed to ſupply them with bacon, cheeſe, butter, rice, ſoap, ſugar, and tea. We had no difficulty in conducting the ſale of any of theſe articles, except the laſt, which, being a ſubject of exciſe, could not be dealt in without a licence ſpecially taken out for that purpoſe. This I thought at firſt might be diſpenſed with; but the exciſeman is obliged, by his oath, to require it. Accordingly a licence was obtained, at the expence of only a few ſhillings; and the young woman's name, as a dealer in tea, &c. was written on the door of her ſhop.

"The principal objection to a village ſhop, was, in this inſtance, removed by an eſtabliſhed ſhop-keeper in the village having juſt left off buſineſs; there being only one remaining, the keeper of which had other ſufficient means of ſupport. I was therefore doing no material injury to any one, in the ſervice which I was endeavouring to render to many.

"I determined to lay in every article for ſale of the beſt kind, and to ſell it at the prime coſt; and the poor, in conſequence of an arrangement, which had their comfort and advantage for its ſole object, were immediately ſupplied for ready money only with the neceſſaries of life; at a price, which, on compariſon with what they had been accuſtomed to pay, appeared to them to be extremely moderate and reaſonable. It is true, however, that, at the beſt, every article which they now purchaſe, muſt come to them exceedingly dear.

"Whoever deals at the ſhop, is ſupplied with a card or ticket, inſcribed with his or her name; which is to be given to the pariſh clerk, in church, by ſome one grown up perſon of the family, after morning or evening ſervice. This ticket the clerk is to bring to the ſhop on Monday: and if by the abſence of any ticket it appears that the owner was abſent from church on the preceding day, ſuch owner, unleſs a ſatisfactory reaſon can be given, is deprived of the advantages of the ſhop for the enſuing week.

"The receipts, in ſix months, are rather better than 150l. and the ſavings, to the poor, beſide the prevention of frequent journeys to Brentford (four miles), and that chiefly on Sunday morning, are different on different articles; on none leſs than 15 per cent.; on ſome, 20 per cent. and on others, 25 per cent.

"I ſhould have mentioned, that, although the hour of applying to the ſhop is limited on other days, to between twelve and one, yet on Saturdays it is open from ſix till nine in the evening. The labourers have prevailed on their employers to lay aſide the practice of paying wages on Sunday; and urge, as an argument, the neceſſity of their carrying money in their hands when they go to this ſhop, to purchaſe the neceſſary ſupplies for their families, on Saturday evening. I hope I ſhall be able to continue this mode of aſſiſtance to the poor, and to extend it with effect to other articles; particularly to thoſe of coals and potatoes; the latter of which

we are now ſelling to the poor, at one halfpenny a pound; but they are ſmall, though of the beſt ſort. Our price for coals never exceeds one ſhilling a buſhel; which, at the preſent coſt of the article, will require a ſubſcription to ſupport it: as, if the demand were great, the deficiency would be too conſiderable to be conveniently ſupported by an individual.

"It is but too obvious, how much the poor are impoſed upon by the petty ſhopkeepers, in the neceſſaries which they are enabled to purchaſe. The *quality* of the goods is not the beſt: the *price* is extravagantly high; and the *quantity* is reduced by deceitful weights, and a ſcanty meaſure. This is ſo often the caſe, as to call for a particular attention to two recent acts of parliament for the inſpection of weights and balances: and I cannot help conſidering thoſe officers who undertake this enquiry, when they faithfully diſcharge their duty, as public benefactors.

"One great advantage, which I hope my poor neighbours will derive from my ſhop, will be an eſtabliſhed habit of *paying ready money*; for we have no book debts. In too many caſes, the ready caſh uſed to go *elſewhere*, doing no good, but much harm: while the poor ſhopkeeper was the principal creditor, and thought himſelf juſtified in charging an extravagant price, to make himſelf amends for long credit, and frequent loſſes of the whole debt.

"There is another benefit much more important, which, I hope, will ariſe from this little inſtitution: and that is, that the poor will acquire a habit of attending public worſhip on the Lord's day. By the church ticket, required to be delivered to the clerk, the congregation is greatly increaſed; the habit of indolence, perhaps, rather than downright irreligion, which kept them from church, is overcome, and an improvement in the morals of my *cuſtomers* may reaſonably be expected."

A ſhop of this kind had been opened, in 1794, at Mongewell in Oxfordſhire. An account of its beneficial effects is related in the Reports of the Society for bettering the Condition of the Poor by the Biſhop of Durham.

SHOREHAM, a borough in Suſſex, with a market on Saturday. It ſends two members to parliament, and is commonly called New Shoreham, to diſtinguiſh it from the Old, which lies near it, and is now of little account. It is ſeated on an arm of the ſea, which makes it a place of ſome trade, and many ſmall veſſels are built here. It is 16 miles N.W. of Newhaven, and 56 S. by W. of London. Long. 0. 15. W. Lat. 56. 54. N.

SIARA, a town of Braſil, capital of a captainſhip of the ſame name, which lies between thoſe of Maragnan and Rio-Grande, on the N. coaſt. In the neighbourhood is a fort, on a mountain, near the river Siara. Long. 39. 35. W. Lat. 3. 15. S.

SIASKOI, a town of Ruſſia, in the government of Peterſburg, near the lake Ladoga, 24 miles N.E. of New Ladoga. Long. 30. 47. E. Lat. 60. 16. N.

SICAL, a town of Mexico, on the N. coaſt of the province of Jucatan, 70 miles N.W. of Merida. Long. 90. 30. W. Lat. 39. 30. N.

SICHEM, a town of Auſtrian Brabant, to the S. of which is a celebrated monaſtery. It is ſeated on the Demer, 18 miles E. of Mechlin. Long. 5. 0. E. Lat. 51. 6. N.

SIDAYE, a ſtrong town on the N. coaſt of the iſland of Java, with a harbour. Long. 113. 15. E. Lat. 6. 40. S.

SIDEROCAPSA, a town of Turkey in Europe, in Macedonia, famous for a gold mine in its neighbourhood. It is five miles from the gulf of Conteſſa. Long. 13. 44. E. Lat. 40. 30. N.

SIDRA, an iſland of the Archipelago, between the gulf of Napoli and that of Engia. Long. 24. 0. E. Lat. 37. 0. N.

SIDRA, a ſpacious gulf on the coaſt of Barbara between Tripoli and Barca, which takes its name from a ſmall iſland at the bottom of the gulf.

SIEDENBERG, a town of Weſtphalia, in the county of Hoye, nine miles S.S.W. of Hoye.

SIEGBURG, a town of Weſtphalia, in the duchy of Berg, ſubject to the elector palatine. It is ſeated on the Sieg, 15 miles S.E. of Cologne. Long. 7. 22. E Lat. 50. 43. N.

SIEGMARINGEN, a town of Suabia, capital of a county of the ſame name. It is 26 miles N. of Conſtance, and 44 S. of Stutgard. Long. 9. 10. E. Lat. 48. 2. N.

SIEGSTADT, a town of Norway, in the province of Aggerhuys, 58 miles N. of Chriſtiania. Long. 10. 55. E. Lat. 60. 0. N.

SIENNOI, a town of Ruſſia, in the government of Mohilef, 60 miles N.N.W. of Mohilef. Long. 29. 45. E. Lat. 54. 30. N.

SIGNAU, a town of Switzerland, and principal place of a diſtrict, in the canton of Bern, 12 miles S.E. of Bern. Long. 7. 18. E. Lat. 46. 44. N.

SIGNET (*Encycl.*). All the ſupreme courts of Law in Scotland have ſeals or *ſignets* proper to their ſeveral juriſdictions. The courts of ſeſſion and juſticiary formerly uſed the ſame ſignet, which was called the king's, becauſe the writs ran in his name; and though the juſticiary at laſt got a ſeparate ſignet, yet that of the ſeſſion is ſtill named *the king's* ſignet. In the ſignet office are ſcaled ſummonſes of citation, letters of executorial diligence, or for ſtaying of diligence; and, generally, whatever paſſes by warrant of the ſeſſion, and is to be executed by officers of the court. All, before ſealing, muſt be ſigned by the writers or clerks of the ſignet. But letters of diligence, where they are granted in a depending proceſs, merely for probation, though they paſs by the ſignet, muſt be ſubſcribed by a clerk of ſeſſion. The clerks of the ſignet alſo prepare and ſubſcribe all ſignatures of charters, or other royal grants, that paſs the exchequer.

SIGTUNA, an ancient town of Sweden, in Upland, ſeated on the lake Maeler, between Stockholm and Upſal.

SIGUENZA, a town of Spain, in New Caſtile, with an archbiſhop's ſee, a univerſity, and a caſtle, in which is an arſenal. The univerſity conſiſts of ſeveral colleges; but the moſt conſiderable ſtructure is the cathedral. It is ſeated on a hill, at the foot of Mount Atienca, 60 miles N.E. of Madrid. Long. 2. 41. W. Lat. 41. 6. N.

SILHET, a town of Hindooſtan Proper, capital of a diſtrict of the ſame name, in the country of Bengal. It is 100 miles N.E. of Dacca, and 200 E.N.E. of Moorſhedabad. Long. 91. 57. E. Lat. 24. 52. N.

SILISTRIA, or DORESTRO, a town of Turkey in Europe, in Bulgaria, with a citadel, and an archbiſhop's ſee. It is ſeated near the confluence of the Miſſovo and Danube, 97 miles N.E. of Nicopoli, and 170 N.E. of Adrianople. Long. 27. 31. E. Lat 45. 0. N.

SILKEBURG, a town of Denmark, in N. Jutland, with a caſtle, which was formerly of great ſtrength. It is 18 miles W. of Arhuſen. Long. 9. 30. E. Lat. 56. 3. N.

SILLEBAR, a ſea-port on the W. coaſt of Sumatra, a little S. of Bencoolen. Long 101. 0. E. Lat. 4. 0. S.

SILLE-LE-GUILLAUME, a commercial town of France, in the department of Sarte, 20 miles N.E. of Mans.

SIMANCAS, a town of Spain, in Leon, with a caſtle, in which, on account of its ſtrength, Philip ordered the archives of the kingdom to be kept. It is ſituate on the Deuro, eighty miles S.W. of Valladolid. Long. 4 30. W. Lat. 41. 45. N.

SIMBIRSK, a government of Ruſſia, formerly a province of the kingdom of Kaſan. The capital, of the ſame name, is ſeated on the Volga, 100 miles S. by W. of Kaſan. Long. 48. 34. E. Lat. 54. 22. N.

SIMI, the ancient Syme, an iſland in the Mediterranean, between the iſland of Rhodes and the continent of Aſia, ſix miles N. of Rhodes. Long. 27. 33. E. Lat. 36. 35. N.

SIMMEREN, a town of Germany, in the circle of Lower Rhine, capital of a duchy of the ſame name, with a caſtle. It belongs to the elector palatine, and is ſeated on the Simmeren, 26 miles W. of Mentz, and 35 E. of Triers. Long. 7. 41. E. Lat. 49. 51. N.

SIMOGU, a town of the peninſula of Hindooſtan, in the Myſore country, ſituate on the Tumbadra, 93 miles N.W. of Seringapatam. Long. 75. 30. E. Lat. 13. 21. N.

SIMONS, St. an iſland of North America, on the coaſt of Georgia, oppoſite the mouth of the Alatamaha. It is fifteen miles long and four broad, and has a good town called Frederica.

SIMONTHORNA, a ſtrong town of Lower Hungary, in the county of Tolna, with a caſtle. It was taken from the Turks in 1686, and is ſeated on the Sarwige, eight miles from Tolna. Long. 18. 16. E. Lat. 46. 40. N.

SINCAPOUR, an iſland and town at the moſt ſouthern extremity of the peninſula of Malacca, from which it is ſeparated by the ſtrait of Sincapour. It is 100 miles S.E. of the city of Malacca. Long. 104. 10. E. Lat. 1. 10. N.

SINDELFINGEN, a town of Suabia, in the duchy of Wirtemburg, ſix miles S. W. of Stutgard, and 30 E. of Baden. Long. 9. 5. E. Lat. 48. 45. N.

SINES, a town of Portugal, in Eſtremadura, 40 miles S. of St. Ubes. Long. 8. 55. W. Lat. 37. 40. N.

SING, a ſtrong town of Dalmatia, built by the Turks in oppoſition to Cliſſa. It was taken by the Venetians in 1686. It is eight miles N. of Cliſſa, and 16 N. of Spalatro. Long. 17. 30. E. Lat. 47. 10. N.

SI-NGAN-FOU, a city of China, capital of the province of Chen-ſi. It is one of the largeſt and moſt beautiful in the empire next to Pekin. In its territories (which contain ſix cities of the ſecond and thirty-one of the third claſs) bats of a ſingular ſpecies are found; they are as large as domeſtic fowls, and the Chineſe prefer their fleſh to that of chicken. It is 480 miles S.W. of Pekin. Long. 108. 43. E. Lat. 34. 16. N.

SINGILIES, a town of Ruſſia, in the government of Simbirſk, ſituate on the Volga, 24 miles S. of Simbirſk. Long. 48. 34. E. Lat. 54. 1. N.

SINGO, a town of Turkey in Europe, in Macedonia, on the gulph of Monte Santo. Long. 24. 0. E. Lat. 40. 13. N.

SINGOR, a town in the peninſula of Malacca, ſeated at the mouth of a ſmall river, in the bay of Patan. Long. 101. 25. E. Lat. 6. 40. N.

SINIGAGLIA, a ſtrong town of Italy, in the marquiſate of Ancona, with a caſtle and two harbours. It is ſeated at the mouth of the Nigola, in the gulph of Venice, 17 miles S.E. of Peſaro, and 30 E.S.E. of Urbino. Long. 13. 29. E. Lat. 43. 45 N.

SINOB, or Sinope, a decayed ſea-port of Turkey in Aſia, in Natolia, ſurrounded by walls, with double ramparts; but the caſtle is much neglected. The inhabitants are Turks, who will not admit any Jews, and the Greeks are obliged to live in the ſuburbs. It is the birth-place of Diogenes the cynic philoſopher, and ſeated on the iſthmus of a peninſula in the Black Sea. Long. 33. 55. E. Lat. 41. 5. N.

SINOGU, a town of the peninſula of Hindooſtan, in the Myſore country, 50 miles S.E. of Bednore, and 90 N.W. of Seringapatam. Long. 75. 30. E. Lat. 13. 30. N.

SINTZHEIM, a town of Germany, in the palatinate of the Rhine, ſeated in a moraſs, 12 miles S.E. of Heidelberg. Long. 9. 0. E. Lat. 49. 15. N.

SION, an ancient town of Switzerland, capital of the Valais, and an epiſcopal ſee, whoſe biſhop is a prince of the empire. It is ſituate near the Rhone, at the foot of three inſulated rocks, that riſe immediately from the plain. The higheſt, called Tourbillon, ſupports the old ruinous and deſerted epiſcopal palace. On the ſecond, denominated Valeria, are the remains of the old cathedral, and a few houſes belonging to the canons. On Mayoria, the third rock, ſtands the preſent epiſcopal palace, an edifice of ſtone, built in 1547; the apartments furniſhed with great plainneſs and ſimplicity. Sion was formerly the capital of the Seduni, and ſome Roman inſcriptions ſtill remain. It is 50 miles E. of Geneva. Long. 7. 12. E. Lat. 46. 6. N.

SIOUT, one of the largeſt and moſt populous towns in Egypt. It has ſeveral moſques, and is the ſee of a Coptic biſhop. Here are the ruins of an ancient amphitheatre, and ſome ſepulchres of the Romans. It is ſurrounded by fine gardens, and palm-trees that bear the beſt dates in Egypt. This place is the rendezvous of thoſe who go in the caravan to Sennar, in Nubia. It is a mile from the Nile, and 185 S. of Cairo. Long. 31. 24. E. Lat. 27. 2. N.

SIRADIA, a town of Great Poland, capital of a palatinate of the ſame name, with a caſtle. It is ſeated in a plain, on the river Warta, 62 miles N.E. of Breſlaw, and 105 N.W. of Cracow. Long. 18. 55. E. Lat. 51. 32. N.

SIRAF, a town of Perſia, in the province of Lariſtan, ſituate on the Perſian Gulf, 30 miles S.W. of Lar. Long. 52. 25. E. Lat. 35. 20. N.

SIRAVAN, a town of Perſia, in the province of Kuſiſtan, 48 miles N.N.E. of Suſter. Long. 51. 5. E. Lat. 31. 50. N.

SIRGIAN, a town of Perſia, in the province of Kirman, celebrated for its beautiful pottery, and a manufacture of ſtuffs. It is 180 miles E. of Schiras.

SIRHIND, an ancient city of Hindooſtan Proper, in the province of Delhi. Procopius takes notice, that in the time of Juſtinian (the ſixth century) ſilk was brought from *Serinda*, a country in India. Sirhind is 195 miles N.W. of Delhi. Long. 75. 35. E. Lat. 30. 15. N.

SIRIK, a town of France, in the department of Moſelle, with a caſtle, on a neighbouring hill. It is ſeated on the Moſelle, 23 miles N. of Metz. Long. 6. 38. E. Lat. 49. 36. N.

SIRINAGUR, a large rugged country of Aſia; bounded on the N. and N.E. by the Thibetian mountains, on the S.E. by Napaul, on the S. by Rohilla, on the S.W. by Delhi, and on the N.E. by Lahore. The capital, of the ſame name, is 160 miles N. of Delhi. Long. 77. 38. E. Lat. 30. 59. N.

SIRIUS ISLAND, an iſland of the Pacific Ocean, about 18 miles in circuit, diſcovered by Lieutenant Ball, in 1790. Long. 162. 30. E. Lat. 10. 52. S.

SIRMICH, or Sirmium, a town of Sclavonia, capital of a county of the ſame name, with a biſhop's ſee. It is ſeated on the Boſweth, near the Save, 42 miles S.E. of Eſſeck. Long. 20. 19. E. Lat. 45. 13. N.

SIRONG, or Seronge, a town of Hindooſtan Proper, in the province of Malwa, celebrated for its manufacture of painted cottons and chintzes. It is 120 miles N.E. of Eugein. Long. 78. 4. E. Lat. 24. 4. N.

SISIZAN, a ſea-port on the E. coaſt of Luconia, one of the Philippine Iſlands. It is ſituate almoſt immediately oppoſite to Manilla, and in the vicinity of very high mountains, which render the air extremely moiſt. Long. 123. 45. E. Lat. 14. 20. N.

SISSAC, a town of Switzerland, in the canton of Baſil, capital of the province of Siſgow. It is 17 miles S.E. of Baſil.

SISSEG, a town of Auſtrian Croatia, with a monaſtery,

ſeated on the Save, 28 miles S.E. of Zagrad, and 42 E. of Carlſtadt. Long. 16. 17. E. Lat. 46. 6. N.

SISSEK, a ſtrong town of Croatia, ſituate at the confluence of the Save and Kulpa, 40 miles E. of Carlſtadt. Long. 22. 10. E. Lat. 45. 48. N.

SISSOPOLI, a town of Turkey in Europe, in Romania, with an archbiſhop's ſee; ſeated on a peninſula of the Black Sea, 25 miles S. of Meſembria, and 97 N.W. of Conſtantinople. Long. 28. 9. E. Lat. 42. 30. N.

SISTERON, a town, and late epiſcopal ſee, of France, in the department of Lower Alps, with a citadel on the top of a rock, which was the priſon of Caſimir V. king of Poland. It is ſeated on the Durance, 45 miles N. E. of Aix, and 407 S.E. of Paris, Long. 6. 1. E. Lat. 44. 11. N.

SITIA, a town on the N. coaſt of the iſle of Candia, near a bay of the ſame name, 58 miles from Candia. Long. 26. 29 E. Lat. 35. 0. N.

SITTARD, a town of Weſtphalia, in the duchy of Juliers, ſeated near the Maeſe, 10 miles S. of Ruremonde. Long. 5. 50. E. Lat. 50. 58. N.

SIVRAI, a town of France, in the department of Vienne, ſeated on the Charante, 25 miles S. of Poitiers, and 100 S.S.W. of Paris. Long. 0. 23. E. Lat. 46. 16. N.

SKAITING (*Encycl.*). It is well known that Norway is, during four or five months, covered with ſnow, which, at ſome diſtance from the ſea coaſt, is ſo deep that it becomes impoſſible for the traveller to quit the beaten road either on horſeback or on foot. Even the road itſelf muſt be new beaten after each new fall of ſnow: and that operation is performed by means of a machine ſomewhat reſembling a plough, pointed before, and gradually widening behind, which, being drawn by horſes, cuts its way through and levels at the ſame time.

Notwithſtanding the difficulties which the Norwegian winters thus naturally preſent, the chace has ever been a favourite exerciſe with the inhabitants of the country, which formerly abounded with fierce animals, beſides deer and ſmaller game. To make the moſt of the ſhort days in that climate by traverſing the foreſts with increaſed celerity, the Norwegian deviſed the uſe of ſkaits, very different however from thoſe which we uſe in our more ſouthern lands for the purpoſes of amuſement. The Norwegian ſkaits are a pair of boards, about four or five inches broad, from half an inch to an inch thick, ſlightly hollowed in the middle underneath, to prevent unſteadineſs, and to advance in a ſtraight line. The board for the left foot is ten feet long, the other only about ſix. They are both bent a little upward at the extremities, but higher before than behind. They are tied to the feet with thongs faſtened in the middle, where they are left higher and thicker than in the other parts. The ſkait for the right foot is often underlaid with rein-deer ſkin or ſeal ſkin, which glides very ſmoothly along when the ſkaiter moves forward in the direction agreeing with the grain of the hair, but which preſents a reſiſtance when he preſſes his foot in a backward direction cauſing the hair to briſtle.

It is an aſcertained fact that a good ſkaiter, when the ſnow is tolerably firm, can travel more rapidly over a level country, and continue his rapid march for a longer time, than the beſt horſe trotting on the fineſt road.

If he has to deſcend a mountain, he moves with ſuch impetuoſity, that he is obliged to moderate his firſt effort in ſpringing forward, leſt he ſhould loſe his breath in the deſcent. He aſcends more ſlowly, and not without ſome difficulty, becauſe he is obliged to mount in a zig-zag direction. Nevertheleſs he reaches the ſummit in as ſhort a time as would ſuffice for the beſt foot-man. And, if the ſnow have acquired any ſmall degree of conſiſtency, he never ſinks into it.

Experience having proved, that, in ſpite of the multiplied obſtacles ariſing from the ſeverity of the winter, Norway had been repeatedly attacked by the enemy during that ſeaſon —and this mode of performing long excurſions being in general uſe among the inhabitants—it was natural that the idea ſhould occur of forming a military corps of ſkaiters.

Accordingly ſuch a plan has been adopted; and the corps, conſiſting of 960 men, is divided into two battalions, one for the northern part of the country, the other for the ſouthern.

Their preſent uniform conſiſts of a ſhort green jacket, a grey ſurtout with a yellow cape, grey pantaloons, and a black leathern cap.

Their arms are a carabine hung with a ſling which paſſes over the ſhoulder, a broad cutlaſs, and a ſtaff three yards and half long, an inch and quarter thick, having at the end an iron point, and, at ſome diſtance from the extremity, a circular piece of iron. The principal uſe is to check the exceſſive rapidity of the ſkaiter's motion in deſcending heights. On theſe occaſions he places it between his legs, and drags it after him, or he drags it by his ſide. On other occaſions he makes uſe of it to puſh himſelf forward in aſcending: in ſhort he variouſly employs it according to circumſtances. This ſtaff ſerves him alſo as a ſupport for his carabine when he wiſhes to fire a ſhot; though indeed the Norwegian peaſants in general ſhoot very well without any ſuch aid, and ſeldom miſs their aim.

To the exerciſe of ſkaiting, this corps unites alſo that of the ordinary chaſſeurs or light troops, of which it is to be conſidered as conſtituting a part: it performs all the ſame functions as they, nor differs from them except in the circumſtance of marching on ſkaits, which gives it a great advantage over the others. The ſkaiters, moving with great agility, and being ſecured by the depth of the ſnow from all purſuit either by infantry or cavalry, may ſafely hover round a hoſtile army on its march, may watch all its motions, haraſs and gall it on each ſide of the road, without incurring any danger. Even diſcharges of cannon would produce little effect on a number of ſkaiters ſcattered at two or three hundred yards diſtance from each other, and whoſe movements beſides are ſo rapid, that, at the moment while the cannoniers fancy they ſtill have them in ſight, they have already vaniſhed, to make their appearance anew when leaſt expected.

If the enemy halt, that is the time when the ſkaiters enjoy their full ſuperiority over them. Whatever precautions the hoſtile army may have adopted, they are momentarily expoſed to the attacks of men who do not ſtand in need of either roads or paths, but indiſcriminately traverſe moraſſes, lakes, and rivers, provided they only be covered with ſnow. Even though the ice beneath ſhould be too weak to bear either horſe or man, the ſkaiter is ſafely wafted over it by the rapidity of his motion. Indeed there is not any corps better calculated, in the winter-ſeaſon, for the ſervice of reconnoitring, carrying intelligence reſpecting the enemy, or performing the office of couriers.

It may, however, be ſuppoſed that they find a difficulty in turning round, on account of the great length of their ſkaits; but that is not the caſe. The ſkaiter draws back his right foot, to which is faſtened the ſhorter ſkait, places it vertically to the left, then raiſes the left, and, placing it parallel to the right, he is turned. If he wiſhes to turn completely back, he has only to repeat the manœuvre.

In their ordinary winter exerciſes, the ſkaiters form themſelves in three ranks, at eight paces diſtance between the ranks, and three between the files; and, unleſs when they deſignedly ſcatter themſelves, they exactly obſerve thoſe diſtances, that they may not impede each other in the uſe of their ſkaits.—When they have occaſion to fire, the middle and

rear ranks advance close to the front; each file thus forming a little body apart,

The baggage and camp-equipage of this corps are conveyed in sledges placed on skaits. A single man easily draws one of these sledges by means of a leathern thong, which passes over his right shoulder and crosses to his left side, like the sling for the carbine.

An improvement on this plan has been suggested—that of attaching to the corps a few pieces of light artillery, to be drawn upon skaits in the same manner as the baggage.

SKARA, a town of Sweden, in West Gothland, with the ruins of an ancient palace, the residence of the Gothic kings. It is seated on the Lida, in a morass, 17 miles N.E. of Falkoping. Long. 14. 0. E. Lat. 58. 16. N.

SKEEN, a town of Norway, in the government of Aggherhuys, remarkable for its mines of iron and copper. It is seated near the Categate, 40 miles W. of Fredericstadt.

SKIDDAW, a mountain in Cumberland, one of the most remarkable in England, being above 1000 yards perpendicular height from the surface of the lake of Derwent-water, to the north of which it is situate. Here eagles and other birds of prey resort. This mountain is not difficult of access, and is almost covered with grass, which gradually grows coarser in the ascent. The whole top is covered with a loose brown slaty stone.

SKILSKOER, a town of Denmark, in the island of Zealand, situate on a bay, 48 miles S.W. of Copenhagen. Long. 11. 27. E. Lat. 55. 16. N.

SKIPTON, a town in the West Riding of Yorkshire, with a market on Saturday; seated among hills, near the river Aire, 41 miles S. by E. of Richmond, and 231 N. by W. of London. Long. 2. 42. W. Lat. 53. 55. N.

SLAGELSE, a town of Denmark, in the island of Zealand, 42 miles W.S.W. of Copenhagen. Long. 11. 29. E. Lat. 55. 26. N.

SLATINA, a town of Turkey in Europe, in Moldavia, 18 miles N.W. of Niemecz. Long. 26. 5. E. Lat. 47. 10. N.

SLAUGHTERING, a term used to denote the killing of calves, oxen, or other horned cattle.

The instrument at present generally employed for this purpose, is a common *axe*; by which the animal is at least stunned, in case he does not fall after one or two blows; yet, as the *knocking down* of cattle carries with it an idea of ferocity, a milder and more humane method of terminating their existence ought to be substituted for that practice. Such desirable object may be attained by adopting the mode of slaughtering which prevails in Portugal; namely, the "laying down cattle," by separating the spinal marrow with a peculiar knife; in consequence of which, the animal is *unnerved*, and falls instantaneously: in Plate 44. we therefore give a representation of the instrument employed in that kingdom.

The whole knife is eleven inches in length; the handle being $4\frac{1}{2}$, and the blade $6\frac{1}{2}$ inches. In order to use it, the person who is about to "lay down" an animal, must place himself in front of the latter, holding it by the horn in the left hand; and passing the knife over its brow, through the vertebræ of the neck, into the spinal marrow.—For the knowledge of this practice, we are indebted to the humane Lord Somerville; who, during his late residence in Portugal, caused a person to be instructed in the use of the knife above described. His lordship has liberally offered to comply with the request of those whose business is to slaughter cattle, and who may be desirous of additional information. He further observes (in *The System followed during the two last Years by the Board of Agriculture, &c.*) that the man alluded to, has laid fifteen oxen in a row "with more regularity and expedition than would at first, perhaps, be credited."—Lord S. likewise is of opinion, that if the practice of carters *head lining* or walking at the heads of oxen, were adopted in Britain, the animals would probably be induced to stand more quietly; in consequence of which the operation will become "as safe as it is easy."

SLAWKAW, or AUSTERLITZ, a town of Moravia, capital of a circle of the same name. It is 10 miles E. of Brinn. Long. 16. 57. E. Lat. 49. 5. N.

SLEAFORD, a town of Lincolnshire, with a market on Monday. It had formerly a castle, now in ruins, and has a large market-place, in the form of a parallelogram. It is seated on the Slea, which is navigable hence to the Witham, 18 miles S. of Lincoln, and 115 N. of London. Long. 0. 21. W. Lat. 53. 1. N.

SLONIM, a town of Lithuania, in the palatinate of Novogrodeck, with a castle, seated on the Sezraa, 40 miles S.W. of Novogrodeck, and 60 S.E. of Grodno. Long. 23. 57. E. Lat 53. 0. N.

SLOOTEN, or SLOTEN, a town of the United Provinces, in Friesland, seated on a lake called Slooten-mere, three miles from the Zuider Zee, and 18 N.W. of Steenwick. Long. 5. 26. E. Lat. 52. 55. N.

SMITH'S ISLAND, an island in the Pacific Ocean, discovered by Lieut. Ball, in 1790. Long. 161. 54. E. Lat. 9. 44. S.

SMOLAND, or SMALAND, a province of Sweden, in Gothland, 112 miles long and 62 broad. It has immense forests of pine and fir; and the approach to the villages is announced by groves of oak, beech, and birch, and numerous plots or parterres of arable land among pastures and rocks. An acre of land has been frequently observed to be laid out with alternate slips of rye, barley, flax, and hemp; the intervals between and around, sown with grass. In many parts, the trees are cut down, and burnt in order to manure the soil. Calmar is the capital.

SMOW, a noted cavern, on the N. coast of Sutherlandshire, between Cape Wrath and Loch Eribol. It runs so far under ground, that its extremity, it is said, could never be explored.

SMYNHUSEN, a town of Lower Saxony, in the duchy of Holstein, six miles E. of Lunden.

SNACKERBURG, a commercial town of Lower Saxony, in Brunswick Lunenburg, seated at the confluence of the Utchf with the Elbe, 35 miles E. by S. of Danneberg. Long. 12. 22. E. Lat. 53. 10. N.

SNEECK, a town of the United Provinces, in Friesland. It is called Smitz by the natives, and is seated on a lake of the same name in marshy land, eight miles S. of Franeker. Long. 5. 26. E. Lat. 53. 2. N.

SNEIRNE, a town of Persia, in the province of Irac, 57 miles W.N.W. of Amadan. Long. 46. 24. E. Lat. 35. 45 N.

SNETSHAM, a town in Norfolk, with a market on Friday, seated on a small inlet of the sea, 12 miles N.N.E. of Lynn, and 111 N. by E. of London. Long. 0. 32. E. Lat. 52. 55. N.

SNIATIN, a trading town of Little Poland, capital of Poketia, seated on the Pruth, eight miles E. of Colomi, and 45 S.E. of Halitz. Long. 26. 7. E. Lat. 48. 44. N.

SOANA, or SUANE, an ancient town of Tuscany, in the Siennese, with a bishop's see. The badness of the air has caused it to be almost deserted, and it is now no more than a village. It is seated on a mountain, near the river Flora, 30 miles S.E. of Sienna. Long. 11. 46. E. Lat. 42. 40. N.

SOANE, a river of Hindooſtan Proper, which riſes on the S. confines of Allahabad, iſſuing from the ſame lake, which is the ſource of the Nerbudda; and flowing in an oppoſite direction to that river 1500 miles, it falls into the Ganges, above Patna.

SOCIETY (*Encycl.*). Amongſt the moſt important of the various aſſociations for charitable and benevolent purpoſes in Britain, is the formation of a ſociety in London, for encouraging the induſtry, and promoting the welfare of the poor, inſtituted in 1796, under the name of a *Society for bettering the Condition and increaſing the Comforts of the Poor*; an eſtabliſhment which has been the means of adding much to the general maſs of national happineſs. Its objects are deſcribed to be—"every thing that concerns the happineſs of the poor—every thing by which their comforts can be increaſed. To remove the difficulties attending parochial relief, and the diſcouragement of induſtry and economy, by the preſent mode of diſtributing it; to correct the abuſes of workhouſes; and to aſſiſt the poor in placing out their children in the world:—in this, and in the improvement of their habitations and gardens; in aſſiſtance and information as to the uſe of fuel, ſo as to give them more benefit from it; and in adding to, and in meliorating their means of ſubſiſtence, by public kitchens, and by other means."—In theſe reſpects it has been proved that much may be done by the union of liberal and benevolent minds—much by the circulating of information, and by perſonal aſſiſtance and influence.

It muſt afford a ſtrong additional inducement to efforts of this nature to conſider, that, in proportion as we can multiply domeſtic comforts, in the ſame degree we may hope to promote the cauſe of morality and virtue. For a very gratifying illuſtration of this, as well as for the moſt important improvements in fuel, food, and in the mode of aſſiſting the poor, the world is indebted to the philanthropy and abilities of Count Rumford. (See the articles CORN, FUEL, SOUP, &c. *Supp.*)

It is not, however, merely the increaſe of the comforts and morals of the poor, great as that benefit may be, that this ſociety has in a great meaſure effected: its improvements and experiments apply more or leſs to farms, manufactories, private families, and to every ſituation of life.

His majeſty, the ready patron of every uſeful undertaking, when informed of the plan and object of the ſociety, was graciouſly pleaſed to take it under his protection, and at a ſubſequent meeting the ſociety came to the following reſolution:

"That the general object of the ſociety be to collect information reſpecting the circumſtances and ſituation of the poor, and the moſt effectual means of meliorating their condition; in order that any comforts and advantages which the poor do now actually enjoy in any part of England, may eventually be extended to every part of it, with as much improvement and additional benefit as may be to the poor; and with a tendency, gradually to diminiſh parochial expences. For the attainment of theſe ends, it appears to the ſociety, that the circulation of uſeful and practical information, derived from experience, and ſtated briefly and plainly, ſo as to be generally read and underſtood, may be of very great national and individual benefit; and may induce and enable all well diſpoſed perſons to unite in the promotion of an object ſo important to the happineſs and welfare of the community at large, and particularly of that valuable branch of it, the labouring poor.

"The following are ſelected as the ſubjects of information, upon which the Society is deſirous of obtaining and circulating hints:

1. *Pariſh Relief*—how it may be beſt directed for the benefit of the poor.
2. *Friendly Societies*—their good effects, and how they may be beſt encouraged.
3. *Pariſh Workhouſes*—the amendment of them.
4. *Cottages*—the increaſing the comfort and neatneſs of them.
5. *Cottage Gardens*—and the means of enabling the cottager to keep a cow, or of ſupplying him with milk.
6. *Pariſh Mills* for corn; and pariſh ovens.
7. *Village Shops*, for better ſupplying the poor with the neceſſaries of life.
8. *Village Kitchens*, and *Soup Shops*.
9. *Cottage Fire-places and chimneys*—the improvement of them.
10. *Fuel*—how the poor may be better ſupplied with it.
11. *Apprentices* to manufacturers, and all pariſh apprentices.
12. *County Jails*—the means and effects of reforming them.
13. *Beggars*—the leaſt exceptionable modes of aſſiſting them.
14. *Public Rooms* for the reſort of the induſtrious poor in cold weather.

For proofs of what has been effected by the Society already, ſee the ſeveral heads in this SUPPLEMENT. We ſhall now introduce to the reader's notice a ſubordinate inſtitution of this kind, namely, the *Society for bettering the Condition of the Poor at Clapham*, eſtabliſhed in 1799. It conſiſts both of ladies and gentlemen, willing to take an active part in promoting the welfare of the poor. The objects of this ſociety, are *the diſcovery and relief of caſes of real diſtreſs, the aſſiſting and rewarding of honeſt induſtry, the detection of fraud and impoſture, the diſcouragement of idleneſs and vice, and the employment of children at an early age*, ſo as to improve both the condition and the morals of the poor.

The members of the ſociety meet at each other's houſes, in winter, one evening in the month, and in the ſummer once in two months, for the purpoſe of converſation and communication on the preceding ſubjects. They have divided the pariſh of Clapham into eight diſtricts, and have appointed four or more ladies and gentlemen, as viſitors for each diſtrict. The duty of the viſitors is to inform themſelves of the circumſtances and character of every poor perſon within their diſtrict; and to meet for the purpoſe of acting in concert, and of becoming more acquainted with the real ſtate of the poor; ſo as to report at the general meeting every peculiar caſe of diſtreſs: with their opinion, as to the means of improving the conduct, and bettering the condition, of the objects of their attention. A journal was agreed to be kept of the obſervations of the Society, and of the effects produced by its labours; and a correſpondence has been opened with the officers of the pariſh, ſo as to form a channel for the mutual communication of intelligence.

The firſt act of the ſociety was to draw out an accurate liſt of all the poor of the pariſh of Clapham; diſtinguiſhing each individual's reſpective occupation, family, reſidence, and place of legal ſettlement.—From this account, two diſtinct liſts have been made out; one in the order of reſidence—the other in an alphabetical order; and a liſt of the allowances granted by the pariſh has been obtained of the overſeers. It appeared by the returns, that there were in the whole 348 families in the pariſh, which were likely to become objects of charitable aſſiſtance; viz.

In the 1ſt diſtrict	-	46 families.
2d	- -	71
3d	- -	50
4th	- -	52
5th	- -	41
6th	- -	33
7th	- -	37
8th	- -	18
		348

Of theſe 61 were ſingle perſons; 59 had wives, but no children; and the remaining 287 had wives and children; the number of children being, upon an average, not more than two to each family.—There were in all 572 children, and the total amount of poor was 1207 perſons.

For each diſtrict, a lady was appointed as ſub-treaſurer; whoſe office it was to keep the accounts of the diſtrict, and to call meetings of the viſitors; no viſitor having a power (except in caſes of emergency) to give any material relief, but what ſhall be directed at a diſtrict meeting. Their accounts are paſſed at the general meeting. The meaſure of ſub-dividing the diſtricts among the viſitors was ſoon after adopted, in ſome inſtances, with very good effect.

The rector, with the concurrence of the churchwardens and veſtry, added the ſacrament money, about 100l. a-year, to the funds of the ſociety.—In caſe of application for relief, it was recommended to the viſitors to take the opportunity of gaining information reſpecting the character of the perſon applying; as to regular attendance on public worſhip, the care and ſchooling of their children, and the induſtry and earnings of every branch of the family. This information is uſeful to direct both the kind and the quantity of relief, ſo as to aſſiſt and encourage virtue and induſtry.

In caſe of any infectious diſorder, the treaſurer is directed to conſult with the medical gentlemen of the ſociety, concerning the moſt effectual means of preventing the danger of communication; and he has the authority immediately to take the neceſſary ſteps, at the expence of the ſociety. Of the benefit of this regulation ſeveral inſtances have appeared. The ſmall-pox had attacked ſeveral poor families with much violence; ſome of the children, yet uninfected, were ſucceſsfully inoculated at the expence of the ſociety. A dangerous ſpecies of putrid and ſcarlet fever had broken out at different periods, in ſome of the houſes of the poor; it was prevented from ſpreading beyond the families in which it originated. A putrid and ſcarlet fever, in a neighbouring pariſh, was at the ſame time extremely fatal to the children of the poor; and three months had elapſed, before its ravages ceaſed.

There is hardly any thing for the improvement and benefit of the poor, that may not be adopted and effected by ſuch a ſociety as that of Clapham. They came to very early reſolutions to furniſh the poor *gratis*, with unſlaked lime to white-waſh their cottages: to provide liſts of the poor in the different diſtricts; to furniſh grown-up perſons with ſuitable employment; and to place children at ſchool, and from thence in ſervice; to eſtabliſh in the village a friendly ſociety, under their own care and patronage; —to purchaſe blankets to lend the induſtrious poor in winter;—and that, whenever a poor married woman ſhould depoſit a weekly ſum in the hands of the viſitor to provide for her confinement, the ſociety would repay it, with the addition of as much more, at the time of her lying-in.

In order to provide for the ſick poor ſuch refreſhments as might be ordered by the viſitors or medical attendants, the ſociety engaged an agent at 3s. a-week. She is a middle-aged woman, not burthened with a family, not going out to waſhing for her livelihood; and a perſon in whoſe cleanlineſs, aſſiduity, integrity, and ſkill in cookery, they and the poor can place a confidence. To her care are intruſted the ſtores for the relief of the ſick; conſiſting of ſago, wine, oatmeal, &c. and alſo the materials for work. She has been furniſhed with a book of receipts for preparing refreſhments for the ſick, to be ſent by the order of any of the viſitors, ſhe keeping a regular account of the ſame. It is her duty to regiſter the names of the nurſes and charwomen in the pariſh, who are deſerving of recommendation, in order that thoſe who want employment may have an opportunity of ſtating that they are unoccupied; and that houſekeepers, who want a nurſe or helper in the houſe, may know who is diſengaged. It is alſo her office, upon reference from the viſitors, to make enquiries reſpecting the character of any perſon, when the viſitors do not ſucceed in procuring ſatisfactory information upon the ſubject.—Three ladies of the ſociety undertook to purchaſe for her the neceſſary utenſils and ſtores, to furniſh her with ſufficient information and inſtructions, and to ſuperintend her in the execution of her office.

For the deſirable object of forming early habits of attention and induſtry (there being already at Clapham, ſchools for children of riper age), a knitting and reading ſchool for boys and girls under ſix years of age was eſtabliſhed under the care of one of the ladies, at the requeſt and expence of the ſociety. An induſtrious woman, who had a comfortable room adapted to the purpoſe, agreed to take any number of children, and at any hour that might be thought proper, to inſtruct them in knitting and reading; and, on Sunday, to open it as a Sunday ſchool. For this, and her firing and all expences, ſhe was to be allowed five ſhillings a-week. The ſchool was opened in the beginning of December laſt with fifteen boys, whoſe number was ſoon increaſed to twenty-one, and the monthly account of whoſe work already makes an article in the minutes of the ſociety.

In the early part of the winter the ſociety provide blankets, to be numbered, marked, and lent to the poor, under the following regulations: 1ſt, That a note ſhould be given with them, expreſſing the day on which they were lent, and that on which they were to be returned. 2d, That an account ſhould be kept by the ſociety's agent, in her book, of the number of each blanket, the perſon to whom lent, and the time when lent, and when returned. 3d, That the blankets lent to any poor family for the winter ſeaſon, ſhould be returned on the firſt of May, clean waſhed if required. 4th, That in caſes where any infectious diſorder might have prevailed in the family to which they have been lent, a diſcretionary power be given to the viſitor to permit them to be kept. And 5th, That all the blankets, upon being returned to the ſociety, ſhould be baked, in order to purify them, before they are laid up in the ſociety's ſtore.

It is difficult to ſay what may not be done for the poor, or to what degree their religious and moral habits, and their domeſtic comforts and enjoyments, may not be increaſed, by the formation, in every large pariſh in England, of ſocieties like that at Clapham: ſocieties which, without the incumbrance of an eſtabliſhment, give to the rich all the power and effect of co-operation; which offer to the poor every incitement to virtue and induſtry; and, while they relieve the diſtreſſed and unfortunate, while they educate the young and comfort the aged, impreſs on the minds of all a juſt ſenſe of the value of character, and of moral and religious habits, and render them uſeful to themſelves and to the community.

It is no ſmall merit in the ſociety at Clapham, that it has afforded ſatisfactory evidence that the ſyſtem of dividing

the poor into diſtricts, and of thereby diminiſhing labour by arrangment of attention (a ſyſtem recommended by the precepts of Count Rumford, and by the example of Hamburgh), is applicable and practicable in every pariſh in England. However the mind may be intimidated by the difficulties which muſt embarraſs the attempt of an individual, to improve the habits and increaſe the comforts of a whole pariſh, or of a larger diſtrict; there are very few of our countrymen, and ſtill fewer, we truſt, of our fair countrywomen, who would, at any period, ſhrink from the duty of occaſionally viſiting their eight or ten adjoining cottagers; and of attending a ſociable monthly meeting of their friends and acquaintance, in order to conſider how their poor neighbours might be made more happy and virtuous in themſelves, and more uſeful to the neighbourhood.

This mode of keeping down the poor-rates, of preventing crimes, and of encouraging honeſty, induſtry, and economy, will never be very irkſome in the detail, while it only occaſionally occupies a tedious hour, and promotes a pleaſant and ſatisfactory monthly meeting of the neigbourhood. This, when directed "to the diſcovery and relief of caſes of real diſtreſs,—to the aſſiſting and rewarding of honeſt induſtry,—to the detection of fraud and impoſture,—to the diſcouragement of idleneſs and vice,—to the employment of children in early habits of induſtry,—and to whatever has a tendency to improve the condition and morals of the poor" (and theſe are the declared objects of the ſociety at Clapham), muſt, except in a very debaſed ſtate indeed, afford ſatisfactory occupation to every human being;—to the miſer, in the improvement of his property,—to the anxious mind, in the ſecurity of it,—to the ſenſualiſt, in enjoyment,—and to the pious and benevolent, in the promotion of the virtue and happineſs of their fellow-creatures.

This ſociety is directed by principles different from thoſe which too frequently actuate the parochial overſeer. The great object of the ſociety is the improvement of the poor. They apply leiſure, talents, information, and every power which they derive from inſtruction, ſituation, and property, for the aſſiſtance of thoſe who do not poſſeſs the ſame advantages; not with the petty and unſtable object of affording capricious or momentary relief; but in the well-founded hope of conferring permanent benefit, by increaſing their reſources, by improving their principles, and encouraging them in habits of induſtry, ſobriety, and frugality.

Charity of this kind has not only the advantage of increaſed effect by co-operation, and of impartial benevolence in embracing all objects within the diſtrict, in proportion to their claims and neceſſities; but alſo of acting upon collective information, and of directing joint exertions ſyſtematically, and to the proper end. The enquiry reſpecting the induſtry, economy, and character of the poor, muſt neceſſarily increaſe the value and prevalence of thoſe virtues, at the ſame time that it enables the individual to direct his relief moſt effectually to the advantage of the ſufferer.—If it is temporary diſtreſs occaſioned by ſickneſs, proviſion is made for their immediate comfort and ſpeedy recovery; and, while the ordinary parochial fund is reſorted to in the uſual way, the ſociety adds the leſſer comforts, and thoſe aids to the recovery, which pariſh relief can never completely afford: ſuch is a nurſe, whoſe employment may perhaps be as much charity to her, as to the ſick on whom ſhe attends; whoſe care, where quiet is peculiarly neceſſary, may remove ſome of the children during the day, and place them with a neighbour or friend; and whoſe attention may prevent the patient from returning to hard labour, before his ſtrength is ſufficiently recruited and confirmed.

In checking the progreſs of infectious diſorders, a ſociety like that of Clapham may be of infinite ſervice. It is the duty of the viſitor in that caſe immediately to inform the treaſurer, who is authorized to take medical advice, as to the moſt effectual means of ſtopping the contagion. A very trifling ſum, ſeaſonably expended in the removal and care of the infected perſon, and in purifying and white-waſhing his habitation, may ſave thouſands of uſeful lives, and prevent an irretrievable loſs, and inſupportable expence to the pariſh. (See HOUSE OF RECOVERY, and WHITE-WASH, *Supp.*)

For a period when the weaker and more helpleſs ſex ſtand in great need of kindneſs and aſſiſtance, the ſociety has made a very acceptable proviſion, by doubling the ſum which may be depoſited for the aſſiſtance of any poor woman at her lying-in. Beſides this, the placing, at ſuch a time, ſome of their chidren at ſchool, and providing a nurſe, may be at times an act of very uſeful and neceſſary charity.

The forming of children to early habits of induſtry, is another primary object of this ſociety; which adopts the principle that every child, above mere imbecility, ſhould produce ſomething towards its own ſupport. If what it can produce is *only a penny a-week*, even that ought not to be neglected. The habit of ſaving ſmall ſums is the foundation of economy; and conſtant occupation is one grand preſervative from vice. For this purpoſe, it is of great moment to find regular employment for the poor; and it is much to be regretted that proceſſes for the abridgment of labour have, in many parts of the kingdom, deprived the poor of the means of induſtry.

The habit of cleanlineſs, producing as it does many valuable moral virtues, is an important effect of this ſociety. Another is, the inſtitution of friendly ſocieties under their immediate care and patronage; and particularly ſuch a one as may afford relief to women as well as to men; and, with the contributory aid of the rich, ſecure liberal and certain advantages to the members. Beſides this, the encouraging of the poor to buy for ready money, and the donation of rewards to cottagers for the ſupport of large families, and for the degree of induſtry and ſobriety they may poſſeſs, and for other commendable points of character, may, with attention and diſcretion, be of the greateſt uſe in improving the condition, not only of the poor, but of the neighbourhood and of the community at large.

Whatever have been the advantages to the poor, the beneficial effects produced by ſuch a ſociety upon the rich, are likely to be equally great. Ladies who have not been accuſtomed to enquire perſonally into the ſtate of their neceſſitous neighbours, may thus be excited to be extremely active in aſſiſting them, and in deviſing the beſt methods of doing them good. When the rich are induced to viſit the families of labourers, and to make the compariſon between their own comforts and thoſe of others, they receive from ſuch occupation much mental improvement, and become properly grateful for their own benefits and ſituation in ſociety. It may then become neceſſary to caution them againſt too warm and liberal an application of their charity, and againſt that degree and ſpecies of benevolence, which, inſtead of aiding and inſtructing the poor to help themſelves, render them more helpleſs and hopeleſs. It is then very important to hold up to conſtant view the wiſe and excellent maxims adopted at Hamburgh; *that if the manner in which relief is given be not a ſpur to induſtry, it becomes in effect a premium to ſloth and profligacy*; and that if the charitable or parochial ſupport of an idle perſon exceeds what any induſtrious perſon in the ſame circumſtances can earn, idleneſs will become more profitable than induſtry, and beggary a better trade than the work-ſhop.

Philanthropic SOCIETY. See REFORM, *Supp.*

SOCONUSCO, a province of New Spain, in the audience of Mexico, 88 miles long and nearly as much broad; bounded on the N. by Chiapi, on the E. by Guatimala, on the S. by the Pacific Ocean, and on the W. by Guaxaca. It is ſheltered from the north winds by high mountains, which renders the air exceeding hot; and the ſoil is not very fertile. There are few Spaniards ſettled here.

SOCONUSCO, or GUEVETLAN, a town of New Spain, capital of a province of the ſame name, 440 miles S.E. of Mexico. Long. 98. 16. W. Lat. 15. 12. N.

SOCZOWA, a town of Turkey in Europe, in Moldavia, ſeated on the Sereth, 32 miles S.W. of Jaſſy. Long. 26. 20. E. Lat. 47. 16. N.

SODBURY, or CHIPPING SODBURY, a town in Glouceſterſhire, with a market on Thurſday, and noted for its fine cheeſe. It is ſeated in a bottom, near the towns, 15 miles E.N.E. of Briſtol, and 112 W. of London. Long. 2. 15. W. Lat. 51. 36. N.

SOEBORG, a town of Denmark, in the iſland of Zealand, nine miles W.N.W. of Elſinore.

SOEST, a large town of Weſtphalia, in the county of Marck, formerly free and imperial, but now belongs to the King of Pruſſia. The ſtreets are watered with ſtreams that proceed from a lake, and the inhabitants are generally Papiſts. It is 12 miles S.W. of Lipſtadt, and 30 S.E. of Munſter. Long. 8. 11. E. Lat. 51. 41. N.

SOFFA, or SOPHIA, a town of Turkey in Europe, capital of Bulgaria, with an archbiſhop's ſee. It is ſeated at the foot of the mountains of Argentaro, on the river Bogana, 135 miles W.N.W. of Adrianople, and 155 E. of Scutari. Long. 23. 58. E. Lat. 42. 36. N.

SOFROY, a town of the kingdom of Fez, noted for a very handſome moſque. It is ſeated on a hill, at the foot of a mountain of the ſame name, part of Mount Atlas, and between two rivers, 12 miles E. of Fez. Long. 4. 48. W. Lat. 33. 40. N.

SOGNO, a town of the kingdom of Congo, in a province of the ſame name, which is a dry ſandy country, but yields a great deal of ſalt. The inhabitants are ſaid to be Chriſtians, converted by the Portugueſe, and the Capuchins have a church here. It is ſeated on the Zaire, near its mouth, 185 miles W.S.W. of St. Salvador. Long. 13. 15. E. Lat. 5. 50. S.

SOHAGEPOUR, a town of Hindooſtan Proper, capital of a diſtrict, in the province of Allahabad, 120 miles S. of Allahabad, and 230 S.W. of Patna. Long. 82. 20. E. Lat. 23. 50. N.

SOHAM, a town in Cambridgeſhire, with a market on Saturday, ſeated on a fen of the ſame name, near Sohammere, which takes up 1000 acres of land. It is five miles S.E. of Ely, and 70 N. by E. of London. Long. 0. 14. E. Lat. 52. 21. N.

SOHO, a village in Staffordſhire, two miles N.W. of Birmingham. It was recently founded by Mr. Boulton, as a manufacture for every article common to the Birmingham trade, the plated ware uſually made at Sheffield, and of elegant pieces of ſilver both light and maſſive. Here alſo are made the improved ſteam engines, now adopted in numerous concerns throughout the kingdom. In 1797, an ingenious apparatus for coining and ſtamping was employed here by government, on a copper coinage of penny and two-penny pieces; and in 1799, halfpenny and farthing pieces were likewiſe coined at this mint.

SOIGNIES, a town of Auſtrian Hainault, ſeated near a foreſt of the ſame name, on the river Senne, eight miles N.E. of Mons, and 17 W. of Bruſſels. Long. 4. 14. E. Lat. 53. 29. N.

SOLDANIA BAY, a bay on the S.W. coaſt of Africa, a little to the N. of the Cape of Good Hope. Long. 18. 4. E. Lat. 33. 10. S.

SOLENHOFEN, a town of Franconia, in the principality of Anſpach, 29 miles S. of Anſpach. Long. 10. 45. E. Lat. 44. 46. N.

SOLFATARA, a mountain of Naples, in Terra di Lavoro, ſurrounded by other mountains, in the form of an amphitheatre. It has a kind of cavity, above a mile in diameter, which was no doubt the crater of a volcano at preſent extinct. The earth here is warm and white; and if opened to ſome depth is inſupportable from the heat and exhalations. The ground is almoſt every-where hollow, and is ſuppoſed to have a ſubterraneous communication with Mount Veſuvius. Here are manufactures of ſulphur and alum, from which the King of Naples derives a conſiderable revenue. Near it is a ſmall lake full black thick water, which ſeems to be always boiling.

SOLFWITZBORG, or SYLVISBORG, a town of Sweden, in the province of Blekingen, 33 miles W.S.W. of Carlſcrona. Long. 14. 31. E. Lat 56. 2. N.

SOLIHUL, a town in Warwickſhire, near which, to the W. is a triangular Daniſh camp, on an eminence, containing about nine acres. It is 12 miles W. of Coventry, and 107 N.W. of London.

SOLINGEN, a town of Weſtphalia, in the duchy of Berg, ſeated near the river Wipper, 15 miles S.E. of Duſſeldorf. Long. 7. 10. E. Lat. 51. 10. N.

SOLKAMSK, a town of Ruſſia, in the government of Perm, famous for its ſalt-pits and good horſes. It is ſeated on the Uſſolka, which falls into the Kama, 430 miles N.E. of Kaſan. Long. 57. 26. E. Lat. 5. 16. N.

SOLMS, a town of Germany, capital of a county of the ſame name, in the circle of Lower Rhine. It has a ſtrong caſtle, belongs to a branch of the houſe of Naſſau, and is ſeated on a hill, 10 miles S.E. of Herborn. Long. 8. 31. E. Lat. 50. 35. N.

SOLOR, an iſland in the Indian Ocean, to the S. of Celebes, governed by its own king. Long. 123. 55. E. Lat. 9. 0. S.

SOLSERINA, a town of Italy, in the duchy of Mantua, 17 miles N.W. of Mantua. Long. 10. 40. E. Lat. 45. 20. N.

SOLTAU, a town of Lower Saxony, in the principality of Luneburg Zell, 29 miles N.N.W. of Zell, and 29 W.S.W. of Luneburg. Long. 10. 2. E. Lat. 53 10. N.

SOLTWELD, a town of Germany, in the old marche of Brandenburg, ſeated on the Jetze, 40 miles N.W. of Stendal. Long. 11. 36. E. Lat. 53. 6. N.

SOLWAY FRITH, an arm of the ſea, between Cumberland in England, and Kircudbrightſhire in Scotland.

SOMBRERO, a cluſter of uninhabited iſlands in the Weſt Indies, belonging to the Engliſh. The moſt remarkable of them is a league long, and conſiſts of an eminence, to which the Spaniſh diſcoverers, finding ſome reſemblance to a hat, gave the name of *Sombrero*. It is 80 miles N.W. of St. Chriſtopher. Long. 63. 37. W. Lat. 18. 38. N.

SOMMA, a town of Naples, in Terra di Lavoro, near which is annually produced between 7000 and 8000 pounds weight of ſilk of the beſt quality. It is 10 miles E. of Naples.

SOMME, a department of France, including the late province of Picardy. It takes its name from a river which riſes in the department of Aiſne, and watering St. Quentin, Peronne, Amiens, and Abbeville, enters the Engliſh channel. Amiens is the capital.

SOMMERFELD, a town of Upper Saxony, in the

duchy of Croſſen, 15 miles S. of Croſſen, and 72 S.E. of Berlin.

SOMMIERES, a town of France, in the department of Gard. It has a manufacture of thick ſerges, which bear its name; and is ſeated on the Vidourle. 10 miles W. of Niſmes. Long. 4. 11. E. Lat. 43. 48. N.

SONCINO, a ſtrong town of Italy, in the Cremoneſe, ſeated on the Oglio, 20 miles N.W. of Cremona. Long. 9. 44. E. Lat. 45. 24. N.

SONDERBORG, a ſea-port of Denmark, in the iſland of Alſen. It has one of the beſt harbours in Denmark, and a royal palace in which Chriſtian II. king of Denmark, was confined as a priſoner 13 years. It is 16 miles E.N.E. of Flendſburgh. Long. 9. 49. E. Lat. 54. 57. N.

SONDERSHAUSEN, a town of Upper Saxony, ſituate on the Wipper, 20 miles N.E. of Mulhauſen, and 26 N. of Erfurt. Long. 11. 5. E. Lat. 48. 25. N.

SONDRIO, a town of the country of the Griſons, capital of the Valteline. It is built in a very romantic ſituation, at the extremity of a narrow valley, and occupies both ſides of the Malenco, a furious torrent, which frequently overflows its banks. Sondrio is 34 miles N.E. of Como. Long. 9. 40. E. Lat. 46. 11. N.

SONERGON, or SUNNERGAUM, a village of Hindooſtan Proper, once a large city, the provincial capital of the eaſtern diviſion of Bengal, before Dacca was built, and famous for a manufacture of fine cotton cloths. It is ſeated on a branch of the Burrampooter, 13 miles S.E. of Dacca.

SONG-KIANG-FOU, a city of China, in the province of Kiang-nan. It is celebrated for the prodigious quantity of cotton cloth which it exports to foreign countries, but has only four cities in its diſtrict.

SONORA, a province of New Navarre, extending along the E. ſide of the gulf of California, in about 96° W. long. and 29° N. lat. It lies in the moſt delightful part of the temperate zone; and all its productions, whether animal or vegetable, are perfect in their kind. Some rich mines of gold and ſilver were diſcovered here by the Spaniards, in 1771, in an expedition againſt ſome fierce tribes of hoſtile and predatory Indians.

SOOLOO, an iſland of the Eaſtern Ocean, ſituate S.W. of Mindanao, almoſt midway between that iſland and Borneo. It is 30 miles long and 12 broad, and contains about 60,000 inhabitants. It is governed by a king or ſultan, and the natives are Malays, and conſequently Mahometans. The populouſneſs of this little ſpot is cauſed by its advantageous ſituation, which renders it a great mart. The Engliſh Eaſt-India Company have a reſident here. Long. 121. 25. E. Lat. 5. 58. N.

SOPHIANIA, a town of Perſia, in Aderbeitzan, ſeated in a valley, 25 miles N.W. of Tauris. Long. 47. 25. E. Lat. 38. 35. N.

SOPHIENBERG, a town of Denmark, in the iſland of Zealand, with a royal palace, 13 miles N. of Copenhagen. Long. 12. 40. E. Lat. 55. 54. N.

SOPRA SELVA, a valley of Switzerland, in the country of the Griſons. It extends from Mount St. Gothard to Reichenau, and in the moſt populous valley of the Grey League.

SOPRON, a ſtrong town of Lower Hungary, capital of a county of the ſame name, ſeated on a ſmall river, 27 miles S.W. of Preſburg, and 30 S.E. of Vienna. Long. 17. 0. E. Lat. 47. 46. N.

SORA, a town of Naples, in Terra di Lavora, with a caſtle and a biſhop's ſee; ſeated on the Garigliano, 65 miles N.W. of Naples. Long. 14. 4. E. Lat. 41. 54. N.

SORA, a ſtrong town of Denmark, in Zealand, with a college for the nobility, nine miles W. of Ringſted. Long. 11. 53. E. Lat. 55. 26. N.

SORAW, a town of Germany, in Luſatia, ſeated near the Bober, 25 miles S. of Croſſen, and 32 N.E. of Gorlitz. Long. 15. 48. E. Lat. 51. 40. N.

SORIA, a town of Spain, in old Caſtile, built on the ruins of the ancient Numantia, near the ſource of the Douero, 74 miles S.E. of Burgos. Long. 2. 2. W. Lat. 41. 48. N.

SORIANO, a town of Naples, in Calabria Ulteriore, 17 miles E.N.E. of Nicotera.

SOROCK, a town of Poland, ſeated on the Dnieſter, with a ſtrong caſtle. The Turks were obliged to raiſe the ſiege of this place in 1602.

SOROE, a town of Denmark, in the iſland of Zealand, ſurrounded by three freſh-water lakes. Here is a royal academy, endowed with the revenues of a rich convent which was diſſolved at the revolution. It is 35 miles S.W. of Copenhagen. Long. 12. 15. E. Lat. 55. 5. N.

SOSPELLO, a town of Piedmont, in the county of Nice. It has a trade in dried fruits, particularly figs; and is ſeated at the foot of three very high mountains, on the river Bevera, 15 miles N.E. of Nice. Long. 7. 34. E. Lat. 43. 52. N.

SOVANO, a town of Tuſcany, in the Sienneſe, with a biſhop's ſee, 25 miles W. of Orvietto. Long. 11. 48. E. Lat. 42. 42. N.

SOUILLAC, a town of France, in the department of Lot, ſeated on the Boreſe, 32 miles N. of Cahors. Long. 1, 21. E. Lat. 44. 55. N.

SOUND, a ſtrait between Sweden and Denmark, through which ſhips uſually ſail from the Categate into the Baltic. It is about four miles broad, and here the Danes take toll of all merchant-ſhips that paſs into the Baltic.

SOUP (*Encycl*). The following extract from an account of the manner and expence of making ſtewed ox's head for the poor, by Mrs. Shore of Norton-hall, in Derbyſhire, is publiſhed by the Society for bettering the Condition of the Poor.

"One of the members of the ſociety having requeſted the particulars of the ox-head ſtew, which is given away at Norton-hall," ſays Mrs. Shore, "I have prepared the following account:—The whole is divided into fifty-two meſſes; each meſs containing a piece of meat, a piece of fat, and a quart of ſoup. The diſtribution of it has been continued ſince October, 1792, once a-week, and ſometimes oftener, from October to May. The poor people receive it very thankfully, and generally reſerve part of the meſs for the ſecond day.

"The manner of preparing it is as follows:—Waſh the ox's head very clean and well, and then put it into thirteen gallons of water; add a peck and a half of pared potatoes, a quartern of turnips, half a quartern of onions, a few carrots, a handful of pot-herbs, and the liquor of any boiled meat of the family, in which no vegetable has been boiled; thicken it with two quarts of oatmeal, and add pepper and ſalt to your taſte:—ſet it to ſtew with a gentle fire, early in the afternoon, allowing as little evaporation as may be, and not ſkimming off the fat; but leaving the whole to ſtew gently over the fire, which ſhould be renewed and made up at night. Make a ſmall fire under the boiler at ſeven o'clock in the morning, and keep adding as much water as will make up the waſte by evaporation, keeping it gently ſtewing till noon, when it will be ready to ſerve for dinner. The whole is then to be divided into fifty-two meſſes; each containing (by a previous diviſion of the meat and fat) a piece of meat and fat, and a quart of ſavoury nouriſhing ſoup.

" The expence of the materials in the northern counties, where it has been tried, may be thus ſtated:

	s.	d.
An ox's head - - - - -	1	6
A peck and a half of potatoes - -	0	7½
Onions, turnips, &c. - - -	0	4½
	2	6

" This amounts, excluſive of fuel and trouble, to rather more than a halfpenny for each meſs, or not quite two pence halfpenny a gallon; but in the dearer parts of England, the articles being purchaſed by retail, the meſs may coſt as much as three farthings or a penny.

" The beef and other bones, and cruſts of bread, of the family, may be added to the ſtew; and will improve the ſoup, without any additional expence.

" The above is ſubmitted to the conſideration of thoſe houſe-keepers who have not yet adopted a ſimilar charity, as a cheap and uſeful mode of relieving their poor neighbours, and of gradually teaching them a better ſyſtem of diet than they at preſent poſſeſs. The ſum of 2s. 6d. a-week for ſeven months (amounting to £3. 15s. a-year) in the cheap parts of England, and a few ſhillings more in the others, is the expence of a charity which may retain on its liſts fifty-two poor perſons, and ſupply them with the comfort of two meals a-week."

This receipt was tried in Auckland workhouſe; and was extremely liked by the poor. Though the expence was very ſmall, yet the quantity produced being a great deal more than the people of the workhouſe could uſe, the cottagers near the workhouſe were deſired to ſend for meſſes of it; and had, in conſequence, the benefit of a plenteous and unexpected meal. It is now inſerted in their table of diet, to be made once a-week for the benefit of the poor, both in and out of the workhouſe.

Count Rumford, in his valuable eſſays, has *demonſtrated* the practicability of making ſoup *abundantly equal to human ſuſtenance, under all circumſtances of bodily exertion, of vegetable ingredients only*, without a particle of animal matter. On this he fed the ſoldiery and poor of various deſcriptions, in Bavaria, for a long time; and thoſe who partook of this excellent cookery were *unable to diſtinguiſh it from the ſoup compoſed of animal broth*, except from its ſuperiority in *flavour* and effect.

SOUP-HOUSE, a recent kind of charitable inſtitution, found neceſſary for the poor in Britain, during the late ſcarcity. The following is extracted from an account of the ſoup-houſe, in Weſt-ſtreet, St. Giles's, by Sir Frederick Morton Eden, bart.

The ſoup-houſe in Weſt-ſtreet, Seven Dials, was opened on the 10th of January, 1800, upon the plan of giving general relief for all applicants, from any part of the metropolis. The quantity of ſoup ſold there in three months, between the middle of January and the middle of April, 1800, amounted to 118,457 quarts; for which the ſum of £493. 11s. 5d. was received from the applicants. From that time to the 25th of July, it was conceived that the individuals would be more relieved, and with more benefit to the public, by a ſupply for their families of potatoes and pork; and of ſavoury rice, prepared according to the receipt of the ſociety for the poor. The latter, they had the pleaſure to find, was very acceptable to the applicants; particularly to thoſe who had ſeveral ſmall children. In one week above 4,400 quarts of ſavoury rice were purchaſed by the poor; and during the period from the 18th of April to the cloſe of the ſeaſon in July, the following articles were ſold at the ſoup-houſe:

66,270 pounds of potatoes,
81,600 herrings,
14,842 quarts of ſavoury rice,
1,988 pounds of boiled pork.

By theſe means, during the winter of 1800, many thouſand perſons, who had no other means of ſupport, received occaſional relief; and it was a very gratifying circumſtance to the committee which conducted the ſoup-houſe, that in many inſtances perſons, who had at firſt come dirty and negligent in their apparel, became in a ſhort time decent and neat in their perſons, and regular and orderly in their behaviour.

The liberal and well-directed aſſiſtance of the Committee at Lloyd's, encouraged the exertions of the Committee of the ſoup-houſe in Weſt-ſtreet; and on the 4th of December, 1800, when it appeared that the general preſſure would continue another ſeaſon, the Committee of Management for the ſoup-houſe renewed their labours with increaſed activity. It is the peculiar misfortune of the poor, who conſtitute a very conſiderable part of the neighbouring population of St. Giles's and St. Ann's Soho, that, generally ſpeaking, they are unknown to the ſubſcribers; being reſident in ſtreets or courts entirely occupied by the poor, and being moſtly engaged in occupations which do not afford them means of acceſs to thoſe who could recommend them as objects of relief. Many families, not having the means of procuring recommendations from the ſubſcribers, applied at the ſoup-houſe, in conſequence of an inſtruction given them; and the gentlemen concerned in the management of that truſt, viſited perſonally above a hundred families in the greateſt diſtreſs; and, by enquiry, aſcertained the deſcription of the reſt. In conſequence of information ſo affecting, they thought it their duty to extend the relief of the charity, not merely to perſons recommended by the ſubſcribers, but alſo to the other diſtreſſed families, who had not the ordinary means of procuring tickets of recommendation.

Notwithſtanding the time loſt in attendance (an inconvenience which at firſt appeared to be indiſſolubly connected with this ſpecies of charity, but which, in this ſoup-houſe, has ſince been in a great meaſure remedied), the number of adults and children, receiving relief at the ſoup-houſe, amounted to about 14,000 individuals; who, at a time of ſcarcity, have thus been furniſhed with wholeſome food, and with coals, at a reduced price.—Of the latter article, 250 chaldrons, in the courſe of this winter, have been laid in the vaults under the adjoining chapel, and have been ſold in ſmall quantities to the poor, four days in the week, at the hours moſt convenient to them, at one ſhilling a buſhel.

The eſtabliſhment of ſoup-houſes has afforded unequivocal proof, if proof were wanting, that the prejudices of the induſtrious claſſes reſpecting diet, are not inſuperable.

That, on a ſubject ſo important to the labourer as the daily ſupply of his family with the principal neceſſary of life, and the mode of preparing his food, he ſhould feel diſpoſed to abide by the deciſion of his forefathers, and to think the general practice the beſt, becauſe it is the general practice, might reaſonably be expected. He has not leiſure, nor can he afford, to riſk experiments to mend the meal, which he muſt procure from the ſweat of his brow. It is not from his manufacturing ſkill that his meſs can be improved, or from his architectural knowledge that his dwelling can be rendered more comfortable. While he labours for others, merchants, manufacturers, and philanthropiſts, muſt plan for him. Viſionary projects may often diſguſt him, and render him averſe to innovation; but he is ſel-

dom ſo ignorant of his true intereſt as not to adopt improvements, which have been fairly tried, and ſatisfactorily explained to him. In truth, the changes which have taken place in the domeſtic economy of the great maſs of the people are not inconſiderable. In the middle of the ſeventeenth century, tea, ſugar, and potatoes, and even wheaten bread (articles which now conſtitute a great part of the ſubſiſtence of the labouring claſſes) were almoſt wholly unknown to them; and the experience of very modern times has ſhewn that good meat ſoup, fiſh of various kinds, and ſavoury rice, prepared at a fourth part of the expence of leſs palatable food, may be introduced at the tables of the poor. To familiarize them, however, to judicious and economical cookery at home,—wealth, ſcience, and benevolence, muſt continue their exertions. The poor of the metropolis, more particularly, not only want clear and explicit directions how their food may be prepared to the beſt advantage; but cheaper fuel than they can in general procure, and an improved kitchen apparatus. Theſe, however, are objects which do not fall within the ſcope of a ſoup eſtabliſhment.

Various are the advantages which have reſulted from inſtitutions of this nature. They are uſually opened in winter, a period of the year in which relief is moſt acceptable to the poor. They, probably, not only benefit the immediate applicants, but eventually others, to whom habit and local circumſtances ſtill render bread a principal article of ſubſiſtence. While the ſcarcity of corn continues, thoſe who will make white bread the great article of their ſubſiſtence, will be benefited by thoſe who can be ſatisfied with ſubſtitutes; and it is to be hoped that cheap and nutritious food may be thus brought into general uſe, by the extenſion of the knowledge of thoſe culinary proceſſes, which are neceſſary for preparing it.

It ſhould, however, be remembered that ſoup-houſes are extraordinary reſources, only to be uſed in times of difficulty and diſtreſs; when there is a deficiency of food, or when the regular exertions of induſtry are impeded by an unforeſeen preſſure or calamity. In a well-ordered ſtate, the permanent welfare of the labouring claſſes muſt be the reſult of their own energies. To open the doors of a ſoup-houſe, as well in ſummer when work may eaſily be had, as in winter when it cannot,—in years of plenty, as in years of ſcarcity,—is an indirect aſſurance to the labourer that the difference between the produce of his induſtry and the price of proviſions ſhall always be equalized from the contributions of the opulent. Such attempts may be partially made; but in their effects they muſt be often pernicious: as a general ſyſtem, they are impracticable.

Soup-houſes hitherto have been ſupported by liberal ſubſcriptions, and managed at a moderate expence. The active zeal of the firſt promoters has, in moſt inſtances, rendered their adminiſtration pure and diſintereſted: but this active zeal has been excited, becauſe the preſſure of the preſent period is conſidered as extraordinary. In ordinary ſeaſons the ſubſcriptions would be leſs liberal, and the management leſs gratuitous, and perhaps leſs diſintereſted.

A mixture of evil will blend itſelf with every human contrivance. In order to diſtribute food with order and economy, ſoup-houſes require the perſonal attendance of applicants. Hence ariſes a loſs of time, the moſt valuable property of the poor. He who carries his corn to a pariſh mill to be ground, inſtead of purchaſing his flour from a neighbouring baker, and he who waits his turn to be ſupplied with a cheap meal from a ſoup-houſe, muſt deduct from the money price of the article thus bought, the time loſt in purchaſing it. The benefit in both caſes may be conſiderable; but in both cases the loſs of time muſt be calculated, and allowed as a draw-back.

It may be doubted whether the morals of the lower claſſes, particularly of children, are not injured, by their being brought together in great numbers. Whatever pains may be taken to exclude improper objects, it is almoſt impoſſible for a ſoup-houſe to relieve ſeveral hundred families, without often obliging the modeſt and induſtrious poor to aſſociate with the idle and the profligate. An eſtabliſhment of this kind muſt be content not to ſcrutinize the merits of applicants "too curiouſly;" it muſt forget "their vices in their woe," and not refuſe a meal to fix ſtarving children, becauſe the father is idle, or the mother is diſſolute.

It is a conſiderable objection to the permanency of ſoup-houſes, that a charitable fund raiſed for ſupplying articles of ſubſiſtence, at reduced prices, to induſtrious perſons who are not abſolutely paupers, may leſſen the diſtinction between independence and poverty; and gradually obliterate that ſpirit of independence, which is the chief motive for perſonal exertion.

SOUR, or SUR, a ſea-port of Turkey in Aſia, in Syria, where ſtood the famous city of Tyre, of which there is now nothing remaining but ruins. Long. 35. 50. E. Lat. 33. 18. N.

SOUR, or SUR, a river in the Netherlands, which runs from W. to E. through Luxemburg, and falls into the Moſelle, a little above Treves.

SOURI, a town of Perſia, in Lariſtan, ſituate on the Perſian Gulf, 110 miles S.W. of Ormus. Long. 55. 30. E. Lat. 26. 18. N.

SOUSA, or SUSA, a ſtrong town of the kingdom of Tunis, capital of a province of the ſame name, with a caſtle and a good harbour. It is a place of ſome trade, and ſeated on a high rock, near the ſea, 65 miles S.E. of Tunis. Long. 11. 15. E. Lat. 35. 52. N.

SOU-TCHEOU-FOU, a city of China, the ſecond in the province of Kiang-nan. It is ſo interſected by canals of freſh water, that Europeans compare it to Venice; and the country round it is ſo delightful, that the Chineſe call this city the paradiſe of the world. The brocades and embroideries made here are eſteemed throughout the whole empire. Its population is prodigious; but its juriſdiction extends over only one city of the ſecond, and ſeven of the third claſs. Long. 112. 20. E. Lat. 38. 40. N.

SOUTERRAINE, a town of France, in the department of Creuſe, 24 miles N. of Limoges.

SOUTHAM, a town in Warwickſhire, with a market on Monday, and noted for its cider. It is 13 miles S. of Coventry, and 83 N.W. of London. Long. 1. 23. W. Lat. 52. 36. N.

SOUTHEND, NEW, a village in Eſſex, ſeated at the mouth of the Thames, 44 miles E. of London. Being the neareſt place to the metropolis, for ſea-bathing; it is much reſorted to, and has handſome accomodations for the company.

SOUTHWELL, a town in Nottinghamſhire, with a market on Saturday. It is an ancient place, and has a collegiate church. It is 10 miles N.E. of Nottingham, and 139 N.N.W. of London. Long. 0. 51. W. Lat. 53. 6. N.

SOUTHWOLD, a corporate town and ſea-port in Suffolk, with a market on Thurſday. It is ſeated on a cliff, near a fine bay, with a harbour to the S. and the river Blythe, and a drawbridge on the W.; ſo that it is almoſt ſurrounded with water, eſpecially at every high tide. Here a much eſteemed ſalt is made, and it has alſo a trade in corn, beer, and herrings. It is commonly called SOWLE or SOLE,

and its bay is named Solebay. In this bay was the great ſea fight between the Dutch admiral De Ruyter, and James duke of York, in which the victory was undecided. Southwold is 20 miles S. of Yarmouth, and 104 S.E. of London. Long. 1. 54. W. Lat. 52. 24. N.

SOUTO MAJOR, a town of Portugal, in Beira, 14 miles N.W. of Pinnel. Long. 6. 48. W. Lat. 41. 5. N.

SOVIGNY, a town of France, in the department of Rhone and Loire, ſeated on the Queſne, 50 miles S.E. of Bourges, and 167 S. of Paris. Long. 3. 21. E. Lat. 46. 30. N.

SOWING-MACHINE. A patent was granted, in 1784, to Mr. Wright, of Cranage in Cheſhire, for a machine upon an entirely new principle, for ſowing wheat, beans, peas, and other grain, and ſeeds; which may be fixed to a plough. The drawing, marked A, in Pl 47. repreſents this machine as fixed to a plough-beam; and on one ſide of the box or caſe is taken away, for the purpoſe of diſplaying as much as poſſible the mechaniſm of it, and the way in which it works: and it may be fixed to the beam of any plough, and this is the way in which it ſhould be uſed when it is meant to ſow only one row under furrow; or the machine may be ſo varied as that the motion may be communicated to more ſeed-plates than one, and theſe being fixed to a drilling inſtrument, may be contrived to ſow two or four rows at once; but the account here intended to be given is of that intended to ſow only one row: the ſeed-plates, ſo called becauſe they are the means of ſowing and diſtributing the ſeed, muſt be adapted to the nature and magnitude of the ſeed, or grain, intended to be ſown, and they may be eaſily and ſoon changed at the pleaſure of the uſer to ſow different kinds of ſeed or grain, as will hereafter appear: the ſeed or grain is to be put into a box, canniſter, or hopper, B, at the upper part of the machine, and the ſeed-plates, which are round, flat, and made of braſs, receive their motion from a wheel paſſing upon the ground; theſe ſeed-plates turn horizontally between the bottom of the box B in which the ſeed is put C, and the top of the lower box or caſe D; the channels or apertures in them are ſo ordered as to diſpenſe a limited and certain quantity of the ſeed or grain intended to be ſown, which quantity may be increaſed or diminiſhed, upon any given ſpace or length of furrow, by changing the pinion-wheel, and adding another with a greater or leſſer number of teeth, whereby the plate moves quicker or ſlower with relation to the movement of the plough. A block of wood E, which is the baſis or foundation of the machine, is fixed on the under ſide of the plough-beams; by means of two long iron bolts, theſe paſs through the block and through the plough-beam, and are ſcrewed together on the upper ſide of the plough-beam: this wooden block ſhould be ſeventeen inches long, three inches broad, and three inches deep. To this block of wood E, on the left hand, is fixed an iron frame F, which projects about ſix inches; the two ſtrong iron arms G, which ſupport this frame, are ſhouldered, and paſs through the arms of an iron plate, and then through the block of wood E. The frame F is the ſegment of a circle, the radius of which is about ſix or ſeven inches; and the cheeks of it are connected together at top and bottom by two thin iron bars, rivetted into the two cheeks: the open ſpace between the two ſemi-circular cheeks is about three inches, and the range between the cheeks is about ſeven inches; on the left-hand ſide this block of wood, and cloſe upon it, there is an univerſal joint H, in the iron axis I; from this joint to the left hand, for ſix inches, the axis I is perfectly round, and about three fourths of an inch diameter; on this part of the axis there is a wooden roller K, buſhed with braſs, about five inches long, and three in diameter at the larger or outer end, and one inch and a half at the ſmaller: this roller plays up and down the open range in the iron frame, and effectually prevents the wheel upon the ground from having any movement ſideways, which it otherwiſe would have. From the round part of the axis upon which the roller plays, the axis is continued ſquare for two inches and a half more, with a further allowance of half an inch, which is formed into a ſcrew; the large wheel upon the ground L, which moves the whole machine, has a ſquare mortiſe in its centre, which exactly correſponds with the ſquare part of the iron axis I; when this is put on and fixed by the nut, the wheel and axis turn together: this wheel gives movement to the ſeed-plates. Though fixed on twenty-one inches diameter for the large wheel on the ground, as the moſt convenient height for the ploughs commonly uſed in Cheſhire, it may be made more or leſs, and conſtructed of wood hooped with iron, or of caſt-iron; the wheel, when fixed to work, will be diſtant from the plough-beam, on the left-hand or land ſide, about ten inches. By the contrivance of the univerſal joint and the roller, the wheel, in its circular motion on the ground, riſes and falls, and paſſes over ſtones, or any other irregularities, without affecting the movement of the plough, or ſtraining the inſide, or other movements of the machine; from the univerſal joint on the left ſide, the block of wood before mentioned, the iron axis I is continued through the block; and, about two inches and a half to the right-hand ſide of it, there is a perpendicular plate of iron, about one inch and a quarter broad, three inches long, and a quarter of an inch thick; on each ſide the block of wood theſe are let in, and buſhed with braſs, or theſe plates may be formed of caſt-iron; and through theſe the ſpindle or axis from the great wheel paſſes: it is here half an inch diameter, and perfectly round for three inches in length; the other two and a half ſquare; on this ſquare part of the axis is fixed the pinion M, with eight leaves or bars: this pinion muſt be made of hardened ſteel; or it may be made of caſt-copper, with a ſmall allowance of tin to harden it; the pinion muſt be nearly two inches long, and one inch and a quarter diameter, with a ſquare mortiſe through it, correſponding with the ſquare of that part of the axis I, upon which it is fixed. Betwixt the pinion and the plate, on the right-hand ſide the block of wood, there muſt be put a collar of braſs, to make up the whole length of two inches and a half: a broad-headed ſcrew, at the extremity of the iron axis I, fixes all this work; and, when it is neceſſary to repair, clean, or oil any part of the movement, this broad-headed ſcrew being taken out ſets all at liberty: the pinion and collar come off on the inſide the box N; and the round ſpindle, or axis I, comes out on the outer, or other ſide; the long pinion M is eſſentially neceſſary, as it admits of pinion wheels O, of different diameters, with any number of teeth, from ſixteen to forty-eight, to work upon it, from one common centre, as will appear afterwards; the block of wood before mentioned forms the left-hand ſide of the box N; two boards, three quarters of an inch thick, form the front and back part of the box; a board, three quarters of an inch thick, forms the bottom; and on the right-hand ſide is a door that opens outwards; the top, or cover, is a braſs plate, about ſeven inches ſquare, and a quarter of an inch thick; when the whole is put together, it forms a cube of near ſix inches withinſide. In or near the centre, in the bottom of the box, is a round hole, three quarters of an inch diameter; on the outſide of the bottom is fixed a braſs plate, let in level with the ſurface, about four inches long, by one inch and a quarter broad, with a hole three quarters of an inch diameter;

by means of two ſtaples, rivetted into this plate, a flat double iron bolt P, with a ſpring upon it, ſlides into a rebatement, turned out of the upright iron ſhaft, or ſpindle, Q, as will be ſeen in the drawing of the ſeparate parts; by ſlipping the bolt back, the upright ſpindle Q is readily taken out, and by puſhing it forwards it confines the ſpindle from riſing or ſinking, and to all intents anſwers the purpoſe of a ſtep or ſtop for the ſpindle to turn upon: the upright ſhaft, or ſpindle, Q, is about eight inches long, the lower part projecting under the bottom of the box, through the bolt P, about an inch; then a circular groove for the bolt P to ſlide into; this is turned out of the iron about one eighth of an inch deep, and as much wide; the ſhaft is round at the lower end, and three quarters of an inch diameter; at two inches from the circular grove it becomes ſquare: on this ſquare part the different pinion-wheels O are fixed; the upper part is again turned round; this upper round part paſſes through a round hole in the braſs top D of the box N, correſponding with the diameter of the round part of the ſpindle; the ſpindle riſes one quarter of an inch above the upper ſurface of the braſs top D; and here it is again formed into a ſquare of half an inch; on this ſquare ſhoulder the different ſeed-plates are put, by a ſquare mortiſe, in their centres, correſponding with this ſquare upper projecting part of the upright ſpindle Q; in order the better to ſhew this iron ſpindle, a ſeparate drawing of it is added, marked Q q. The ſeed-plates for different ſeeds differ ſomewhat, but are all round, flat, and made of braſs; as they cannot be ſeen in the place where they work between C and D, ſeparate drawings of them are therefore added. That for wheat, R, is ſomething more than ſix inches diameter, and rather more than one eighth of an inch thick; two open channels or circles are cut through it, near the circumference; theſe are connected by bars alternately diſpoſed, ſo that there is little or no interruption to the ſeed dropping, as the plate turns round; theſe open ſpaces, with the interpoſing rim, are about an inch wide. In the plate for beans or peas, S, there is only one open circle, about an inch wide, with ſixteen thin partitions, to connect the rim with the body of the plate; this is braſs, nealy half an inch thick, and of the ſame diameter as the other; the partitions are fluſh with the bottom of the plate, but do not riſe more than half-way up the rim on the upper ſide: this will better appear from the drawing S. The plate for turnips, rape, lucern, or other ſmaller ſeeds, T, muſt be about ſix inches diameter, ſomething thicker than the diameter of a turnip ſeed, but not equal to two; the holes muſt be made as appears in the drawing, and to open ſucceſſively upon the opening in the braſs table D, upon which all the ſeed-plates turn, and made large enough to contain four or five ſeeds, more or leſs, as they are ordered; for in this article perſons differ about the quantity of ſeed they think neceſſary to be ſowed in a given ſpace. In order to connect the ſeed-box B with the lower box N, between which two the ſeed-plates move, as above deſcribed, there muſt be fixed, near the four corners of the braſs plate D, on the top of the box N, four round upright pillars; theſe are about one quarter of an inch diameter, and about an inch and a half long: they may be made of braſs, or iron, or may be rivetted into the four corners of the braſs top of the box N. Four round mortiſes are to be made in the bottom of the ſeed-box B, correſponding with theſe upright pillars; the ſeed-box muſt be put on theſe pillars, and ſlipped down, and then, by means of four thumb-ſcrews, which ſcrew into the bottom of the box B laterally and horizontally, and act againſt the upright pillars, the box may be kept in its poſition: the bottom of the ſeed-box B is a ſquare piece of wood (beach, mahogany, or other cloſe-grained wood, is what I have uſed), nearly ſeven inches ſquare, and one inch and a quarter thick, perfectly ſmooth and level; this has four holes through it, correſponding with the four upright pillars before mentioned, and likewiſe a large ſemicircular opening, five inches long, and an inch wide; through part of this opening the ſeed deſcends from the box above, and part of it is occupied by the bruſhes, hereafter mentioned; but, as this cannot appear in the machine when it is together, a ſeparate drawing is made of it U, which repreſents the under-ſide of it, with the bruſhes that act upon the ſeed-plates: this wooden table forms the bottom of the ſeed-box or hopper B; this hopper may be formed of wood, tin, copper, or rolled iron, and made to contain from one gallon to two; a triangular piece of wood or braſs is fixed, by a ſcrew, near the centre of this wooden table U, and is made to ſlide and cover the opening in it, towards the right-hand of it, for about half-way, and under the briſtle-bar *t*, and the bruſh *t t*, hereafter mentioned, are placed: it is made to ſlide, for the purpoſe of taking out, repairing, or changing the bruſhes, and a ſeparate drawing is made of it U U, which repreſents the upper-ſide of the bottom, and the triangular ſliding cover: when the ſeed-plate is put upon the ſquare ſhoulder of the upright ſpindle Q, which projects above the braſs top D of the lower box N, then the ſeed-box or hopper B muſt be put on, and fixed by the lateral horizontal thumb-ſcrews, and the ſeed-plate will then, by the action of the great wheel L, by means of the pinion M and the pinion-wheel O, turn horizontally upon the braſs table D, without any reſiſtance but what is occaſioned by the ſeed paſſing under the briſtle-bar; there muſt be a ſemicircular opening in the braſs table D (of which, as it cannot be ſeen in its place in the drawing, a ſeparate drawing is made of it V), about two inches long, and one inch wide; this muſt be to the right of the briſtle-bar *t*, in the table C or U, that nothing may fall through it from the opening in C or U, till it has paſſed under the briſtle-bar *t*; and the opening in the table C or U, being to the left of the briſtle bar *t*, no ſeed can eſcape when the ſeed-plate ſtands ſtill; but ſo ſoon as this is put in motion, whatever is received from the ſeed-box into the open channels of the ſeed-plate, as they paſs under this opening, is forced by the diviſions in the ſeed-plate under the briſtle-bar *t*; and ſo ſoon as they paſs under that bar, they drop through the opening in the braſs table D or V into a perpendicular conducting pipe W, which conveys them downwards to the moveable conducting pipe X, and that depoſits them upon the ground; this pipe W is made of tin, and joins cloſe under the opening in the table D or V, and is as wide at top as that opening, narrowing as it deſcends through the box N, and is faſtened againſt the inſide of the front of that box; on the under or outſide of the bottom of the box N, is fixed an oblique flat conducting pipe, made of ſtrong tin, or thin iron, or copper, X; this comes immediately under, and receives the ſeed from the pipe W; this pipe X turns on a round iron rod or ſwivel, that is paſſed through a hole in a flat piece of copper, projecting from the bottom of the box N, and is fixed on the fore-part of the box N on the outſide; and by means of a ſtrong ſpring acting againſt this rod or ſwivel, in a groove turned out of it near the top, and the upper end of the rod being confined in a round iron ſtaple that will admit it to turn round in it, the rod and pipe are kept from ſlipping down, and may be turned to the right or left under the bottom of the machine, to drop the ſeed in what part of the furrow the uſer thinks fit; but, as this pipe, and the rod and ſpring, cannot be ſeen in the machine as put together, a ſeparate drawing of the pipe and rod are

made Y, of the front part of the box, with the ſpring and ſtaple which confine it, Z; the ſeed-plates are put in motion by the motion of the wheel upon the ground L, which is communicated to them when they are put on the ſpindle Q, by means of the pinion M acting upon the pinion-wheels O; theſe pinion-wheels O may be made of braſs, or caſt or forged iron, and in ſize may be from two inches diameter to five, with any number of teeth required. What Mr. Wright has uſed have been wheels with twenty-four, thirty-two, and forty teeth; the rim of the wheels is about half an inch deep, and a quarter of an inch thick; on the upper ſide of the centre there is a collar, which riſes about an inch above the upper ſide of the wheel: there is a ſquare collar through this mortiſe, correſponding with the ſquare of the upright ſpindle Q, upon which it is put, lodging upon that part of the ſpindle towards the bottom where it is round; on the collar, on the upper part, all round, is a ſhoulder projecting horizontally a quarter of an inch, under which comes the end of the horizontal arm of a lever of iron of this form L, fixed to the inſide of the box N, on that ſide that is next the ploughman, by means of a ſtrong wire paſſing from the top of the upright arm of the lever L through the box N, towards the ploughman, and a cord from the wire to the ploughman; he can at any time raiſe up the pinion-wheel O, ſo as to clear it from the pinion M, and ſtop it from working or moving the ſeed-plate as long as he pleaſes, though the plough be going on, and the wheel on the ground L in motion all the time; and again, by letting go the cord the wheel O will fall immediately down upon the pinion M, and inſtantly renew its work; and by this means turnip, rape, lucern, and other ſmaller ſeeds, may be ſown in drills or rows, in what intervals the uſer thinks proper. As the lever is fixed on the ſide of the box N, which in the drawing is taken away to ſhew the mode in which the machine works, a ſeparate drawing is made, A 2; which repreſents the ſituation and operation of the lever upon the pinion-wheel. The operation of this lever gives the machine ſeveral conveniences, particularly in going to the field, or returning; it likewiſe gives the ploughman a perfect command over the inſtrument. If intervals are required betwixt the rows, as in ſowing peas, beans, or wheat, this is ſoon effected by raiſing the pinion-wheel out of work, at the uſer's diſcretion; when it is kept in conſtant movement, and ſows the ſeed in every furrow, it is then the ſame as broad-caſt ſowing; with this difference, that one-half the quantity of ſeed may be ſaved, or in other words, the farmer may ſow what number of grains in every yard-length of furrow he thinks proper. The wheat ſeed-plate uſed by Mr. Wright delivers out, every revolution it makes, three drams in weight, with little or no variation; this weight, in counting, amounts to 300 grains, or thereabouts. The firſt or large wheel on the ground is nearly ſixty-five inches in circumference. When the pinion-wheel, with twenty-four teeth, is in work, the plough will open a furrow 195 inches, or nearly five yards and a half, for one revolution of the ſeed-plate, and the machine drop about fifty grains of wheat every yard. When the pinion-wheel with thirty-two teeth is at work, the plough will go ſomething more than ſeven yards: there would then drop ſomething more than forty ſeeds every yard. When the forty-toothed wheel is at work, the plough will go nine yards; and in that compaſs about thirty-four ſeeds would drop every yard. Mr. Wright has not computed the diſtance the plough goes, nor the number of grains dropped in a yard, with a mathematical exactneſs, becauſe, in an operation of this kind, it is not neceſſary: by making the channels in the ſeed-plates greater or leſſer, by changing the pinion-wheels for others with more or leſs teeth, the machine may be made to drop preciſely any quantity named. When it is neceſſary to change the pinion-wheel O for a different one, it is done immediately by drawing back the bolt P under the bottom of the machine, which lets the upright ſpindle Q fall down; the pinion wheel is then taken off, another put on the ſpindle, the ſpindle replaced, with the upper end in the braſs top of the box; and the bolt P ſliding upon the circular groove, in the lower end of the ſpindle, faſtens and fits it for work immediately: a ſeparate drawing of the bolt is added, marked B 2. What remains to be deſcribed are the bruſhes or bars of hogs' briſtles. Theſe are let into the large open ſpace in the wooden table C or U, before mentioned, under the triangular ſliding cover above deſcribed, and ſtand perpendicular to the horizontal ſeed-plates: they are readily taken out to be repaired, and as ſoon replaced again. Their elaſticity prevents their injuring the corn, in paſſing under them. They are the only part of the machine that can fairly be injured by uſe; and, as theſe may require renewing, it will be neceſſary to be particular in deſcribing the manner of making them. The braſs frame conſiſts of two parts: the firſt a ſtrong plate of braſs, about one inch and a half long, and three quarters of an inch broad; upon this are rivetted two cheeks of braſs, about the eighth of an inch thick, and a quarter of an inch broad, ſo as to leave an open ſpace betwixt cheeks an inch wide; the cheeks muſt be in length the thickneſs of the wooden table before mentioned. When theſe are rivetted together, they may be called one part of the frame; the other part conſiſts of a ſtrong braſs plate, one inch and a half long by three quarters; two holes muſt be drilled through the former part, to admit two ſcrews; and this laſt muſt have two female ſcrew holes. Fill the vacancy in the firſt part mentioned with the beſt Ruſſia briſtles; duſt ſome powdered roſin among them; fill it as full as it will contain; then apply the other part, and paſs two wires through the ſcrew-holes, to preſerve the communication; then put the whole into a hand-vice, and ſcrew it hard; apply the upper part to a hot iron, burn off the redundant briſtles, and continue the heat till the roſin is melted, and the whole cemented together; when it is cool, take out the wires, and put in the ſcrews; the briſtles below the cheeks muſt be cut off level with the cheeks, by a broad chiſel; this bruſh or bar is fixed even with the upper ſurface of the ſeed-plate, and a ſeparate drawing is made of it, C 2. The ſecond bruſh, to the right of this, is made in the ſame manner; only a piece of braſs is rivetted in the middle ſpace, betwixt the two cheeks, to divide the bruſh into two parts; the briſtles here are left longer than the cheeks, by the eighth of an inch. The uſe of this bruſh is to ſweep out any grain that may accidentally lodge in the open channels of the wheat ſeed-plate, and force them back again down the conducting pipe: a ſeparate drawing is made of this bruſh, D 2. The bruſh for beans and peas is made exactly in the ſame manner; only the briſtles muſt not be cut off ſquare with the cheeks of the braſs frame, but left a quarter of an inch longer than the cheeks of the frame; when the bean-plate is intended to be uſed, the former bruſh for wheat, marked in the ſeparate drawing C 2, muſt be taken out, and this put in its place; the ſecond, or double bruſh, D 2, need not be removed, as it does not act in that caſe: a ſeparate drawing of this bruſh for beans and peas is added, marked E 2.

SPA, a town of Germany, in the biſhopric of Liege, famous for its mineral waters. That called the Old Spa conſiſts of miſerable cottages, and is properly nothing but the ſuburb to the other. The houſes of the New Spa are

all wood, dark, and ſmall, and yet it is affirmed they can make 1200 beds for ſtrangers. The church of the capuchins, and the pariſh church, are both ſeated upon eminences. The inn called the Court of London, is very large, the beſt in the place, and moſt frequented. The names of the five principal wells are Pouhon, Geronſterd, Saviniere, Watpotz, and Tunnelet. The inhabitants are employed in making toys for ſtrangers. Spa was taken by the French in 1794. It is ſeated in a valley, ſurrounded by mountains, 17 miles S E. of Liege. Long. 5. 50. E. Lat. 50. 30. N.

SPAITLA, a town of the kingdom of Tunis, near which are extenſive and magnificent ruins. It is 90 miles S.W. of Tunis, and 100 S.S.E. of Bona. Long. 9. 15. E. Lat. 35. 40. N.

SPALDING, a town in Lincolnſhire, with a market on Tueſday. It is ſeated near the mouth of the Welland, and from its neatneſs, and the canals in the ſtreets, reſembles a Dutch town. It has a good carrying trade in corn and coal; and much hemp and flax is grown in its neighbourhood. Near it is the greateſt heronry in England, the herons building together on high trees like rooks. It is 14 miles S. by W. of Boſton, and 100 N. of London. Long. 0. 2. E. Lat. 52. 45. N.

SPALLANZANI (Lazarus), a diſtinguiſhed philoſopher and phyſiologiſt, was born at Scandiano, in the department of Croſtolo, in Italy, on the 10th of January, 1729; he was the ſon of John Nicholas Spallanzani, a counſellor of great repute, and of Lucia Zigliani: he commenced his ſtudies in his own country, and at the age of fifteen went to Reggio de Modena, where he proſecuted them with the utmoſt aſſiduity. The Jeſuits, who initiated him into the ſtudy of polite literature, and the Dominican friars who heard of his vaſt improvements, were deſirous of attaching him to their orders; but his paſſion for knowledge led him to Bologna, where his relation, Laura Baſſi, a lady deſervedly celebrated for her genius, her eloquence, and her knowledge of natural philoſophy and mathematics, was, at that time, one of the moſt illuſtrious profeſſors of that univerſity, and, indeed, of all Italy. Under the direction of this enlightened guide, Spallanzani learned to prefer the ſtudy of Nature to that of her commentators, or to eſtimate the real value of the commentary in proportion to the compariſon it bore with the original; he ſoon perceived the wiſdom of her inſtructions, and ere long experienced their happy effects.

Spallanzani's taſte for philoſophy was by no means excluſive; he ſtudied his own language with peculiar attention, made a conſiderable proficiency in the Latin, and more particularly applied himſelf to the French and Greek. Spallanzani, in conformity to the inclinations of a father who loved him, applied to the ſtudy of juriſprudence; he was even on the point of being admitted a doctor, when Anthony Valliſnéri, profeſſor of natural hiſtory at Padua, induced him to renounce that intention, by promiſing the conſent of his father, who was ſo ſenſibly affected at his thus devoting himſelf to his will, that he left him at liberty to purſue his own inclinations: from that moment he addicted himſelf to the ſtudy of mathematics; but without diſcontinuing that of the ancient and modern languages.

Spallanzani was ſoon well known in Italy; and his own country was the firſt to do homage to his talents. In the year 1754, the univerſity of Reggio choſe him profeſſor of logic, metaphyſics, and Greek; he continued to deliver his lectures there for ſix years, conſecrating to phyſical reſearches thoſe intervals of leiſure which his vocation admitted. Some new diſcoveries excited his paſſion for natural hiſtory, which was continually augmented by the ſucceſs of his early efforts. His obſervations upon the animalcula in infuſions, attracted the attention of Haller, and of Bonnet, who pointed out the path by which he himſelf had aſcended to ſuch a degree of eminence, and already proclaimed him to the learned world as Nature's interpreter.

In 1760, Spallanzani was invited to the univerſity of Modena: though his intereſt might have prompted him to accept the advantageous offers of the reſpective univerſities of Coimbra, Parma, and Ceſena, yet his patriotiſm and attachment to his family decided him in the reſolution of limiting his exertions to the ſervice of his country. The ſame conſiderations induced him to reject, ſome years after, the propoſals of the academy of Peterſburgh. He reſided at Modena till the year 1768, and had the ſatisfaction of ſeeing that his own unaided powers had created a race of illuſtrious men, who ſtill ſhine forth the glory of Italy. In the number of theſe muſt be reckoned Venturi, profeſſor of natural philoſophy at Modena; Belloni, biſhop of Carpi; Luccheſini, ambaſſador of the late King of Pruſſia; and Angelo Maſſa, the poet of Parma.

During his reſidence at Modena, Spallanzani publiſhed, in 1765, a treatiſe, entitled, *Saggio di Oſſervazioni Microſcopiche concernente il Siſtema di Needham Buffon.* In this pamphlet he eſtabliſhed, upon the moſt ingenious and well-founded experiments, the animality of microſcopic animalcula. He ſent his work to Bonnet, who formed his judgment of the author by this production, and who lived to ſee the accompliſhment of the favourable prediction which he then pronounced. From that moment the cloſeſt intimacy was cemented between theſe two philoſophers; which continued to the end of their lives.

In the ſame year Spallanzani produced a diſſertation truly original; *De Lapidibus ab aqua Reſiliantibus:* he there demonſtrated, by the moſt ſtriking experiments, contrary to the received opinion, that the phenomenon which, in the ſtyle of infantine recreation, is termed ducks and drakes, is not produced by the elaſticity of the water; but by the change of direction which the ſtone undergoes in its motion after having ſtruck upon the water when it aſcends the inflexion of the cavity indented by the ſhock.

In 1768, Spallanzani prepared the philoſophers for the ſurpriſing diſcoveries with which he was to preſent them in the courſe of his life, by publiſhing his *Prodromo di un Opera da Imprimerſi ſopra le Riproduzioni Animali.* He there ſketched the plan of a work which he was compoſing on this important ſubject: but this ſimple proſpectus revealed more ſources of philoſophical information than all the books which had hitherto appeared; becauſe it pointed out the method which muſt be purſued in thoſe myſterious enquiries, and collected, under one view, many unexpected facts; particularly the exiſtence of tadpoles, anterior to the period of fecundation, in many ſpecies of toads and frogs; the regeneration of the head in decapitated bodies of ſnails, which he had already communicated to Bonnet in the year 1766, and which was, for a ſhort time, diſputed, notwithſtanding the repeated confirmation of this phenomenon by Heriſſant and Lavoiſier; he alſo finally demonſtrated it ſome time afterwards, in a work entitled *Memoire della Societa Italiana*; by the inſtance of the reproduction of the tail, legs, and jaws, in the mutilated aquatic ſalamander. Theſe facts aſtoniſh to this day, when reflected on, though time may have rendered them familiar to our ſenſes; and it is not eaſy to decide which preſents greater claims to admiration, the ability of Spallanzani in affording ſuch inconteſtible proofs, or the indefatigability and undaunted boldneſs which he manifeſted in purſuing and demonſtrating the reſults of his

arduous and ſurpriſing experiments. It will ever be a ſubject of regret, that the project of his great work was not realiſed; but a variety of circumſtances prevented him from yielding to the ſolicitations of his friends in that particular.

The phyſiology of Haller, which Spallanzani was ſtudying, fixed his attention on the circulation of the blood, in which he diſcovered many remarkable phenomena. In 1768, he publiſhed a ſmall work, *Dell' azione del' cuore ne' vaſi ſanguigni nuove Oſſervazioni:* and he reprinted it in 1773, with three new diſſertations; *De' Fenomeni della Circolazione oſſervata nel' giro univerſali de' Vaſi; de Fenomeni della Circolazione Languente; de moti del ſangue indepedente dell' azione del cuore e del pulſare delle Arterie.* This book, little known, compriſes a ſeries of the moſt refined and delicate obſervations and experiments upon a ſubject of which our knowledge was before extremely ſuperficial.

When the univerſity of Pavia was re-eſtabliſhed upon a more extenſive plan, the Empreſs Maria-Thereſa, through the medium of the Count de Firmian, invited Spallanzani to fill the place of profeſſor of natural hiſtory. His great reputation obtained him this diſtinction, which was ſolicited for him by many celebrated men.

On his arrival at the univerſity, Spallanzani ſelected Bonnet's *Contemplation de la Nature* for the ſubject of his lectures: he ſupplied its deficiences, developed the ideas, and illuſtrated the juſtneſs of its theory by his own experiments; he tranſlated it into Italian, and enriched it with notes: he likewiſe added a preface, where he took occaſion to remark the ſubjects of animal and vegetable economy; which more eſpecially merited the attention of his pupils, as it ſometimes pointed out to them the means of ſucceeding in theſe reſearches. He publiſhed the firſt volume of his tranſlation in 1769, and the ſecond in 1770.

Spallanzani's intimacy with Bonnet, influenced his genius, which inſenſibly adopted the ſevere methodical manner of the Genevan philoſopher; he gloried in being his pupil, and employed his meditations upon his admirable productions with ever new delight; whence it happened that he was powerfully incited to ſearch in nature the proofs of Bonnet's opinion upon the generation of organic bodies; a ſubject which, for a conſiderable time, engroſſed his whole attention. In the year 1776, he publiſhed the two firſt volumes of his *Opuſcoli di Fiſica Animale e Vegetabile*; they conſiſt of illuſtrations of a part of the microſcopic obſervations which had already appeared. Wholly abſorbed by the great phenomenon of generation, he examined the opinion of Needham, in order to demonſtrate its impoſſibility.—Needham, diſſatisfied with Spallanzani's microſcopic obſervations, which invalidated his doctrine of an imaginary vegetable power imparting motion to matter, challenged the profeſſor of Reggio to reviſe what he had publiſhed; but he avoided a formal reply by publiſhing a ſeries of new facts and experiments.

He demonſtrated that the animalcula of infuſions are produced by germens: that there are ſome, *e. g.* certain ſpecies of eggs and ſeeds, which are equally proof againſt the ſeverity of the moſt intenſe cold and the heat of boiling water. On this occaſion he treated of the influence of cold upon animals, and proved, that the lethargic numbneſs of ſome during winter does not at all depend upon the impreſſion which the cold makes upon the blood, ſince a frog, deprived of its blood, becomes lethargic when it is chilled in ice, and then ſwims as uſual when it has recovered its natural warmth. He demonſtrated, in the ſame manner, that odours, various liquors, and a vacuum, act upon animalcula as upon other animals; that they are oviparous, viviparous, and hermaphrodites.

The ſecond volume of this work is a voyage into regions ſtill more unknown. A ſublime pencil had already delineated them; but the picture was not finiſhed from nature. Spallanzani gives a hiſtory of ſpermatic animalcula, which their eloquent hiſtorian invariably confounds with the animalcula of infuſions. One cannot but admire the modeſt diffidence of this new philoſopher, ſtruggling almoſt always againſt the conviction of his own ſenſes, and the authority of Buffon; and he appears to admit, with much reluctance, the reſult of theſe obſervations, multiplied and varied in a thouſand different ways, which expoſe the weak foundations upon which the ſyſtem of organic molecules is erected.

Spallanzani afterwards deſcribes the wheel-animal and the ſloth, two ſpecies of animalcula, the monſters of the microſcopic world, ſingular from their figure and organization, but ſtill more ſo from their faculty of reſuming life after a total ſuſpenſion of all its apparent acts during many years: it is this phenomenon which he more eſpecially conſiders in order to aſcertain the limits and conditions of it, to enable him to inveſtigate its cauſes, and connect them with others to which they are analogous. He annexed to this collection an account of that appearance on certain bodies which is called mould; he ſhewed that its ſeeds float in the air; and he remarked, that theſe microſcopic funguſes were diſtinguiſhed from other plants by their tendency to grow in all directions, without being ſubjected to the almoſt univerſal law of the perpendicularity of the ſtem to the ſoil.

Spallanzani was entruſted with the cabinet of natural hiſtory in the univerſity; but he found himſelf almoſt the nominal depoſitary of a treaſure which did not exiſt: he himſelf laid the foundations of it; and it is become, by his endeavours, one of the moſt valuable and uſeful.

He enriched it by his repeated travels both by ſea and land, into Europe and Aſia, acroſs the Appennine mountains, the Alps and Krapacks, to the bottom of mines, amidſt the ruins of volcanoes, and on the brink of their craters: by theſe means he completed that vaſt collection of curioſities, which all the world's wealth could never have purchaſed; becauſe wealth can never ſupply the place of genius and diſcernment.

In 1779, Spallanzani traverſed Switzerland and the Griſon territories. He proceeded to Geneva, where he reſted a month with his friends; who were no leſs charmed with his converſation than with his writings. He then returned to Pavia, and publiſhed, in 1780, a new work in two volumes, entitled *Diſſertazioni di Fiſica Animale e Vegetabile.* Some of Spallanzani's experiments upon digeſtion, which he made for the improvement of his pupils, led him to ſtudy that myſterious operation. He repeated the experiments of Reaumur upon gallinaceous fowls; and obſerved, that trituration, which is, in this caſe, an aſſiſtant to digeſtion, is, nevertheleſs, not the efficient cauſe of it. He diſcerned, that the gizzard of theſe birds, which, equal in ſharpneſs to the keeneſt lancet, pulveriſes nuts and fibers, does not digeſt the powder which it forms; but that the nutritious matter thus reduced to powder undergoes a new tranſformation in the ſtomach, in order to render it an aliment congenial to the nature of the blood and the humours of the body. He laid it down as an eſtabliſhed principle, that digeſtion operates in the ſtomach of a great number of animals by the active energy of a certain juice, which diſſolves the aliments received; and with a view to render his demonſtration more inconteſtable, he

had the courage to try ſome experiments upon himſelf, and the addreſs to complete his proofs by artificial digeſtions made in glaſſes upon his table, effected from mixing the maſticated nutriment with the gaſtric juice, which he found means to extract from the ſtomachs of animals.

This work gave offence to John Hunter. He publiſhed, in 1785, ſome obſervations upon digeſtion, where he took occaſion to make very ſevere animadverſions on Spallanzani, who revenged himſelf by publiſhing this work in Italian, and addreſſing to Caldani, in 1788, *Una Lettera Apologetica in riſpoſta alle Oſſervazioni del Signor Giovanni Hunter.*

The ſecond volume treats of the propagation of animals and plants. Spallanzani proves, by experiments equally new and ſurpriſing, the exiſtence of the germ before fecundation; he demonſtrates the exiſtence of tadpoles in the females of five different ſpecies of frogs, toads, and ſalamanders, before fecundation; he relates the ſucceſs of fecundations effected by art upon the tadpoles of theſe five ſpecies, and even upon a quadruped; he ſhews, in the ſame manner, the ſeed in flowers, before the emiſſion of their prolific powder; and, by a nice and delicate anatomy, of which, perhaps, an idea can hardly be formed, he ſhews, in the *ſpartium junceum*, the lobe as well as the ſeeds in their integuments; he traces them through their different ſtages of budding, before and after the poſſibility of being fecundated, and leaves not the ſhadow of a doubt, but that the ſeed and its integuments exiſt a long time before the flower begins to bud, and conſequently, a long time before the prolific power can exiſt. He repeated his obſervations upon many ſpecies of plants, with the ſame reſults; in ſhort, he raiſed ſome individual plants from female flowers, which contained fruitful ſeed, though there cannot be even the ſlighteſt ſuſpicion of their having any communication with the prolific powder of the male flowers. Spallanzani, as was cuſtomary with him, took the opportunity preſented by the academic vacations of the year 1781, to make a tour abroad, the principal object of which was to increaſe the collection of curioſities in the cabinet of Pavia. He ſet out in July for Marſeilles, where he commenced a new hiſtory of the ſea, which, though incomplete, would furniſh an infinite number of new and curious facts, relating to ſeveral inhabitants of the waves. He afterwards proceeded to Maſſa and Carrara, in order to obſerve the quarries of that marble in ſuch great eſteem among ſtatuaries; he returned to Spezzia, and brought back to Pavia an immenſe collection of fiſhes, both of the teſtaceous and cruſtaceous deſcription, which he depoſited in this cabinet, of which his travels had rendered him the worthy truſtee. With the ſame views, and with ſimilar ſucceſs, he viſited the coaſts of Iſtria in 1782, and the Appennine mountains in 1783, where he had an opportunity of obſerving the dreadful ſtorms and the ſingular vapour which have rendered that year famous in meteorology. His fame daily increaſed: the Emperor Joſeph II. knew him when he was in Lombardy; from the very firſt he ſought the converſation of Spallanzani, and teſtified the great eſteem which he entertained for his talents, by preſenting him with his own portrait ſet in gold.

The univerſity of Padua made him an offer, in the year 1785, of the profeſſorſhip of natural hiſtory, then vacant by the death of Anthony Valliſneri, promiſing him, at the ſame time, more conſiderable perquiſites than thoſe which he enjoyed at Pavia; but the archduke doubled his ſalary, and permitted him to accompany to Conſtantinople the Chevalier Zuliani. He ſet out on this journey the 21ſt of Auguſt; on his road he made many obſervations upon the marine productions which he met with in thoſe latitudes, as well as upon the meteorological events daily occurring. He touched at ſeveral iſlands in the Archipelago, which he ſurveyed with a philoſophical eye; he deſcended towards Troy, in order to viſit thoſe romantic abodes ſo beautifully deſcribed by the bard whom he moſt admired, and, ſlowly moving through thoſe poetical receſſes, he made ſome geological obſervations truly original.

Spallanzani arrived at Conſtantinople on the 11th of October, and continued there eleven months. The phyſical and moral phenomena of this country, hitherto unknown to him, rivetted his attention; he traverſed the ſhores of both the ſeas, climbed the neighbouring hills, and viſited the iſland of Chalki, where he diſcovered to the Turks a copper-mine, of which they were before entirely ignorant. He proceeded to the iſland of Principi, ſome miles diſtant from Conſtantinople, where he diſcovered an iron mine wholly unknown. He ſet out on his return to Europe the 16th of Auguſt, 1786, loaded with oriental ſpoils, compoſed of animals peculiar to thoſe regions.

A ſea voyage was, in every reſpect, the ſafeſt as well as the moſt convenient; but Spallanzani regarded with an eye of perfect indifference the dangers attending long journeys by land, when he entertained any hopes of meeting with new inſtruction; he boldly confronted all the perils of theſe deſert regions deſtitute of civil government. Having reached Bucharеſt, he was detained there nine days by the celebrated and unfortunate Maurocani, hoſpodar of Wallachia: this prince, juſtly renowned for his liberal patronage of the ſciences, received him with the moſt flattering marks of diſtinction; made him a preſent of ſeveral rarities of his country, and provided him with horſes, and an eſcort of thirty ſoldiers through the whole extent of his dominions. Spallanzani paſſed through Hermanſtadt to Tranſylvania, and arrived at Vienna on the 7th of December, after having viſited the numberleſs mines of Tranſylvania, Hungary, and Germany.

Spallanzani remained five days in the metropolis of Auſtria, held two conferences of conſiderable length with the Emperor Joſeph II. was entertained by the principal noblemen of the court, and viſited by all men of literature. At length he arrived at Pavia; the ſtudents came out of the city gates to meet him, and accompanied him to his houſe, in all the rapturous ardor of unfeigned joy, and, by the moſt irreſiſtible compulſion, dragged him to the auditory. Impelled by their deſire to hear him, they compelled him to aſcend the chair, whence he was accuſtomed to deliver his lectures. Spallanzani, ſenſibly affected by this conduct, painted to them, in the moſt eloquent and animated manner, his gratitude and attachment: kind wiſhes, cries of joy, and ſhouts of applauſe, were renewed with more ardor, and he was compelled to requeſt them to reſtrain their ſatisfaction, and to permit him to retire to his own houſe, that he might obtain that repoſe of which he found himſelf ſo much in need. He had, at this time, more than 500 ſtudents.

The cabinet of Pavia was always the dear object of Spallanzani's thoughts; among the numerous rarities which he had there collected, his mind was only intent on thoſe which were ſtill wanting. He was ſtruck with its deficiency in volcanic ſubſtances, of which a few only were collected, without order, unintereſting, and uninſtructive, though Italy was the theatre where the volcanic fires, for ſo many ages, had diſplayed their deſolating energy. He reſolved to inſtruct his diſciples, his country, and himſelf, on theſe phenomena, ſo important and ſo little known, and to collect

the documents of their hiſtory on the ſpot where they are the inceſſant terror of the ſurrounding inhabitants, and the uſeleſs ſubject of philoſophical obſervations: he prepared himſelf for this important undertaking by a laborious courſe of ſtudy. He ſet out for Naples in the ſummer of 1788; and, in the courſe of a dangerous voyage, examined, with minuteneſs and undaunted courage, the terrible phenomena of Veſuvius, Lipari, Etna, Sylla, and Charybdis. By theſe means, at the age of ſixty, he amaſſed that invaluable collection of anecdotes compriſed in his work entitled *Voyages dans les deux Siciles*, where he embraces the opportunity of comparing the deſcriptions which Homer, Pindar, Virgil, Diodorus Siculus, and Strabo, have given of thoſe celebrated places, with what he himſelf ſaw.

In the travels of Spallanzani is found a new volcanology; he teaches the mode of calculating the degree of intenſity in the heat of volcanic fires, as well as of inveſtigating its cauſe. He has, by analyſis, almoſt aſcertained that peculiar ſpecies of gas, which, like a ſtrong lever, tears from the earth's entrails, and hurls, even to the ſummit of Etna, thoſe torrents of melted pumice ſtone which are diſgorged by that volcano. He diſcloſes the nature of pumice ſtones, which he has ſince demonſtrated in ſome of artificial fabrication. He proves that the burning of theſe mountains proceeds from the inflammation of hydrogen carbonic gas; and this ſolution equally applies to the phenomena of Barigazzo, and ſeveral other places, ſome of which were then burning in ſecret. He found means to render thoſe fires ſerviceable in making lime, and they are ſtill made uſe of for this purpoſe. Spallanzani concludes this excellent production with ſome intereſting reſearches relative to ſwallows, taking occaſion to deſcribe, under the impulſe of a refined imagination, the amiable manners, and the rapidity of flight for which this ſpecies of birds are diſtinguiſhed; the uſeful hints which they furniſh to an obſerver for the invention of an aërial poſt; their migrations regulated by the temperature of the air, and its propitiouſneſs to the birth of certain inſects; laſtly, he diſcuſſes the celebrated problem of their ſtate of torpor during winter, and he proves that an artificial cold, more intenſe than that of our climates, does not render theſe birds lethargic. He then treats of the owl ſpecies; and, in concluſion, ſpeaks of eels and their mode of generation, which ſtill remains a problem to be ſolved; but he gradually conducts the reader through his reſearches, to the very ſtep which promiſes complete ſolution.

Spallanzani anxiouſly obſerved the progreſs of French chemiſtry, which he adopted without the leaſt heſitation; it was formed for a judicious mind like his, which delighted to account for the phenomena which it obſerved. When Gottling publiſhed his experiments upon the combuſtion of phoſphorus in azote, Spallanzani wiſhed to try the ſolidity of theſe arguments which were brought againſt his favourite ſyſtem, and, therefore, publiſhed in 1797 his *Chemico eſame degli Eſperimente del Signore Gottling, Profeſſore a Iena*, where he refuted the concluſions of that chemiſt, by diſproving the facts which had produced them.

Spallanzani frequently diſcovered what before would have been conſidered impoſſible. In 1793 he again made a diſplay of this kind, which he publiſhed in his *Lettere ſopra il ſoſpetto d'un nuovo Senſo nei Pipiſtrelli*; he there informed the world that bats, deprived of ſight, act in every reſpect with the ſame preciſion as thoſe who poſſeſs that ſenſe; that they avoid equally well the ſlighteſt obſtacles, and know exactly the proper places to perch, when their flight is at an end. Theſe extraordinary experiments were confirmed by ſeveral of the moſt diſtinguiſhed naturaliſts, and made Spallanzani ſuſpect a new ſenſe in theſe birds, becauſe he thought he had demonſtrated, by excluſion, that their other ſenſes were not able to ſupply the defect of ſight; but the anatomical details of Profeſſor Jurine, upon the organ of hearing in this ſingular bird, made him incline to the opinion that the ear might ſerve inſtead of the eye, as in all thoſe caſes where bats are in the dark.

Spallanzani terminated his literary career by a letter addreſſed to the celebrated chemiſt, Giobert; *Sopra le piante chiuſe ne' vaſi dentro l'aqua e l'aria, eſpoſte a l'immediata lume ſolare e l'ombra.* It is a melancholy event for this department of ſcience, that his death deprived it of the diſcoveries which he was on the point of effecting.

All theſe productions, though printed and generally applauded, ſtill did not form the ſum of Spallanzani's labours. He had for a long time employed his ſtudies on the phenomena of reſpiration, upon their reſemblances and differences through the extenſive and various circle of animated nature; and he endeavoured to reduce to ſome certain method his reſearches on this ſubject, which muſt ſtill excite aſtoniſhment by a number of facts but little known. He left a valuable collection of experiments and obſervations upon animal reproductions, upon ſponges, the nature of which he defines, and upon a thouſand intereſting phenomena, which he knew how to draw from the obſcurity which enveloped them. He had almoſt finiſhed his travels to Conſtantinople, and had collected a ſtock of materials for the hiſtory of the ſea.

Spallanzani's reputation was equal to the number, extent, and difficulty of his labours. France, Germany, and England, were all eager to poſſeſs his works in their reſpective languages. He was admitted into the academies and learned ſocieties of London, Stockholm, Gottingen, Holland, Lyons, Bologna, Turin, Padua, Mantua, and Geneva. He maintained a correſpondence with the academic ſocieties of Paris and Montpellier; he received from the great Frederic himſelf the diploma as member of the academy of Berlin, and maintained a direct correſpondence with him. Salicetti, while commiſſioner in the French army of Italy, offered him the profeſſorſhip of natural philoſophy at Paris, which he refuſed, on account of his advanced age: and the college of phyſicians at Madrid received him into their body.

In perſon, Spallanzani was rather tall; his aſpect ſerene, yet noble; his forehead large; his eyes black and ſparkling; his complexion dark, and his conſtitution robuſt. During the whole courſe of his life he was afflicted with no diſorders, if we except a fit of the ague, which he caught in the mines of Schemnitz, at a time when the ſeaſon was intenſely cold. In the year 1795 he was attacked by a ſlight retention of urine, and ſeveral fits of the gout, which, however, did not ſuſpend, in the leaſt degree, his ſcientific purſuits.

He was generally eſteemed; his virtues, untinctured by auſterity, diſplayed themſelves in all the circumſtances of his life. He was beloved by all his relations, whom he inſpired with his own taſte; his brother Nicolas, a doctor of laws, aſſiſted him in his experiments, and continued them, when he returned to Pavia; his ſiſter is an eminent naturaliſt, perfect miſtreſs of her brother's cabinet of natural hiſtory, acquainted with the moſt abſtruſe properties of every piece, and all the refined inductions which may be drawn from them.

Spallanzani paid great attention to the education of his nephews, and had the pleaſure of ſeeing the eldeſt titular profeſſor of phyſic at Padua.

On the 3d of February, 1799, Spallanzani had ſome returns of his urinary diſorder; he paſſed the night reſtleſs, and in the morning became delirious. His intimate friends, Tourdes, a French phyſician, and the celebrated Profeſſor

Scarpa, exerted every effort that genius, knowledge, and friendſhip, could inſpire, to ſave him; but he died on the 6th, edifying with his piety thoſe who were ſtanding round his bed. His death penetrated his whole family with grief, drew tears from all his friends, filled his pupils with the deepeſt affliction, and depreſſed with ſorrow a nation proud of having given him birth. The 13th, his colleague, Profeſſor Gregorio Fontano, made an eloquent motion in the Legiſlative Aſſembly at Milan, to erect a monument to Spallanzani by the ſide of thoſe of Friſi, Beccaria, and Verri.

SPANDAU, a town of Germany, in the middle marche of Brandenburg, ſurrounded on all ſides by moraſſes, and cloſe to it is a fine fortreſs. The arſenal is in ſubterranean vaults, and there is a priſon for ſtate criminals. It is ſeated on the Havel, 8 miles N.W. of Berlin, and 17 N.E. of Brandenburg. Long. 13. 23. E. Lat. 52. 36. N.

SPARTEL, Cape, a promontory on the coaſt of Barbary, at the entrance of the ſtraits of Gibraltar. Long. 5. 56. W. Lat. 35. 50. N.

SPARTIVENTO, Cape, a promontory of the kingdom of Naples, at the S.E. extremity of Calabria Ulteriore. Long. 16. 40. E. Lat. 37. 50. N.

SPEIGHTS TOWN, a ſea-port of Barbadoes, formerly much frequented by the Briſtol traders, and thence called *Little Briſtol*. It is ſituate on the N.W. coaſt of the iſland. Long. 58. 31. W. Lat. 13. 15. N.

SPELLO, a town of Italy, in Umbria. Here are the ruins of a theatre, and other remains of antiquity. It is ſeated on a hill, 3 miles N.W. of Foligni, and 13 N. of Spoletto. Long. 12. 24. E. Lat. 42. 50. N.

SPEZZIA, or Spetia, a town of Italy, in the territory of Genoa, with a good harbour. It is ſeated at the foot of a hill, at the bottom of a gulf of the ſame name, 47 miles S.E. of Genoa, and 65 N.W. of Florence. Long. 9. 37. E. Lat. 44. 10. N.

SPIELBERG, a town of Suabia, in the principality of Oettingen, 8 miles N.E. of Oettingen, and 13 S.S.E. of Anſpach.

SPIGELBURG, a town of Weſtphalia, capital of a county of the ſame name, 22 miles S.W. of Hildeſheim. Long. 9. 46. E. Lat. 51. 56. N.

SPIGNA, a town of Italy, in Montferrat, with a caſtle, 15 miles N. by W. of Savona, and 40 S.E. of Turin. Long. 8. 26. E. Lat. 44. 45. N.

SPILEMBURGO, a town of Italy, in Venetian Friuli, 37 miles N.W. of Aquileia, and 47 N. by E. of Venice. Long. 12. 15. E. Lat. 46. 10. N.

SPINALONGA, a ſea-port of the iſland of Candia, with a good harbour and a citadel. It is ſituate near a cape of the ſame name, 30 miles E. of Candia. Long. 25. 48. E. Lat. 35. 20. N.

SPIRE, a biſhopric of Germany, in the circle of Upper Rhine, 50 miles in length, and 30 in breadth, where broadeſt. It is divided into two parts by the Rhine, and is a fertile country.

Spire, a free imperial city of Germany, capital of a biſhopric of the ſame name. It was burnt by the French in 1689; and, in 1693, the imperial chamber, which was in this city, was removed to Wetzlar. It was taken, in 1792, by the French, who evacuated it the next year, but re-entered it in 1794. It is ſeated on the W. ſide of the Rhine, 7 miles N. of Philipſburg. Long. 8. 32. E. Lat. 49. 19. N.

SPIREBACH, a town of Germany, in the palatinate of the Rhine, ſeated on a river of the ſame name, 8 miles N. of Landau. Long. 8. 12. E. Lat. 49. 20. N.

SPIRITU-SANTO, a ſea-port of Braſil, capital of a government of the ſame name, with a caſtle. Long. 41. 0. E. Lat. 20. 10. S.

Spiritu-Santo, a town of the iſland of Cuba, 155 miles E.S.E. of Havannah. Long. 79. 47. E. Lat. 22. 15. N.

SPITAL, a town of Germany, in Carinthia, with a caſtle, ſeated on the Liſer, near the Drave, 30 miles W. of Clagenfurt. Long. 13. 37. E. Lat. 46. 53. N.

Spital, an ancient village in Lincolnſhire, 11 miles N. of Lincoln. It was part of the Roman cauſeway, leading from London, by Lincoln, to the Humber. Here are two ſprings, one called Julian's Well, and the other Caſtleton Well. Great numbers of Roman coins have been dug up in this village.

SPLUGEN, a town of the country of the Griſons, capital of the valley of Rheinwald, ſeated near the ſource of the Hinder Rhine, 42 miles S.W. of Coire.

SPONHEIM, a town of Germany, capital of a county of the ſame name, in the circle of Upper Rhine, 27 miles W. of Mentz, and 46 E. of Treves. Long. 7. 21. E. Lat. 49. 54. N.

SPREE, a river of Germany, which riſes in the mountains of Bohemia, and paſſing through Luſatia, into the marquiſate of Brandenburg, runs by Berlin, and falls into the Havel, oppoſite Spandaw.

SPRINGFIELD, a town of Maſſachuſets, in the county of Hampſhire, ſeated on the E. ſide of Connecticut river, 96 miles W. of Boſton.

SPROTTAU, a town of Sileſia, in the duchy of Glogau, with walls flanked by towers, and a ſtrong caſtle. It is ſeated at the confluence of the Bober and Sprotta, 20 miles S.W. of Glogaw. Long. 15. 38. E. Lat. 51. 40. N.

SQUILACE, a town of Naples, in Calabria Ulteriore, with a biſhop's ſee. It was formerly famous, but is now a ſmall place, ſeated on the Favelone, near a gulf of the ſame name, 30 miles S.W. of St. Severino. Long. 16. 40. E. Lat. 39. 3. N.

STABLO, or Stavelo, a town of Germany, in the biſhopric of Liege, with a celebrated abbey, whoſe abbot is a prince of the empire. Here is a manufacture of leather, which is ſent to foreign parts. It is ſeated on the Recht, 9 miles S. of Limburg. Long. 6. 5. E. Lat. 50. 29. N.

STADE, a town of Lower Saxony, in the duchy of Bremen, with a fortreſs, a college, and three churches. It is the principal town of the duchy, ſubject to the elector of Hanover; Bremen, the capital, being a free imperial town. It is the ſeat of the regency and chief courts of juſtice of the duchies of Bremen and Verden; and is ſeated on the Swingel, near its confluence with the Elbe, 22 miles W. of Hamburg, and 45 N.E. of Bremen. Long. 9. 17. E. Lat. 53. 36. N.

STADTHAGEN, a town of Weſtphalia, in the county of Schauenberg. Here is a palace belonging to the Prince of Schauenberg Lippe, in the garden of which is a mineral ſpring. It is 8 miles E. of Minden. Long. 9. 14. E. Lat. 52. 24. N.

STAFARDA, a town of Piedmont, in the marquiſate of Saluzzo, ſeated on the Po, with a rich abbey. It is famous for a victory gained by the French, in 1690, over the Duke of Savoy. Long. 7. 25. E. Lat. 44. 34. N.

STAFFELSTEIN, a town of Franconia, in the biſhopric of Bamberg, ſituate on the Lauter, 16 miles N.N.E. of Bamberg. Long. 11. 12. E. Lat. 50. 15. N.

STAFFURTH, a town of Upper Saxony, in the principality of Anhalt Bernburg, 9 miles N.W. of Bernburg, and 21 S.S.W. of Magdeburg. Long. 11. 40. E. Lat. 51. 55. N.

STAGIRA, a town of Turkey in Europe, in Macedonia, ſeated on the gulf of Conteſſa. It is remarkable for being the birth-place of Ariſtotle, whence he is called the Stagirite. It is now called Lyba Nova, and is 16 miles from Conteſſa. Long. 22. 48. E. Lat. 41. 15. N.

STAGNO, a ſea-port of Raguſan Dalmatia, with a biſhop's ſee, ſeated on a peninſula in the gulf of Venice, 30 miles N.W. of Raguſa. Long. 17. 50. E. Lat. 43. 12. N.

STAIN, a town of Auſtria, ſeated on the Danube, over which is a toll-bridge, 65 miles W. of Vienna. Long. 15. 0. E. Lat. 48. 11. N.

STALBRIDGE, a town in Dorſetſhire, with a market on Tueſday, and a manufacture of ſtockings. Here is an ancient croſs of one ſtone, 21 feet high, on a baſe of eight feet. It is 20 miles N. by E. of Dorſetſhire, and 111 W. by S. of London. Long. 2. 18. W. Lat. 50. 57. N.

STAMPALIO, an iſland of the Archipelago, 60 miles W. of Rhodes, and 37 from the coaſt of Natolia. It is 15 miles long and 5 broad, almoſt without inhabitants, and wants freſh water.

STAMPS (*Encycl.*). The following rules for ſtamping executed deeds and inſtruments, we apprehend will prove uſeful: they are publiſhed in KEARSLEY's uſeful "*Tax Tables*," for 1802.

Deſcription of Inſtruments, and where to be brought.	Within what Time.	Penalties payable.	Regulations, and under what acts.
Agreements, Head Office or Country	21 Days	None	23 G. 3. c. 58.
Receipts for money, head office	14 days	5l.	Applicable to unſtamped receipts as well as thoſe put on wrong ſtamps, 33 G. 3. c. 55.
Ditto, country	1 Calend. Month	10l.	
Receipts for legacies or perſonalty, head office or country	21 days	None	Country diſtributors to tranſmit receipts to the head office within 21 days. 36 Geo. 3. c. 52.
Ditto, head office	3 calend months	10l. per cent.	
Bills, notes, drafts, and orders, for money, head office or country	before payable	2l.	Confined to bills, &c. on wrong ſtamps of equal or ſuperior value to the proper ones. 37 G. 3. c. 136.
	after payable	10l.	
Deeds and bonds (for exceſs of words), head office or country	1 calend. month	None	The firſt claſs to be tranſmitted by country diſtributors to the head office, within 21 days, and certified there only. Action brought for penalty on not duly ingroſſing, not to abate if the inſtrument be not ſtamped within a month, though it ſhould afterwards be ſtamped. 37 G. 3. c. 19, as to Deeds and Bonds. 37 G. 3. c. 90, as to Agreements and atteſted Copies.
Agreements (for ditto), head office	6 calend. months	10l. only	
Atteſted copies (for ditto), ditto	any time after	10l. per ſkin, &c.	
Single 10s. deeds, head office or country	60 days	None	Country diſtributors to ſign receipts for the duty, and deliver deeds to the bringer thereof to get ſtamped. 37 Geo. 3. c. 111.
Ditto, head office	any time after	10l. only	
All inſtruments, matters, and things (except bills, notes, drafts, and orders*			If it appear to the commiſſioners on oath or affirmation, made before any one of them, or otherwiſe to their ſatisfaction, that any inſtrument has been ingroſſed or written on parchment, or paper, not duly ſtamped, either by accident or inadvertency, or from urgent neceſſity, or unavoidable circumſtances, and without any fraudulent intention, they may ſtamp the ſame within ſixty days, and remit the penalty. 37 G. 3. c. 136.
1. On wrong ſtamps of equal or ſuperior value to proper ones, head office or country	60 days, or any time after, at the option of the parties	5l. only	
2. Unſtamped, or on ſtamps of leſs than legal value, and liable to accumulated penalties exceeding 10l. head office	Ditto	10l. per ſkin, &c.	

Apprentices' Indentures and Articles of Clerkſhip come under the deſcription of Deeds, in reſpect to the original ſtamp duty; but the ſtatute of 8 Anne, c. 9. requires a further ſtamp to be impreſſed on theſe proportioned to the amount of the premiums, for which purpoſe the inſtruments are to be produced, and ſuch duty paid at the head office within one calendar month, or in the country within two calendar months, from the date and execution.

Aſſignments of Bail Bonds by 4 Anne, c. 16. and of Replevin Bonds, when the diſtreſs is for rent, by 11 G. 2. c. 19. may be ſtamped on payment of the ſingle duty at any time before action brought—Poſteas are alſo allowed to be ſtamped after being indorſed on the Record.

In all caſes the New Stamp is to be paid for, excluſive of the penalty, and without any allowance for the ſtamp miſuſed.

STANCHIO, a fertile iſland of the Archipelago, near the coaſt of Natolia, 12 miles N.E. of Stampalio, and 40 N.W. of Rhodes. It is the ancient Cos, the birth-place of Hippocrates and Appelles; and is 25 miles long and 10 broad. The capital, of the ſame name, is ſeated at the foot of a mountain, at the bottom of a bay, and near a good harbour. Long. 26. 54. E. Lat. 36. 45. N.

* Agreements and Receipts for Money, and Legacies, do not come within this exception, being ſpecially provided for.

STANDON, a town in Hertfordſhire, with a market on Friday, eight miles N. of Hertford and 27 of London. Long. 0. 5. E. Lat. 51. 56. N.

STANEMORE, a dreary diſtrict in the Eaſt angle of Weſtmoreland. Here is a fragment of Rerecroſs, ſet up as a boundary between England and Scotland, when Cumberland belonged to the latter.

STANTON, a town in Lincolnſhire, with a market on Monday, 16 miles E. of Lincoln, and 129 N. of London. Long. 0. 2. W. Lat. 53. 18. N.

STANTZ, a town of Switzerland, capital of the canton of Underwalden, ſeated in a plain, at the foot of the Stanzberg, and near the lake of Lucern, 39 miles S. of Zuric. Long. 8. 22. E. Lat. 46. 51. N.

STANWIX, Fort, in the ſtate of New York, ſeated on Mohawk river, near its ſource, 60 miles N.W. of Albany. Long. 75. 15. W. Lat. 43. 15. N.

STARAIA RUSSA, a town of Ruſſia, in the government of Novogorod, ſeated on the river Polifi, not far from the lake Ilmen, 40 miles S. by E. of Novogorod. Long. 33. 2. E. Lat. 57. 40. N.

STARGARD, a town of Upper Saxony, in Pruſſian Pomerania, with a college, and the ruins of a caſtle. It has manfactures of ſerges, ſhaloons, tammies, druggets, &c. and is ſeated on the Ihna, 18 miles S.E. of Stetin, and 37 N.W. of Landſperg. Long. 25. 8. E. Lat. 53. 32. N.

Stargard, a town of Germany, in Mecklenburg Strelitz, 30 miles S. of New Brandenburg.

STATEN ISLAND, an iſland of North America, which forms the county of Richmond, in the ſtate of New York. It is 18 miles long and ſix broad, and contains upward of 3000 inhabitants. On the S. ſide is a conſiderable tract of level land; but, in general, this iſland is rough, and the hills high. Richmond is its only town of any note.

STATEN LAND, a barren craggy iſland, on the S.E. ſide of the iſlands which form the ſtraits of Magellan, in 55° S. lat. Between this iſland and Tierra del Fuego is the ſtrait of Le Maire.

STAVANGER, a ſea-port in Norway, in the province of Bergen, capital of a territory of the ſame name, with a biſhop's ſee. It is ſeated on a peninſula, near the fortreſs of Doſwick, 75 miles S. of Bergen. Long. 5. 45. E. Lat. 59. 6. N.

STAVEREN, an ancient ſea-port of the United Provinces, in Frieſland, formerly a conſiderable town, but now much decayed, the harbour being choked up with ſand. It is ſeated on the Zuider-Zee, eight miles W. of Slooten, and 15 N.E. of Enchuyſen. Long. 5. 13. E. Lat. 52. 54. N.

STAUBBACH, a celebrated cataract of Switzerland, near the village of Lauterbrunn, in the canton of Bern. It ruſhes down a precipice 930 feet high with ſuch impetuoſity, as to reſolve itſelf into a fine ſpray, which, viewed in ſome particular ſituations, reſembles a cloud of duſt. Hence it derives its name: the word Staubbach, in German, ſignifying a ſpring of duſt. The roaring noiſe it makes is accompanied by a tempeſt, occaſioned by the violent agitation of the air, excited by the rapidity of the fall. The brook which forms this torrent is named the Kupfer-Bachlein, or Rivulet of Copper.

STAUFFEN, a town of Auſtrian Suabia, in the Briſgau, ſituate on the Mehlbach, eight miles S. of Faiburg, and 24 N.N.E. of Baſle. Long. 7. 44. E. Lat. 48. 55. N.

STAUFFENBURG, a town of Germany, in the principality of Upper Heſſe, five miles N.N.E. of Gieſſen, and ten E.N.E. of Wetzlar.

STAVROPOL, a town of Ruſſia, in the government of Simbirſk, ſituate on the Volga, 42 miles S.S.E. of Simbirſk. Long. 28. 58. E. Lat. 53. 44. N.

Stavropol, a town of Ruſſia, in the government of Caucaſus, ſituate on the Volga. Long. 41. 50. E. Lat. 44. 56. N.

STAUNTON, a town of Virginia, on the river Potomac, 30 miles W.N.W. of Charlotteſville.

STEAM-ENGINE (*Encycl.*). We have already ſpoken at great length on the conſtruction of theſe important machines; but various improvements having ſince been ſuggeſted, we think it indiſpenſable, in the ſupplement of a work of this ſort, not to omit the deſcriptions given by their different inventors.

The following is extracted from the ſpecification of a patent granted to Meſſrs. James and John Roberton, of Tradeſtown, Glaſgow, engineers, for a method of applying ſteam in the working of ſteam-engines, by which a very great ſaving of that vapour is effected, and a proportional ſaving of fuel in raiſing and applying ſteam for the uſe of ſteam-engines; and a method of conſtructing furnaces for the application of fire to ſteam-engine boilers, and boilers of various deſcriptions; and alſo for the application of fire to many other purpoſes by means of a furnace. Theſe gentlemen aſſert, that, by their invention, a very conſiderable ſaving of fuel is effected, from the immediate converſion of the whole, or very near the whole, of the ſmoke ariſing from the fuel, into flame. This patent is dated Auguſt 13, 1800. See Pl. 48 and 49.

"In the beſt-conſtructed ſteam-engines there is a conſiderable quantity of ſteam which eſcapes paſt the ſides of the piſton in time of working, and is loſt without producing any mechanical effect whatever; ſo the principle of the ſaid invention of a new and improved method of applying ſteam in the working of ſteam-engines, by which a very great ſaving of that article is effected, and a proportional ſaving of fuel in raiſing and applying ſteam for the uſe of ſteam-engines, conſiſts in preventing ſo great a quantity of ſteam from eſcaping, and in making the ſteam, which actually does eſcape, act on another piſton, and add to the power of the engine. In all forms of the engine after ſpecified and deſcribed in the drawings hereto prefixed, to which reference is had, it is to be obſerved, that there are two ſteam-cylinders, with piſtons fitted to each, the one cylinder of a leſſer, and the other of a larger ſize: theſe act together in producing the effect. To theſe cylinders are annexed a condenſing veſſel and air-pump, as in many others, or varied in this, as circumſtances or inclination require. The other parts of this engine, in its various forms, are either pointed out, or correſpond with many engines in uſe, which are well known, and require no explanation. But the ground on which the patentees' claim of preference is founded is the mode of conducting the ſteam on and between the piſtons, as formerly mentioned, and more fully explained in the practical deſcription of the engine.

"Fig. 1 (Plate 48). Firſt form differs little in conſtruction from many other engines, except that in place of one working cylinder in theſe, there are two in this (ſee fig. 1), the leſſer (*n*) being placed on the top of the larger (*m*), and made faſt to it. To each cylinder there is a piſton fitted, which are connected together by a cylinder D; or this cylinder is ſo made as to have the piſtons in one piece with it. This cylinder is made ſo that it may nearly fill the ſmall cylinder *n*; that is, that it may work up and down ſo that the external ſurface of the one may not rub on the internal ſurface of the other. The ſteam and conducting pipes, with the valves, are explained in the following deſcription of the operation of the engine:

" Let the working handles, with the valves, be placed in ſuch a manner that ſteam from the boiler may have free acceſs through the pipes and cylinders into the condenſing veſſel, to free the whole of the air, as in the uſual manner. When this is done, the engine is ſet to work by the valves *b* and *c* being ſhut, and by that of *a* left open, and water let into the condenſing veſſel C, when a vacuum takes place in it by means of the condenſation of the ſteam, and alſo in the under part of the large cylinder *m*, below its piſton (there being a communication from it to the condenſing veſſel by the pipe F): ſame time the ſteam from the boiler has free acceſs through the pipe A. and valve *a*, into the ſmall cylinder *n*, above its piſton *h*, and exerts its force upon it, and preſſes it downwards with as much force as in the uſual manner. But as it is found, from experience, that a conſiderable quantity of ſteam eſcapes paſt the piſton, this ſteam is in part detained by the ſecondary piſton *g*, and exerts its force on that part or annular ſection *s s* that is contained betwixt the cylinder *m* and D, and aſſiſts in forcing the whole downwards; while at the ſame time the ſteam which is lodged in this annular ſpace *s s*, and around the cylinder D, prevents ſo great a quantity from eſcaping paſt the firſt piſton as would otherwiſe be the caſe were there no ſecondary piſton, and the vacuum much more complete below the firſt piſton, conſequently there is a greater power produced from a ſmaller quantity of ſteam than with a ſingle piſton. During the time of the piſton's deſcent the ſteam valve *a* is ſhut, and the elaſticity of the ſteam within the cylinders carries the piſtons forward to near the bottom of their cylinders, when the valves *b* and *c* are opened by the handles and plug-work admitting the ſteam to paſs from the upper ſides of both piſtons through the pipes B and E to the condenſing veſſel C, while the counter weight at the other end of the beam, or this connected with a fly-wheel, raiſes the piſtons again when the valves *b* and *c* are ſhut, and that of *a* opened by the plug-work, when the engine makes another ſtroke as before. The piſton rod R joins the working-beam in any of the uſual modes, and in other reſpects the engine is much the ſame as in common practice; to this form of the engine, a conſiderable improvement takes place by means of another valve, and which conſtitutes the ſecond form of the engine (ſee fig. 2); the form differs little from the laſt; but in admitting the ſteam from the upper cylinder below the piſton of the larger, and aſſiſting the returning ſtroke, and conſequently producing a ſtill greater effect from the ſame quantity of ſteam than in the firſt form; it may be underſtood from the following deſcription of the operation of the engine in this ſtate: let the working-handles be placed ſo that ſteam from the boiler may have free acceſs through the pipes and cylinders into the condenſing veſſel, to free them of air as in the uſual manner; when this is done, the engine is ſet for working by the valves *b* and *c* being ſhut, and *a* and *d* left open, and water let into the condenſing veſſel C; when a vacuum takes place by means of the condenſation of the ſteam, and alſo in the under part of the larger cylinder *m* below its poſition *g* (there being a communication betwixt them through the valve *d* and pipe F), and the ſteam from the boiler having free acceſs through the pipe A, the valve *a* will exert its force on the piſton *h* of the ſmall cylinder, preſſing it downwards with as much power as in the uſual manner, but as a quantity of ſteam eſcapes the piſton, it produces the ſame effect as mentioned in the firſt form; during the time of the piſton's deſcent, the ſteam valve *a* is ſhut, and the elaſticity of the ſteam within the cylinders carries the piſtons forward to near the bottom of the cylinders, when the valve *d*, which admits the ſteam from the lower part of the large cylinder *m* to the condenſing veſſel, is ſhut, while the valves *b* and *c* are opened; by this means the ſteam which remains above the piſton *h*, in the ſmall cylinder, having free acceſs through the pipe BE to the bottom of the large cylinder *m*, below its poſition *g*, exerts its force equally on equal areas, as of each piſton; and the annular ring, or ſection *s s*, being exhauſted by the valve *c* being open, this admits the ſteam to paſs through it, and the pipe E, to the condenſing veſſel C; this ſteam therefore which remains above the ſmall piſton, and below the large piſton, will force the piſtons upwards in proportion to the ſteam's denſity, and the difference of the areas of the piſton, that is, a force in proportion to the denſity of the ſteam, and the exceſs of the area of the large piſton to that of the ſmall one, when the piſtons arrive at the top of the cylinders, the plug-tree turns the handles of their poſition for another ſtroke. &c. It would be needleſs to deſcribe any more of the practical part of the engine, as it may be ſeen from inſpection of the draught, and correſponds with many of thoſe in common uſe, and which are well known. In this ſtate of the engine, there are three circumſtances take place, which renders the engine more powerful with the ſame quantity of ſteam than thoſe with a ſingle piſton; the firſt is, the ſteam which eſcapes the firſt piſton acts on the annular ring of the ſecond piſton, and increaſes the power; the ſecond is, the ſteam which eſcapes and is detained in the annular ſpace, or ſection *s s*, acts againſt the ſteam which paſſes the firſt piſton, and prevents ſo great a quantity from eſcaping as would take place were there no ſecondary piſtons; the third is, the quantity of ſteam which remains in the upper cylinder being let into the lower, and aſſiſting the aſcent of the piſton. In this and the firſt form, it is neceſſary to have a ſmall pipe with a cock in it, ſo connected with the upper part of each cylinder, that a little ſteam may be made to paſs through it by opening the cock a little when the piſtons are newly packed. and ſo admitting a ſmall quantity of ſteam to act upon the ſecondary piſton at this time, when little eſcapes the firſt, and when the friction of the piſtons is greateſt.

" Third form of the engine (ſee fig. 3) conſiſts of two cylinders, a larger and ſmaller, placed along ſide of each other vertically, and which may be placed ſo that a line joining their centres may be either in the direction of the working-beam, or at right angles to it, the operations being the ſame in both caſes, but the laſt is preferable; the other parts of the engine are obvious, from the drawing and the following explanation. The ſteam is admitted from the boiler by the pipe A, and all the valves being kept open, and the whole cleared of air, as mentioned in the former caſes, the valves *b d* and *e* are ſhut, while thoſe of *a c* and *f* are left open, and water let into the condenſing veſſel C, and a vacuum takes place, as alſo in the large cylinder *m* below its piſton (there being a communication to the condenſing veſſel C through the valve *f* and the pipe F), and there being a communication from the bottom of the ſmall cylinder *n* to the top of the large cylinder *m* (through the pipe B and valve *c*), the ſteam in the cylinder *n*, below its piſton, the ſteam in the pipe B, and that which is above the piſton *g* of the large cylinders *m*, will exert their force in puſhing the piſton forward, and reſiſting the deſcent of the ſmall piſton *h*; but the ſuperior ſtrength of the ſteam from the boiler exerting its power on the top of piſton *h* of the ſmall cylinder, will cauſe it to deſcend; as the piſtons go forward in their reſpective cylinders, the ſtrength of the ſteam above the piſton *g* of the large cylinder, and under the piſton *h* of the ſmall cylinder, will diminiſh, but the ſuperior ſtrength of the ſteam above the piſton *h* to the ſmall cylinder will cauſe a quantity of the ſteam to paſs it, which will in part exert its force on the piſton *g* of the large cylinder, and aſſiſt in forcing it down in the cylinder; indeed, what ſteam remains betwixt the two piſtons exerts

equal forces on equal areas of each piſton, but the piſton of the large cylinder, being of greater area than that of the ſmall cylinder, will be forced down with a power as much greater (as it retards the piſton of the ſmall cylinder) as its area is greater than the other. During the deſcent of both piſtons (which move in the ſame direction in the ſame time) the valve *a* is ſhut, which admits the ſteam into the ſmall cylinder, and the elaſticity of the ſteam which remains above the piſton *h* of the ſmall cylinder, together with the leſs denſe ſteam betwixt the piſtons, carries both piſtons forward to near the bottom of the cylinders, when the returning ſtroke begins by the valves *b d* and *e* being opened, and the valves *c* and *f* ſhut (the valve *a* being ſhut during the deſcent of the piſtons). By ſuch means, the ſteam above the piſton *h* of the ſmall cylinder has free acceſs below it, through the valve *b* and pipe B, alſo to the underſide of the large piſton through the valve *e*. In this ſtate, the ſteam is equally ſtrong on the top and bottom of the piſton *h* of the ſmall cylinder; but the ſteam below the piſton *g* of the large cylinder exerting its force againſt it whilſt there is a vacuum made in the upper ſide of the cylinder above the piſton (the ſteam having free acceſs through the valve *d* and pipe E F to the condenſing veſſel), this piſton will therefore be forced upwards, and as two piſtons are faſtened by their rods to the beam in ſuch a manner as to move together, they will both aſcend together to near the top of their cylinders, when the plug-tree turns their handles and valves for another ſtroke. The valves *a c* and *f* being opened, and thoſe of *b d* and *e* ſhut, and the ſtream from the boiler exerting its force on the piſton *h* of the ſmall cylinder, while the ſteam which remained at the laſt ſtroke below the ſaid piſton, and of leſs denſity, together with what paſſes the piſton *h*, exerts its force on the bottom of the piſton *h* of the ſmall cylinder, and on the top of the piſton *g* of the large cylinder, and the work goes on as aforeſaid. In this form of the engine, there are three circumſtances take place which render it more powerful, with the ſame quantity of ſteam, than thoſe with a ſingle piſton; the firſt is, the ſteam which is lodged between the piſtons, together with what paſſes the firſt piſton, acts on the ſecond piſton with a power much greater, as it retards the firſt, as the ſecond piſton is longer in area than the firſt; the ſecond is, the ſteam, which remained above the piſton of the ſmall cylinder, after its deſcent, acts upon the piſton of the large cylinder, in the time of its aſcent; and the third is, what ſteam remains in the ſmall cylinder, after its aſcent, contributes, along with the ſteam which eſcapes the piſton of the ſmall cylinder, to prevent ſo great an eſcape of ſteam paſt it, as would otherwiſe be the caſe, were there no ſecondary piſtons; the other parts of the engine may be ſeen from inſpection of the draught, and correſpond with what is in common uſe.

"Fourth form of the engine (ſee fig. 4) conſiſts of two cylinders, a leſſer and a larger, the piſton rods of which are connected by a toothed wheel, or ſhort beam placed betwixt them, which gives motion to the machinery by a crank, or otherwiſe; by this method, the piſton of the one cylinder aſcends, while the other deſcends; the operation of the ſteam in theſe cylinders and piſtons is directly the ſame as the laſt, only the piſtons move contrary to one another, the ſteam being directed on the piſtons ſo as to produce this motion, though the acting principle is directly the ſame; the ſame deſcription as the laſt will fully explain it, and the ſame letters of reference ſerve, only, that the ſteam acts on the top of the piſton of the large cylinders in the ſame way as it acts on the bottom of it in the former caſe. Theſe caſes may ſtill be varied by placing the ſmall cylinder in the firſt caſe undermoſt, and admitting the ſteam from below, and in the two laſt caſes by admitting the ſteam into the ſmall cylinder below; but the principle, or mode of action, will ſtill be the ſame: indeed, the ſame principle may be varied many ways, but, perhaps, in none better than the following:

"Fifth form (ſee fig. 5, No. 1 and No. 2) conſiſts alſo of two cylinders, as before, and larger, which are placed alongſide of each other, as in the third form. Fig. 5, No. 1, is a ſide view or ſection of the engine; but the large cylinder, which ſtands immediately behind the ſmall one, is not ſeen as well as many of its parts. In fig. 5, No. 2, is an upright ſection of the cylinders and pipes, as the face, the framing or body of the engine. In this draught, the cylinders, pipes and valves, and condenſing veſſel, are laid open in ſo plain a manner, that, with the explanation, an idea of the engine may very eaſily be conceived; the letters of reference are chiefly applicable to No. 2; but when the letters are placed on No. 1, they refer to the ſame as on No. 2. The operation and explanation are as follows: the ſteam is admitted from the boiler into the ſmall cylinder *n*, through the pipes A A, and valves *a* and *e*, both above and below the piſton *h*, of the ſmall cylinder, all the valves being kept open, and the handles wrought in the uſual manner, to drive the air out of the cylinders, communicating pipes, and the condenſing veſſel; the handles are ſet to their due working poſture, that is, the valves, *b*, *c*, and *e*, are ſhut, while thoſe of *a*, *d*, and *f*, are opened, and water let into the condenſing veſſel, when a vacuum takes place in the large cylinder *m*, below its piſton *g* (the ſteam having free acceſs through the valve *f*, and pipe F, to the condenſing veſſel), and the ſteam which remains above the ſaid piſton, together with that which is under the piſton *h* of the ſmall cylinder, and communicating pipe D, exerts its force in puſhing down the piſton *g* of the large cylinder, there being a communication for the ſteam between them, through the valve *d* and pipe D. The ſteam from the boiler exerts its force on the top of the piſton *h* of the ſmall cylinder, and, as the piſtons move forwards in their cylinders, the denſity of the ſteam under the piſton *h*, and above the piſton *g*, will diminiſh, being expanded to a larger ſpace; but the ſuperior denſity of the ſteam from the boiler, acting on the top of the piſton *h*, of the ſmall cylinder, will cauſe a quantity of ſteam to paſs it, which exerts its force in part on the piſton *g*, of the large cylinder; indeed, what ſteam is lodged between the two piſtons exerts equal forces on equal areas of each piſton, but the piſton *g*, being of larger area than the piſton *h*, will therefore be forced down with a power as much greater as it retards the piſton in the ſmall cylinder, as the area of the large piſton is greater than that of the leſſer; at the ſame time the ſteam which remained beneath the piſton of the ſmall cylinder, prevents ſo much ſteam from eſcaping paſt its ſides, as it would do were there only a ſingle piſton, and the vacuum below it much more complete during the deſcent of the piſtons (which move in the ſame direction, in the ſame time); the valve *a*, which admits the ſteam from the boiler, from the top of the leſſer cylinder, above its piſton, is ſhut, and the elaſticity of the ſteam which remains above the piſton *h* of the ſmall cylinder, together with the leſs denſe ſteam above the piſton *g* of the large cylinder, carries both piſtons forward to near the bottom of their reſpective cylinders, when the returning ſtroke begins by the valves *a* and *f* being ſhut (the valve *a* being ſhut during the piſtons' deſcent), and the valves *b* c and *e*, opened by the plug-work. When the large cylinder is exhauſted above its piſton, the ſteam having free acceſs through the pipes D and E, and the valve *e*, to the condenſing veſſel, while the ſteam from the boiler having free acceſs through the pipes A A, and valve *e*, to the bottom of the piſton *h*, of the ſmall cylinder, and the ſteam of leſs denſity, from the laſt ſtroke of the engine, which remains above the ſaid piſton,

together with what eſcapes paſt its ſides, in time of its aſcent, having free acceſs through the valve *b* and pipe B to the under ſide of the large cylinder *m*, and below its piſton *g*, and exerts its force in preſſing it upwards, with a power as much greater as it retards the piſton of the other, as the piſton of the large cylinder is greater than the other; then the piſton *h*, of the ſmall cylinder, will be preſſed up with a force in proportion to the difference of the denſity of the ſteam above and below it; at the ſame time, the ſteam which remains above the piſton prevents ſo much of it from eſcaping paſt the ſmall piſton, as would be the caſe were the vacuum more complete: during the aſcent of the piſtons, the valve *c* is ſhut, and the elaſticity of the ſteam which remains below the piſton *h*, of the ſmall cylinder, carries it forward, as doth alſo the leſs denſe ſteam of the piſton *g* of the large cylinder; indeed, the operation of the ſteam is the ſame, both in the aſcent and deſcent of the piſtons.

" Sixth form (ſee fig. 6) conſiſts alſo of two cylinders, the leſſer and larger, the piſton-rods of which are, as in the fourth form, connected by a toothed wheel, or ſhort beam placed betwixt them, which gives motion to the machinery by a crank; or otherwiſe the operation of the ſteam in this form is directly the ſame as in the laſt, or fifth form, except that the ſteam is ſo conducted as to make the one piſton aſcend while the other deſcends; the explanation of the laſt ſerves this alſo, and letters of reference are placed ſo, only where the top or bottom of the large piſton is mentioned; the contrary muſt be underſtood for the explanation of this form: in all forms of the engine in time of working, the denſity of the ſteam, on the ſecondary piſton, is never allowed to be near its natural ſtate (namely, that denſity it hath at coming from the boiler, or nearly the ſame with that of the atmoſphere), the other end intended would be in a great meaſure fruſtrated, as the quantity which eſcaped the ſecondary piſton in that ſtate would be attended with as bad effect as that purpoſed to be remedied by the patentees. It will be obſerved, that this is effected by ſhutting the valve which admits the ſteam from the boiler before the piſton has moved through the whole length of the cylinder; though the preventing the waſte of ſteam is the main thing intended, yet the conſtruction of the engine is ſuch, that the elaſticity of the ſteam is carried a great length, and uſefully employed, before it gets into the condenſing veſſel; theſe forms of the engine may be applied either to the raiſing of water, or driving machinery, the ſame as thoſe in common uſe. The patentees do not pretend to fix upon any exact ratio betwixt the ſize of the two cylinders: experience and motives of economy may cauſe a variation in this.

" Specification and deſcription of the nature of a new and improved method of conſtructing furnaces, for the application of fire to ſteam-engines and boilers of various deſcriptions, and alſo to the application of fire to many other purpoſes and branches of manufacture where heat is applied by means of a furnace, by which invention and improvement a very conſiderable ſaving of fuel is effected, from the immediate converſion of the whole, or very nearly the whole, of the ſmoke ariſing from the fuel into flame: firſt, the ſaid invention in principle conſiſts in ſupplying the burning fuel more fully with air, having this fuel more in a body together, and a leſs quantity in combuſtion, at the ſame time, than what uſually takes place in other furnaces, which are applied to the ſame uſes; in applying the fuel with a portion of freſh air, admitted from an opening made for that purpoſe, and directed in ſuch a manner as it may come in contact with the ſmoke from the kindling coal and great heat of the furnace together, and the fuel being more fully ſupplied with air, and conſequently a greater degree of heat taking place, and the ſmoke and freſh air uniting in the great heat, the ſmoke is enflamed, and rendered uſeful in adding to the heat of the furnace; beſides, this portion of freſh air is ſo conducted as to act partly on the kindling or kindled fuel, and raiſing it to a greater degree of heat, after it has ſerved its purpoſe by uniting with and enflaming the ſmoke; and therefore is employed, in ſome meaſure, uſefully, even after the coal has ceaſed to ſmoke: ſecondly, to the above may be added, the form of the furnace, which is ſo conſtructed, that the full kindled fuel is kept backward in the furnace, while the freſh coal lies before, and is more gradually kindled than if introduced further among the full kindled fuel, while the heat of the furnace is little injured or damped by the introduction of freſh coal, as is more fully deſcribed in the practical deſcription of the furnace. The coal is admitted into the furnace by a hopper, feeder, or mouth piece, A (fig. 7 and 8), made of caſt-iron (but which may be made of other materials), and inclined to the horizon, as in fig. 7; ſo that the coal in it may, in ſome meaſure, fall into the fire-place, above the bars, as the fuel is ſpent: in the upper part of this hopper, feeder, or mouth-piece, is a plate, *a* (fig. 7 and 8), placed at a ſmall diſtance, or from about three eighths to three fourths of an inch from the upper ſide of the hopper, betwixt which plate, and upper plate, or ſide of the hopper, a ſtream of air ruſhes downward on the fire, at about half a right-angle to the horizon, which ſtream of air aſſiſts in conſuming the ſmoke, as formerly mentioned, and more fully deſcribed hereafter. B, fig. 7, is a ſection of the bars, which are, in general, a little inclined to the horizon, as in the figure, that the fuel may more eaſily fall, or be puſhed backwards, in the furnace; at *c*, is an opening above the bars, and below the lower end of the hopper, which is in general fitted with a grated door or doors, which open for the more convenient cleanſing of the furnace, and the grated form of the doors is alſo deſigned for admitting air into the fuel, as well as at the bars, conſequently the air is more concentrated in the middle of the burning fuel, and produces a greater heat than if admitted only betwixt the bars; this grated form of the doors is alſo convenient for the admiſſion of a poker or inſtrument for puſhing backward the kindled fuel, while the freſh coal, or that which is not ſo well kindled, falls down to ſupply its place: in ſome others of theſe furnaces, the opening below the lower end of the hopper, and above the fore end of the bars, is left without doors at all; at this opening, it is convenient, when the fire is mended, to puſh the coal from the fore ſide backward, as mentioned above, or it may be puſhed backward with a hooked poker, P, by applying the hooked part of it through the furnace bars below; by either of which means, the kindled coals are put backwards, while the freſh coal, or that which is not ſo well kindled, falls down to ſupply their place; that is, the coals in the ſituation *c* are puſhed towards *d*, while thoſe in the ſituation *f* fall down to ſupply the place of thoſe which were driven from *c* towards *d*; by ſuch means, the ſtrength or heat of the fire is not much damped by the introduction of freſh coal, and the coals which have fallen from *f* towards *c*, are not ſo rapidly kindled as if introduced above the burning fuel, ſame time the ſmoke which ariſes from theſe newly-introduced coals, paſſes partly through the full-kindled coal and partly over, and in contact with the great heat of the burning fuel, and, meeting at the ſame time with the current of freſh air coming downwards, and tending alſo to drive the ſmoke ſtill nearer to the bright kindled fuel, does in general completely inflame the ſmoke, and render it uſeful in adding to the heat of the furnace. Another end obtained by the ſtream of freſh air, is to keep in ſome meaſure the great heat of the furnace from acting ſo

violently on that part of the hopper which is neareſt it, and moſtly expoſed to its heat, and liable to be damaged thereby, which it does by the continual current of freſh cool air that is in contact with thoſe parts; the conſtruction of the furnace may be much varied, but the chief improvements are, that the fuel in combuſtion is ſupplied with air by the foreſide as well as by the bars, the hopper is placed in ſuch a ſituation that the kindled or unkindled coal may in part fall to the foreſide of the furnace above the bars, as the other fuel is puſhed backward in the furnace, and the admiſſion of freſh air to paſs over the burning fuel by means of a definite ſpace or ſpaces, opening or openings, made for that purpoſe; ſo that this ſtream, current, or currents of air, partly come in contact with the burning fuel itſelf, forcing alſo the ſmoke with more immediate union with the burning fuel and great heat of the furnace. The patentees do not pretend any claim to the admiſſion of freſh air as a new principle, as they are ſenſible that this has been known long ago, and practiſed by admitting it at the furnace door, ſhutter, or mouth-piece, and at the opening the coals are admitted into the furnace; their claim reſts upon what has been formerly ſtated, together with the form of the furnace, and its variations after mentioned; the ſucceſs of the furnace depends alſo in a conſiderable degree on what is called the draught of the furnace; that is, the chimney and flues ſo conſtructed, as a ſufficient current of air may paſs through the fire to bring it to a proper degree of heat; alſo, that the current of freſh air may have ſuch force as to come pretty much in contact with the burning fuel, and to convey the ſmoke along with it through the hotteſt of the flame; if this is not the caſe, the ſmoke will not be ſo completely conſumed in theſe furnaces. The hopper is allowed to be kept as full of coal as poſſible, and either wholly or in part ſmall coal, ſo as to prevent air as much as poſſible getting in by that paſſage; this muſt be attended to when the furnace is in its ordinary working ſtate; yet, ſometimes, it is neceſſary to keep this opening of the hopper, either wholly, or in part, open, when there is little heat wanted.

The following is a deſcription and reference to the draughts in Pl. 49.; fig. 7, is a ſide view, or ſection of the furnace, as if applied to a boiler, and cut through the middle. Fig. 8, is a front view of the furnace in perſpective, the hopper having a diviſion in the middle, and two regulating plates for the admiſſion of freſh air. Figs. 7 and 8, A, the hopper into which the coals are put to ſupply the furnace, *a* the regulating plate; above which and below the higher plate *b* of the hopper, a ſtream of freſh air is admitted to this plate; *a* is made to turn on a pin pivot or centre, ſo that it may be brought nearer to, or recede further from the uppermoſt at the point *n*, fig. 7, for regulating the quantity of air admitted betwixt the plate as occaſion requires; this plate is ſometimes made faſt, or kept ſo, after adopting a ſpace which is judged ſufficient for the quantity of freſh air, but on other occaſions, as in ſteam-engines, it is adviſable ſo give it leſs or more opening according to the ſtate of the fire, that is, when coals are newly introduced into the fire-place, to give the greateſt quantity of freſh air, and when they are pretty well kindled to give leſs air. FFF, fig. 7, the flues beneath and round the boiler; that round the boiler may be in any of the preſent well-conſtructed forms; that beneath the boiler, as in the drawing, with a breaſt D, to prevent the coal getting ſo far backward in the furnace, and alſo to direct the flame on the bottom of the boiler; this breaſt is alſo neceſſary for the more complete combuſtion of the ſmoke, as by that means, the freſh air, ſmoke, and flame, are more completely combined than if the breaſt were wanting, or ill-formed: at *r* is repreſented a ſhutter, which is ſometimes uſed in ſteam-engine boilers for the purpoſe of getting the refuſe of the fuel taken from the furnace by opening the ſaid ſhutter; in other caſes, the breaſt of the furnace D coincides with *d* at the ends of the bars. G, figs. 7 and 8, the grated doors, or opening into the fire-place; I, the aſh-pit below the furnace; L, fig. 8, a catch, or bar, which ſlides along the bottom plate of the hopper for keeping the grated doors ſhut: HHH, &c. the brick-work for furnace and boiler. K, fig. 7, a piece of caſt-iron in a horizontal poſition, which joins the under plate of the hopper, for the more eaſe and convenience in putting in the coals, the hopper may be made in one or more pieces, as inclination or choice may direct, or of any materials which it may be thought prudent to adopt, but they are uſually made with five plates of caſt-iron; M repreſenting one of the ſide plates, N the uppermoſt, O the undermoſt, and P the regulating-plate; the ſide plates having tenons which fit into mortices in the top and bottom plate, which may eaſily be conceived; on the ſide plates are detents or abutments, which ſerve as a centre for the regulating-plate to turn upon; on this plate are alſo two abutments which reſt on the other abutments of the ſide plates when this plate is put into its place; this plate by ſuch means may be taken out, or put in at any time it is found neceſſary, without meddling with any other part of the hopper: another method is to have the bottom plate to come out, and in the ſame manner as the regulating plate; alſo, that it may fold up or down to any inclination; this form is very commodious for allowing acceſs into the fire-place to get it repaired, or the like, or for having the fire quickly taken from it altogether, for by folding the plate to a level as repreſented by the dotted line, fig. 9, the coal which is in the hopper is prevented from falling into the fire-place, and there is a greater ſpace left to get into it; this form may either admit or not of the grated doors; indeed the ſimple opening does very well. Fig. 9, is a repreſentation of the ſide of the hopper, in this form: another method of the hopper and letting in of air, is by making the underſide of the top plate with cheeks, or grooves, as that the freſh air may ruſh down in them above the fuel that lies in the hopper, for when the hopper is fitted in as cloſe with coal as it can be, theſe grooves of cheeks prevent the coal from getting into them, and form ſeparate and definite ſpaces for the air to ruſh down on the burning fuel, and perform the ſame office as the regulating plate, though the proper quantity cannot be ſo well adjuſted this way, yet the only way to accompliſh this is to have theſe grooves or cheeks made as near the proper ſize as poſſible; they ought alſo to be ſo narrow, that little of the coal will get betwixt them. Fig. 10, is a front view of the hopper, in the ſtate where A repreſents the opening the coals are put into; another method is to let in the current of freſh air above the uppermoſt plate of the hopper, this may be done either by another plate placed above, or the building ſo formed over it, as that a proper quantity of freſh air may get in, and in a proper direction; indeed, this may be accompliſhed many ways in a greater or leſſer degree, by letting in a definite quantity, directed in ſuch a manner as to come in contact with the fuel, though perhaps in no way better than the methods explained: to make this furnace more complete, doors are placed to the front, with a ſufficient ſpace below them to let air into the furnace, theſe doors are repreſented by SS, fig. 8, as ſtanding open; they are kept ſhut while the furnace is going, except when coals are put in, or the bars cleanſed, or the like when they are opened for that purpoſe; the uſe of theſe doors is to prevent, in a great meaſure, the radiant heat that comes from under the bars and from the opening at the foreſide from eſcaping; this alſo adds ſomething to the draught or well-going of the furnace, as this heat when ſuffered to eſcape rarifies the air before the

furnace, which air paſſes upwards, performing in a ſmall degree that which a chimney does, and depriving the fire of a portion of air which it otherwiſe has when the doors are ſhut: theſe furnaces are made of various ſizes, according to the uſes they are applied to; in ſome large ones there is a diviſion in the middle of the hopper, as in fig. 8; this ſize, as meaſured by the ſcale, will ſerve a ſteam-engine boiler of about nine or ten feet diameter; leſſer furnaces do not need this diviſion in the middle of the hopper."

We next preſent the reader with the ſpecification of a patent granted to Mr. Murray, of Leeds, for a method of conſtructing the air-pump, and ſundry other parts belonging to a ſteam-engine, by which a conſiderable ſaving will be made in the conſumption of fuel, and an increaſed power obtained. It is dated Auguſt 4, 1801.

"Firſt, in reſpect to the principles of the new air-pump," ſays the inventor, "I cauſe the air to be diſcharged from the air-pump without its having to make any effort in opening of valves, or preſſing through a body of water, and in cauſing the water and the air to be diſcharged ſeparately, and different ways; this is effected by diſcharging the air alone by one bucket, and the water alone by another, or by an eduction pipe of 28 feet in length, as in figs. 1, 2, 3 (Pl. 50.). Secondly; an improved method of packing the cylinder-lid, ſtuffing-boxes for valves, &c. I cauſe the removeable parts of each to come in immediate contact with one another; this is effected by placing the neceſſary packing on the upper ſide of the cylinder-lid (inſtead of being betwixt the cylinder and lid as formerly), which prevents the piſton-rod receiving friction from any oblique preſſure, by the cylinder-lid being ſcrewed down more upon one ſide than the other, which is unavoidably the caſe in all other methods of packing-lids, valves, ſtuffing-boxes, and other ſimilar things, where great accuracy is required, as in fig. 4. Thirdly; an improvement in the valves and working geer, the principle of which conſiſts in the advantageous form in which they are made, and in the two uppermoſt valves being inverted, and the communication by the valve-rods paſſing through reſervoirs of oil, or liquid matter, which will prevent any air getting into the engine to impair the vacuum; the principle of the cylinder-lid is here applied in fixing the ſtuffing-boxes for the valves, and valve-box lids, which is of the utmoſt importance to their operating well, as the oblique preſſure (which cannot be prevented in the old method) throws the valves out of their ſeats, and renders them proportionally imperfect, fig. 5. Fourthly; a new principle, opening and ſhutting the valves by a circular motion (inſtead of the plug and hand-geer now in uſe), which prevents the engine making a falſe ſtroke, or turning the wrong way round, by which means a ſteam-engine is rendered as ſteady in its motion as a water-wheel, as in figs. 6, 7, 8, 9. Fifthly; a new method of connecting the piſton-rod to the parallel-motion, as deſcribed in fig. 10. Sixthly; an improved method of conſtructing fire-places for conſuming the ſmoke ariſing from ſteam-engines, and other fires, fig. 11. Now I do declare, that the ſix above-mentioned principles comprehend the real object of my inventions. And, in order for the better comprehenſion and underſtanding how the aforeſaid may be reduced to practical uſe, I do hereby further declare, that although I vary my mode of conſtruction, as a difference of circumſtances may require, to produce the ſame effect, and obtain the main purpoſes intended; yet I principally adhere to the methods herein deſcribed, as being fully anſwerable to what is required, and beſt calculated to be underſtood from the drawings and deſcriptions thereof. And the ſame is deſcribed fully in the drawing or plan added hereto, and contained in the ſkin of parchment hereunto annexed. (See the plate.) Figs. 1, 2, and 3, are plans exhibiting the principle of the air-pump. A, the condenſer; B, the air-pump; C, the air-piſton; D, the air-valve, which is opened and ſhut by the working parts of the engine, and has an elaſtic rod; E, the valve for diſcharging the air; F, the exhauſting-pipe, having a free communication betwixt the condenſer and the top of the air-pump, when the valve D is open; G, the eduction-pipe; H, a bucket, and balance-valve, for diſcharging the water down the bored eduction-pipe in fig. 3; I, the delivering-valve for water in figs. 2 and 3; K, in fig. 1, a bucket for lifting the water upwards as in a common pump; L, a foot-valve for preventing the return of the water during the deſcent of the bucket K; M, the barrel of the pump for diſcharging water alone; N N, in fig. 2, an eduction-pipe, thirty feet long or upwards, where the water is diſcharged by its own gravity, and may be attached to the air-pump, or condenſer, as the dotted lines ſhew. Fig. 4, exhibiting the principle of the top, ſtuffing-boxes for valves, &c. A A, the cylinder-lid. B B, the top ring that is ſcrewed down with bolts to the flanch of the cylinder. C C, the packing of paper, hemp, or other materials, laid on to the cylinder-lid A, and under the top ring B B. D D, a ſhoulder bored in the top of the cylinder, for the lid A to be turned and ground into; this method applies to ſteam-cylinders, air-pumps, ſtuffing-boxes for valves, as is ſhewn in the other figures. Fig. 5, plan of the working valves and ſide pipes. A A A, the rods that lift the valves. B B, ſtuffing-boxes for the valves to work through, fixed in the ſame manner as the cylinder-lid in fig. 4. C C, rings for fixing the ſtuffing-boxes. D D D, mortiſes for the levers for the opening of the valves. E E, are the two inverted top valves. F F, are reſervoirs for holding oil, or other liquid matter. G G, two circular valve-boxes for admitting the ſteam. Figs. 6, 7, 8, and 9, ſhew the principle of opening and ſhutting the valve by a circular motion. A, the axletree. B, a wheel to be turned from the motion of the fly-wheel, or other parts of the engine or mill-work. C C C C, cranks with rollers fixed upon the axletree A, parallel to each other, or at right angles, as circumſtances may require. D D, circular box rods for receiving alternate motion from the circular motion of the cranks C C. E E, tappet plates for the cranks to work againſt. F F, levers for the mortiſes D D D in fig. 5, for lifting the valves. Figs. 8 and 9, ſhew the ſame principle, but differ from the other by having ſtraight plates to work againſt inſtead of circular ones. G G G G, handles for ſetting the engine to work, and may be ſupported at H H H H. The axletrees A A, muſt make the ſame number of revolutions as the engine does ſtrokes, which may be eaſily regulated by the wheel-work. Fig. 10, ſhewing the method of connecting the piſton rod to the parallel motion. A, the piſton rod. B, the top cone end of the rod. C, two half-ſockets which fit the cone end of the rod. D, the outermoſt ſocket. E, the cone part of this ſocket, fitting the outſide of the ſocket C. F, the cotter for preſſing the rod A, with its ſockets C, into the cone part of the outſide ſocket D, which fixes the whole together as in one piece, without cutting any holes in the rod, as is the caſe in the old method. Fig. 11, ſhewing the method of conſtructing a fire-place for conſuming of ſmoke. A, the boiler. B B B B, brick-work. C, the funnel for conveying coals to the fire. D, ſliding plate for leſſening the aperture of the funnel, and regulating the quantity of coals in. E, the fire-place. F, the grate-bars lying in a frame, and moving upon a joint at No. 1. No. 2, the grate-bars lowered down for the purpoſe of cleaning out the fire. G, charging-box for puſhing the fire further on the grate-bars, and making room for freſh coals as the others are conſumed; this box is filled with holes for the purpoſe of letting air into the fire. H, a ſmall wheel and rack for working the charging-box G in large fires; but

the box may be thruſt in by the handle I in ſmall ones. K, a lever for turning the wheel H. No. 3, plan of the grate-bars frame taken out of its place to the pivots that it turns upon when it is lowered to clean out the fire. 4, plan of the charging-box G, to ſhew the method of working it by wheel-work, either by hand, or by a motion from the engine."

Theſe ſeem the moſt important of the recent inventions in aid of this valuable machine, but other contrivances worthy of attention will be found fully deſcribed in the Repertory of Arts, &c.

STEEGE, a ſea-port of Denmark, in the iſland of Moen, 38 miles S.S.W. of Copenhagen. Long. 12. 20. E. Lat. 55. 5. N.

STEEL (*Encycl.*). The following is extracted from the ſpecification of a patent granted to Meſs. Wilde and Ridge, of Sheffield, for making ſaws, ſteel doctors for printers, plates made of iron, ſprings, and other articles; dated Auguſt 25, 1796.

" When the ſteel or iron is pared or cut into proper ſhape, the ſaws, &c. are put into a frame of metal, or otherwiſe: they may then be made red-hot in the ſaid frame, and ſtretched by ſcrew, ſpring weight, or any other proper power or purchaſe, and ſo formed into a curved, ſtraight, or any other direction wanted. They are then to be immerſed in water, or a compoſition of oils or greaſe, to be hardened in the frame in the direction wanted; and when ſo hardened they are alſo to be tempered in the ſame direction in the frame over fire; and when the ſaw, doctor for printers, or plate, is over the fire, it muſt be kept in motion over the fire until the oil or greaſe upon the ſaid ſaw, doctor, or plate, ſmokes. It is then to be gently ſtretched, and continually kept moving over the fire until a blue blaze alternately appears and diſappears. It is then to be ſtretched with as much power as will bring it into the direction required. The ſaw, doctor, or plate, is next to be put into another frame, which may be made to move upwards and downwards, or in any other direction neceſſary, by crank, or any other movement, between proper ſtones, or between plates of metal, blocks of wood, or any other material that will grind or poliſh with ſand, emery, or other proper material to grind and poliſh the ſaws, ſteel doctors for printers, plates made of iron, alſo of ſteels, beads, mouldings, and fender plates, made of iron and ſteel united, or of iron or ſteel, and all ſorts of ſprings made of ſteel, and divers other articles made of iron and ſteel united, and alſo of iron or ſteel. But if the ſaw, doctor, or plate, is not intended to be hardened, it muſt be made red-hot, and ſtretched with as much power as will bring it into the direction wanted; it muſt then lie in the open air, in the frame, in the ſaid direction required, till cold; then to be ground by a machine for the purpoſe of grinding and poliſhing in a frame the ſaid ſaws, ſteel doctors for printers, plates made of iron, alſo of ſteel, beads, mouldings, and ſender plates, made of iron and ſteel united, or of iron or ſteel, and all ſorts of ſprings made of ſteel, and divers other articles made of iron and ſteel united, and alſo of iron or ſteel." This machine is to move the article to be manufactured by means of a crank, or otherwiſe, ſo as to ſharpen, grind, and poliſh the plates, and form beads and mouldings, and various other articles."

STEENBERGEN, a ſtrong town of Dutch Brabant, in the marquiſate of Bergen-op-Zoom. It has a communication with the Maeſe, and is ſeven miles N. of Bergen-op-Zoom, and 17 W. of Breda. Long. 4 28. E. Lat. 51. 32. N.

STEENKEER, a town of Norway, in the province of Drontheim, 36 miles N.E. of Drontheim. Long. 11. 34. E. Lat. 63. 50. N.

STEENKIRK, a village of Auſtrian Hainault, famous for the victory obtained over William III., in 1692, by the Duke of Luxemburg. It is 15 miles N. of Mons, and 16 W. of Bruſſels.

STEENWYCK, a ſtrong town of the United Provinces, in Overyſſel, ſeated on the river Aa, 20 miles S.E. of Slooten, and 32 N. of Deventer. Long. 5. 50. E. Lat. 52. 50. N.

STEEVENS (George), an eminent Engliſh author, received the early part of his education under the tuition of the Rev. R. Wooddeſon, at Kingſton-upon-Thames, at which ſchool he was contemporary with Gibbon, the hiſtorian. He went from thence to Eton. Afterwards he was admitted a fellow-commoner of King's College, Cambridge. He alſo accepted a commiſſion in the Eſſex militia, on its firſt eſtabliſhment.

In 1766 he publiſhed " Twenty of the Plays of Shakſpeare," in 4 vols. 8vo. Dr. Johnſon had brought out, the preceding year, an edition of our great bard; this induced an interview between the reſpective commentators: abilities and reſources were combined, and the public ſoon felt the benefit of this conjunction.

The year 1773 ſaw the firſt fruits of this great coalition in a complete edition of the poet, in 10 vols. 8vo; which edition, with occaſional amendments, was twice reprinted between the years 1773 and 1785.

Mr. Steevens certainly poſſeſſed, in an eminent degree, the requiſites for his important undertaking. He had ſtudied the age of Shakſpeare; he was intimately and perfectly acquainted, not only with the laws, manners, and writings of that period, but he was equally verſed in the provincial peculiarities, whether of language or cuſtom, which prevailed in different parts of the kingdom, and particularly in thoſe where Shakſpeare paſſed the firſt years of his life. Fortune likewiſe favoured his ſtudies: he had ample pecuniary reſources, from which he is known to have expended nearly 200l. in the purchaſe of curious and illuſtrative books, while preparing each edition of Shakſpeare. He had the ſecond folio of that poet, with notes and alterations of ſcenes by Charles II. in his own hand; and he was aſſiduous in enriching his own Shakſpeare with 1500 portraits of all the perſons in the notes and text: of ſuch productions he was a critical judge, excelling himſelf in painting, with which he frequently amuſed his hours. Thus qualified and prepared, he produced, in 1793, that invaluable edition of Shakſpeare, then publiſhed in 15 vols. 8vo. Uncommon indeed, and fully meriting the countenance which he obtained, were his exertions in the completion of this truſt: he gave an inſtance of editorial activity and perſeverance that is without example. To this work he devoted, ſolely and excluſively of all other attentions, a period of eighteen months; and, during that time, he quitted his houſe every morning at one o'clock with the Hampſtead patrole, and proceeded, reckleſs of the weather or the ſeaſon, to the chambers of his friend, Mr. Iſaac Reid, in Barnard's-inn, where he was privileged to admit himſelf, and found a room prepared to receive him, with a ſheet of the Shakſpeare letter-preſs ready for correction. There, too, was every book he might wiſh to conſult; and on Mr. Reid's pillow he could apply, on any doubt or ſudden ſuggeſtion, to a knowledge of Engliſh literature perhaps equal to his own. This nocturnal toil greatly accelerated the printing of the work; as, while the printer ſlept, the editor was awake; and there was a ſort of perpetual motion in its progreſs towards publication; and thus, in leſs than twenty months, did he complete his laſt edition of Shakſpeare, in fifteen large octavo volumes—an almoſt incredible labour, which proved the perſevering energy of his mind. The edition of Mr. Malone, if we err not, employed nine years. It may not be unneceſſary to ſay, that he read the proofs of Boydell's ſplendid Shakſpeare, and

that his own large octavo edition is now reprinting. He poſſeſſed a ſtrong original genius, and an abundant wit; his imagination was of every colour, and his ſentiments were enlivened with the moſt brilliant expreſſions. He was alſo a claſſic of the firſt order, and equally acquainted with the belles-lettres of Europe; and he had ſtudied hiſtory, ancient and modern, but particularly that of his own country. His converſational alluſions to the ſciences always evinced the eaſy familiarity of intimate acquaintance. That he contented himſelf with being a commentator muſt have ariſen in the habits of his life, and in his devotion to the name with which his own will deſcend to the lateſt poſterity. Many of his *jeux d'eſprit* might probably be collected: of this deſcription are a few ſtanzas in Dodſley's Annual Regiſter, under the title of the "Frantic Lover." His manners were ſingular and eccentric: he never took a pinch of ſnuff after he loſt his box in St. Paul's Church-yard, though this recreation had been the cuſtom of his life, and though he was in the habit of making all his memorandums by bits of paper in his box: he would ſometimes break off his longeſt habits, without any oſtenſible reaſon. Animated and logical in argument, and piquant in wit, his colloquial powers ſurpaſſed thoſe of other men; and his jokes, which were remembered by all who heard them, and repeated by all who remembered them, often procured him a kind of malevolent fame which he had by no means juſtly incurred. He would frequently, in his ſportive and almoſt boyiſh humours, condeſcend to a ſpecies of ribaldry but little above O'Keefe; indeed, he loved what is called *fun*—a diſpoſition which has a tendency to miſchief. As he managed a liberal fortune with diſcretion, he was enabled to gratify his wiſhes, which he did without any regard to expence, in forming his diſtinguiſhed collections of claſſical learning, literary antiquity, and the arts therewith connected. He bought largely at Sir Clement Dormer's, where he got his Xenophon, worth upwards of 40l. for twelve guineas. He was rich in books and prints. Neither was he deficient in generoſity: though never ſeen to give eleemoſynary ſixpences to ſturdy beggars or ſweepers of the croſſings, few perſons diſtributed bank-notes with more genuine munificence; and ſome of his acts of pecuniary kindneſs, ſuch as could only proceed from a mind adorned with the nobleſt ſentiments of humanity, might be named. Educated at an era when urbanity was the characteriſtic of a gentleman, he poſſeſſed all the graces of exterior accompliſhment; all that could ſoften the aſperities of life, and harmoniſe the ſocial intercourſe. Mr. Steevens paſſed the latter years of his life chiefly at Hampſtead in retirement, ſeldom mixing with ſociety but in bookſellers' ſhops, or in the Shakſpeare Gallery, or at the morning converzatione of Sir Joſeph Banks. When death, by one ſtroke and in one moment, makes ſuch a diſperſion of knowledge and intellect—when ſuch a man is carried to his grave—the mind can feel but one emotion: we conſider the vanity of every thing beneath the ſun—"we perceive what ſhadows we are, and what ſhadows we purſue." Mr. Steevens bequeathed his valuable Shakſpeare, illuſtrated with near 1500 prints, to Lord Spencer; his Hogarth (perfect, with the exception of one or two pieces) he left to Mr. Windham; and his corrected copy of Shakſpeare to Mr. Reid, together with a bequeſt of 200 guineas. His library is become the property of Miſs Steevens, his relation, to whom he has left the bulk of his fortune, and who is his reſiduary legatee. There are only two or three other ſmall legacies in money. Mr. Steevens died in January, 1800.

STEGLBURG, a ſea-port of Sweden, in Eaſt Gothland, ſeated on the Baltic, 25 miles S. of Nikoping, and 82 S.W. of Stockholm. Long. 16. 40. E. Lat. 58. 16. N.

STEIN, a ſmall independent town of Switzerland, under the protection of the canton of Zuric. It is ſeated on the Rhine, where it iſſues from the lake of Conſtance, 15 miles W. of Conſtance, and 25 N.E. of Zuric. Long. 8. 48. E. Lat. 47. 32. N.

STEINAU, a town of Sileſia, capital of a circle, in the principality of Wohlau, 10 miles W.N.W. of Wohlau, and 20 S.E. of Glogau. Long. 16. 50. E. Lat. 52. 23. N.

STEINFURT, a town of Weſtphalia, in the county of Bentheim, with an academy, ſeated on the Vecht, 16 miles N.W. of Munſter. Long. 7. 41. E. Lat. 12. 15. N.

STEINHEIM, a town of Germany, in the electorate of Mentz, ſeated on a hill, near the river Maine, with a caſtle, nine miles from Francfort. Long. 8. 54. E. Lat. 49. 52. N.

STEKE, a town of Denmark, on the N. coaſt of the iſle of Mona, with a caſtle. It is almoſt ſurrounded by a lake. Long. 12. 15. E. Lat. 55. 4. N.

STENAY, a fortified town of France, in the department of Meuſe, ſeated on the river Meuſe, 24 miles N. by W. of Verdun. Long. 5. 19. E. Lat. 50. 28. W.

STENDAL, a town of Germany, in the marquiſate of Brandenburg, ſeated on the Ucht, 30 miles N. by E. of Magdeburg. Long. 12. 6. E. Lat. 52. 41. N.

STENNIS, a village in the iſland of Orkney. At this place, between Kirkwall and Stromneſs, is a curious bridge, or cauſeway, acroſs a narrow neck of land, between two lakes. At the end of this cauſeway, ſome ſtones of aſtoniſhing magnitude, and 20 feet high, have been erected; and there are many huge maſſes of ſtone in the neighbourhood, ſimilar to Stonehenge, on Saliſbury Plain.

STEREOTYPE, a mode of letter-preſs printing, in which whole pages of a work are worked off from a ſolid block of metal, inſtead of thoſe *compoſed* of ſingle letters arranged by the ſide of each other. An account of the origin and progreſs of letter-preſs-plate or ſtereotype printing, appears in the Philoſophical Magazine, from which we draw the following particulars.

We have ſhewn in the article PRINTING, the progreſſive ſteps by which typography was brought to that ſtate of perfection to which it has attained. It is a curious fact, however, that all the improvements followed each other in ſuch quick ſucceſſion, that in a few years from its firſt invention in Europe, we find the printers in poſſeſſion of all our common modes of working, and producing ſpecimens of their art, which even now cannot be ſurpaſſed. Some of the early printed miſſals upon vellum are proofs of this.

But if we have reaſon to be ſurpriſed at the quick ſteps by which printing with moveable types was perfected, we have more cauſe to wonder why with the acquiſition of moveable types the art became ſtationary. The tranſition from ſolid pages, cut at an expence and labour beyond the value of the intereſt of any capital that could be required to be ſunk in printing an edition of any work, made it a deſirable object to deviſe means for making the ſame letters do over and over, not only for different ſheets in ſucceſſion of the ſame work, but for ſubſequent publications. Hence came the firſt moveable types; which, however, as we have already obſerved, were all cut ſingly. The ſucceſs which followed the attempts made to leſſen this labour of cutting, by making well-formed letters, once cut, ſerve for ever, by the facility of multiplication which founding afforded, ought, one would think, inſtantly to have led to a further improvement. If founding could be applied to ſingle letters, why not to pages, to get rid of a ſacrifice of capital ſubmitted to at firſt, becauſe of the enormous expence of block cutting! *Founding of pages*, on the firſt view of it, promiſes many advantages in point of economy; and to ſcience it holds out what can never otherwiſe be obtained—the poſſibility of procuring in a ſhort time

immaculate editions. From books caſt into ſolid pages, no more copies would be printed than might be wanted for immediate ſale; the money thus ſaved from being ſunk in paper, to be piled up in warehouſes for years, as at preſent, would ſerve as ſurplus capital to print other works; and thus the printer, his workmen, and the bookſellers, would all be benefited; (for it would be eaſy to prove, did our preſent limits allow it, that not only the buſineſs of the preſsmen, but of the compoſitors, would be materially benefited and increaſed by the general adoption of ſuch an improvement); and all errors, as ſoon as diſcovered, could be rectified in the plates, to prevent them from appearing in after copies, inſtead of running through a large edition as at preſent.

It appears that this art, or one extremely ſimilar, was practiſed many years by Mr. Foulis, and before him by Mr. Ged, concerning whom Mr. Nicholls has publiſhed an intereſting pamphlet, entitled Biographical Memoirs of William Ged; including a particular account of his progreſs in the art of block-printing, 1781. The firſt part of the pamphlet was printed from a MS. dictated by Ged, ſome time before his death: the ſecond part, written by his daughter, for whoſe benefit the profits of the publication were intended: the third was a copy of propoſals that had been publiſhed by Mr. Ged's ſon, in 1751, for reviving his father's art; and to the whole was added, Mr. Mores's narrative of block-printing.

From this publication it appears, that ſo far back as the year 1725 Mr. Ged had begun to proſecute plate-making. In 1727 he entered into a contract with a perſon who had a little capital, but who, on converſing with ſome printer, got ſo intimidated, that at the end of two years he had laid out only 22l. In 1729 he entered into a new contract with a Mr. Fenner, Thomas James a type-founder, and John James the architect; and ſome time after, a privilege was obtained from the univerſity of Cambridge to print Bibles and Prayer-books. But it appears that one of his partners was actually averſe to the ſucceſs of the plan, and engaged ſuch people for the work as he thought moſt likely to ſpoil it. A ſtraggling workman who had wrought there, informed Mr. Mores, that both Bibles and Common-prayer books had been printed, but that the compoſitors when they corrected one fault, made purpoſely half a dozen more, and the preſsmen, when the maſters were abſent, battered the letter, in aid of the compoſitors. In conſequence of theſe baſe proceedings, the books were ſuppreſſed by authority, and the plates ſent to the king's printing-houſe, and from thence to Mr. Caſlon's foundery.

After much ill uſage, Ged, who appears to have been a perſon of great honeſty and ſimplicity, returned to Edinburgh. His friends were anxious that a ſpecimen of his art ſhould be publiſhed, which was at laſt done by ſubſcription. His ſon, James Ged, who had been apprenticed to a printer, with the conſent of his maſter, ſet up the forms in the night-time, when the other compoſitors were gone, for his father to caſt the plates from; by which means, Salluſt was finiſhed in 1736.

Beſides the Salluſt, another work, printed ſome years after, from plates of Mr. Ged's manufacture, is The Life of God in the Soul of Man, printed on a writing-pot, 12mo, and with the following imprint: Newcaſtle: printed and ſold by John White, from plates made by William Ged, goldſmith in Edinburgh, MDCCXLII. It is a very neat little volume, and is as well printed as books generally were at the time. By the writer of this account, in conjunction with Mr. Foulis, of Glaſgow, ſeveral ſmall volumes were actually printed from plates of the ſtereotype, and the editions ſold to the trade without any intimation of their being printed out of the common way. The firſt eſſays were, in the loweſt ſenſe of the word, common: one or two ſmall hiſtories, and a cheap edition of the Economy of Human Life. They alſo printed a Greek volume, Xenophon's Anabaſis, 1783, and had plates for ſeveral ſmall volumes of the Engliſh Poets almoſt finiſhed, but the latter were never put to preſs.

Twice, then, had this art been invented and practiſed in Britain, when about three years ago, Didot, the celebrated French printer, applied it to logarithmic tables, and afterwards to ſeveral of the Latin claſſics, and to various French publications, which he has executed with conſiderable accuracy. The preſs-work has been carefully attended to, and does great credit to the printer. Indeed, after what Didot has done, clamour and prejudice will attempt in vain, in future, to decry letter-preſs-plate, and his name will always be mentioned as a principal promoter of this uſeful art, the introduction of which will be marked as a diſtinct æra in the hiſtory of printing. Some of his countrymen indeed (for we cannot ſuppoſe Didot would attempt it) wiſh to aſcribe to him the whole merit of the invention, and to have it believed that it originated with himſelf. The facts ſtated, ſhew with how little juſtice this claim is made. It is true he may have diſcovered, for himſelf, the ſecret of the art; but it is hardly credible that he could be ignorant of Ged's progreſs, and of Foulis's, eſpecially as it is well known that, when patents are obtained, a ſpecification of the proceſs is obliged to be put upon record, of which any one may obtain an office copy at a ſmall expence.

Having ſtated what relates immediately to the invention of modern ſtereotype, it would not be ingenuous were we not to ſtate that claims have been ſet up in favour of a Dutchman as having practiſed the art even prior to Ged. The following extract, tranſlated from Niew Algemein Konſt en Letter Bode, 1798, No. 232, will put our readers in poſſeſſion of all we have yet met with reſpecting this printer.

"Above a hundred years ago, the Dutch were in poſſeſſion of the art of printing with ſolid or fixed types, which in every reſpect was ſuperior to that of Didot's ſtereotype. It may, however, be readily comprehended that theſe letters were not cut in ſo elegant a manner, eſpecially when we reflect on the progreſs which typography has made ſince that period. Samuel and J. Leuchtmans, bookſellers at Leyden, have ſtill in their poſſeſſion the forms of a quarto Bible which were conſtructed in this ingenious manner. Many thouſand impreſſions were thrown off, which are in every body's hands, and the letters are ſtill good.

"The inventor of this uſeful art was J. Vander Mey, father of the well-known painter of that name. About the end of the 16th century he reſided at Leyden. With the aſſiſtance of Muller, the clergyman of the German congregation there, who carefully ſuperintended the correction, he prepared and caſt the plates for the above-mentioned quarto Bible. This Bible he publiſhed alſo in folio, with large margins ornamented with figures, the forms of which are ſtill in the hands of Elwe, bookſeller at Amſterdam; alſo an Engliſh New Teſtament, and Schaaf's Syriac Dictionary, the forms of which were melted down; and likewiſe a ſmall Greek Teſtament, in 18mo.

"As far as is known, Vander Mey printed nothing elſe in this manner; and the art of preparing ſolid blocks was loſt at his death, or, at leaſt, was not afterwards employed. The cauſe may readily be conceived; for, though this proceſs in itſelf is very advantageous, it is far more expenſive than the uſual method of printing, except in thoſe caſes when ſuch works are to be printed as are indiſpenſably neceſſary, and of ſtanding worth. The number of theſe, however, is certainly ſmall; eſpecially as we are acquainted with no inſtance

in the annals of Dutch printing, that any dependence can be placed on the ſale of 150,000 copies, as was the caſe with the brothers Guyot."

The publiſher of the preceding notice ſuppoſes, nay, aſſerts, that the expence of ſtereotype precludes its uſe, except in ſuch inſtances as thoſe adopted by Didot.

STEREOMETER, an inſtrument lately invented in France, for meaſuring the volume of a body, however irregular, without plunging it in any liquid. If the capacity of a veſſel, or, which is the ſame thing, the volume of air contained in that veſſel, be meaſured, when the veſſel contains air only, and alſo when the veſſel contains a body whoſe volume is required to be known, the volume of air aſcertained by the firſt meaſurement, deducting the volume aſcertained by the ſecond, will be the volume of the body itſelf. Again, if it be admitted as a law, that the volume of any maſs of air be inverſely as the preſſure to which it is ſubjected, the temperature being ſuppoſed conſtant, it will be eaſy to deduce, from the mathematical relations of quantity, the whole bulk, provided the difference between the two bulks under two known preſſures be obtained by experiment.

Let it be ſuppoſed, for example, that the firſt preſſure is double the ſecond, or, which follows as a conſequence, that the ſecond volume of the air be double the firſt, and that the difference be fifty cubic inches, it is evident that the firſt volume of the air will likewiſe be fifty cubic inches. The ſtereometer is intended to aſcertain this difference at two known preſſures.

The inſtrument is a kind of funnel AB (fig. 1, Pl. 45.), compoſed of a capſule A, in which the body is placed, and a tube B, as uniform in the bore as can be procured. The upper edge of the capſule is ground with emery, in order that it may be hermetically cloſed with a glaſs cover M, ſlightly greaſed. A double ſcale is paſted on the tube, having two ſets of graduations; one to indicate the length, and the other the capacities, as determined by experiment.

When this inſtrument is uſed, it muſt be plunged in a veſſel of mercury, with the tube very upright, until the mercury riſes within and without to a point C of the ſcale. See fig. 2.

The capſule is then cloſed with the cover, which being greaſed, will prevent all communication between the external air, and that contained within the capſule and tube.

In this ſituation of the inſtrument, in which the mercury ſtands at the ſame height within and without the tube, the internal air is compreſſed by the weight of the atmoſphere, which is known and expreſſed by the length of the mercury in the tube of the common barometer.

The inſtrument is then to be elevated, taking care to keep the tube conſtantly in the vertical poſition. It is repreſented in this ſituation, fig. 2 ſecond poſition. The mercury deſcends in the tube, but not to the level of the external ſurface, and a column DE of mercury remains ſuſpended in the tube, the height of which is known by the ſcale. The interior air is therefore leſs compreſſed than before, the increaſe of its volume being equal to the whole capacity of the tube from C to D, which is indicated by the ſecond ſcale.

It is known, therefore, that the preſſures are in proportion to the barometrical column, and to the ſame column diminiſhed by the ſubtraction of DE. And the bulks of the air in theſe two ſtates are inverſely in the ſame proportion; and again the difference between theſe bulks is the abſolute quantity left void in the tube, by the fall of the mercury; from which data, by an eaſy analytical proceſs, the following rule is deduced: multiply the number which expreſſes the leſs preſſure by that which denotes the augmentation of capacity, and divide the product by the number which denotes the difference of the preſſures. The quotient will be the bulk of the air when ſubject to the greater preſſure.

To render this more eaſy by an example, ſuppoſe the height of the mercury in the barometer to be 78 centimetres, and the inſtrument being empty, to be plunged in the mercury to the point C. It is then covered, and raiſed until the ſmall column of mercury DE is ſuſpended, for example, at the height of ſix centimetres. The internal air, which was at firſt compreſſed by a force repreſented by 78 centimetres, is now compreſſed only by a force repreſented by 78—6, or 72 centimetres.

Suppoſe it to be obſerved, at the ſame time, by means of the graduations of the ſecond ſcale, that the capacity of the part CD of the tube which the mercury has quitted is two cubic centimetres. Then by the rule $\frac{78}{6} \times 2$ give 24 cubical centimetres, which is the volume of the air included in the inſtrument when the mercury roſe as high as C in the tube.

The body of which the volume is to be aſcertained, muſt then be placed in the capſule, and the operation repeated. Suppoſe, in this caſe, the column of mercury ſuſpended to be eight centimetres, when the capacity of the part CD of the tube is equal to two centimetres cube. Then the greateſt preſſure being denoted by 78 centimetres, as before, the leaſt will be 70 centimetres, the difference of the preſſures being 8, and the difference of the volumes two cubical centimetres. Hence $\frac{70}{8} \times 2$. gives the bulk of the included air under the greateſt preſſure 17,5 cubic centimetres. If therefore 17,5 centimetres be taken from 24 centimetres, or the capacity of the inſtruments when empty, the difference 6,5 cubic centimetres will expreſs the volume of the body which was introduced. And if the abſolute weight of the body be multiplied by its bulk in centimetres, and divided by the abſolute weight of one cubic centimetre of diſtilled water, the quotient will expreſs the ſpecific gravity of the body in the common form of the tables where diſtilled water is taken as unity, or the term of compariſon.

After this deſcription and explanation of the uſe of his inſtrument, the author proceeds with the candour and acuteneſs of a philoſopher to aſcertain the limits of error in the reſults; an object ſeldom ſufficiently attended to in the inveſtigation of natural phenomena. From his reſults it appears, that with the dimenſions he has aſſumed, and the method preſcribed for operating, the errors may affect the ſecond figure. He likewiſe gives the formulæ, by means of which the inſtrument itſelf may be made to ſupply the want of a barometer in aſcertaining the greateſt preſſure.—He likewiſe adverts to the errors which may be produced by change of temperature. To prevent theſe as much as poſſible, the actual form of the inſtrument and arrangements of its auxiliary parts are ſettled, as in fig. 3, by which means the approach of the hand near the veſſel and its tube is avoided. In this figure, the vertical poſition of the tube is ſecured by the ſuſpenſion of the veſſel, and a perforation in the table through which the tube paſſes. The table itſelf ſupports the capſule in its firſt poſition, namely, that at which the cover is required to be put on.

Mr. Nicholſon, from whoſe Journal this abſtract is immediately taken, ſuppoſes, with great probability, that the author of the invention had not finiſhed his meditation on the ſubject, when the memoir giving an account of it was publiſhed. "If he had," ſays the ingenious journaliſt, "it is likely that he would have determined his preſſures, as well as the meaſures of bulks, by weight. For it may be eaſily underſtood, that if the whole inſtrument were ſet to its poſitions by ſuſpending it to one arm of a balance at H (fig. 3), the

quantity of counterpoiſe, when in equilibrio, might be applied to determine the preſſures to a degree of accuracy much greater than can be obtained by linear meaſurement.

STERNBERG, a town of Germany, in the marquiſate of Brandenburg. It carries on a great commerce in cattle, and is 20 miles N.E. of Francfort on the Oder. Long. 15. 11. E. Lat. 52. 30. N.

STERNBERG, a town of Lower Saxony, in the duchy of Mecklenburg, 16 miles S.E. of Wiſmar. Long. 11. 50. E. Lat. 53. 45. N.

STERTZINGEN, a town of Germany, in the Tyrol, ſeated at the foot of a mountain, on the river Eyſoch, 12 miles N.W. of Brixen.

STEVENSWAERT, a fortreſs of Dutch Guelderland, ſeated on the Maeſe, 20 miles N.E. of Maeſtricht.

STEWART's ISLANDS, five iſlands in the Pacific Ocean, diſcovered by Captain Hunter, in 1791, and named by him in honour of Admiral Keith Stewart. Long. 163. 18. E. Lat. 8. 26. S.

STEYNING, a borough in Suſſex, with a market on Wedneſday. It ſends two members to parliament, and is 15 miles W. of Lewes, and 51 S. by W. of London. Long. 0. 15. W. Lat. 50. 56. N.

STEYRE, a town of Upper Auſtria, in the quarter of Traun. It carries on a great trade in iron, and is ſeated at the confluence of the Steyre and Ens, 20 miles S.E. of Lintz. Long. 14. 23. E. Lat. 48. 6. N.

STEYREGG, a town of the archduchy of Auſtria, 36 miles E.S.E. of Paſſau, and 84 W. of Vienna. Long. 15. 20. E. Lat. 48. 15. N.

STICKHAUSEN, a town and citadel of Weſtphalia, in the county of E. Frieſland, 18 miles E.S.E. of Embden. Long. 7. 13. E. Lat. 53. 14. N.

STILIGIANO, a town of Naples, in Baſilicata, famous for its baths, and ſeated near the river Salandrella.

STIRRUP; ſee SADDLE, *Supp.*

STIRUM, a town of Germany, in the duchy of Berg, ſeated on the Roer, 12 miles N. of Duſſeldorp. Long. 6. 52. E. Lat. 51. 24. N.

STOCHEM, a town of Germany, in the biſhopric of Liege, ſeated on the Maeſe, 12 miles N. of Maeſtricht. Long. 5. 42. E. Lat. 51. 4. N.

STOCKACH, a town of Suabia, in the landgravate of Nellenburg. Near this town, on March 25, 1799, the Archduke Charles gained a victory over the French, under General Jourdan. It is ſeated on a river of the ſame name, 12 miles N. of Conſtance. Long. 9. 10. E. Lat. 47. 50. N.

STOCKERAU, a town of the archduchy of Auſtria, ſituate on the Danube, ſix miles N.W. of Neuberg.

STOCKPORT, a town in Cheſhire, with a market on Friday. It has a conſiderable manufacture of cotton and printed goods, and is ſeated on the Merſey, ſix miles S. of Mancheſter, and 175 N.N.W. of London. Long. 2. 18. W. Lat. 55. 35. N.

STOCKZOW, a town of Sileſia, in the principality of Teſchen, ſeated on the Viſtula, 12 miles S.E. of Teſchen. Long. 18. 32. E. Lat. 49. 45. N.

STOKESLEY, a town in the N. riding of Yorkſhire, with a market on Saturday, 36 miles N. of York, and 239 N. by W. of London. Long. 1. 2. W. Lat. 54. 29. N.

STOLHOFFEN, a town of Suabia, in the marquiſate of Baden, ſeated in a moraſs, near the Rhine, eight miles S.W. of Baden, and 12 N.E. of Straſburg. Long. 8. 10. E. Lat. 48. 41. N.

STOLPEN, a town of Upper Saxony, in Pruſſian Pomerania, ſeated in a valley, on a river of the ſame name, 50 miles N.E. of Colberg, and 66 N.W. of Dantzic. Long. 16. 45. E. Lat. 54. 32. N.

STONE, a town in Staffordſhire, with a market on Tueſday, ſeated on the Trent, ſeven miles N. by W. of Stafford, and 140 N.W. of London. Long. 2. 6. W. Lat. 52. 54. N.

STONEHAVEN, or STONEHIVE, a town in Kincardineſhire, with a good harbour ſecured by a ſtone pier. Near it are the ruins of the caſtle of Dunnotyre, on a lofty perpendicular rock, almoſt ſurrounded by the ſea. Not far hence, is a precipitous cliff, called Fowl's Cleugh, remarkable for the reſort of the birds called kittiwakes, the young of which are much ſought after in the hatching ſeaſon. In this town is a manufacture of canvas, and ſome trade in dried fiſh and oil. It is 14 miles S. by W. of Aberdeen.

STORKAU, a town of Upper Saxony, in the Ucker marche of Brandenburg, 24 miles E.S.E. of Berlin, and 26 W.S.W. of Frankfort on the Oder. Long. 13. 35. E. Lat. 52. 24. N.

STORMARIA, a principality in the duchy of Holſtein, bounded on the N. by Holſtein Proper, on the E. by Wageria and Lawenburg, and on the S. and W. by Lunenburg and Bremen, from which it is ſeparated by the Elbe. Gluckſtadt is the capital.

STOSSEN, a town of Upper Saxony, in Thuringia, ſix miles S. of Weiſſenfels, and ſix S.E. of Naumburg.

STOURBRIDGE, a town in Worceſterſhire, with a market on Friday. It is noted for its glaſs and iron works; and is ſeated on the Stour, over which is a bridge; 22 miles N. of Worceſter, and 124 N.W. of London. Long. 2. 0. W. Lat. 52. 32. N.

STOURMINSTER, a town in Dorſetſhire, with a market on Thurſday. Near it are the ruins of an ancient caſtle, which was the ſeat of the W. Saxon kings. It is ſeated on the Stour, over which is a ſtone bridge, 20 miles N.E. of Dorcheſter, and 111 W. by S. of London. Long. 2. 37. W. Lat. 50. 56. N.

STOVE *(Encycl.)*. In the Annales de Chimie, Citizen Guyton has given an account of the ſtoves uſed in Sweden, with apertures emitting heat.

"It is well known," ſays he, "by the accounts of travellers, that the cold felt in Sweden, during a common winter, exceeds by ſeveral degrees that of our moſt ſevere winters in France; and yet in no country do the inhabitants defend themſelves from the inclemency of the ſeaſon at a ſmaller expence. But though theſe facts are well known, we cannot accumulate too many documents and proofs, when we would convert a vague tradition into a certain conviction, and induce mankind to abandon any ancient long-eſtabliſhed cuſtom.

"As to the conſtruction of theſe ſtoves, the authors I have examined obſerve, that it coſts very little, ſaves much of the iron formerly employed, and only requires bricks or ſquare tiles.

"They recommend laying them on their broadeſt ſide (de champ), to chooſe them as thin as poſſible for the interior walls, and to place the circulating flues ſo that the rain that falls down the flues of the chimney may never find its way into them.

"They alſo give ſome directions relative to the feeding theſe ſtoves, which is ſo eaſy, that in the largeſt public eſtabliſhments, a ſingle individual lights all the fires. This ſupply conſiſts in putting in as much wood as the fire-place, which is very ſmall, will hold, in only introducing ſawed wood of equal length, and as ſoon as it is burnt, ſhutting the ſlide that cuts off the communication of the circulating flues with the chimney-flue; by which means, all the heat the fuel has produced, is retained in theſe channels, eſcaping ſlowly, and ſo

as only to ſpread itſelf through the apartment; whereas any piece of wood that could not have burnt out in an equal ſpace of time, would require the ſlide to continue open, and the current of air neceſſary for its combuſtion would carry off, through the flue of the chimney, the greater part of the heat at firſt produced."

References to Plate 51.—Fig. 1, repreſents a front view of the ſtove, its height being 164 centimetres, or about 61 inches French, excluſive of the vaſe, which is merely an unconnected ornament ſtanding on the flat ſurface at top. Its breadth is 85 centims, or about 31 ½ inches French; its depth is 58 centimetres, or about 21 ½ inches French; the height may vary according to that of the room, and may without inconvenience be extended to two metres. It may alſo be reduced for a laboratory ſtove, which ought to have a ſand-bath breaſt-high.

The two other dimenſions are determined by thoſe of the bricks employed in conſtructing the internal circulating flues. which bricks ought to be in certain fixed proportions, that the ſmoke may paſs freely, and yet that it may not be accompanied by a quantity of air ſufficient to condenſe it, or to lower the temperature below the degree of heat requiſite for its complete combuſtion.

V V. The external furniture of the two heating apertures; *m m*, apertures where the air enters, which afterwards iſſues from the heating apertures. Theſe are cloſed whenever the air is brought in from without by a connected tube under the floor; which is far more favourable to the renewal of the reſpirable air of the apartment, and prevents the danger ariſing from currents of cold air attracted by the fire-place; which becomes neceſſary, whenever the volume of air in the apartment is inſufficient to ſupply at once the conſumption of the fire and the circulation in the heating tubes.

Fig. 2, is the plan of the foundation of the hearth at the line A B, in fig. 1; *l l*, are the vacancies to receive and conduct the air into the compartments where it is to be heated, previous to its iſſuing from the heating apertures, whether it be brought from without or through the apertures *m m*, in fig. 1.

Fig. 3, is a plan at the line C D, in fig. 1, that is below the door of the fire-place; *n n, n n*, the double caſt-iron plates forming the compartments, where the air receives heat from the fire; *o o*, vacancies between theſe iron-plates.

Fig. 4, is a front ſection at the line I K in fig. 3, the darts ſhewing the direction of the ſmoke in the circulating flues in front. The iron plates *n n*, are here again repreſented in their perpendicular poſition, with the tongues that form the compartments on each ſide of the fire-place. One of theſe plates is repreſented in front, fig. 7; T, is an aperture reſerved at the bottom of the fourth circulating flue, to eſtabliſh, if *needful*, the draught of air in the fire-place, by burning a few ſlips of paper, or other light combuſtible ſubſtance. This precaution, however, may be neglected, as ſoon as the ſtove has been ſufficiently heated to expel all its internal moiſture.

The door of this air-pump, as it were, muſt ſhut accurately. For this purpoſe it is enough to cut a piece of brick, which may be pierced ſo as to receive a handle, and affix upon it a piece of wrought iron as a covering.

Fig. 5, is a plan taken at the line E F, in fig. 1.

Fig. 6, is a lateral ſection at the line G H, in fig. 3, ſhewing the height of the fire-place, and the firſt direction of the flame. V, ſhews the diſpoſal of the heating-flues: the dotted lines ſhew in profile, the partitions forming the four great circulating-flues; R, the tube that conveys the ſmoke from the circulating flues into the chimney, being furniſhed with a key to intercept the communication. This is a common flue-pipe of plate-iron; but it would be more advantageous to uſe, in that part where the ſlide or ſtopple acts, ſome ſubſtance that is a worſe conductor of heat, as for inſtance, a pipe made on purpoſe, of earthen-ware.

The angle formed by this tube in its way to the chimney, renders it unneceſſary to repeat, that the firſt condition is that the body of the ſtove be detached from the wall. That now deſcribing, is 25 centimetres from the neareſt point of the niche where it ſtands; S, is an elongation of the perpendicular tube which enters the chimney; it is intended as a receptacle for the water that may be condenſed in the upper part, and to prevent its penetrating into the interior of the ſtove. The cover that terminates this elongation, facilitates the cleanſing the pipe without taking it to pieces. The dotted lines forming the ſquare ſpace Q, ſhew the place where a niche or oven, which actually exiſts in ſome of the Swediſh ſtoves, may be fixed, and which advantageouſly varies the maſonry-work that would otherwiſe fill that ſpace. All theſe figures being drawn on the ſame ſcale, the proportions may be eaſily preſerved throughout.

The conſtruction of this ſtove is neither difficult nor expenſive. The external ſurface may be coated with china tiles ſimilar to thoſe uſed in common ſtoves, that is to ſay, thin in the middle, and with a rim all round; which renders them more firm. They may alſo be fixed by a plate of metal in form of a girt. The back may be plain brick. The vaſe which ſtands on a ſlab of marble, or ſtone, is only an ornament.

In caſe heating apertures ſhould not be wanted, the whole internal part may be built of bricks, of a convenient ſhape, cemented with diluted potters'-earth, and laid on their broad ſurface *(de champ)* for the circulating flues, without any other iron-work than a caſt-iron plate over the fire-place, the door, and its frame.

The additional expence attending the heating aperture, conſiſts merely of the four caſt-iron plates, with their tongues and grooves to form the compartments repreſented in fig. 7. All the reſt is made of iron rolled and nailed; which being once bedded in brick-work, can never ſuffer the air to eſcape.

Theſe iron plates with grooves, have been well known ſince the adoption of Dr. Franklin's ſtove, and there is an engraving of them in his works; but if there be any difficulty in procuring them, the deficiency may be ſupplied in two ways:

1ſt. By ends of caſt-iron pipes placed vertically beſide each other, thus ſerving as ſides to the fire-place, and communicating with each other by ſmall channels above and below, conſtructed in the brick-work.

2d. By common ſmooth caſt-iron plates, ſoft enough to be pierced with a drill, in order to affix, with rivetted nails, wrought iron-plates bent into ſquares throughout their length, which are a complete ſubſtitute for the tongues and channels in caſt-iron, and as they are never expoſed to the flame, there is no danger of their failing.

It may eaſily be perceived that this laſt method is the moſt advantageous, becauſe it occupies leſs ſpace, and yet offers a larger ſurface to receive the heat and communicate it to the air; but there are many objections to ſtoves of this kind.

STOWEY, a town in Somerſetſhire, with a market on Tueſday, ſeven miles W. by N. of Bridgewater, and 145 W. by S. of London. Long. 3. 9. W. Lat. 51. 10. N.

STRABANE, a town of Ireland, in the county of Tyrone, ſituate on the Mourne, 11 miles S.S.W. of Londonderry. Long. 7. 19. W. Lat. 54. 50. N.

STRADELLA, a ſtrong town of Italy, in the Milaneſe, with a caſtle, ſeated on the Verſa, near the Po, 10 miles S.E. of Pavia, and 47 N.W. of Parma. Long. 9. 12. E. Lat. 45. 5. N.

STRAELEN, a town of the Netherlands, in Pruſſian Guel-

derland, five miles S.W. of Gueldres. Long. 5. 57. E. Lat. 51. 23. N.

STRANGFORD, a ſea-port of Ireland, in the county of Down, ſeated on the narrow channel that connects Lough Strangford with the Iriſh Sea, ſeven miles E. of Down. Long. 5. 30. W. Lat. 54. 31. N.

STRANGFORD, LOUGH, a deep inlet of the ſea, in the county of Down, on the E. coaſt of Ireland. It is 17 miles long, and five broad, and abounds with excellent fiſh, particularly ſmelts; and off the bar, about Auguſt, is a periodical herring fiſhery. The bar, or entrance into it from the Iriſh Sea, is three miles below Strangford. It contains 54 iſlands, that have names, and many others that are nameleſs. The burning of kelp profitably employs a great number of hands in theſe iſlands. Four of them are called Swan Iſlands, from the number of ſwans that frequent them.

STRATFORD-ON-AVON, a corporate town in Warwickſhire, with a market on Thurſday. It is memorable as the birth-place of Shakſpeare, who was buried there in 1616. It is governed by a mayor, and ſeated on the Avon, over which is a ſtone bridge, eight miles S.W. of Warwick, and 94 N.W. of London. Long. 1. 44. W. Lat. 52. 15. N.

STRATFORD, FENNY, a town in Buckinghamſhire, with a market on Monday, ſeated on the Roman Watling-ſtreet, 12 miles E. of Buckingham, and 45 N.W. of London. Long. 0. 42. W. Lat. 51. 58. N.

STRATFORD, ST. MARY'S, a conſiderable village in Suffolk, which has a ſhare in the woollen manufacture. It is 12 miles S.W. of Ipſwich.

STRATFORD, STONY, an ancient town in Buckinghamſhire, with a market on Friday. It has two churches; and is ſeated on the Ouſe, and on the Roman highway, called Watling-ſtreet, eight miles N.E. of Buckingham, and 52 N.W. of London. Long. 0. 50. W. Lat. 52. 3. N.

STRATTON, a town in Cornwall, with a market on Tueſday. It is ſeated between two rivulets, which here unite and fall into the Briſtol Channel at a ſmall diſtance. It is 18 miles N.W. of Launceſton, and 221 W. by S. of London. Long. 4. 43. W. Lat. 50. 55. N.

STRAUBINGEN, a town of Bavaria, capital of a territory of the ſame name. It is a large place, with broad ſtreets, handſome churches, and fine convents. It was taken, in 1743, by the Auſtrians, who demoliſhed the fortification; but it was reſtored in 1745. It is ſeated on the Danube, 22 miles S.E. of Ratiſbon, and 65 N.E. of Munich. Long. 12. 35. E. Lat. 48. 54. N.

STREBLA, a town of Upper Saxony, near which the Pruſſians were defeated by the Auſtrians in 1760. It is ſeated on the Elbe, 14 miles N.W. of Meiſſen, and 28 N.W. of Dreſden. Long. 23. 15. E. Lat. 51. 30. N.

STRELITZ, OLD, a town of Lower Saxony, in the duchy of Mecklenburg Strelitz. It had a palace, which was burnt down in the night, in 1712; Duke Adolphus Frederic III. and his family, narrowly eſcaping. It is ſeated in a plain, almoſt ſurrounded by moraſſes, 35 miles S.W. of New Brandenburg.

STRELITZ, NEW, a town in the duchy of Mecklenburgh Strelitz, which owes its origin to the deſtruction of the ducal palace in Old Strelitz; in conſequence of which, Duke Adolphus Frederic III. began to erect a magnificent palace, two miles from the ſite of the old one, at a place called Glieneke, which was before his hunting ſeat; and, in 1733, he founded a new town adjoining to the palace, and ordered it to be called New Strelitz. It is regularly planned in the form of a ſtar. The centre is a ſpacious market-place, and thence a number of ſtreets branch out in ſtraight lines. The chief ſtreet leads to the palace, and the next to a pleaſant lake.

STRENG, or STRENGUES, a town of Sweden, in Sudermania, with a biſhop's ſee, and a college. It is ſeated on the lake Maeler, 30 miles W. of Stockholm. Long. 17. 40. E. Lat. 59. 20. N.

STRIEGAU, a town of Sileſia, in the principality of Schwiednitz, nine miles N.W. of Schwiednitz.

STROMSHOLM, a town of Sweden, in Weſtmanland, ſituate on the lake Mælar, 45 miles S.W. of Upſal. Long. 16. 24. E. Lat. 59. 30. N.

STROMBERG, a town of Weſtphalia, capital of a ſmall diſtrict, in the biſhopric of Munſter. It is 20 miles S.E. of Munſter, and 20 N.W. of Paderborn. Long. 7. 43. E. Lat. 51. 45. N.

STROMBERG, a town of Germany, in the palatinate of the Rhine, 26 miles W. of Mentz, and 48. E. of Treves. Long. 7. 21. E. Lat. 49. 57. N.

STROMSOE, a town of Norway, in the province of Aggerhuys, 18 miles S.W. of Chriſtiania. Long. 10. 20. E. Lat. 59. 43. N.

STROMSTADT, a town of Sweden, in the province of W. Gothland, celebrated for its ſhell-fiſh. Long. 11. 4. E. Lat. 59. 43. N.

STUHLWEISSENBURG, a ſtrong town of Lower Hungary, capital of Ekekerſdegewar. It had the title of regalis, or royal, becauſe formerly the kings were crowned and buried here. It has been ſeveral times taken by the Turks, but has been in the hands of the houſe of Auſtria ever ſince 1688. It is ſeated on the Rauiza, 20 miles S.W. of Buda, and 162 N. by W. of Belgrade. Long. 18. 40. E. Lat. 47. 19. N.

STULINGEN, a town of Suabia, ſubject to the Duke of Furſtenburg, with a caſtle, 35 miles W. of Conſtance. Long. 8. 24. E. Lat. 47. 45. N.

STUTGARD, a city of Suabia, capital of the duchy of Wirtemburg. It is ſurrounded by walls and ditches, and has an ancient caſtle, with a rich cabinet of curioſities, a ducal palace, an orphan houſe, and a college. The ſtreets are narrow in the city, and the houſes generally of wood; but there are fine houſes and ſtraight ſtreets, in one of the ſuburbs. Stutgard was taken by the French in June, 1796. It is ſeated in a plain among mountains, near the river Neckar, 36 miles E. of Baden, and 52 N.E. of Straſburg. Long. 9. 10. E. Lat. 48. 50. N.

SUANES, SUANI, or SUANETI, a poor and ſimple people of Aſia, who inhabit one of the four diviſions of Imeritia. They ſubſiſt by raiſing cattle, and by a little agriculture.

SUAQUAM, a ſea-port of the country of Abex, ſeated on a ſmall iſland of the ſame name, on the W. ſide of the Red Sea. It is the reſidence of a Turkiſh governor under the Baſhaw of Cairo, and was once a very flouriſhing place, but is now gone to decay. Long. 37. 55. E. Lat. 19. 56. N.

SUBBIACO, a town of Italy, in Campagna di Roma, with a caſtle, ſeated on the Teverone, 33 miles E. of Rome.

SUCCESS BAY, a bay of Tierra del Fuego. The S. promontory, at its entrance, called Cape Succeſs, is in long. 65. 27. W. lat. 55. 1. S.

SUCHTELEN, a town of Weſtphalia, in the duchy of Juliers, 12 miles E. of Ruremonde, and 21 N. of Juliers. Long. 6. 2. E. Lat. 51. 18. N.

SUDERHAMN, a town of Sweden, in the province of Helſingland. It has a conſiderable trade in linen, butter, timber, and flax. It is ſituate at the mouth of a river, near

the gulf of Bothnia, 20 miles N. of Geſle. Long. 17. 5. E. Lat. 63. 20. N.

SUDERKOPING, a town of Sweden, in E. Gothland, 10 miles S. of Nordkoping, and 90 S.W. of Stockholm. Long. 15. 56. E. Lat. 58. 19. N.

SUDERMANIA, or SUDERMANLAND, a province of Sweden Proper, 62 miles long, and 42 broad; bounded on the N. by Upland and Weſtermania, on the E. by the peninſula of Tarin, on the S. by the Baltic, and on the W. by Nericia. It is the moſt populous part in Sweden, and abounds in corn, and mines of divers metals. Nikoping is the capital.

SUDERTELGE, a town of Sweden, in the province of Sudermania. It was formerly a conſiderable ſtaple town, and has ſtill a manufacture of worſted and ſilk ſtockings. It is 16 miles W.S.W. of Stockholm. Long. 18. 0. E. Lat. 59. 10. N.

SVENBORG, a ſea-port of Denmark, in the iſland of Funen, with the beſt harbour in the iſland. Here are manufactures of woollen and linen. It is 22 miles S. of Odenſee. Long. 10. 37. E. Lat. 55. 9. N.

SUGELMESSA, or SIGELMESSA, a province of Barbary, bounded on the S. by the kingdom of Tafilet, and on the N. by Mount Atlas. It is about 100 miles in length; abounds in corn, dates, and other fruits, and has mines of iron, lead, and antimony. The government is a republic. The capital, of the ſame name, is ſeated on the Zig, 150 miles N.N.E. of Tafilet. Long. 5. 5. W. Lat. 29. 40. N.

SULLY, a town of France, in the department of Loiret, ſeated on the Loire, 20 miles S.E. of Orleans. Long. 2. 26. E. Lat. 47. 40. N.

SULMONA, a town of Naples, in Abruzzo Citeriore, with a biſhop's ſee. It was anciently called Sulmo, and is remarkable for being the birth-place of Ovid. It is ſeated on the Sora, 26 miles S.W. of Chieti. Long. 14. 55. E. Lat. 42. 0. N.

SULPHURET, a new chemical name, applied to any combination of ſulphur with other ſubſtances on which it is capable of acting. Dr. Higgins invented a *ſulphuret of lime*, which he propoſes to be uſed in the arts as a ſubſtitute for pot-aſh. Four pounds of the flowers of ſulphur and twenty of ſlaked lime in fine powder are mixed, and boiled in 16 gallons of water, about half an hour, ſtirring it now and then. Soon after the agitation of boiling has ceaſed, the clear ſulphuret of lime is to be drawn off. On the dregs, 16 gallons of freſh water are added, and, after boiling and ſtraining, 33 gallons more, for the purpoſe of obtaining the whole of the ſulphuret. Theſe dilutions are ſufficient to render the liquid (when all is mixed together) of a proper ſtrength for a *bleaching liquor*; and thus about 60 gallons are obtained from four pounds of brimſtone.

SULTANIA, a conſiderable town of Perſia, in Irac-Agemi. Here is a magnificent moſque, which contains the tomb of Sultan Chodabend. It is 50 miles N.W. of Caſbin. Long. 51. 53. E. Lat. 36. 16. N.

SULTANPOUR, a town of Hindooſtan Proper, in the province of Lahore, 62 miles S.E. of Lahore. Long. 73. 50. E. Lat. 30. 25. N.

SULTANPOUR, a town of Hindooſtan Proper, in the province of Oude, 32 miles S. of Fyzabad, and 50 N. of Allahabad. Long. 82. 30. E. Lat. 29. 5. N.

SULTZ, a town of Suabia, in the duchy of Wirtemburg, near the Neckar, where are ſome ſalt-works ſufficient to ſupply the duchy with ſalt. It is 12 miles S.E. of Frendenſtadt, and 12 N. of Rothwell. Long. 8. 35. E. Lat. 48. 18. N.

SULTZ, a town of France, in the department of Upper Rhine, with a medicinal ſpring, 12 miles S.S.W. of Colmar.

SULTZBACH, a town of Germany, in the palatinate of Bavaria, with a caſtle, ſubject to the Duke of Neuburg-Sultzbach. It is 10 miles N.W. of Amberg, and 32 N. of Ratiſbon. Long. 11. 56. E. Lat. 49. 38. N.

SULTZBURG, a town of Suabia, in the margravate of Baden-Durlach, with a fine palace. It is ſeated in a territory, fertile in good wine, eight miles S.W. of Friburg. Long. 7. 30. E. Lat. 47. 54. N.

SUMBUL, a town of Hindooſtan Proper, in the province of Oude, 45 miles W.N.W. of Bereilly, and 65 E. of Delhi. Long. 78. 55. E. Lat. 21. 25. N.

SUMBULPOUR, or SUMELPOUR, a town of the peninſula of Hindooſtan, in the province of Oriſſa, 144 miles W.N.W. of Cattack, and 280 W. of Calcutta. Long. 83. 40. E. Lat. 21. 25. N.

SUMEH, a town of Turkey in Aſia, in the province of Natolia, 14 miles E. of Pergamo.

SUMEREIN, a town of Lower Hungary, ſeated in the iſland of Schut, made by the river Danube. It is 16 miles S. of Preſburg. Long. 17. 23. E. Lat. 48. 4. N.

SUNBURY, a ſea-port of the United States, in Georgia, with a ſafe and convenient harbour. Several ſmall iſlands interlocking with each other, render the paſſage to ſea winding, but not difficult. The town being very healthy, is the reſort of the planters from the adjacent places of Midway and Newport, during the ſickly months. It is 34 miles S. of Savannah. Long. 81. 15. W. Lat. 35. 34. N.

SUNBURY, the county-town of Northumberland, in Pennſylvania, ſeated below the junction of the E. and W. branches of the Suſquehannah, 126 miles N. of Philadelphia. Long. 76. 50. W. Lat. 40. 51. N.

SUNDERBUNDS, or THE WOODS, a tract of country, conſiſting of that part of the Delta of the Ganges, in Bengal, which borders on the ſea. In extent it is equal to the principality of Wales. It is completely enveloped in woods, infeſted with tigers, and compoſed of a labyrinth of rivers and creeks, all of which are ſalt, except thoſe that immediately communicate with the principal arm of the Ganges. Here ſalt, in quantities equal to the whole conſumption of Bengal and its dependencies, is made and tranſported with equal facility; and here alſo is found an inexhauſtible ſtore of timber for boat building.

SUNDERBURG, a town of Denmark, in the iſland of Alſen, with a caſtle. It is ſeated on a ſtrait, called Sunderburg Sound, 12 miles E. of Flenſburg. Long. 10. 0. E. Lat. 54. 51. N.

SUNDERDOO, or MELUNDY, a fortified iſland and ſea-port of the Deccan of Hindooſtan, on the Concan coaſt, reduced by Commodore James in 1756. It is about 10 miles N.E. of Vingorla Rocks, and 36 N.N.W. of Goa. Long. 73. 20. E. Lat. 16. 3. N.

SUNDERLAND, a ſea-port in the biſhopric of Durham. It is a flouriſhing town, and, for the exportation of coal, is next in conſequence, on that ſide of the kingdom, to Newcaſtle. Its port, at the mouth of the Wear, will not admit very large ſhips; but veſſels hence can get out to ſea much more readily than from the Tyne. The coal is brought down the Wear from numerous pits near its banks. Here are ſeveral glaſshouſes; and there is an exportation of grindſtones and other articles. It is 13 miles N.E. of Durham, and 264 N. by W. of London. Long. 1. 14. W. Lat. 54. 56. N.

SUNDERLAND, a town of the United States, in Maſſachuſets, ſituate on Connecticut River, 100 miles W. of Boſton.

SUNDI, a province of Congo, which lies along the river Zaire. Its rivers render it extremely fertile, and in the mountains are mines of ſeveral metals. The capital is of the ſame name. Long. 17. 55. E. Lat. 4. 50. S.

SUNDSWALL, a ſea-port of Sweden, in the diviſion of Norland, and province of Medelpadia. The chief trade is in tar, bark of birch trees, deals, and linen. It is ſeated near the gulf of Bothnia, 195 miles N. by W. of Stockholm. Long. 18. 5. E. Lat. 62. 45. N.

SUNNEBERG, or SONNEBERG, a town of Brandenburg, in the territory of Sternburg, with a caſtle, ſeated on the Darta, 50 miles E. by N. of Berlin. Long. 15. 10. E. Lat. 52. 41. N.

SUPERIOR, LAKE, a lake of N. America, ſo called from its being the largeſt on that continent. According to the French charts it is 1500 miles in circumference. It contains many iſlands; two of them very large, eſpecially Iſle Royale, which is 100 miles long, and, in many places, 40 broad. The Indians ſuppoſe theſe iſlands to be the reſidence of the Great Spirit. Upward of 30 rivers enter this lake, ſome of which are of conſiderable ſize. It abounds with trout and ſturgeon. Storms affect this lake as much as they do the Atlantic Ocean. It diſcharges its waters from the S.E. corner, through the ſtraits of St. Marie, into Lake Huron.

SUPINO, an ancient town of Naples, in Moliſe, with a caſtle. It is ſeated at the ſource of the Tamara, at the foot of the Apennines, 17 miles N. by W. of Benevento.

SURE, a river of Ireland, in Tipperary, which flows by Clonmel and Carrich to Waterford, and falls into St. George's Channel.

SURGOOJA, a town of the peninſula of Hindooſtan, capital of a province of the ſame name, in the country of Oriſſa. It is 180 miles S.S.W. of Patna.

SURINGIA, a commercial town of Japan, in the iſland of Niphon, capital of a province of the ſame name, with a caſtle, where the emperors formerly reſided. Long. 139. 5. E. Lat. 39. 30. N.

SURSEE, a town of Switzerland, in the canton of Lucern, ſeated near the lake of Sempach, five miles S. of Lucern.

SURSOOTY, a town of Hindooſtan Proper, in the province of Delhi, 114 miles N.W. of Delhi.

SUS, a river of Morocco, which forms the S. boundary of that empire, and enters the Atlantic, at Meſſa. Like the Nile, its annual inundations enrich the country.

SUS, one of three grand diviſions of the empire of Morocco; bounded on the W. by the Atlantic, on the N. by Mount Atlas, on the E. by Geſula, and on the S. by the river Sus. It is a flat country, abounding in corn, ſugar-canes, and dates. The inhabitants, who are chiefly Berebers, or ancient natives, are diſtinguiſhed by their induſtry; and many of them, who live in towns, become opulent, and are much more polite than the natives of Fez and Morocco. In the mountainous part they are entirely free, and are governed by their own chiefs.

SUSA, a ſtrong town of Piedmont, capital of a marquiſate of the ſame name, with a fort. Here is a rich convent, called the abbey of St. Juſt, and a triumphal arch to the honour of Auguſtus Cæſar. It is ſeated on the Doria, among pleaſant mountains, and is called the key of Italy, being the principal paſſage out of France into Italy. It was taken by the French in 1704, but reſtored to the Duke of Savoy in 1707. It is 30 miles N.W. of Turin. Long. 7. 24. E. Lat. 45. 20. N.

SUSDAL, a town of Ruſſia, in the government of Volodimir, capital of a duchy of the ſame name, with an archbiſhop's ſee. It is built of wood, and ſeated on the Khaſma, 90 miles N.E. of Moſcow. Long. 40. 25. E. Lat. 56. 26. N.

SUSQUEHANNAH, a river of N. America, which iſſues from Lake Otſego. It croſſes three times the line which divides the ſtate of New York from Pennſylvania, and empties itſelf into the head of the bay of Cheſapeak.

SUSSAC, a town of France, in the department of Upper Vienne, 15 miles S.E. of Limoges.

SUSTER, an ancient and celebrated, but now decayed, town of Perſia, capital of Kuſiſtan. It is ſeated on the Caron, 105 miles S.W. of Iſpahan. Long. 51. 19. E. Lat. 31. 15. N.

SUSTEREN, a town of Weſtphalia, in the duchy of Juliers, two miles from the river Maeſe, and 12 S. of Ruremonde. Long. 5. 50. E. Lat. 50. 56. N.

SUTRI, a town of Italy, in the patrimony of St. Peter, with a biſhop's ſee, ſeated on the Puzzulo, 22 miles N.W. of Rome. Long. 12. 25. E. Lat. 42. 10. N.

SUWOROW (Prince Alexander Baſilowitch), ſurnamed, on account of his military achievements at Rymnik and in Italy, Rymnikſki and Italiſkoi, was born in the year 1730. His family was of the claſs of nobility, and of Swediſh origin: one of his anceſtors ſettled in Ruſſia the latter end of laſt century, and having diſtinguiſhed himſelf in the wars againſt the Tartars, was rewarded with lands and peaſants. Baſil, the father of Alexander, was godſon to Peter the Great, and at his death enjoyed the two-fold rank of general and ſenator.

He intended his ſon for the profeſſion of the law, but a preference very common in youth, impelled him to chooſe the military inſtead of the forenſic line. He was at the age of twelve inrolled in the Ruſſian army, but ſtaid at home ſome years afterwards to improve in the ſciences. He purſued the line of reading both profeſſional and hiſtorical, calculated to form a ſoldier, with great diligence and ſucceſs: he ſtudied, beſides, general hiſtory and philoſophy on an enlarged ſcale, and made himſelf maſter of moſt European languages, which he ſpoke and wrote with correctneſs and facility.

Suworow began his career as a private ſoldier, being enrolled as a fuſileer in the guards of Seimonow. In 1747 he ſerved as a corporal, and was ſoon advanced to the rank of ſerjeant. His ſubſequent promotion was rapid: in 1754 he quitted the guards with the brevet of lieutenant in the army; in 1756 the conduct of proviſions was entruſted to him: he was afterwards lieutenant to the auditor-general, and appointed to the command of Memel with the rank of lieutenant-colonel. He made his firſt campaign in the ſeven-years' war againſt the Pruſſians, and by his valour obtained the favourable notice of his commanding officer, Count Fermor, but he found no opportunity to acquire diſtinction. In 1761 he ſerved in the light troop under General Berg, and made himſelf conſpicuous in various encounters, particularly in an attack on the town of Golnau, where his horſe was killed under him, and he received a dangerous contuſion on the breaſt from the rebound of a muſket ball. General Berg, in a ſubſequent action at Naugarten, intruſted him with the command of his right, which he conducted with great bravery, though the attack was unſucceſsful. On the 16th of December, the campaign terminated by the ſurrender of Colonel de Heyde to Count Romanzow. The affairs of the King of Pruſſia were conſidered as deſperate, when he was, at length, ſaved by the death of the Empreſs Elizabeth. Her ſucceſſor, on the 5th of May, 1762, made peace, and afterwards concluded an alliance with Frederick, and the Ruſſians engaged no more in that war. Suworow was rewarded with the command of

the regiment of dragoons of Archangelgorod, and ſent to Peterſburgh with an eſpecial letter of recommendation.

After the revolution which placed the late Empreſs Catharine on the throne, Suworow was treated with many marks of confidence and kindneſs, and obtained great applauſe for his activity in teaching the troops the new exerciſe. In 1768 he was advanced to the rank of brigadier: war being commenced againſt the confederates of Poland, he was ordered to repair thither, and began his march in the unfavourable month of November. In the courſe of this war he diſtinguiſhed himſelf by his prudence in council, celerity in marching, and intrepidity in the field: the poſt of honour was always aſſigned to him, and he conſtantly maintained an eminent reputation. In the autumn of the year 1770, he fell into the Viſtula, having by accident miſſed the pontoon in leaping from the bank, and was in great danger of being drowned. A grenadier at length ſucceeded in drawing him out by the hair, but in ſo doing ſtruck his head againſt a pontoon with ſuch violence as to occaſion a contuſion, which he did not recover for ſome months. He continued on ſervice in Poland till the ſpring of 1773, and acquired the admiration of all judges of military diſcipline and tactics. The battle of Stalowitz, which he gained on the 11th of September, 1771, was peculiarly extolled by the King of Pruſſia; and the empreſs, being highly ſatisfied with Suworow's conduct, raiſed him to the rank of major-general, and conferred on him the order of St. Alexander Newſky, which ſhe accompanied with a very flattering letter.

On quitting Poland, Suworow repaired immediately to Peterſburgh, where he did not long remain, being in the ſpring of 1773 ordered to join the army which had then taken the field againſt the Turks. He reached Jaſſy in the beginning of May, and ſoon afterwards gained the famous and important battle of Turtukay, though two thouſand Coſſacs, promiſed by Potemkin, did not arrive till after the battle. Suworow's diſpatch to Romanzow, the commander-in-chief, is a ſpecimen of his uſual laconiſm: "Honour and glory to God! Glory to you, Romanzow! We are in poſſeſſion of Turtukay, and I am in it. Suworow." The empreſs, in token of approbation and gratitude, ſent him the croſs of the order of St. George, of the ſecond claſs, accompanied with many expreſſions of ſatisfaction. In June the general was obliged to retire to Buchareſt for the recovery of his health, which was aſſailed with a violent fever. Yet he attended military operations, and on the 27th of July, though in ſo weak a ſtate that he could not walk, unleſs ſupported by two men, and his voice ſo feeble that he was obliged to have an officer near him to repeat the commands, he contributed materially to another important victory near Turtukay. In September he again defeated the Turks near Niſrow.

Previouſly to his laſt engagement, Suworow had received ſeveral dangerous hurts, particularly one in his leg, and another on his back, which was occaſioned by a fall down ſtairs: his health was, in other reſpects, but partially reeſtabliſhed, and therefore, in October, he retired into Ruſſia, and paſſed the winter there. In the enſuing ſpring, he returned to the army of the Danube, being advanced to the rank of lieutenant-general, and appointed to command the ſecond diviſion. On the 11th of June he gained a great victory at Kaſludgi; but his ill health obliged him once more to return to Buchareſt, and before he completely recovered, peace was concluded.

Suworow now intended to have returned to Ruſſia, but, at Jaſſy, was met by an order to repair immediately to Warſaw, to aſſiſt Prince Wolgouſki in appeaſing the troubles in the interior of that part of the empire. He arrived at Moſcow, in Auguſt, 1774, and ſoon ſucceeded in quelling the inſurrection, and taking priſoner Pugatſchew, the chief of the inſurgents. Having performed this important ſervice, and reſtored peace, he retired to paſs ſome time on his eſtate.

From this retreat he was called in November, 1776, when he received a commiſſion for the Crimea, where the government was unſettled, the people in inſurrection, and expoſed to the inroads of the Circaſſians, and the whole peninſula in diſorder. Here he remained, with few intervals, for ſeveral years. He was in this period complimented by the empreſs with a ſnuff-box, containing her portrait ſet in diamonds; and, in 1783, the grand croſs of the equeſtrian order of Saint Wolodomir.

In 1786, Suworow was promoted to the rank of commander-in-chief. In February, 1787, the empreſs paid a viſit to the Crimea, now called Catherinoſlaw, and Taurida, of which Prince Potemkin was then governor. Suworow, on this ſplendid occaſion, was appointed to command the corps diſtributed in the environs of Kiowie and Pultawa: he was much noticed by the Emperor Joſeph II. who attended the empreſs under the title of Count Falkenſtein. The empreſs preſented Suworow with a box enriched with her cypher in diamonds. In Auguſt he aſſumed the command of the corps of Cherſon and Kinburn.

The Turks now commenced hoſtilities without a preliminary declaration, by an attempt to ſurpriſe two Ruſſian veſſels in the bay of Kinburn. After ſeveral unimportant attempts, they began to bombard the town, and, on the 1ſt of October, invaded the iſland with very ſuperior numbers. In this ſituation, Suworow had nothing to depend on but his valour and military ſkill; he gave ſtrict orders that not a ſhot ſhould be fired till the enemy were within 200 yards of the glacis. This prudent command was ſtrictly obeyed; a ſpirited fire was opened at the preciſe moment, and the garriſon ſallied: twice the Ruſſians were overpowered by numbers, and compelled to retire as far as the glacis; but, at length, after a ſanguinary conteſt of nine hours, victory declared in their favour. The Turks had ſent away their boats to prevent retreat, and therefore out of 6000 who landed, not more than 700 eſcaped; the reſt were either ſlain in battle, or drowned in the ſea. Suworow was once in imminent danger; he was diſmounted, and ſeeing a Turk leading a ſpare horſe, miſtook him for a Coſſac, and demanded the beaſt: the Turk lifted his ſabre to diſpatch him, but was, in the ſame moment, thruſt through the body with a bayonet. The general received a muſket ſhot in the arm, which, for the moment, he only waſhed in ſalt water, and bound up with his cravat: it was afterwards properly attended to. Te Deum was performed at Peterſburgh by the empreſs's order, who ſent Suworow a letter highly complimentary, and afterwards the order of Saint Andrew for himſelf, and ſix croſſes of Saint George, to be diſtributed according to his diſcretion.

He now directed a conſiderable ſhare of attention to the fortifying of Kinburn, conceiving, that although the Turks had for a time retreated, they would ſoon return. He was not deceived in this expectation: Haſſan Pacha made ſeveral attempts to deſtroy the Ruſſian fleet, but, being generally defeated, was obliged to return to Conſtantinople. Prince Potemkin then reſolved to attack Oczakow, and the ſiege began, in due form, on the 29th of Auguſt, 1788. From a ſally made by the Turks on the preceding evening, a general engagement enſued, and Suworow, being pointed out by a Greek ſlave who had deſerted, was aimed at, and wounded in the neck. He was, in conſequence, obliged to retire to Kinburn, where his ſymptoms became dangerous and alarming; he was alſo attacked by the jaundice, but recovered from both. During his convaleſcence, his life was endan-

gered by the blowing up of a magazine, full of charged bombs, grenades, and various other combuſtibles; a bomb fell in his bed-chamber, tore his bed, broke down part of the wall, and wounded him in the face, breaſt, and knee. Thus he was incapacitated from attending the further progreſs of the ſiege, and obliged to remain at Cherſon and Kremenſchuck for the recovery of his health. In the beginning of 1789 he went to Peterſburgh, where he was moſt graciouſly received; the grateful and diſcerning empreſs preſented him with a plume of diamonds for his caſque, diſtinguiſhed with the letter K in a cypher, as an acknowledgment for his defence of Kinburn.

Suworow ſhortly afterwards returned to the army, and, arriving at Berlats, eighteen miles from Jaſſy, took the command of the corps there; and, in conjunction with the Prince of Saxe-Cobourg, whom he joined by a moſt rapid and aſtoniſhing march, defeated the enemy at Forhani, and took the fortified convents of Saint Samuel and Saint John. At this period, Suworow ſuſtained conſiderable injury from a ſmall accident: a pin ran into his foot, the head broke off, and it could not be extracted. This made him rather lame, and the Turks, in deriſion, uſed to call him *Topal Bacha*, or the limping general.

After his co-operation with Cobourg, for which he received thanks in a very obliging letter from the emperor Joſeph, Suworow returned to Berlat, but was ſoon ſummoned again to join the Auſtrians, as the Turkiſh army under the grand-vizier was advancing to give them battle. He effected the required junction, by a rapid and dangerous march; and on the 22d of September, 1789, they gained an important and deciſive victory, near the river Rymnik. The Turks loſt ten thouſand men, and an immenſe booty, while the loſs of the allies did not amount to three hundred. The number of the Turkiſh army was near one hundred thouſand; that of their opponents about twenty-five thouſand. The conduct of Suworow was highly extolled by both the allied ſovereigns. The emperor Joſeph conferred on him the dignity of count of the empire; the empreſs ſent him a ſword, enriched with diamonds, and the order of Saint Andrew, decorated with brilliants: in a ſhort time after, he received the diploma of count of the empire of Ruſſia, with the title of Rymnikſki, and the order of Saint Andrew of the firſt claſs. Theſe honours were accompanied with letters replete with friendſhip and gratitude.

In 1790 ſome attempts at pacification were made, but without ſucceſs, though at length an armiſtice was agreed upon at Reichenbach. In the beginning of November, Suworow made his approaches to the important fortreſs of Iſmailow, which he was ordered by Potemkin to take *at all hazards*. This order was extremely difficult, from the advanced period of the year, and the great ſtrength of the place, which the Turks deemed impregnable. Finding, from the ſmallneſs of his army, and the want of heavy artillery, that it was in vain to attempt a regular ſiege, he only made a feint of doing ſo, and reſolved on a ſcalade. On the 9th of December, he ſent a letter of Prince Potemkin, to which he added a few lines, requiring the ſeraſkier to ſurrender: the anſwer diſplayed confidence in the ſtrength of the place, and adviſed the Ruſſians to retreat. The next day, in anſwer to a meſſage of the ſame import, the ſeraſkier declared, "that the Danube ſhould ceaſe to flow, or the heavens bow down to the earth, before Iſmailow ſhould ſurrender to the Ruſſians." Suworow ſent a third meſſage, aſſuring the ſeraſkier, on his word of honour, that unleſs he hung out a white flag on that very day, the place would be taken by aſſault, and all the garriſon put to the ſword. Many of the Ottomans were diſpoſed to ſurrender, but the ſeraſkier and the majority rejected the propoſition, and returned no anſwer.

Suworow now animated his troops by an admirable harangue, and though he received a diſpatch from Potemkin, adviſing him, if not ſure of ſucceſs, to deſiſt from the aſſault, he determined to take advantage of the ardour of his troops, and proceed. Some Coſſac deſerters appriſed the enemy of the intended operations, and they were prepared; yet, notwithſtanding the diſproportion of numbers and ſtrength, the Ruſſians at length ſucceeded on every ſide. The Turks, after the Ruſſians had entered, defended themſelves with great obſtinacy, and conteſted every foot of ground. The ſeraſkier was unfortunately killed, after he had ſurrendered. After a moſt ſanguinary aſſault, the victory was complete. The Turks defended themſelves with great rage and fury; even women and children armed with poniards, fell on the Ruſſian ſoldiers. Firing was kept up during the whole night by ſome Turks, who had ſecreted themſelves in dwelling-houſes: all who refuſed to ſurrender were put to the ſword, but thoſe who demanded quarter were ſpared. The Ottomans loſt, according to the official report, thirty-three thouſand killed or dangerouſly wounded, and about nineteen thouſand priſoners. The loſs of the aſſailants, was eighteen hundred and thirty killed, and two thouſand five hundred wounded. The dead Turks were thrown into the Danube. Of the whole garriſon, only one man eſcaped; he being ſlightly wounded, fell into the Danube, and reached the oppoſite bank. He carried the fatal news to the vizier. The plunder was eſtimated at ten millions of piaſtres: the ſoldiers, according to promiſe, were permitted to pillage for three days. Suworow would not retain for his own uſe the ſmalleſt article. His diſpatch to Potemkin was in theſe words: "The Ruſſian colours wave on the ramparts of Iſmailow." In January, 1791, Suworow returned to Peterſburgh, where he was received with a degree of cordiality proportioned to his merits: he was appointed lieutenant-general of the Preobraſchenſki guards, and a large medal in gold and in ſilver was ſtruck by the empreſs's order, in commemoration of his important victory. In December, 1791, peace was concluded, and the empreſs ſhewed her gratitude by giving Suworow a ring and a ribbon ornamented with diamonds, valued at ſixty thouſand rubles.

Suworow's military talents were not again called into exerciſe till the war in Poland in 1794, which ended in the total deſtruction of that kingdom. Many Poles had entered into the Ruſſian army, but when Koſciuſko appeared in arms in Poland, vaſt numbers deſerted in large bodies, with their arms, drums, and colours, and joined their countrymen. Suworow was ordered to proceed by forced marches to Red Ruſſia, with a corps of fifteen thouſand men; in order to diſarm the Poles who yet remained. This delicate and important ſervice he executed with great diſpatch, and without effuſion of blood. On the 14th of Auguſt, 1794, he ſet out for Poland, at the head of eight thouſand men, by forced marches. After ſeveral victories of ſmall note, and a moſt important battle in which he utterly defeated the Poles near Thereſpol, Suworow proceeded to the ſiege of Praga. Having made the neceſſary preparations, he admoniſhed the garriſon of the folly of reſiſtance, and adviſed them to accept the amneſty, as the only means of preſerving themſelves from deſtruction. Infatuated with the viſions of French licentiouſneſs, one of the Poliſh chiefs ſent him a letter couched in terms not ſufficiently reſpectful; Suworow chaſtiſed the writer by an energetic anſwer, which produced great diſmay among the confederates. On the 22d of October he advanced againſt Praga, with drums beating and colours flying. The aſſault and defence were conducted with great intrepidity,

both ſides being animated by deadly animoſity, but victory declared in favour of the Ruſſians, who at nine in the morning, after four hours' fighting, remained maſters of the place. Thirteen thouſand Poles were left dead on the field of battle, and two thouſand drowned in the Viſtula: fourteen thouſand ſix hundred and eighty were taken priſoners.

Suworow announced his victory in his uſual laconic ſtyle, in a letter to the King of Pruſſia: *Praga eſt à moi, et Varſovie tremble.* In fact, the council at Warſaw ſoon ſent a meſſage of capitulation, and obtained terms much more lenient than they expected.

After ſome delays, Suworow with his army entered Warſaw the 28th of October: when the keys were preſented, he preſſed them to his lips, and holding them up towards heaven, ſaid, "Almighty God, I render thee thanks, that I have not been compelled to purchaſe the keys of this place as dear as—" and turning his face towards Praga, burſt into tears. He ſaluted the magiſtrates with cordiality, and embraced every one whoſe countenance diſplayed ſatisfaction, eſpecially common people of an advanced age. The people, overjoyed at the expected return of order, rent the air with ſhouts of "Long live Catherine! Long live Suworow!" He had the ſatisfaction of reſtoring to liberty 1376 Ruſſian priſoners, whom a wretch named Kolontay had propoſed to the revolutionary committee to maſſacre. The termination of this unexampled campaign, the ſucceſs of which was entirely due to Suworow, was highly propitious to Ruſſia, as the Poliſh rebels were entirely defeated, diſarmed, and diſperſed, and the ſubmiſſion of the country amply ſecured. The partition of the kingdom ſpeedily enſued.

All the ſovereigns intereſted in this event vied in ſhewing gratitude to Suworow. The King of Pruſſia ſent him, by an extraordinary meſſenger, the order of the red and black eagle; the emperor preſented him with his portrait enriched with diamonds, eſtimated at fifty thouſand crowns; the empreſs wrote him a letter, announcing his elevation to the rank of field marſhal, and ſent him a batoon for the occaſion, the jewels of which were equally valuable with the emperor's preſent; ſhe alſo gave him an eſtate of 7000 peaſants of both ſexes, in the diſtrict of Kobin.

During the continuance of Catherine's reign, he was treated with conſtant attention, and undiminiſhed regard, and appointed to the government of an army of 80,000, including the command of four extenſive provinces. On the acceſſion of Paul I. Suworow entitled himſelf to his eſteem, not by the courtly mode of flattery, but by a diſplay of honeſt and frank diſintereſtedneſs and ſpirit. A great number of military officers being diſmiſſed by the emperor without a trial, the general received them kindly, employed ſeveral in his own diviſion, and liberally ſhared his houſe and table with others, till they ſhould be re-appointed. Paul was angry at this conduct, and reproached Suworow, who replied, "I know them; they are loyal and brave: ſome are entirely blameleſs, others have committed only trivial errors. But granting them to be more culpable, they are poor and neglected—Are they to turn rogues and robbers? —I ſhould not be a loyal Ruſſian, if I could ſuffer it:—I have taken them into my protection." The emperor juſtly appreciated the field-marſhal's frankneſs, and many of the officers were promoted on his recommendation.

The general events of the campaign of 1799, when Suworow gained ſo much additional renown, and was exalted to the rank of Prince, with the ſurname Italiſkoy, are too recent and too well known to be enumerated in this ſketch. The cauſes which occaſioned ſome diſaſters at the cloſe of the campaign are not yet ſufficiently underſtood. The ſtrange and unaccountable mode of conduct ſubſequently adopted by Paul. I. baffles conjecture, and is referrable to no fixed principle. The neglect and diſpleaſure he ſhewed towards Suworow from the time of his recal to Ruſſia, ſhew his character in a very unfavourable view. The brave and eſtimable veteran, who in an active and vigorous career of upwards of forty years, had rendered his country the moſt important ſervices, and contributed ſo largely to elevate her rank among the powers of Europe, died indignant at unmerited neglect, and broken-hearted at obſerving a ſyſtem of politics which tended to counteract all that the ſagacious Catherine had effected. He was buried with uncommon pomp and ſplendor, and the immenſe multitudes who with grief attended his funeral were the moſt emphatical reproach to the emperor.

In 1774 he married Barba Nanowna, princeſs Proiſrowſki, by whom he had two children who ſurvived him:—Natalia counteſs Suworow, who married Count Nicolia Zoubow; and Arcadius, who is now about 18 years of age, and ſerving in the Ruſſian army.

The peculiarities of Suworow's manners have been often deſcribed and delineated; their baſis ſeems to have been a rigid attention to health and diſcipline, and that honeſt ſimplicity of character which conſtitutes a hero: in this he was truly great. He was zealous and ſincere in religion; direct and honeſt in patriotiſm; candid and upright in his views, and no leſs alert than judicious in the uſe of his means. No mean art was practiſed by him to captivate admiration, no deluſion was exerciſed to facilitate a propoſed end. His friendſhip and his humility were alike frank and open. Riches, which he did not overvalue, though he received them from the ſovereigns whoſe cauſe he had ſerved, were not uſed by him as the means of promoting a diſhoneſt ambition, exhibiting an abſurd vanity, or encouraging an effeminate voluptuouſneſs: they were moderately enjoyed by himſelf, and generouſly diſburſed at the call of friendſhip. It is truly aſſerted by M. Seume, an intelligent German officer who publiſhed ſome anecdotes reſpecting him, that he poſſeſſed more originality, energy, ſagacity, perſonal probity, and humanity, than any other military public character of the age.

SUZANNE, St. a town of France, in the department of Maine. It has a conſiderable paper manufacture, and is 24 miles W. of Mans.

SWAFFHAM, a town in Norfolk, with a market on Saturday, ſeated on a hill, 34 miles N.N.E. of Newmarket, and 94 N.E. of London. Long. 0. 46. E. Lat. 52. 42. N.

SWALE, a river in Yorkſhire, which riſes on the confines of Weſtmoreland, and running S.E. by Richmond and Thirſk, falls into the Ouſe.

SWALLY, a town of the Deccan of Hindooſtan, in Cambaya. It has a harbour, where ſhips receive and deliver their cargoes for the merchants of Surat, being 12 miles N.W. of that place. Long. 72. 15. E. Lat. 21. 18. N.

SWANSEA, a town of the United States, in Maſſachuſets, ſituate on the Taunton, 36 miles S. of Boſton.

SWANSEY, a ſea-port and corporate town in Glamorganſhire, with a market on Wedneſday and Saturday, an old caſtle, and two churches. It is ſeated at the mouth of the Tawy, is governed by a portreve, and has plenty of coal in its neighbourhood. Of theſe it ſends great quantities to Ireland and the S. coaſt of England; and it has a conſiderable trade to Briſtol. Here are great works for the ſmelting of copper and lead ore. Many ſhips have been built here, and it is reſorted to for ſea-bathing. It is 24 miles W.N.W. of Cowbridge, and 205 W. of London. Long. 4. 0. W. Lat. 51. 38. N.

SWANSHALS, a town of Sweden, in W. Gothland, 25 miles W.S.W. of Lindkoping.

SWARTEBERG, a town of Sweden, in W. Gothland, 28 miles N.W. of Uddevalla.

SWARTSLUYS, a town and fortreſs of the United Provinces, in Overyſſel, ſeated on the Vecht, four miles from its mouth, and five N.N.W. of Haſſelt.

SWERNICH, a town of Turkey in Europe, on the confines of Servia and Boſnia, ſeated on the Drino, 70 miles S.W. of Belgrade. Long. 19. 32. E. Lat. 44. 42. N.

SWINDON, a town in Wiltſhire, with a market on Monday, ſeated on the top of a hill, near a rich vale, 28 miles N. of Saliſbury, and 83 W. of London. Long. 1. 45. W. Lat. 51. 30. N.

SYA, a town of Sweden, in Weſt Gothland, 13 miles S.W. of Lindkoping.

SYDNEY BAY, a bay on the ſouth ſide of Norfolk Iſland, in the Pacific Ocean, formed by Point Hunter and Point Roſs, which are near two miles aſunder. Here is a ſettlement of convicts from England. Long. 168. 12. E. Lat. 29. 4. S.

SYDNEY COVE, the town or ſettlement of convicts, founded at Port Jackſon, in New South Wales, in 1788. The ground about it was then covered by a thick foreſt; but, in 1790, ſome good buildings had been erected, and greateſt part of the civil and military officers were comfortably lodged. The governor's houſe is built of ſtone, and has a very good appearance, being 70 feet in front. The lieutenant-governor's houſe is of brick, as are alſo thoſe belonging to the judge and the commiſſary. The reſt of the houſes are built with logs and plaſtered, and all the roofs are either covered by ſhingles or thatched. Long. 151. 28. E. Lat 33. 50. S.

SYRIAN, a town of Pegu, ſeated near the bay of Bengal, on a river of the ſame name, which is one of the extreme branches of the Ava. Long. 96. 40. E. Lat. 16. 50. N.

SZEBEN, a town of Hungary, on the river Tareza, 30 miles N. of Caſſovia. Long. 21. 25. E. Lat. 44. 20. N.

SZEKELY, a town of Hungary, 18 miles E.S.E. of Debreczen. Long. 22. 15. E. Lat. 47. 26. N.

SZUCCA, a town of Weſtern Pruſſia, in the palatinate Culm, ſeated on the Viſtula, 12 miles S. by W. of Culm. Long. 18. 24. E. Long. 53. 14. N.

T.

TAAFE, or TAVE, a rapid river in Glamorganſhire, which enters the Briſtol Channel at Cardiff. On this river, near Caerphilly, is a ſtone bridge called Pont y Pryddal, of one arch, 140 feet in the ſpan and 34 high, planned and executed by the ſelf-taught genius of a common maſon in this county.

TAAIF, a town of Arabia, in the province of Hedjas. It has a conſiderable trade in fruits, raiſins, and almonds; and is ſituate on a lofty mountain, 60 miles S.E. of Mecca. Long. 41. 35. E. Lat. 21. 5. N.

TAAS, a city of Arabia, in the province of Yeman, where is the tomb of a ſaint, who, according to tradition, was king of the country. When M. Niebuhr was here it had a garriſon of 600 men. It is 48 miles E.N.E. of Mocha. Long. 44. 10. E. Lat. 13. 45. S.

TAATA, a town of Upper Egypt, one mile from the Nile. It is the reſidence of a governor, has many curious remains of antiquity, and is 200 miles S. of Cairo. Long. 31. 25. E. Lat. 26. 56. N.

TABAGA, an iſland in the bay of Panama, four miles long and three broad. It is a mountainous place, abounding with fruit trees. Long. 80. 16. W. Lat. 7. 50. S.

TABARIA, the ancient Tiberias, a town of Paleſtine, ſituated on the weſt ſide of a lake, formerly called the ſea of Tiberias, 50 miles N.N.E. of Jeruſalem, and 70 S.S.W. of Damaſcus. Long. 35. 45. E. Lat. 32. 40. N.

TABASCO, a province of New Spain, in the audience of Mexico; bounded on the N. by the bay of Campeachy, on the E. by Yucatan, on the S. by Chiapa, and on the W. by Guaxaca. It is 100 miles in length, and nearly as much in breadth, and its chief riches conſiſt in cocoa nuts. The air is extremely moiſt, and there are ſhowers every day for nine months in the year.

TABASCO, an iſland of New Spain, in the province of Tabaſco, formed by a river of the ſame name, and by that of St. Peter and St. Paul. It is 30 miles long and 10 broad, and is 10 miles from the bay of Campeachy.

TABASCO, a town of New Spain, capital of the province of Tabaſco. The Spaniards call it Nueſtra Senora de la Vittoria, from a great victory obtained here by Cortes, on his firſt arrival. It is ſituate in the iſland of the ſame name. Long. 58. 15. E. Lat. 17. 40. N.

TABLE ISLAND, one of the New Hebrides, in the Pacific Ocean. Long. 16. 67. E. Lat. 15. 38. N.

TABLE-MOUNTAIN, a promontory of Africa, near the Cape of Good Hope. The bay at the foot of it is called Table Bay.

TABOOYAMANOO, or SAUNDER'S ISLAND, an iſland

in the S. Pacific Ocean, near that of Huahine, to which it is ſubject.

TABOR, a town of Bohemia, in the circle of Bechin, on a mountain, which the Huſſites, under their celebrated general Ziſca, fortified and made their principal retreat. It is 25 miles N. by E. of Budweis, and 45 S. by E. by Prague. Long. 14. 56. E. Lat. 49. 23. N.

TABRISTAN, a province of Perſia, on the S. ſhore of the Caſpian Sea, bounded by Aſtrabad on the E. and Ghilan on the W.

TACHAU, or TACHOW, a town of Bohemia, in the circle of Pilſen, 28 miles W. of Pilſen. Long. 13. 27. E. Lat. 49. 45. N.

TADIVAN, or TADUAN, a town of Parſiſtan, 60 miles S. of Schiras. Long. 54. 15. E. Lat. 28. 45. N.

TADOUSAC, a town of Lower Canada, which is a place of great reſort for trading with the Indians, who bring thither furs to exchange for cloth and other European goods. It is ſituate at the mouth of the Saguenay, 98 miles N.E. of Quebec. Long. 69. 35. W. Lat. 48. 5. N.

TAFALA, or TAFALLA, a town of Spain, in Navarre, with a caſtle, ſeated on the Cidazzo, in a country producing good wine, 18 miles S. of Pampeluna. Long. 1. 36. W. Lat. 42. 29. N.

TAFILET, a kingdom of Barbary, in the empire of Morocco; bounded on the N. by Fez and Tremeſen, on the E. by the Beriberies, on the S. by the deſert of Barbary, and on the W. by Sus, Morocco, and Fez. It is divided into three provinces, Dras, Saro, and Tuet. It is a mountainous ſandy country, but produces wheat and barley by the ſides of the rivers. The inhabitants live upon camels' fleſh and dates, and they breed horſes to ſell to foreigners. The Arabs live in tents, and the Beriberies, the ancient inhabitants, dwell in villages. Tafilet, the capital, is a trading place, with a caſtle, and ſeated on a river, 275 miles S.E. of Morocco. Long. 5. 45. W. Lat. 28. 2. N.

TAGASTA, a town of Algiers, in the province of Conſtantina, formerly a conſiderable place, but now greatly reduced. It is famous for being the birth-place of St. Auguſtin.

TAGE, a town of Arabia Felix, with a caſtle on a mountain, 60 miles E. of Mecca. Long. 42. 5. E. Lat. 21. 45. N.

TAGHMON, a borough of Ireland, in the county of Wexford, ſeven miles W. of Wexford.

TAGLIACOZZO, a town of Naples in Abruzzo Ulteriore, 18 miles S.W. of Aquila, and 33 E.N.E. of Rome. Long. 12. 57. E. Lat. 45. 50. N.

TAGOST, a town of Morocco, the largeſt in the province of Sus. A great many Jews live here, who carry on a conſiderable trade. It is ſeated in a fertile plain, 37 miles S. of Tarodant. Long. 8. 5. W. Lat. 29. 23. N.

TAGUMADERT, a town of the kingdom of Tafilet, with a ſtrong caſtle on a mountain, ſeated on the river Dras. Long. 6. 43. W. Lat. 27. 10. N.

TAHOOROWA, one of the ſmalleſt of the Sandwich Iſlands, lying off the S.W. part of Mowee, from which it is diſtant three leagues. It is deſtitute of wood, and the ſoil ſeems to be ſandy and barren.

TAJO, anciently TAGUS, a river which has its ſource on the confines of Arragon, in Spain, runs through New Caſtile, by Toledo and Talavara, whence it proceeds to Alcantara, in Eſtremadura; when entering Portugal, it waſhes Santaren, below which its forms the harbour of Liſbon, and then falls into the Atlantic Ocean. This river was formerly famous for its golden ſands.

TAIN, a borough and ſea-port in Roſsſhire, remarkable for a large ſquare tower, adorned with five ſpires, and for a collegiate church, ſtill pretty entire. It is ſeated on the frith of Dornoch, 12 miles N. of Cromarty.

TAI-PING-FOU, a city of China, in the province of Kiang-nan, ſeated on the river Kiang. It has only three cities in its diſtrict. Long. 107. 15. E. Lat. 32. 20. E.

TAI-TCHEOU-FOU, a city of China, in the province of Tche-kiang. It has ſix cities in its diſtrict. Long. 121. 2. E. Lat. 28. 55. N.

TAI-TONG-FOU, a ſtrong city of China, in the province of Chang-ſi, built near the great wall. Its juriſdiction contains four cities of the ſecond, and ſeven of the third claſs.

TAI-YUEN-FOU, a city of China, capital of the province of Chan-ſi. It is eight miles in circumference, but is much decayed ſince it was the reſidence of the princes of the blood of the laſt imperial family of Tai-ming-tchao. Its diſtrict contains five cities of the ſecond, and 20 of the third claſs. It is 160 miles S.W. of Pekin.

TAILEBOURG, a town of France, in the department of Lower Charente, ſeated on the Charente, 30 miles S.E. of Rochelle. Long. 0. 40. W. Lat. 45. 46. N.

TALAMONE, a ſea-port of Tuſcany, 15 miles N. of Orbitello. Long. 11. 6. E. Lat. 42. 30. N.

TALAVERA, a town of Spain in New Caſtile, with a fort. It belongs to the Archbiſhop of Toledo, and is ſeated on the Tajo, in a valley abounding in corn, fruits, and excellent wine, 58 miles S.W. of Madrid. Long. 4. 1. W. Lat. 39. 41. N.

TALAVERUELA, a town of Spain in Eſtremadura, ſeated on the Guadiana, 14 miles E. of Badajoz. Long. 6. 34. W. Lat. 38. 34. N.

TALCAGUANA, a ſea-port of Chili, on the S.E. ſhore of the bay of Conception. It is now the only Spaniſh ſettlement in the bay, and nine miles from the new city of conception. Long. 73. 0. W. Lat. 36. 42. S.

TALLAGH, a borough of Ireland, in the county of Waterford, ſituate near the river Bride, 23 miles W.N.W. of Cork, and 32 W.S.W. of Waterford.

TALLANO, a ſea-port of Corſica, and capital of a diſtrict in the French diviſion. It is ſituate on a bay, called the gulf of Tallano, 24 miles N. of Bonifacio, and 30 S.S.W. of Corte. Long. 9. 18. E. Lat. 51. 20. N.

TALLARD, a town of France, in the department of Upper Alps, ſeated on the Durance, 47 miles S. of Grenoble. Long. 6. 20. E. Lat. 44. 28. N.

TALMONT, a ſea-port of France, in the department of Lower Charente, ſeated on a peninſula of the Gironde, 20 miles S.E. of Saintes, and 260 S.W. of Paris. Long. 0. 50. W. Lat. 45. 32. N.

TAMALAMECA, a town of Terra Firma, in the government of St. Martha, ſeated on the Rio de la Madalena. Long 74. 45. W. Lat. 9. 6. N.

TAMAR, a river of England, which runs from N. to S. divides Cornwall from Devonſhire, and forming the harbour of Hamoaze, enters Plymouth Sound.

TAMARA, a ſea-port on the N. coaſt of the iſland of Socotora, near the ſtrait of Babelmandel. Long. 52. 25. E. Lat. 11. 30. N.

TAME, a river, which riſes in Staffordſhire, and entering Warwickſhire, runs firſt E. and then N. till it re-enters into its native county of Tamworth, falling ſoon after into the Trent.

TAME, a rivulet in Oxfordſhire, which flows into the Thames, at Dorcheſter, and has been erroneouſly ſuppoſed to give name to the Thames.

TAME, a town in Oxfordſhire, with a market on Tueſday, a famous free-ſchool, and a ſmall hoſpital. It is ſeated on a rivulet of the ſame name, 12 miles E. of Oxford, and 45 W. by N. of London. Long. 0. 55. W. Lat. 51. 46. N.

TAMIEH, a town of Egypt, on a canal which runs into the Nile, 12 miles N.E. of Fayoum.

TAMWORTH, a borough in Staffordſhire, with a market on Saturday. It ſends two members to parliament, and is ſeated on the Tame, eight miles S.E. of Lichfield, and 114 N.W. of London. Long. 1. 38. W. Lat. 52. 49. N.

TANARO, a river of Piedmont, which riſes in the Apennines, and flows by Cheraſco, Alba, and Aſti, to Alexandria, in the Milaneſe, and falls into the Po.

TANASSERIM, a town of the kingdom of Siam, capital of a province of the ſame name, 220 miles S.W. of Siam. Long. 98. 0. E. Lat. 11. 50. N.

TANBOF, a government of Ruſſia, formerly a part of the government of Voronetz. Its capital, of the ſame name, is ſeated on the Zua, which falls into the Mokcha.

TANCOS, a town of Portugal, in Eſtremadura, ſeated on the Zerara, near its fall into the Tajo, 60 miles N.E. of Liſbon. Long. 8. 30. W. Lat. 39. 20. N.

TANCROWALL, a town of Vigritia, ſeated on the Gambia, where the Engliſh have a fort, 30 miles E. of James River.

TANDA, or TANRAH, a town of Hindooſtan Proper, in Bengal, of which ſoubab it was the capital in the 17th century. There is little remaining of it but the rampart; and the period when it was deſerted is not certainly known. It is ſeated on the Ganges, 120 miles N.W. of Dacca. Long. 87. 56. E. Lat. 23. 25. N.

TANGATABOO, one of the Friendly Iſlands, in the S. Pacific Ocean, the reſidence of the ſovereign and the chiefs.

TANGERMUNDE, a town of Germany in the old marche of Brandenburgh, with a caſtle, ſeated on the Tanger, where it falls into the Elbe, 24 miles N.W. of Brandenburg, and 28 N.E. of Magdeburg. Long. 13. 30. E. Lat. 52. 46. N.

TANJORE, a province of Hindooſtan, on the coaſt of Coromandel. It is an appendage of the Carnatic, but ſubject to its own rajah, who pays an annual ſubſidy to the Engliſh Eaſt-India Company.

TANJORE, a city of Hindooſtan, in the Carnatic, capital of a province of the ſame name. It is ſeated on the Cauvery, 156 miles S. by W. of Madras, and 166 S.E. of Seringapatam. Long. 79. 12. E. Lat. 10. 46. N.

TANKIA, or TINKIA-LING, a town and fortreſs of Thibet, at the foot of Mount Langur, 275 miles W. by S. of Laſſa.

TANNA, a fertile iſland, in the Pacific Ocean, one of the New Hebrides, on which is a volcano. The inhabitants are brave and hoſpitable, and their arms are bows and arrows, ſlings, ſpears, and clubs. Long. 169. 46. E. Lat. 19. 30. S.

TANNING (*Encycl.*). To what has been there offered we purpoſe to add the following experiments on the tanning principle, and reflections on the art of tanning, publiſhed by M. Guillot in the *Annales de Chimie*.

"The length of the proceſs deſcribed by M. Prouſt," ſays he, "to obtain tan, induced me to make ſome experiments, and to ſeek a more expeditious method of procuring it: the following are the reſults:

1. "I infuſed bark, reduced to a fine powder, in water; I let it ſtand ſeveral days, filtered the infuſion, and treated it with lime-water; I obtained a precipitate in conſiderable quantity, which I collected on a filter, dried it, and afterwards applied alcohol, to aſcertain whether it was ſoluble in this menſtruum; but the alcohol was not even tinged by it.

2. "Being deſirous of diſcovering if the lime poſſeſſed a greater affinity to acids than to the tan with which it was combined, I treated four grammes of the precipitate mentioned above with nitric acid diluted with water; with the aſſiſtance of a very gentle heat, a moderate effervеſcence was produced, with a ſeparation of carbonic acid; after twenty-four hours' infuſion, I filtered the liquor, which had aſſumed a very deep colour, and there remained on the filter a granulated, black, ſhining ſubſtance, having a ſour and rather bitter taſte; this reſiduum weighed ſomething leſs than two grammes.

3. "To aſcertain whether the nitric acid had diſſolved the lime, I treated the liquid which I had filtered with acidulated oxalate of potaſh, and obtained an abundant precipitate, which made me conjecture that ſince the nitric acid had diſſolved the lime, the ſubſtance which I had obtained on the filter muſt be tan, ſince the precipitate obtained by the mixture of the lime-water and infuſion of bark was produced by the union of the tanning principle and lime: to convince myſelf of this, I treated one portion with water, and the other with alcohol; I let the infuſion of theſe ſubſtances ſtand on a ſand-bath twenty-four hours, the water was deeply coloured, and the alcohol ſtill more; but all the tan (hitherto I only ſuppoſed it ſuch) was not diſſolved; the alcohol diſſolved rather more than half, and the water leſs. I treated theſe two liquids, after having filtered them, with a diſſolution of paſte, and obtained a precipitate reſembling that produced by a mixture of the infuſion of bark with the ſame ſolution, but of a deeper colour, and rather leſs elaſtic. When treated with the nitrate of tin, I obtained a precipitate that became gelatinous: when treated with lime-water, the tan united with the lime, and reproduced the tanate of lime formed before.

"Could I ſuppoſe that with theſe properties it was not the pure tan? No, becauſe it gives the ſame reſults as that obtained by M. Prouſt's proceſs.

"If purer tan be required than that obtained by the diſſolution of the lime of the tanate of this ſubſtance by an acid, the infuſion of alcohol muſt be evaporated, and tan of the pureſt quality will be left.

"Muriatic acid produced the ſame effects as nitric acid.

"The expedition with which the upper leathers are tanned, by the proceſs of M. Seguin, who, in manufacturing them, merely ſubjects them to the preparations of waſhing and finiſhing with lime-water, without afterwards ſwelling them, and then tans them, cauſed me to ſuppoſe that in this caſe a combination is formed between the tan and the lime contained in the ſkin thus finiſhed, independent of the combination of the tan with a gelatinous ſubſtance contained in the ſkin, which accelerates the fabrication. May it not hence be preſumed, that the fabrication of theſe leathers would be accelerated if, after having waſhed them and finiſhed them with lime-water, they were to be ſwelled in *juſſe*, or water in which old bark, which has been once uſed for tanning, is infuſed. Under this circumſtance the ſmall quantity of tan diſſolved in this water would combine with the lime with which the ſkin would be charged in the finiſhing, and would form a tanate of lime. The ſwelling would probably take place by this method with leſs celerity than by the ſulphuric acid; but it would perhaps be preferable, as the ſkin in ſwelling would begin to be charged with tan, whilſt, by the ſulphuric acid, the lime with which the ſkin is impregnated after having been finiſhed with this ſubſtance diſſolved in water—the lime, I ſay, combines with the ſulphuric acid employed to make it ſwell, which I preſume muſt give leather a brittle quality that it would perhaps not have by this method. Perhaps, likewiſe,

after having ſwelled the ſkins in the infuſion of old bark, their fabrication might be accelerated by putting them at firſt into an infuſion of bark, according to the method of M. Seguin, and afterwards dipping them alternately in lime-water and the infuſion of bark, always taking care to leave them but a ſhort time in the lime-water, which might perhaps alter them, if they were ſuffered to remain in it too long. Under this circumſtance the lime-water with which the leather would be charged would, when the latter is put into an infuſion of bark, produce a more ſpeedy precipitation of the tan, and its union with the lime, as well as with the gelatinous ſubſtance contained in the leather. I think, likewiſe, that by this method leather would acquire a greater weight, a quality aimed at by tanners, and would perhaps become leſs permeable to water.

" Theſe conjectures I have ventured to advance, becauſe they appear to be ſuggeſted by the theory of the art of tanning. Perhaps in this inſtance, as in many others, practice will not accord with theory. I leave it to artiſts to try this method, which I myſelf ſhall not fail to do when a favourable opportunity preſents itſelf."

The following is extracted from the ſpecification of a patent granted to Mr. Francis Brewin, of Bermondſey, in the county of Surrey, for an improved method of tanning. It is dated November 18, 1801.

" My improved proceſs of tanning," ſays Mr. Brewin, " conſiſts principally in conſolidating floaters and taps, that is by drawing the oozes for the vats, and handlers from the floaters, and working the oozes through the floaters in every reſpect as though they were a ſet of taps, and uſing them at the ſame time in the nature of floaters, by handling the greeneſt packs in them. Theſe vats I call floating taps. The proceſs I deſcribe more particularly as follows: twenty or twenty-five vats I conſider as conſtituting one complete tan-yard; and my vats being nearly of one ſize, I take two or three of the centre vats, which I uſe as ſpenders; four or ſix immediately next to theſe I make my floating taps, each containing an eye and a falſe bottom. The remainder are vats and handlers, in which I uſe all my freſh bark. One floating tap I keep empty, that it may contain the whole of the ooze and bark in a vat or handler, into which floating vat I draw the ooze and bark, from that vat or handler which I conceive moſt neceſſary to be drawn. I draw off by a pump from this floating tap, now the beſt, my oozes into the vat or handlers from which it laſt came, making up the deficiency from the ſecond floating tap, late the beſt; but working it firſt through the one now made, I put the goods down in the drawn oozes, with about three times the quantity of bark that is generally uſed with one pack. I continue to work the whole of the floating taps as though they were one ſet of taps; but firſt I throw up each pack of goods, and after the floating taps are worked through, I ſhift the floating packs as in a ſet of handlers. The bark in the late worſt floating tap, being after the whole has been worked through thrown into the ſpender, cauſes ſuch floating tap to become the empty floating tap, ready to receive the ooze and bark from the vat or handler next to be drawn. Experience perhaps may prove it to be moſt advantageous, particularly where the number of floating taps exceed ſix, to draw the oozes from one of the more backward floating taps inſtead of the beſt; in this caſe thoſe floating taps only that follow the one drawn from muſt be conſidered as floating taps, and the others worked merely as floaters, by ſhifting the packs only. In this caſe, ſome labour in pumping would be ſaved, and the goods before they go into the freſh bark would be more tanned. The preciſe number of floating taps in a yard is not very material, but more than ten I conceive will ſeldom be found moſt advantageous, or leſs than four. By diſpoſing of the ſpenders, floating taps, vats, and handlers, as before deſcribed, barrows or long ſhoots will ſeldom if ever be required to convey the bark or ooze from the vats or handlers to the floating taps, or from the floating taps to the ſpenders, as ſuch vats or handlers may be drawn as lie next to the empty floating tap, and ſuch floating tap is ſo diſpoſed as to lie next to the ſpender that has received its bark, as may be ſeen by the following plans of two of my yards.

V	H	V	H	V
H	Empty. F. T.	S 3	F. T. 1	H
V	F. T. 5	S 2	F. T. 2	V
H	F. T. 4	S 1	F. T. 3	H
V	H	V	H	V

V	H	V	H	V
H	Empty. F. T.	S 2	1 F. T.	H
V	3 F. T.	S 1	2 F. T.	V
H	V	H	V	H

" I draw ſo many vats or handlers into each floating tap, as that when the goods and oozes are out of them the bark will about one half fill them: but as I generally put as much bark into a vat or handler as will be ſufficient for this purpoſe, I do not often draw more than one vat or handler into one floating tap; one ſpender will contain two floating taps, from which, if the ſpenders are juſt half the number of the floating taps, which I conſider as a proper proportion, the whole will both be worked round, or emptied in the ſame time, of courſe the floating tap that is to be caſt will always continue to be near the ſpender, that is to receive the bark. Three or four times handling the goods after they have been regularly through the floating taps, beſides when drawn for, I find ſufficient. I ſeldom handle the floating taps but when the ooze is drawn, excepting the greeneſt pack, which I generally handle once in two or three days at leaſt. The ſize of the vats, handlers, floating taps, and ſpenders, ſhould be at

leaſt equal in ſize to the handlers and vats. This general rule ſhould be obſerved, not to draw ſo often, or more vats or handlers into a floating tap, as that the floating tap will not contain goods ſufficient to ſpend the bark to your ſatisfaction. By the above proceſs the oozes in the vats and handlers may always be kept about twice as ſtrong as ſuch oozes generally are, as ſo much more bark is uſed at one time with each pack of goods; and as each pack of goods may be drawn for while the ooze continues to be very ſtrong, and of courſe will cauſe the drawn oozes to be very ſtrong alſo, and yet by the proceſs the bark goes through in the floating taps it will be, before thrown away, more completely ſpent than by any other proceſs, from the water being made to go through the bark after it has been uſed in the vats or handlers ſo many more times than is done by the uſual proceſs before it comes to be uſed with the freſh bark, but above all from the green goods, after the oozes are drawn from it, ſpending the bark at the ſame time that it is ſpending, by the water being worked through it. The great advantages derived from this proceſs are, the leather is made of a ſuperior quality, being more ſolid and weighty than other leather, and is manufactured in leſs time, from the oozes in the vats and handlers containing double the quantity of the tanning quality than is contained in common oozes. The leather when curried will be much more waterproof than common leather, as it will take in more oil in the proceſs of currying, provided the oozes in the handlers and vats are not kept ſtronger than oozes in general are. The leather will be much tougher than other leather, as by this proceſs it is not put into old acid oozes while green, by which the texture of leather in general is much injured. The leather in manufacturing requires leſs labour than by any other proceſs, as the labour of drawing oozes from the large quantity of bark uſed in each ooze is conſiderably abridged, and there is a ſaving of bark from its being more completely ſpent than by any other proceſs, and as the quantity of bark permitted to ſtand without goods is much leſs than uſual. Elm-bark, or weaker barks than oak, may by this proceſs be uſed with particular advantages, ſince the bark is thereby ſo completely ſpent, and the labour ſo much abridged, and inaſmuch as it enables the keeping of the oozes in the vats and handlers much ſtronger than by any other proceſs; by which means the leather tanned by elm, or other weak barks, becomes as ſolid and weighty as common leather tanned by oak-bark."

TANORE, a ſea-port of Hindooſtan, on the coaſt of Malabar. Long. 75. 50. E. Lat. 10. 55. N.

TANTALLAN, a ruinous caſtle in Haddingtonſhire, two miles E. of North Berwick. It is ſeated on a high rock, waſhed on three ſides by the German Ocean. It was deſtroyed by the Covenanters in 1639.

TAOO, the moſt ſouthern of the Friendly Iſlands, in the South Pacific Ocean, about ten leagues in circuit. It has ſeveral ſprings inland, and a ſmall ſtream of good water, which reaches the ſea when the ſprings are copious. The S.E. ſide riſes with great inequalities immediately from the ſea: ſo that the plains and meadows, of which there are ſome of great extent, lie all on the N.W. ſide; and are adorned with tufts of trees, intermixed with plantations, and interſected by paths leading to every part of the iſle.

TAOUKAA, an iſland of the Pacific Ocean. Long. 145. 9. W. Lat. 14. 30. S.

TAPOOR, a town of the peninſula of Hindooſtan, in the Myſore country, 15 miles S.S.W. of Darampoory, and 83 E.S.E. of Seringapatam.

TAPTY, a river of the Deccan of Hindooſtan, which riſes at Maltoy, 84 miles to the N.W. of Nagpour, and falls into the gulph of Cambay, about 20 miles below Surat.

TAR (*Encycl.*). The following obſervations on the pine-tree, and inſtructions relative to the manner of extracting the tar, and other reſinous principles, from it, by M. Chaptal, appear in the Journal des Arts et Manufactures.

"There are few trees from the cultivation of which ſo many advantages are likely to reſult as that known by the name of the pine. It grows in dry and ſandy grounds, in the midſt of rocks; it crowns the ſummits of mountains with its agreeable verdure; it appropriates to itſelf ſoils which ſeems to be ſhunned by every other vegetable; it ſhoots up rapidly, requires ſcarcely any culture, and its uſes and products are as multifarious as they are uſeful. The young plants, and the ſhoots lopped off from the trees of all ages, furniſh a large ſupply of props for the vines. The wood of the pine affords very good fuel; its flame is briſk, and is attended with no other inconvenience than that of producing too much ſmoke. In all countries where the pine abounds, thoſe pieces of its wood which contain the moſt reſin are uſed inſtead of candles. The trunks of theſe trees are very proper for making planks: they are likewiſe employed for forming the bodies of pumps, for water-pipes, for beams, for the ſide planks of the decks of ſhips, for maſts, &c. Its fruit is an alimentary ſubſtance of ſome conſequence: many domeſtic animals are very fond of feeding upon it. Of the wood of the pine a ſpecies of charcoal is made, which is found to be very uſeful in metallurgical operations. Theſe trees, when arrived at a certain ſize, afford an annual crop of twelve or fifteen pounds of reſin. The trees which fall down with age, and thoſe which are torn out of the ground, or broken off from their roots by the wind, as alſo the chips cut from the trunks when they are made into beams, the roots, &c. afford ſtill a large quantity of tar. Proprietors of lands cannot therefore be too ſtrongly urged to cultivate ſo valuable a tree.

"It would require nothing more than to ſcatter the fruit on ſuch lands as are adapted to the nature of the tree, in order to inſure its production. We muſt take care not to ſow the pine-fruit in any other ſpots than ſuch as are ſheltered from the rays of the ſun; for expoſure to the ſun proves deſtructive to the young plants. On this account the trees in the pine-foreſts are not filled in a regular manner, but only here and there, in order to inſure an uninterrupted re-production."

The following are deſcribed to be the proceſſes for extracting the reſinous principles of the pine.

"All pines yield a reſinous juice, but ſome in larger quantities than others. Thoſe which contain the greateſt quantity of reſin are the Cyprus pine, the grey, the white, and the red pines. Soil, age, and ſize, have leſs influence upon the quantity of reſin than the expoſure of the plant, and the thickneſs of the bark: the pines expoſed to the ſouth, and to the rays of the ſun, yield it in large quantities, whilſt thoſe whoſe bark is very thick yield leſs. Pines that grow too near to each other contain ſcarcely any reſin; the interval between them ought to be twelve feet. The diſtance ought to be determined by the ſituation of the ground, and the poſition of the trees with reſpect to expoſure to the ſun. The young branches that ſhoot out from the ſtem ſhould be carefully lopped off, by which means the tree grows to a greater height, and its trunk is more expoſed to the action of the ſun. Pines become more reſinous in rich grounds, and in rainy ſeaſons; but then the reſin is not equally good. Young pines yield reſin as well as the old ones, but the extraction of it enfeebles them. The reſin flows particularly during the ſummer ſeaſon. Pines yield reſin during the ſpace of twenty or twenty-five years, and the extraction of it is generally commenced when they are twenty years old.

"The reſinous juice flows out almoſt ſolely from the woody part of the tree, and runs down between the wood and the bark; the exterior layers yield it in greater quantity than the interior ones: only a few drops of good reſin tranſude through the bark. The roots alſo yield a great quantity of juice. The knots contain more reſin than the reſt of the tree, the roots more than the branches, &c.; and the woody part in the vicinity of notches or wounds of the ſtem yields ſtill more.

"When the pines have arrived at the age of about twenty years, they have acquired a circumference of three or four feet, and are ſufficiently ſtrong to admit of the extraction of a part of the reſinous juice which circulates in the different parts of the tree. The reſinous juice begins to flow in the ſpring, and it is during this ſeaſon that inciſions are begun to be made into the trees, in order to extract their produce. The juice continues to flow till the autumn. It generally begins to flow during the month of May, and ceaſes in September.

"In order to facilitate this flow, and determine it to a ſingle point, a ſpace, three inches in breadth, and ſix or eight in length, is pitched upon at the foot of the trunk, quite near to the earth, on the ſide expoſed to the ſouth, and in a part which appears to abound moſt in reſin, and to be moſt diſpoſed to let it run off: in this place the bark is peeled off, and a chip cut out of the wood, from whence the reſin immediately begins to flow, and is ſeen tranſuding through the ligneous fibres, in ſmall tranſparent drops; it runs down upon the bark of the lower part of the trunk, and is received into a hole made at the root of the tree, or into a veſſel placed there for that purpoſe. When the flow of the reſin begins to grow languid, the wound of the tree is enlarged at its upper part, and a new layer of the woody part is cut off. The wound muſt be renewed in this manner once every fortnight. Thus the wound is progreſſively enlarged, and at the end of the year it is a foot in length. The operation is diſcontinued as ſoon as the return of the froſt hardens the reſin, and ſtops its flow.

"In the following ſpring, the wound is again renewed, and at the end of five or ſix years it has acquired a height of five or ſix feet. When it has been enlarged to this height, a new cut is made at the foot of the trunk, almoſt cloſe to the former, and is gradually carried higher up, parallel with the firſt. Whilſt the reſin is diſcharged by this ſecond wound, the firſt heals up in ſuch a manner, that the operation may be ſucceſſively performed round the whole circumference of the tree, and repeated upon the places where the former wounds had been made. In renewing the wounds, we muſt uſe the precautions, to cut the chips very thin. For this purpoſe, the workman muſt be provided with very ſharp inſtruments. Upon theſe precautions the health of the tree, and the quantity of reſin produced, materially depends.

"In this manner a ſingle perſon may manage from two thouſand five hundred to two thouſand eight hundred feet of trees. He pours into barrels the reſin collected in the veſſels placed for receiving it at the foot of the trees, and it is then fit to be introduced into commerce.

"The reſin obtained in this manner in Guienne is known by the name of *galipot;* that of Provence, is termed *Perinne vierge*. In ſome parts of Provence, it is the practice to make a ſmall hole at the bottom of that which receives the reſin, and to ſeparate the one from the other, by laying ſome twigs of roſemary over the orifice of the ſecond. By this means the more fluid part of the reſin filtrates into the ſmaller hole, and the reſin obtained in this manner is termed *bijon*.

"A healthy tree yields annually from twelve to fifteen pounds of reſin. From the autumn to the ſpring, the ſmall quantity of reſin which flows from the tree hardens upon the ſurface, from which it is detached by means of iron ſcrapers fixed to the end of a pole. This reſin is known at Bourdeaux by the name of *barras*.

"In order to form the yellow ſpecies of reſin, known in commerce by the name of *brai ſec*, and in Provence by that of *raeſe*, they place upon a ſtove a copper boiler, the ſides of which are bent into a lip, ſeveral inches in breadth, which is provided, at ſome point of its circumference, with a gutter, ſix or eight inches in length, under which is placed a trough hollowed into a piece of a pine-trunk, and filled with water.

"Both the liquid and the ſolid reſin that has been obtained from the pine is put into the boiler. This ſubſtance is melted by a moderate heat: as ſoon as it is melted, a quantity of water is poured upon it, upon which the reſin puffs up, and a part of it runs into the trough, which the workman continually pours back into the boiler, mixing the whole maſs well together; and this manœuvre he continues till the whole of the water is diſſipated. Towards the end of the operation, the melted reſin becomes more tranquil, and acquires a yellow colour, in which ſtate it is poured into another trough, where it filtrates through ſtraw, and runs thence into moulds carefully formed in the ſand. Theſe moulds are round holes, the ſides of which are rendered compact by being well beaten. The cakes of reſin, which aſſume the ſhape of theſe moulds, weigh about two hundred pounds.

"If, inſtead of boiling the reſin in an open veſſel, we boil it in an alembic with water, it forms a ſpecies of oil of turpentine, termed *eau de roſe*, which, however, is greatly inferior to the genuine oil of turpentine.

"When the *galipot* is put into troughs compoſed of ſeveral planks faſtened together, and expoſed to the ſun, the part which oozes through the crevices is known by the name of *Sun Turpentine (térébenthine de ſoleil)*. The term of *turpentine of the boiler (térébenthine de chaudrière)* is applied to the *galipot* that has been melted in one of theſe veſſels. Even the moſt liquid *galipot* has been claſſed amongſt the turpentines; but this ſpecies is the worſt of all in its qualities, being inferior to that of the larch, and ſtill more ſo to that of the fir.

"The living tree does not give out the whole of its reſin by the wounds made in its trunk; but after it is dead, it is ſubjected to an operation, by which every particle is extracted; and it is this reſinous ſubſtance, extracted from the dead tree, that is known by the name of *tar (goudron)*.

"In order to extract the tar, all that is required is, to apply to thoſe parts of the wood in which it is contained, a degree of heat ſufficient to ſoften it, and make it run, without either ſetting fire to, or volatilizing it. This end is obtained by diſpoſing the wood of the pine, previouſly cut into ſmall pieces, in a heap, the ſides of which are covered with earth, ſods, or bricks. The whole maſs is heated by means of fire applied to the upper part, and all the reſin that runs down to the bottom is carried off from the heap by gutters. The kilns, in which this ſmothered combuſtion is performed, are of different forms and dimenſions. But all the proceſſes which have hitherto been made known have certain principles and operations in common with each other, of which we ſhall give ſome account. For extracting tar, the heart of the tree, the knots, and all the reſinous veins, are choſen. The red parts of the wood are taken in preference to the reſt. The bark and leaves are rejected, as the tar which they furniſh is of an inferior quality. The tar is extracted alſo from the ſtraw, which has ſerved for filtrating the *brai ſec*.

and from the chips that have been cut off from the trunk, in order to renew the wounds of the tree.

"In preparing tar, uſe is alſo made of trees exhauſted of their reſin, and particularly of thoſe decayed by age, of thoſe that have been broken off, or rooted up by the wind, and of the chips produced in various ſpecies of labour for which this wood is employed.

"The tar is the better in proportion as the trees from which it is extracted are more reſinous, the more attention is paid to the ſeparation of the bark and young ſhoots, and the more care is taken to prevent the combuſtion and volatiliſation of the reſin. In order to obtain good tar, it is alſo of eſſential advantage to employ wood that is neither too green nor too dry; that which is in a ſtate of half-dryneſs is the beſt. The trees may be felled at any ſeaſon of the year, but it is principally during the autumn that they are hewn down for this purpoſe, and the extraction of the tar is performed during the winter. It is further neceſſary that the wood ſhould be cut into ſmall pieces, as equal as poſſible in ſize, in order that the whole of the reſin which it contains may be melted out at one and the ſame time.

"The management of the fire demands likewiſe great attention; for, 1ſt, too active a fire burns and diſſipates the reſin; 2dly, too violent a heat volatiliſes it, and produces tar of too dry a nature; and, 3dly, if the heat be too low, it extracts only a part of the reſin, and leaves combined with the tar the watery particles which exiſted in the vegetable. A kiln, filled with very red and reſinous wood, yields a quarter of its weight of tar; but this ſubſtance is generally obtained in the proportion of not more than 10 or 12 per cent. to the whole.

"Each ſpecies of kiln that has been employed for the extraction of tar appears to me to poſſeſs certain advantages and diſadvantages of its own. In the mountains of Provence, the kilns are ſhaped like large pitchers, partly ſunk into the ground; they are eighteen inches in diameter at the bottom, ſix feet in the belly, and two at the top. The wood is cut into pieces eighteen inches long, and an inch and a half wide; theſe are diſpoſed in layers of the form of a gridiron, having the interſtices filled up by other pieces placed perpendicularly.

"In the neighbourhood of Bourdeaux they dig a circular pit, thirty-ſix or forty feet in circumference, where a hearth is formed by bricks placed upon the ground, and well cemented together. A ſmall canal is made at the centre for receiving the tar, and conveying it into a receptacle, which is termed the *vault (cave)*, and in which a quantity of water is kept, in order to purify the tar. The vault is emptied as faſt as it fills, and the tar put into the barrels, in which it is tranſported from place to place. The hearth of the kiln is covered with wood cut into ſmall pieces, and piled into a heap eight or ten feet high. The ſides of the heaps are covered with ſods, and clods of earth; and the upper part of the cone, where they place a layer of wood drier than the reſt, is ſet on fire. The heat communicates itſelf to the whole maſs, and when the fire ſlackens, openings are made to increaſe the draught, by taking out ſome of the clods in different parts of the ſides. When the operation is completed, all the draught-holes are cloſed, and the charcoal that has been formed is taken out of the kiln.

"The kilns uſed in *Louiſiana* differ very little from thoſe which we have juſt deſcribed; only the ground is not covered with bricks, but the tar is made to run merely by the ſlope of the earth, which is ſtrongly beaten, and thence it is conveyed, by very long gutters, into reſervoirs dug into the ground.

"The method uſed in the *Valais*, for extracting the tar, is practiſed by all the peaſants; and as it preſents to us all the means proper to be employed for avoiding any waſte of the tar, and obtaining it of good quality, we ſhall deſcribe it with more minuteneſs than the others, introducing at the ſame time ſome variations, which, from our obſervations and experience, appear to us to be neceſſary.

"A kiln is conſtructed of a form ſimilar to that of an egg placed upon one end. Its dimenſions may be varied according to the quantity of wood we have to burn: it ought, in general, to be twice as high as it is broad. The largeſt may be ten feet in height, five in diameter, and two and a half at the ſuperior orifice. In conſtructing this kiln, the firſt operation is the marking out of its dimenſions at the baſe, after which the walls are raiſed of ſtone, to the height of two-thirds of the whole height of the kiln. The inſide is paved with free-ſtone, well joined together; or, where this cannot be procured, with bricks laid upon the ground, and well cemented. The bottom is concave, and of the form of an egg-ſhell. Six inches from the bottom an orifice is made, eighteen lines in diameter, which terminates on the outſide and at the bottom of the kiln, ſloping down ſix or eight inches, and to this is adapted a large tube, reſembling a muſket-barrel, of a large bore, for the purpoſe of conveying the tar into the barrels deſtined to receive it.

"At the diſtance of twenty or twenty-five inches from the bottom of the kiln, bars of iron are placed, parallel with each other, for ſupporting the wood, and letting the tar, which is melted out by the heat, run down to the bottom. The conſtruction of the kiln is completed with fragments of ſtone and earth, and at the top an open ſpace is left, two feet and a half in diameter, for the convenience of filling the kiln. It is plaſtered over both within and without, and any cracks or flaws that may be formed are immediately ſtopped up. It is alſo of advantage to make ſome perforations in the walls of the kiln, which may be uſed, as occaſion requires, for increaſing the draught, and graduating the heat at pleaſure.

"When a kiln of this kind has been conſtructed, a man goes into the inſide, and diſpoſes the wood, cut into billets two inches broad and eighteen long, upon the grate, and with theſe he fills up the whole cavity, taking great care to leave no empty ſpaces, and the top of the kiln he fills with dry chips. The orifice at the top is cloſed up with flat ſtones, or plates of iron or copper, ſo as to leave only one opening, or chimney, about four inches in diameter. The chips are then ſet on fire, and, when the fire is well kindled, this orifice is cloſed with a flat ſtone, which is covered over with earth. The melting now commences, and the tar runs down to the bottom, whence it is conveyed, by the tube inſerted there, into the barrel. If the melting ſhould ceaſe, the orifice muſt be opened again, and even a draught of air let in through the holes in the ſides of the kiln. If the ſmoke finds a vent through the ſides of the building, the holes muſt be ſtopped with wet earth, ſods, or other ſubſtances.

"When the kiln has cooled, it is opened, and the charcoal produced by the operation is taken out. The impurities collected at the bottom are then extracted, and the kiln is filled again.

"By a kiln of this conſtruction, which is neither laborious, expenſive, nor difficult, all unneceſſary waſte is avoided; and the tar muſt neceſſarily be more pure, as, on account of the ſolidity of the ſtructure, the materials cannot be mixed with it, beſides that the tar preſerves all thoſe principles which the other furnaces ſuffer to be diſſipated.

"The expence which attends the conſtruction of ſuch a furnace cannot be placed in competition with the advantages

which it affords. Beſides, it is built in the midſt of the foreſts, and conſequently ſurrounded with all the materials that are required. Moreover, it is a ſtable and permanent eſtabliſhment, whilſt the other one is obliged to demoliſh and rebuild for every ſingle operation.

"Another reſinous preparation, known in commerce by the name of *brai-gras*, is obtained by filling the kiln with alternate layers of green wood and reſin or dry chips, making the uppermoſt layer of dry chips. The orifice by which the juice might run out is cloſed, and fire applied to the kiln. Great care is taken to prevent the production of flame, and to produce a dead heat, which is kept up for ſeven or eight days. By this means, the reſin is melted, mixes with the ſap, and runs to the bottom of the kiln. When the operation is finiſhed, the orifice is uncloſed, and the *brai-gras* runs out. Sometimes the tar which is obtained from very reſinous wood is uſed inſtead of the *brai-gras*. By mixing *brai-ſec* with very reſinous wood, and not opening the vent hole till the reſinous ſubſtance has boiled, we obtain *brai-gras*.

"In order to make *lamp-black*, ſmall pieces of the refuſe of all theſe reſinous ſubſtances are put into iron pots, and placed in the middle of a cloſe chamber, entirely lined with canvas or paper; after which the pieces of reſin are ſet on fire. A thick ſmoke is thus produced, which ſettles upon the walls, and forms the ſubſtance termed lamp-black. The places choſen for performing this operation ought always to be in a perfectly inſulated ſituation."

TAR, or Pamlico, a river of North Carolina, which flowing by Tarborough and Waſhington, enters Pamlico Sound, 40 miles S.E. of the latter town.

TARAGALLA, a town of the kingdon of Taſilet, with a caſtle, ſeated on the Dras, 275 miles S.W. of Taſilet. Long. 6. 3. W. Lat. 27. 40. N.

TARARE, a town of France, in the department of Rhone and Loire, ſeated on the Tordive, at the foot of a mountain of the ſame name, 25 miles N.W. of Lyons. Long. 4. 43. E. Lat. 45. 52. N.

TARASCON, a town of France, in the department of the Mouths of the Rhone, with a caſtle, ſeated on the Rhone, oppoſite Beaucaire, with which it communicates by a bridge of boats. Its commerce conſiſts in oil, brandy, ſtarch, and ſtuffs that are much worn, one ſort being of coarſe ſilk, and the other of the ſame material and wool. It is 10 miles N. of Arles, and 375 S. by E. of Paris. Long. 4. 39. E. Lat. 43. 48. N.

TARASCON, a town of France, in the department of Arrierge, ſeated on the river Arrierge, ſeven miles S.E. of Foix.

TARBES, a populous town of France, capital of the department of Upper Pyrenées, with a biſhop's ſee, an ancient caſtle, and a college. It is ſeated on the Adour, 42 miles S.W. of Auch, and 112 S. by E. of Bourdeaux. Long. 0. 3. E. Lat. 43. 14. N.

TARBOROUGH, a town of the United States, in North Carolina, ſeated on the river Tar, 40 miles N.W. of Waſhington.

TARENTESIA, a province of Savoy, which is a barren country, full of dreadful mountains. Moutier is the capital.

TARGA, a town of the kingdom of Fez, on the Mediterranean, with a caſtle on a rock. It is ſeated in a plain ſurrounded by mountains and thick foreſts, which is conſidered as a deſert; but there are good wells and fine paſtures. Long. 4. 56. W. Lat. 35. 20. N.

TARGOROD, a town of Turkey in Europe, in Moldavia, 50 miles S.W. of Jaſſy. Long. 26. 29. E. Lat. 46. 49 N.

TARIFFA, a town of Spain, in Andaluſia, with a caſtle, ſeated on an eminence, on the ſtraits of Gribraltar, 17 miles W.S.W. of Gibraltar. Long. 5. 40. W. Lat. 30. 0. N.

TARKU, the capital of Dagheſtan, ſeated on the Weſt coaſt of the Caſpian Sea, 52 miles S.E. of Terki, and 300 N.E. of Tauris. Long. 47. 5. E. Lat. 45. 50. N.

TARN, a department of France, including part of the late province of Languedoc. It takes its name from a river, which has its ſource in the department of Lozhere, and having watered Mithoud, Alby, Guillac, Montaubon, and Moiſſac, falls into the Garonne. Caſtres is the capital.

TARNOWITZ, a town in Sileſia, in the principality of Oppelen, near which is a ſilver mine, 38 miles S.E. of Oppelen. Long. 18. 15. E. Lat. 50. 20. N.

TARO, or Borgo-di-Val-di-Taro, a town of Italy, in the duchy of Parma, capital of the territory of Val-di-Taro. It is ſeated on the river Taro, 25 miles S.W. of Parma. Long. 10. 9. E. Lat. 44. 36. N.

TARODANT, or Tarudant, a town of Morocco, in the province of Sus, ſeated near the Atlantic, 120 miles S.S.W. of Morocco. Long. 8. 10. W. Lat. 30. 0. N.

TARRAGA, or Tarrega, a town of Spain, in Catalonia, ſeated on a hill, near the river Cervera, 15 miles E. by S. of Lerida, and 60 W. of Barcelona. Long. 1. 3. E. Lat. 41. 28. N.

TARRAGONA, a ſtrong ſea-port of Spain, in Catalonia, with a biſhop's ſee, and a univerſity. It was built by the Phœnicians, was very powerful in the time of the Romans, and has many noble monuments of antiquity. It is ſurrounded by walls built by the Moors, and is defended alſo by regular works. It is neither ſo large nor ſo populous as it was formerly; for though there is room for 2000 houſes within the walls, there are not above 500, which are all built with large ſquare ſtones. It carries on a great trade, and is ſeated on a hill on the Mediterranean, 35 miles N.E. of Tortoſa, and 220 miles E. by N. of Madrid. Long. 1. 13. E. Lat. 41. 5. N.

TARREGA, a town of Spain, in Catalonia, ſituate on the Cervera, five miles W. of Cerbera, and 30 N. of Terragona.

TARTAS, a town of France, in the department of Landes. The Midouſe runs through it; and on one ſide of this river it riſes in the form of an amphitheatre; the other is ſeated on a plain. It is 12 miles N.E. of Dax. Long. 0. 48. W. Lat. 43. 50. N.

TARVIS, or Tarwis, a town of Germany, in the duchy of Carinthia, 28 miles W.S.W. of Clagenfurt, and 46 N.N.W. of Trieſt. Long. 13. 40. E. Lat. 46. 34. N.

TASSACORTA, a ſea-port of the iſle of Palma, one of the Canaries. It lies S.W. of St. Cruz, and being expoſed to weſterly winds is little frequented, but by boats. Long. 17. 58. W. Lat. 28. 38. N.

TASSASUDON, the capital of Bootan, a feudatory country of Thibet. It is 260 miles S. by W. of Laſſa. Long. 89. 0. E. Lat. 27. 43. N.

TASSING, an iſland of Denmark, between Funen, Langleland, and Arroe. It is ſeparated from the former by a ſtrait, and contains a few towns and villages.

TASSO, an iſland of the Archipelago, near Romania, at the entrance of the gulf of Conteſia. It is 35 miles in circumference; and was formerly famous for mines of gold, and quarries of beautiful marble. The capital, of the ſame name, has a good harbour, and ſeveral caſtles.

Tasso, a mountain of Italy, between Bergamo and Como, from which the illuſtrious family of the poet Taſſo took their name, which was originally Torregiani. They were lords of

Bergamo, Milan, and other towns in Lombardy, but being expelled by the Viſconti, they ſettled on the moſt advantageous poſts of this mountain.

TATTA, or SINDE, a city of Hindooſtan Proper, capital of the province of Sindy. It is ſeated on a branch of the river Sinde or Indus, called the Richtel River. In the 17th century, it was very extenſive and populous, poſſeſſing manufactures of ſilk, wool, and cotton; and it was celebrated for its cabinet ware. Little of theſe now remain, and the limits of the city are very circumſcribed. On the ſhores of the Indus, above the Delta, conſiderable quantities of ſaltpetre are made; and within the hilly tract, which commences within three miles on the N.W. of Tatta, are mines of iron and ſalt. The Indus, and its branches, admit of an uninterrupted navigation from Tatta to Moultan, Lahore, and Caſhmere, for veſſels of near 200 tons; and a very extenſive trade was carried on between thoſe places, in the town of Aurungzebe; but, at preſent, very little of this trade remains, owing to a bad government in Sindy, and to a hoſtile diſpoſition of the Seiks, the preſent poſſeſſors of Moultan and Lahore. Tatta is 741 miles N.W. of Bombay. Long. 67. 37. E. Lat. 24. 50. N.

TATTAH, a town on the common frontiers of Morocco, Drah, and Zanghaga, and in the route from Morocco and Sus to Tombuctou. It is 170 miles S.S.E. of Morocco.

TATTERSHALL, a town in Lincolnſhire, with a market on Friday. It was formerly of note for its caſtle, and is ſeated on the Bane near its confluence with the Witham, 20 miles S.E. of Lincoln, and 127 north of London. Long. 0. 8. W. Lat. 53. 6. N.

TAVASTUS, a town of Sweden, in Finland, capital of the province of Tavaſteland, ſeated on a river which falls into the lake Wana, 62 miles N.E. of Abo.

TAUCHEL, a town of Poland in Pomerellia, ſeated on the Verd, 30 miles N.W. of Culm, and 55 S.W. of Marienburg. Long. 18. 5. E. Lat. 53. 38. N.

TAVERNA, a town of Naples, in Calabria Ulteriore, ſeated on the Coraca, 20 miles E. of Nicaſtro, and 70 N.E. of Reggio. Long. 16. 44. E. Lat. 39. 11. N.

TAUMACO, a town of Turkey in Europe, in the province of Janna, 18 miles N.W. of Zeiton.

TAUMAGO, an iſland of the South Pacific Ocean, diſcovered by Quiros in 1606. Long. 176. 45. W. Lat. 13. 0. S.

TAUREAU, an iſle of France, in the department of Finiſterre, lying at the mouth of the river Morlaix. On this iſland is a caſtle, which defends the port of Morlaix. Long. 3. 51. W. Lat. 48. 40. N.

TAUS, a town of Bohemia, in the circle of Pilſen, 26 miles S.S.W. of Pilſen, and 50 S. of Saatz. Long. 13. 45. E. Lat. 49. 25. N.

TAVY, a river in Devonſhire, which riſes in Dartmoor Foreſt, and watering Taviſtock, enters the harbour of Hamoaze, above Plymouth.

TAW, a river in Devonſhire, which riſes in the centre of the county, flows to Barnſtaple, and joins the Towridge, at its mouth in the Briſtol Channel.

TAWY, a river in Glamorganſhire, which flows parallel to the Neath, and enters the Briſtol Channel, at Swanſey Bay.

TAY, LOCH, a lake in Perthſhire, through which flows the river Tay. It is 15 miles long, and in many parts above one broad. On the 12th of September, 1784, this lake was ſeen to ebb and flow ſeveral times in a quarter of an hour, when all at once the waters ruſhed from E. to W. in oppoſite currents, ſo as to form a ridge, leaving the channel dry to the diſtance of almoſt 100 yards from its uſual boundary. When the oppoſing waves met, they burſt with a claſhing noiſe and much foam: the waters then flowed out at leaſt five yards beyond their ordinary limits. The flux and reflux continued gradually decreaſing for two hours. A ſimilar motion was obſerved ſeveral days, but in a leſs degree. The banks of this lake are finely wooded; and it has a ſmall tufted iſland, on which are the ruins of a priory, built by Alexander I.

TEHANG-TCHA-FOU, a city of China, the capital of the S. part of the province of Hou-quang. It has one city of the ſecond and eleven of the third claſs under its juriſdiction, and is ſeated on a large river, which has a communication with an extenſive lake, called Tong-ting-hou, 625 miles S. by W. of Pekin. Long. 112. 25. E. Lat. 48. 11. N.

TCHANG-TCHEOU-FOU, a city of China, in the province of Fo-kien. It is very conſiderable, on account of its trade with Emony, Pong-hou, and Formoſa. Long. 117. 35. E. Lat. 24. 32. N.

TCHANG-TE-FOU, one of the moſt northern cities of Honan, in China. It is remarkable for a fiſh, like a crocodile, the fat of which is of ſuch a ſingular nature, that, when once kindled, it cannot be extinguiſhed. Long. 111. 5. E. Lat. 29. 2. N.

TCHE-KIANG, a province of China, one of the moſt conſiderable in that empire, in extent, riches, and population. It is bounded on the N. and W. by Kiang-nan, on the S.W. by Kiang-ſi, on the S. by Fokien, and on the eaſt by the ocean. In this province, whole plains may be ſeen covered with dwarf mulberry-trees, purpoſely checked in their growth; and prodigious quantities of ſilk-worms are bred here. Their ſilk ſtuffs, in which gold and ſilver are intermixed, are the moſt beautiful in China. The tallow tree grows here, and here are found the ſmall gold fiſh, with which ponds are ſtocked.

TCHERNIGOF, a government of Ruſſia, formerly a part of the Ukraine. Its capital, of the ſame name, is ſeated on the Deſne.

TCHING-KIANG-FOU, a ſtrong city of China, in the province of Kiang-nan, the key of the empire on the ſea-coaſt. Its ſituation and trade, and the beauty of its walls, give it a pre-eminence over the other cities of the province; but its juriſdiction is confined to three cities of the third claſs. It is 25 miles E. by N. of Nan-king. Long. 118. 55. E. Lat. 32. 14. N.

TCHING-TCHEOU-FOU, a city of China, in the province of Hou-quang, ſeated near the canal through which all barks muſt paſs in going from Sou-tcheou, to Kiang. Under it are five cities of the third claſs, in which a kind of plain earthen ware is prepared, highly valued by the Chineſe, who prefer it to the moſt elegant porcelain. It is 640 miles S.S.W. of Pekin. Long. 109. 40. E. Lat. 28. 23. N.

TCHING-TING-FOU, a large city of China, in the province of Pe-tcheli. Its diſtrict contains five cities of the ſecond and 27 of the third claſs; and it is 110 miles S. by W. of Pekin. Long. 114. 21. E. Lat. 38. 9. N.

TCHING-TOU-FOU, a city of China, the capital of Setcheuen, formerly the reſidence of the emperors, and one of the largeſt and moſt beautiful cities in the empire; but, in 1646, it was almoſt entirely deſtroyed, during the civil wars that preceded the laſt invaſion of the Tartars. Its diſtrict contains ſix cities of the ſecond and 15 of the third claſs. Long. 103. 44. E. Lat. 30. 40. N.

TCHI-TCHEOU-FOU, a city of China, in the province of Kiang-nan. It is ſeated on the river Kiang, and has under it ſix cities of the third claſs. Long. 117. 0. E. Lat. 30. 45. N.

TCHONG-KING-FOU, a city of China, one of the moſt commercial provinces of Se-tchuen. It is ſeated on a

mountain, rising in the form of an amphitheatre, at the confluence of the Hin-cha-kiang and Yang-tse-kiang. Under it are three cities of the second and 11 of the third class. It is 637 miles S.W. of Pekin. Long. 106. 20. E. Lat. 29. 42 N.

TCITCICAR, the most northern of the three departments of Eastern Chinese Tartary. Its capital, of the same name, is a modern city, built by the Emperor of China, to secure his frontiers against the incursions of the Russians. It is 450 miles N.E. of Pekin.

TEAKI, an island in the Mediterranean, 20 miles long and four broad. It is the ancient Ithaca, the kingdom of Ulysses. Long. 20. 54. E. Lat. 38. 47. N.

TEBESSA, a town of the kingdom of Tunis, with several remains of antiquity. It is seated at the foot of a mountain. Long. 8. 5. E. Lat. 34. 51. N.

TEBZA, a strong town of the kingdom of Morocco, capital of a province of the same name. It carries on a good trade, and is seated on the side of one of the mountains of Atlas. Long. 4. 55. W. Lat. 32. 50. N.

TECEUT, a town of Morocco, in the province of Sus, seated on the river Sus, in a country abounding in dates and sugar-canes, four miles E. of Messa. Long. 8. 25. E. Lat. 29. 10. N.

TECOANTEPECA, a considerable sea-port of New Spain, in the audience of Mexico and province of Guaxaca, seated on a bay of the same name, in the Pacific Ocean. It has a fortified abbey, and several handsome churches. Long. 95. 15. W. Lat. 15. 28. N.

TECORT, or TICARTE, a strong town of Barbary, capital of a kingdom of the same name, in Biledulgerid. It is seated on a mountain, 420 miles S.W. of Tripoli. Long. 7. 55. E. Lat. 29. 35. N.

TECRIT, a town of Turkey in Asia, in the government of Mosul, 139 miles S. of Mosul.

TECULET, a sea-port of the kingdom of Morocco, with an old castle, seated on the side of a mountain, at the mouth of a river of the same name. Long. 9. 5. W. Lat. 30. 45. N.

TEDELEZ, a strong town of Algiers, in a province of the same name, on the coast of the Mediterranean, with a castle, 50 miles N.E. of Algiers. Long. 3. 5. E. Lat. 47. 5. N.

TEDLA, or TADILA, a province of Morocco, which extends along the E. side of Mount Atlas, to the borders of Fez and Algiers.

TEDNEST, a large town of Morocco Proper, capital of the province of Hea. It was taken by the Portuguese in 1517, but they were driven away soon after. It is almost surrounded by a river. Long. 8. 35. W. Lat. 30. 30. N.

TEDSI, a commercial town of Morocco, in the province of Sus, seated in a plain abounding in corn, 20 miles S.E. of Tarodant.

TEFEZARA, a strong town of Algiers, in the province of Tremesen, 12 miles from the city of that name. There are a great many mines of iron in its territory.

TEGAZA, a town of Zahara, capital of a territory of that name, to the N.E. of Senegal. It is remarkable for mountains of salt. Long. 6. 30. W. Lat. 21. 40. N.

TEGLIO, a town of the country of the Grisons, capital of a government of the same name, in the Valteline. It is situate on the top of a mountain, nine miles from Tirano, and 12 from Sondrio.

TEIGN, a river in Devonshire, composed of two branches, which rise in the centre of the county, and uniting, enter the English Channel at Teignmouth.

TEIGNMOUTH, a sea-port in Devonshire, reckoned part of the port of Exeter. It sends a number of vessels to the Newfoundland fishery, and has a considerable coasting trade, especially in carrying tobacco-pipe clay to Liverpool, whence are brought back coal, salt, earthen ware, &c. This is the place where the Danes first landed, and where they committed several outrages. It was almost entirely destroyed by the French, who landed and set fire to it in 1690. It is seated at the mouth of the Teign, 12 miles S. of Exeter, and 280 W. by S. of London. Long. 3. 29. W. Lat. 50. 32. N.

TEISENDORF, a town of Bavaria, in the archbishopric of Saltzburg, 12 miles W.N.W. of Saltzburg.

TEISSE, a river of Hungary, which rises in the Carpathian mountains, passes by Tockay and Segedin, and falls into the Danube, near Titui.

TELEGRAPH (*Encycl.*). The following is the specification of a patent granted to Mr. Boaz, manufacturer in Glasgow, for an improved method of communicating thoughts, information, and intelligence, to and from different places, at a distance from each other.

This invention consists in representing, at pleasure, by means of lights or luminous bodies, and also by means of opaque bodies, or by means of both combined, any letter of the alphabet, or any numerical figure, or any apearance or appearances which it may be desirable to exhibit as a sign, symbol, or signal, such as a circle, a semicircle, a segment of a circle, a square, one side of a square, or two or three sides of a square, a cross, a triangle, and other such like. This may be effected in various ways, and a smaller or larger number of lights or bodies; but perhaps, in regard to luminous bodies, and where correct circular appearances are not necessary to be represented, as simple a mode as any is the following. Take five-and-twenty lamps, dispose of them on a board or frame, so as to form a square; that is by fixing them in five rows, and five lamps in each row, at equal distances from each other. Affix a cover or blind (made of any opaque substance) before each lamp, of a round or rather an oval shape, having a handle or neck made so as to move backwards and forwards, or up and down, round a pin, nail, or pivot, fixed in the board or frame. Fix a small line (made of small twine or rope, according to the size of the machine, or of catgut, or a small metal chain, or any other pliable and connecting substance) around the handle or neck of each of these covers or blinds. Connect each of these lines with a pulley at one side of the board or frame. Raise this board or frame perpendicularly upon a square or oblong frame. Fix in this last square or oblong frame as many thin oblong pieces of wood or metal as there are lamps and lines attached to them; such thin or oblong pieces of wood or metal moving upon two pivots in the side of the square or oblong frame in which they are placed: and these thin or oblong pieces of wood or metal being placed in their frame in such manner as that their oblong direction may run from side to side of their frame upon the pivots fixed on which they move, and so that each of these thin oblong pieces may, when not pressed upon as after mentioned, remain perpendicular to its frame, and all of them, when at rest, may be parallel to each other. One of the lines affixed to the lamp-covers, or blinds, and connected with its pulley, being fixed to the upper edge of one of these thin oblong pieces of wood or metal, that is, the one extremity of such line being affixed to the handle or neck of the lamp-cover, or blind; and the other extremity being affixed to the upper edge of one of the thin oblong pieces of wood or metal; then, upon turning the thin or oblong pieces of wood or metal, so as to make it incline, the lamp-cover, or blind, will be drawn up; and by thus making as many of the thin oblong pieces of wood or metal incline as lamps are wanted to be uncovered, the letter of the alphabet or figure wished to be represented will be made to appear. In order the more easily to give the necessary in-

clination or turning to theſe thin oblong pieces of wood or metal (which, ſeeing they act by their inclined poſitions, ſhall be called incliners), place a piece of wood or metal, nearly of the ſame ſize with the incliners, ſo as to be eaſily moved backwards and forwards (in grooves for example) in the frame in which the incliners are placed at right angles to them, and ſo that the upper edges of ſuch pieces of wood or metal may come near to the under edges of the incliners. By fixing in ſuch pieces of wood or metal pins or teeth (made of wood or metal), the piece of wood or metal having ſuch pins or teeth being puſhed in (and which ſhall be called the puſher, ſeeing it acts by being puſhed in), the pins or teeth which are fixed in it ſtriking againſt the under edge of the incliners, give them the inclined direction which is neceſſary to pull the lines affixed to the lamp-covers; and thus, by affixing in each of theſe puſhers as many pins or teeth as lamps are meant to be uncovered, and ſo that theſe pins or teeth may ſtrike againſt the under edge of the incliners (connected as they are by means of lines and pulleys with the covers, or blinds of the lamps meant to be uncovered), as many lamps will be uncovered as are neceſſary to repreſent the letter of the alphabet, or other ſign or appearance meant to be exhibited; and, by having a double ſet of lamp-covers or blinds, and lines and pulleys, that is, by having lamp-covers or blinds behind as well as in front of the board or frame, and lines and pulleys, to connect them with the incliners in the ſame manner as the covers and blinds in front are connected with the incliners, the ſame lamps may be rendered viſible behind, which are made viſible in front, of the board or frame; or other lamps may be rendered viſible behind, which are not made viſible in front, of the board or frame. Upon drawing back the puſher the lamp-covers or blinds fall down by their own weight, and cover the lamps, and the incliners alſo reſume their former poſition. For the greater facility and eaſe in producing the deſired effect, there may be a puſher, having pins or teeth fixed therein as aforeſaid for each letter of the alphabet, and for each numerical figure or other ſign or appearance wiſhed to be repreſented, and theſe puſhers may further be marked on the outſide of their frame, from whence they are puſhed in, with the letter of the alphabet or numerical figure, or other ſign or appearance, which, upon being puſhed in, they repreſent by means of the lamps which they uncover; and a handle or knob may be fixed to the end of the puſher at which the letter or figure, or ſign, is marked, for the greater convenience in puſhing it in and pulling it back; and the letter, figure, or ſign, may be marked upon the handle or knob. Cranks will do equally well as the thin oblong pieces of wood or metal, which form the incliners to which the lines are attached, which connect them with the lamp-covers or blinds; but thin oblong pieces of wood or metal are ſuggeſted as being more ſimple in their configuration and conſtruction; and theſe thin oblong pieces of wood or metal, or cranks, acting as incliners, may be placed in a perpendicular as well as in a horizontal direction. Inſtead of lines and pulleys, the lamps too might be uncovered, and again covered, by means of wires and keys preſſing upon them, as in a piano-forte: but lines and pulleys are ſuggeſted, as being more ſimple in their conſtruction, and leſs liable to go out of repair. Various other modes of conſtruction might alſo be eaſily adopted to produce the ſame effect. For inſtance, in place of having lamps with covers or blinds, and lines and pulleys, and incliners and puſhers, the lamps might be made with an opaque and a ſhining ſide; and by means of a ſcrew or ſcrews, as well as by means of lines and pulleys, the lamps may be made to turn, ſo as to exhibit their opaque or their ſhining ſide that is to be made viſible or inviſible at pleaſure. In order to comprehend this invention the more diſtinctly, a drawing is annexed (Plate 52. fig. 1) agreeably to the deſcription firſt given, in which the machine is ſuppoſed to repreſent the letter H. The black ſquare repreſents the board or frame behind which the lamps are placed, having a hole or aperture, through which each lamp ſhines; that is, having as many holes or apertures in it as there are lamps affixed behind it. The oval figures (*a*) repreſent the lamp-covers or blinds. The lines repreſent the lines attached to the lamp-covers and incliners. The five dots at the bottom of the black ſquare repreſent the pulleys (which, though only five in appearance, repreſent twenty-five pulleys, the number of pulleys being equal to the number of lamps and incliners). The oblong figures, immediately below the black ſquare, repreſent the incliners. The dark oblong figure at the bottom of the whole repreſents the puſher, with its pins or teeth, which, ſtriking againſt each of the five outward incliners and three of the middle ones, is ſuppoſed to uncover each of the five outward lamps and three of the middle ones, at right angles to the former, and thereby repreſent the letter H; the ſmall white circles repreſenting the lamps ſuppoſed to be uncovered, and the oval figures raiſed upwards, ſhewing the lamp-covers or blinds of the lamps ſuppoſed to be uncovered, while the other oval figures repreſent the other lamp-covers or blinds ſuppoſed to ſhut the holes or apertures, and cover the lamps, by remaining down from their own weight. To prevent theſe lamp-covers from going wrong by riſing too high upon being pulled up, ſmall pins are placed (repreſented by ſmall dots), to confine them to their poſition when raiſed; and other pins are placed (alſo repreſented by ſmall dots) to prevent them from falling too low. In order to give additional power or glare to the light, the lamps may be made with reflectors, or a lens or refractor may be placed before each lamp. The frame attached to the black ſquare in the annexed drawing (fig. 1), repreſents theſe lenſes or refractors ſo placed in a frame as that a lens or refractor may come before each lamp, the frame in which they are placed being attached by hinges to the back-board or ſquare in which the lamps are placed, ſo that the frame containing theſe lenſes or refractors may be opened and ſhut at pleaſure.

The annexed drawing (fig. 1) ſuppoſes the lamps to be firſt covered, and then ſuch of them to be uncovered as repreſent the letter H, which is meant to be repreſented. But it is evident that the ſame effect might be produced by having all the lamps uncovered in the firſt inſtance, and then covering all of them but thoſe neceſſary to repreſent the appearance of the letter. Five-and-twenty lamps, with their covers or blinds, are alſo here repreſented; and the ſame number of lines and pulleys, and incliners, are alſo ſuppoſed to be repreſented. But nine lamps, with their covers or blinds, and as many lines and pulleys, and incliners (as repreſented in the annexed paper of drawings in the figure marked fig. 9, where the letter H is alſo ſuppoſed to be repreſented), would produce nearly the ſame effect; and a ſimilar effect may be produced by a greater or a ſmaller number of lamps than five-and-twenty (as many puſhers being always made uſe of as there are letters of the alphabet, or ſeparate ſigns meant to be repreſented), ſo that it is not in the number of lamps made uſe of, or in the particular configuration or conſtruction of the machine, that the invention conſiſts, but it is in being able to repreſent, by means of lamps or luminous bodies (and alſo by means of opaque bodies, or by both combined, as after mentioned), any letter of the alphabet, and any numerical figure, or any appearance or appearances to be uſed as ſigns, ſignals, or ſymbols. For although lamps are ſuppoſed to be made uſe of, candles or phoſphoric ſubſtances would produce a ſimilar effect, though perhaps in an inferior degree: and one large lamp may be ſo placed or ſuſpended as to produce a ſimilar effect upon mirrors or reflectors, which might be covered or uncovered at pleaſure,

as the lamps above mentioned. It is alſo obvious, that almoſt any form, figure, or ſhape, may be repreſented by the diſpoſition or arrangement of lamps or luminous bodies, rendered viſible or inviſible at pleaſure, in the manner that has been deſcribed. But it is further obvious, that by combining the repreſentations of two or more letters or figures together, as many different varieties of ſigns or appearances may be produced as there are combinations of letters or figures, which may be repreſented ſeparately. In order the more eaſily to comprehend the form of the lamp-covers or blinds above deſcribed, two drawings are given of the ſame in the annexed paper of drawings, *viz.* fig. 5, in which a front view of the lamp-cover is ſeen, with its line attached to it, and fig. 6, in which a ſide view is given of it. A drawing is alſo given in the annexed paper of drawings of the incliner, *viz.* fig. 7. The whole figure taken together repreſents the incliner as made of a thin piece of wood or metal. The black part of it repreſents the crank, which may accompliſh its purpoſe equally well with the thin piece of wood or metal. A drawing is alſo given in the annexed paper of drawings, *viz.* fig. 8, of a ſmaller frame, in which the lamps may be firſt fixed, which ſmaller frame may be eaſily made to ſlide into a caſe, or in grooves behind or before, or may be otherwiſe attached to the larger frame in which the lamps are placed in the rows in which they are wanted. The drawing marked fig. 13, in the annexed paper of drawings, ſhews the manner in which the puſhers may be placed in their frame, running in grooves or caſes. The whole machine may, for the ſake of preſervation, be incloſed in a box or caſe, which box or caſe may, for the ſake of convenience, run on caſtors; and the machine may be raiſed to the top of its box either by means of a pulley or by the hand, if of ſmall dimenſions. A repreſentation of the machine and its box is given in fig. 10, of the annexed paper of drawings, ſhewing a front view of the ends of the puſhers, and a lateral view of the lamps. The deſcription hitherto given relates to the modes by which any letter of the alphabet, and any numerical figure, or any appearance or appearances neceſſary to be uſed, as ſigns, ſignals, or ſymbols, may be effected by means of lamps or luminous bodies.

Mr. Boaz next ſhews how theſe effects may be produced by means of *opaque* bodies. For this laſt purpoſe, take a frame, having bars or diviſions, running either in a perpendicular or horizontal direction in the frame. For inſtance, take a ſquare or oblong frame, having four rims or ſides; place horizontally in it five bars or diviſions; place at equal diſtances, on each of theſe bars, five boards, or thin pieces of wood or metal, of any ſhape or ſize, thinner than the bar to which they are to be attached, leaving a ſpace between each board or piece of metal. When the boards or pieces of metal are parallel to each other, and preſent their edge or thin ſide to the front of the frame or bars, they are not ſeen at a diſtance; the whole exhibiting at a diſtance only the appearance of the bars. The boards may be ſo conſtructed as always to remain of themſelves in this poſition; that is to ſay, let the boards be fixed, by means of pivots or hinges, to the upper ſide of the front of the bars; the pivots or hinges being placed on the board, not at its middle, but near one edge of it, ſo that the greater weight of that part of the board, the edge of which is furtheſt from the hinges or pivots, would bring that part of it downwards, and make the board hang perpendicularly, were it not for the bar below, to which it is attached; which bar below being made broader, or as broad as the breadth of that part of the board, the edge of which is furtheſt removed from the hinges or pivots, catches ſuch part of the board, and, keeping it in an horizontal poſition, prevents it from falling, as it otherwiſe would do, to its perpendicular. In order to raiſe the board, fix to it, in that part of it, the edge of which is leaſt removed from the hinges or pivots, a line (made of twine or rope, or other pliable ſubſtance, according to the ſize of the machine), and connecting it with a pulley at the under part of the frame, affix the extremity of ſuch line to the under edge of the incliner as in the preceding part of the deſcription. The puſher, upon being puſhed in, will produce its effect as in the former part of the deſcription, by bringing the incliner to its inclined poſition, which will raiſe the board with which it is connected by the line and pulley, as above mentioned; and here, as in the former caſe, there being an equal number of boards and lines, and pulleys and incliners, and as many puſhers as there are letters, numerical figures, or ſigns, meant to be repreſented, the letter, numerical figure, or ſign, wiſhed to be repreſented, may be exhibited at pleaſure by the opaque body in the ſame manner as by the luminous body, by puſhing in the puſher, and, upon pulling back the puſher, the boards will fall down by their own weight, and the incliners will then alſo reſume their former poſitions. The ſame effect may be produced by making each board turn horizontally on a pivot, in the horizontal bars; and in order to turn each board ſo as to make it preſent its flat ſurface or its thin edge at pleaſure, to the front of the frame or bars, let a ſmall wheel be fixed to the pivot; the edges of which wheel may be grooved, the better to keep the lines to be attached to them in their proper poſition. Affix at oppoſite ſides of the groove in this wheel the ends of two lines, ſo that the one line upon being pulled will turn the wheel one way, and the other line being pulled will make it turn the other way. Paſs theſe lines, the ends of which are ſo fixed in the groove of the wheel, through two pulleys, placed in ſuch manner on the bars as that the lines may be pulled oppoſite ways. The lines dropping to the bottom of the frame or bars will then be paſſed through two correſponding pulleys at the bottom thereof; and the end of the one line being fixed to the upper edge of the incliner, and the end of the other line being fixed to the under edge of the incliner, the incliner, upon receiving its inclined poſition, by means of the puſher, will turn the board ſo that its flat ſurface or its thin edge may be preſented to the front of the frame or bars at pleaſure. And in this conſtruction there being no other means to make the boards reſume their firſt poſition, the under edge of the incliner ſhould, in this mode of conſtruction, be made heavier than the upper, ſo that the puſher being pulled back, the weight of the under edge of the incliner may bring it to its perpendicular poſition, and thus turn the board to its original poſition. For the ſake of ſtrengthening the frame in which the boards are placed, perpendicular as well as horizontal bars may be uſed and fixed together as they paſs each other at right angles. And it may be eaſily perceived, without any particular deſcription, how the boards may be moved by means of pivots placed in the perpendicular bars, or be made to move round the perpendicular bars connected with the incliners by means of lines and pulleys, in the manner which has been mentioned. What has been hitherto ſtated regards the modes by which any letter of the alphabet, or any numerical figure, or any appearance or appearances neceſſary to be uſed as ſigns, ſignals, or ſymbols, may be repreſented by means of lamps or luminous bodies, or by means of opaque bodies ſeparately.

Laſtly, we are ſhewn how theſe effects may be produced by means of *luminous bodies and opaque bodies combined*. For this purpoſe, apertures muſt be made in the boards above deſcribed, and lamps muſt be placed in the apertures of the boards, in ſuch manner as that the lamps remaining ſtationary do not interfere with the movements of the boards. This may be effected by means of a ſmall ſeat or reſt attached to the bar to which the boards are fixed, as repreſented in fig. 12. The flame or light of the lamp will then be ſeen through the

aperture of the board when its flat ſurface is preſented to the front of the frame or bars; and, in order to prevent the flame or light from being ſeen when the thin edge of the board is preſented to the front of the frame or bars, let a thin piece of wood or metal, rather larger than the aperture in the board (as repreſented in fig. 11 of the annexed paper of drawings), be fixed at right angles to the board below the aperture, ſo that when the thin edge of the board is preſented to the front the thin piece of wood or metal is raiſed up, and hides the lamp; and thus the lamps are viſible through the apertures of the boards only when the flat ſurfaces of the boards are preſented to the front of the frame or bars.

In order that the nature of this invention may be the better underſtood, a drawing is given in fig. 2, of the machine, as ſhewing its combined effects by means of opaque and luminous bodies. The drawing, as in the firſt part of the deſcription, repreſents the machine as forming the letter H. The lines in this drawing, running perpendicularly and horizontally, exhibit the frame and bars. The black ſquares repreſent the boards, with their flat ſurfaces in front of the frame or bars, forming the letter H. The ſmall white oblong ſpaces in theſe black ſquares repreſent the apertures in them, through which the light or flame of the lamps is ſeen. The ſmall white lines appearing under theſe white oblong ſpaces, repreſent the thin edges of the thin pieces of wood or metal which cover the lamps when the thin edge of the boards is in front of the frame or bars. The black oblong figures repreſent the boards, having their thin edges in front of the frame or bars. The ſmall elevations ariſing from theſe black oblong figures, ſhew the thin pieces of wood or metal which hide the flame or light of the lamps when the thin edge of the boards is in front of the frame or bars. The lines repreſent the lines fixed to the boards and incliners, connected by their pulleys. The dots at the bottom of the bars repreſent theſe pulleys. The figures (*b*) immediately under theſe dots repreſent incliners; and the black oblong figure at the bottom of the whole repreſents the puſher, with its teeth or pins, which producing its effect upon the incliners connected with their lines and pulleys with the boards, exhibits, by means of the boards or lamps, or both combined, the appearance of the letter H. Two drawings are alſo given, in the annexed paper of drawings, of a board, with its lamp turning horizontally upon a pivot, *viz.* fig. 3 and fig. 4. Fig. 3, repreſents a front view of the board and lamp, ſo that when the flat ſurface of the board is in front, the flame or light of the lamp is viſible. Fig. 4, repreſents a ſide or lateral view of the board and lamp, ſo that when the thin edge of the board is in front, the light or flame of the lamp is inviſible; and the lamp, according to this mode of conſtruction, is fixed in the board, and turns with it. Theſe ſame figures, *viz.* figs. 3 and 4, alſo ſhew that lamps, with an opaque and a ſhining ſide, mentioned in a previous part of this deſcription, may be made to turn by means of lines and pulleys, ſo as to exhibit their opaque or their ſhining ſide, that is, to be made viſible and inviſible at pleaſure.

TELEMONA, a town of Tuſcany, with a ſmall harbour, and a ſtrong fort. It is ſeated at the mouth of the Oſſa, at the extremity of a point of a craggy rock, 10 miles from Orbitello. Long. 11. 11. E. Lat. 42. 28. N.

TELESCOPE (*Encycl.*). Mr. Dudley Adams, of Fleet-ſtreet, London, obtained a patent, in 1800, for a method of rendering teleſcopes and other optical glaſſes more portable.

In order to produce the peculiar degree of portability that has been effected, it was found expedient to adopt a new ſpecies of ſpring, that would, from its principle and conſtruction, occupy the leaſt poſſible ſpace, and at the ſame time render the teleſcopes, to which it was applied, ſtrong and ſteady when drawn out. This was the more neceſſary, as, according to the new conſtruction, the number of joints or tubes would be augmented conſiderably beyond the number hitherto employed. It was neceſſary alſo to deviſe ſome means by which the ſeveral glaſſes, applied to the eye-ends of teleſcopes, ſhould acquire their true poſitions and diſtances when the joints or tubes were drawn out, after having been compreſſed into a ſmall ſpace, and the ſame be retained in every ſituation wherein they might be placed by the obſerver during the time the teleſcope was being adjuſted for uſe.

The following are the references to Plate 51. in which this invention is delineated.

Fig. 1, A, repreſents the form and conſtruction of the ſpring. It conſiſts of a thin piece of metal tube, turned in a lathe ſtrictly true and cylindrical, and to fit the inſide of the drawer or tube in which it is intended to ſlide. It is then ſlit down, from the open end, in two, three, four, or more places, to give it elaſticity: this latter circumſtance is not however abſolutely neceſſary. The dotted lines at B repreſent the underſide of the ſpring perforated, in which a ſcrew is cut, of the ſize to ſcrew on the end of the tube at C, fig. 2, and made faſt there.

This inverted cylindrical ſpring, ſimple as it is in its conſtruction, affords all the advantages neceſſary; it occupies leſs ſpace than the ſprings hitherto adopted, and by that means admits of more drawers, tubes, or joints, being added than could, according to the former mode, be uſed or applied within the ſame ſpace; by its cylindrical form, that ſtrength and ſteadineſs is obtained, which is ſo eſſential to the conſtructing a good teleſcope with drawers. It preſerves the axis therefore as one uninterrupted line, in every poſition of the drawers, whether they are drawn out to the fulleſt extent, or returned in part into their ſeveral tubes. It is alſo of ſuperior advantage, and the beſt adapted to the conſtruction of plated teleſcopes, whether plated in gold or ſilver, or whether the drawers or tubes are lacquered, painted, or japanned, &c. as by its action and principle all preſſure and friction on their poliſhed, plated, or painted ſurfaces, may be obviated, and the poſſibility of thoſe ſurfaces being rubbed, ſcratched, or worn, thereby totally prevented. Fig. 3, repreſents the tube C with the ſpring thereon at D. E, repreſents the tube in which it ſlides.

The ſecond part of the invention is effected in the following manner. Fig. 4, C, repreſents the tube called the eye-tube, or that which is placed next the eye when the teleſcope is being uſed; *a*, the ſpring thereon. H and I, two tubes, that are made to ſlide into the interior of the tube C. F, a broad circular plate, ſhoulder, or flaunch. To explain the action and principle of the tubes H and I more fully, another figure, *viz.* fig. 5, has been given. C, repreſents the tube to be placed next the eye; *a*, the new-invented cylindrical ſpring thereon. D, the next tube, in which the ſaid ſpring ſlides, provided alſo with its ſpring *a*, which ſlides in the third tube E. The firſt and ſecond glaſſes are contained in the eye-tube C, and are repreſented by dotted lines G, G. The third and fourth glaſſes are inſerted in the tube H at *b c*. Theſe tubes, as have been mentioned, are made to ſlide into the interior of the eye-tube C, when the inſtrument is cloſed, but when the tubes are drawn out, they will have nearly the effect repreſented. For when the tubes C, D, and E, are drawn out, the flaunch F will ſtrike againſt the end of the tube D, and by that means the two tubes H and I will alſo be drawn out, and will retain their preſent poſition until all the tubes are nearly cloſed. For it is not until the flaunch F reaches one of the laſt tubes, that the two tubes H and I will be forced into the tube C. The glaſſes therefore contained in them will acquire and retain their true diſtances while being uſed.

The advantages of this part of the invention need not be

enlarged upon, as will appear obvious to every one who conſiders the ſubject, that by means thereof, together with the new ſpring, the utmoſt portability in teleſcopes may be effected, and their length in conſequence be conſiderably extended beyond what is uſually adopted if neceſſary.

The ſame degree of portability, and any degree of length, may be obtained by the addition of three, four, or more tubes, in the place of the two already mentioned; and the tube containing the firſt and ſecond glaſſes might be conſtructed after the ſame manner, *viz.* to conſiſt of two, three, or more tubes, and made to ſlide one within the other; and in ſome inſtances, where the teleſcopes are very long, one tube might be made perhaps to anſwer the purpoſe. Theſe and other ſimilar modes might hereafter be adopted without altering the principle of this invention, which eſtabliſhes a rule whereby the ſeveral glaſſes at the eye-ends of teleſcopes may, from the manner in which they are placed, be brought near to each other, and afterwards placed at their proper diſtances, without inconvenience or prejudice to the teleſcope. Of the many modes that have been tried, the particular one adopted has been preferred; it is the moſt ſimple, and it moreover poſſeſſes all the advantages required.

TELGEIN, or TELGA, a trading town of Sweden, in Sudermania, ſeated on the S. bank of the lake Maeler, 12 miles S.W. of Stockholm. Long. 17. 24. E. Lat. 59. 18. N.

TELLES, a ſea-port of the kingdom of Fez, 120 miles E.S.E. of Tangier.

TELLICHERRY, a ſea-port of Hindooſtan, on the coaſt of Malabar, where there is an Engliſh factory. It is 30 miles N.N.W. of Calicut. Long. 75. 50. E. Lat. 11. 48. N.

TELTSH, a town of Germany, in Moravia, ſeated on the frontiers of Bohemia, at the ſource of the river Teya, 36 miles W.N.W. of Znaim. Long. 16. 0. E. Lat. 49. 0. N.

TEMENDEFUST, a town of the kingdom of Algiers, ſeated on the Mediterranean, 10 miles E. of Algiers.

TEMESWAR, a town of Upper Hungary, capital of a territory called the bannat of Temeſwar. It formerly paſſed for impregnable; but it was taken by Prince Eugene, in a dry ſaſon, in 1716. It is ſeated in a moraſs, 60 miles N.E. of Belgrade, and 150 S.E. of Buda. Long. 22. 20. E. Lat. 45. 37. N.

TEMPLIN, a town of Upper Saxony, in the Ucker marche of Brandenburg, which has a great trade in timber. It is 15 miles S.W. of Prenzlo, and 34 N. of Berlin. Long. 13. 25. E. Lat. 53. 5. N.

TEMROCK, a ſea-port of Cuban, ſeated on the ſea of Aſoph, 20 miles E. of the ſtraits of Caffa. Long. 37. 20. E. Lat. 45. 27. N.

TENASERIM, a town of Siam, capital of a province. It is ſituate on a river, of the ſame name, which falls into the bay of Bengal. Long. 98. 8. W. Lat. 12. 12. N.

TENBURY, a town in Worceſterſhire, with a market on Tueſday, ſeated on the Teme, 15 miles W. by N. of Worceſter, and 130 W.N.W. of London. Long. 2. 13. W. Lat. 52. 16. N.

TENBY, a ſea-port in Pembrokeſhire, with a market on Wedneſday and Saturday. Its caſtle was demoliſhed in the civil wars, and its trade is inconſiderable. It is 10 miles E. of Pembroke, and 233 W. of London. Long. 5. 5. W. Lat. 51. 42. N.

TENCH'S ISLAND, an iſland in the Pacific Ocean, two miles in circumference, diſcovered by Lieutenant Ball in 1790. It is low, but entirely covered with trees, many of which are the cocoa nut. The natives obſerved in the canoes, that ventured to come ſomewhat near the ſhip, were remarkably ſtout men, quite naked, and of a copper colour; their hair reſembling that of the New Hollanders, and ſome of their beards reaching as low as the navel, with an appearance of much art having been uſed to form them into long ringlets. Two or three of the men had ſomething like a bead or bone ſuſpended to a ſtring, which was faſtened round the neck. The largeſt of their canoes appeared to be about 28 feet long, and made out of a large tree, with a long outrigger. Long. 151. 31. E. Lat. 1. 39. S.

TENDA, a town of Piedmont, capital of a county of the ſame name. It is ſeated at the foot of a mountain, on the river Boga, 52 miles S. of Turin. Long. 7. 45. E. Lat. 44. 10. N.

TENEDOS, a celebrated iſland in the Archipelago, on the coaſt of Natolia, and 10 miles S.W. of the ſtraits of Gallipoli. It is 11 miles long, and ſeven broad, inhabited almoſt wholly by Greeks, and its muſcadine wine is the beſt in all the Levant. On the E. ſide is a large town, ſeated at the foot of a mountain, with a fine harbour, commanded by a caſtle. On the 5th of June, 1794, after ſome ſevere ſhocks of an earthquake, a ſmall volcanic iſland was diſcovered to have emerged from the ſea, between this town and the Aſiatic ſhore.

TENEN, or KNIN, a town of Venetian Dalmatia, on the borders of Boſnia, with a biſhop's ſee. It has been ſeveral times taken and retaken by the Turks and Venetians. It is 48 miles S. of Bihacz. Long. 16. 30. E. Lat. 44. 5. N.

TENERIFF, a town of Terra Firma, in the government of St. Martha, ſeated on the Rio de la Madalena, 100 miles S. by W. of St. Martha. Long. 74. 15. W. Lat. 9. 47. N.

TENEZ, a town of Algiers, in the province of Tremeſen, capital of a diſtrict of the ſame name, with a ſtrong fort. It is ſeated on the ſide of a mountain, four miles from the ſea. Long. 1. 0. E. Lat. 39. 20. N.

TE-NGAN-FOU, a populous and commereial city of China, in the province of Hou-quang, with ſix cities dependent on it. It is 200 miles W. by S. of Nan-king. Long. 112. 21. E. Lat. 31. 0. N.

TENG-FONG-HIEN, a city of China, under the juriſdiction of Ho-nan-fou, in the province of Ho-nan. It is famous on account of the tower, erected for an obſervatory by the celebrated aſtronomer Tcheou-kong.

TENNASSEE, one of the United States of America, ſituate between the parallels of 35 and 36½ degrees of latitude; bounded on the S. by South Carolina and Georgia, on the W. by the Miſſiſippi, on the N. by Kentucky and Virginia, and on the E. by the Iron and Bald mountains, which ſeparate it from North Carolina, of which ſtate it was lately the weſtern part. It is upward of 400 miles in length, and 104 in breadth; and is divided into three diſtricts, and 11 counties. The diſtricts are Waſhington, Mero, and Hamilton; and the counties are Blount, Sullivan, Davidſon, Greene, Hawkins, Jefferſon, Knox, Summer, Sevier, Tennaſſee, and Waſhington. Its principal rivers are the Miſſiſippi, Tennaſſee, Cumberland, Holſton, Clinch, and Duck; and it is abundantly watered by other rivers and creeks. The Cumberland mountains, a ridge near 30 miles broad, cut this ſtate into the eaſtern and weſtern diviſions, and the latter is the largeſt part. The climate, ſoil, and produce of Tennaſſee are much the ſame as the adjoining ſtate of Kentucky. It was admitted a member of the United States in 1796; and on taking the cenſus in 1795, there appeared to be 77,262 inhabitants, of whom 66,649 were free perſons. Knoxville is the capital.

TENNASSEE, a river of North America, formerly called the Cherokee River. It riſes in the Iron mountains, on the confines of Georgia; and, after traverſing the borders of the Cherokee country northward, is joined by the Holſton branch, when it is called the Tennaſſee: thence it runs S.W. on the

E. ſide of the Cumberland mountains, into Georgia, where it makes a circuit to the W. called the Great Bend; it then re-enters the ſtate of Tennaſſee, which it paſſes quite through, directly N. into that of Kentucky: here it ſoons turns to the N.W. and then falls into the Ohio, 60 miles above the confluence of that river, with the Miſſiſippi. The Tennaſſee is 600 yards broad at its mouth, and thence navigable by veſſels of great burthen for 260 miles, to the Muſcle Shoals, in the Great Bend: here the river widens to between two and three miles, for nearly 30 miles; and theſe ſhoals can only be paſſed in ſmall boats: hence it may be navigated, by boats of 40 tons burthen, at leaſt 600 miles further, ſome trifling falls excepted.

TENNESTADT, a town of Upper Saxony, in Thuringia, near the rivers Seltenlein and Schambach, five miles from Erfurt.

TENNIS, a town of Egypt, ſituate on an iſland in a lake of the ſame name, 28 miles S.E. of Damietta. Long. 32. 15. E. Lat. 31. 2. N.

TEN-TCHEOU-FOU, a city of China, in the province of Chang-tong, with a good port, and eight cities in its juriſdiction. It is ſeated on the N. ſide of a peninſula of the Yellow Sea, 200 miles S.E. of Pekin. Long. 115. 50. E. Lat. 35. 20. N.

TENTERDEN, a corporate town in Kent, governed by a mayor, with a market on Friday. The ſteeple of the church is very lofty, and at the time of the Spaniſh invaſion, in 1588, was made uſe of as a beacon. It is 24 miles S.W. of Canterbury, and 56 E. by S. of London. Long. 0. 35. E. Lat. 51. 12. N.

TENTUGAL, a town of Portugal, in Beira, eight miles W.N.W. of Coimbra. Long. 8. 20. W. Lat. 40. 17. N.

TEPIC, a town of New Spain, in the audience of Guadalajara, 500 miles N.W. of the city of Mexico.

TEPLITZ, a town of Bohemia, in the circle of Leitmeritz, celebrated for its warm baths, 14 miles W.N.W. of Leitmeritz.

TERAMO, a town of Naples, in Abruzzo Ulteriore, with a biſhop's ſee, ſeated at the confluence of the Viciola and Tordino, 10 miles N.W. of Atri, and 25 N.E. of Aquileia. Long. 13. 39. E. Lat. 42. 37. N.

TERASSO, a decayed town of Turkey in Europe, in Caramania, with an archbiſhop's ſee. It was formerly called Tarſus, was the capital of Cilicia, and is the birth-place of St. Paul. It is ſeated on the Mediterranean. Long. 35. 55. E. Lat. 37. 10. N.

TERASSON, a town of France, in the department of Dordogne, ſeated on the Veſere, 20 miles N. of Sarlat. Long. 1. 19. E. Lat. 45. 5. N.

TERCHIZ, or TERHIZ, a town of Perſia, in the province of Choraſan, 120 miles W.N.W. of Herat. Long. 57. 25. E. Lat. 35. 5. N.

TERGOVISTO, or TERVIS, a commercial town, capital of Walachia. It has a fine palace, belonging to the waywode, and is ſeated on the Jalonitz, 30 miles N.W. of Buchareſt. Long. 25. 26. E. Lat. 45. 45. N.

TERKI, a town of Circaſſia, where a prince reſides dependent on the Ruſſians, this being their frontier town againſt Perſia. It is ſeated on a river of the ſame name, in a marſhy place, one mile from the Caſpian Sea, and 125 E. of Tefflis. Long. 47. 50. E. Lat. 43. 22. N.

TERMINI, a town on the N. coaſt of Sicily, in Val di Demona, with a ſtrong caſtle. It is famous for its mineral waters, and has a fine aqueduct. It is ſeated at the mouth of a river of the ſame name, in a territory abounding in corn, oil, and wine, 20 miles S.E. of Palermo. Long. 13. 44. E. Lat. 38. 5. N.

TERMOLI, or TERMINI, a town of Naples, in Capitanata, with a biſhop's ſee, ſeated near the ſea, 32 miles S.E. of Lanciano, and 70 N.E. of Naples. Long. 15. 20. E. Lat. 41. 59. N.

TERNATE, an iſland of the Indian Ocean, the principal of the Moluccas. It is mountainous, and has a great number of woods, which furniſh much game; but it produces a great quantity of cloves, and other fruits proper to the climate. It lies a little to the W. of Gilolo, and 100 miles E. of Celebes. Long. 129. 0. E. Lat. 1. 0. N.

TERNAVASSO, a town of Piedmont, ſix miles N.E. of Carmagnola, and eight S. of Chieri.

TERNEUSE, a ſtrong town and fort of Dutch Flanders, on the W. branch of the Scheldt, called the Hondt. It is eight miles N. of Sas-van-Ghent, and 25 W.N.W. of Antwerp. It was taken by the French in 1794. Long. 3. 45. E. Lat. 51. 20. N.

TERNOVA, an ancient town of Turkey in Europe, in Bulgaria, with an archbiſhop's ſee. It was formerly the ſeat of the princes of Bulgaria, and is ſeated on a mountain, near the Janera, 88 miles N.W. of Adrianople, and 97 N.E. of Sophia. Long. 26. 2. E. Lat. 43. 1. N.

TERRACINA, a decayed town of Italy, in Campagna di Roma, with a biſhop's ſee. It was called Anxur, was the capital of the warlike Volci, and the principal church was originally a temple of Jupiter. It is ſeated among orange and citron groves, near the ſea, on the ſide of a mountain, 46 miles S.E. of Rome. Long. 13. 15. E. Lat. 41. 24. N.

TERRANOVA, a town of Sicily, in Val di Noto. It belongs to the Duke of Monte-Leone, and is ſeated near the mouth of a river of the ſame name, 20 miles E.S.E. of Alicata. Long. 14. 10. E. Lat. 37. 9. N.

TERRA NUOVA, an ancient ſea-port, on the N.E. coaſt of Sardinia, ſeated at the bottom of a gulf of the ſame name, 65 miles N.N.E. of Saſſari. Long. 9. 35. E. Lat. 41. 3. N.

TERRE DE SALINELLE. The following obſervations concerning an earth ſo named, and which contains magneſia, are given by Berard, ex-profeſſor of chemiſtry at the Ecole de Medecine, at Montpellier, in the Annales de Chimie.

"The manufacture of artificial alum," ſays he, "in the large way, and by proceſſes both ſimple and eaſily to put in practice, has for a long time been the object of my labours. For this purpoſe, I was obliged to look out for the argills that abounded moſt in the alumine, and that were the neareſt to the place in which the manufacture was carried on.

"The earth of Salinelle, near Sommières, in the department of Le Gard, is reckoned one of the beſt kinds of argill for taking ſtains out of cloth; it is even generally known in the country by the name of Pierre de tache (fullers'-earth); and this property induced me to examine it. I procured a certain quantity of it, upon which I immediately operated with a view to obtain alum. But what was my ſurpriſe, when in the firſt experiment, which was to impregnate it with ſulphuric acid (at 40 degrees of Baume's hydrometer), I perceived, 24 hours afterwards, a very conſiderable efflorescence, and the ſmall maſs of the earth, that had been impregnated with the acid the day before, changed into a ſaline-carthy ſubſtance, full of ſmall ſhining cryſtals. I ſoon diſcovered, both by the taſte and the manner in which this firſt combination took place, that the ſalt that had been formed was not alum. Some experiments which I made led me to imagine that it was ſulphate of magneſia. In order to aſcertain this point, I immediately went to Salinelle, to examine the place from whence this earth was procured, and I afterwards ſubjected it to the experiments of which I am ſhortly to give an account.

"The village of Salinelle is ſituated at the diſtance of about

two kilometres from Sommières, upon the road from this town to Quiſſac, and almoſt cloſe to the banks of the river called Le Vidourle. The whole village is built upon a ſoil under which this earth is generally found. A ſingle individual at preſent employs himſelf in digging it, and furniſhes it, as it is called for, to ſome merchants, factors, and druggiſts. The firſt of theſe conceal the uſe which their employers make of it, and it is ſuſpected at Salinelle that ſome ſoap-manufactures make uſe of it in the preparation of this compound. The druggiſts prepare from it the ſubſtance which is known in pharmacy by the name of *Terra Sagillata*.

"The ſtratum of the terre de Salinelle is at the depth of about two metres and five decimetres from the ſurface of the ground: firſt we find ſix or ſeven decimetres of good vegetable earth; afterwards ſeveral cloſe ſtrata of white chalk; the whole about one metre five decimetres in thickneſs. In the middle of this thickneſs appears a vein of blackiſh ſemi-tranſparent ſilex, a decimetre and five centimetres thick. We afterwards meet with a ſmall layer of terre de Salinelle, mixed with fragments of the ſuperior ſtrata, and at laſt we find the vein of good terre de Salinelle, two decimetres and five centimetres in thickneſs, under which we immediately meet again with a mixed ſtratum, and afterwards thoſe of white chalk that had before been found above. The diſpoſition of all theſe ſtrata may eaſily be obſerved in digging wells, vaults, or foundations; in theſe caſes the earth of which we are ſpeaking is carefully collected.

"The terre de Salinelle, when dug out of its bed, is ſtill ſoft, very moiſt, lamellated, and ſlightly tranſparent when divided into thin plates. It has a chocolate colour, nearly reſembling that of the ſmall roots of ſome trees that grow upon the ſame ſoil. This earth when dried in the air acquires a leſs deep colour; it becomes of a light grey, ſlightly tinged with red; and by being dried in this manner it loſes about thirty parts in a hundred of its weight. It then acquires hardneſs, produces a ſtrong ſenſation of aſtringency when applied to the tongue: it does not loſe its cohefion in the water, like the argills, but when moiſtened and kneaded it forms a paſte pretty ſoft and fine to the touch; placed upon red-hot coals, it decrepitates and flies into ſplinters. In order to enable it to bear the action of the fire, I was obliged to pound it into a coarſe powder, and form it into balls, by moiſtening it with a little water; I then heated it to whiteneſs, without the ſmalleſt decrepitation taking place. By this operation 100 parts that had already been dried in the air were reduced to 68; the earth became very light, and of a very beautiful white colour, much reſembling that of the magneſia prepared in the laboratories. If we calcine it in powder, the evaporation of the water produces a bubbling even in this powder, which ceaſes as ſoon as the whole of the water is diſſipated.

"Acids poured upon this earth, after it has been dried in the air, produce no ſenſible effervefcence; they combine with a portion of its conſtituent principles, and the products are magneſian ſalts.

1. "Sulphuric acid, concentrated to 66°, becomes violently heated as ſoon as we mix it with this earth. When reduced to 40°, it does not become heated immediately; but if we form a paſte with this acid and the ſame earth in powder, a diſengagement of heat takes place at the end of half an hour, the paſte puffs up, increaſes greatly in its volume, and is at laſt reduced to a very light pulverulent ſubſtance, in which we may obſerve an infinite number of ſmall cryſtals. The ſalt thus formed has all the characters of true ſulphate of magneſia. A certain quantity of earth is left behind, which has reſiſted the action of the acid; this appeared to me to be ſilex.

2. "The nitric and muriatic acids, poured upon this earth in ſufficient quantity to form a paſte, produce no diſengagement of heat nor efflorefcence; the paſte on the contrary attracts moiſture from the atmoſphere, but nitrates and muriates of magneſia are formed. All theſe ſalts yield, by means of the alkalies, an abundant precipitate of very white, light, and pure magneſia.

"I boiled at ſeveral times, and during ſeveral hours, the terre de Salinelle, dried in the air and reduced to powder, in the three above-mentioned acids, in the proportion of 100 parts of the earth to 600 of acid. I then lixiviated it with a large quantity of water and filtrated it: the earth that remained upon the filtre, calcined to redneſs, was reduced to 45 parts: this appeared to me to be ſilex; it is very white and fine.

"The ſame acids exert a far inferior operation upon this earth, when it has been calcined to redneſs. The concentrated ſulphuric acid does not even produce any extrication of heat, and the earthy reſiduum is more conſiderable, though we take into the account the quantity of water that exiſts in the non-calcined earth.

"All the lixivia produced by combinations of any of the three acids with this earth are but ſlightly coloured, eſpecially the muriatic, and they are hardly coloured at all when the earth has been calcined; however they all yield, with the pruſſiate of lime, a precipitate of iron in the ſtate of Pruſſian blue.

"From the experiments which I have related, and from ſome others which it would be ſuperfluous to deſcribe, it appears, that 100 parts of the terre de Salinelle, dried in the air, and ſuch as it is generally found ſome time after it has been dug out of the ground, form a natural mixture of 32 parts of water, 22 of pure magneſia, 45 of ſilex, and 1 of oxyd of iron; that this earth differs greatly from the magneſian mixtures known by the names of ſteatites, albeſtes, micas, &c.; and that it ſtands in the ſame relation to magneſia as the argills do to alumine; in a word, that it is a genuine ore of magneſia, which, as far as I know, has not been hitherto deſcribed; but for giving a very accurate and detailed analyſis of it, I neither poſſeſſed proper inſtruments, nor ſufficient chemical knowledge. I therefore reſolved to ſend a quantity of this ſubſtance to Citizen Vauquelin, whoſe profound genius for the art of chemical analyſis is univerſally known, and who has engaged to aſcertain the place in which this earth ought to be ranged in natural hiſtory and chemiſtry.

"A pupil and aſſociate of Citizen Chaptal, and engaged for a long time, by profeſſion, in the application of chemiſtry to the arts, I endeavoured to apply the terre de Salinelle to an uſeful purpoſe, and from the experiments which I have made upon a large ſcale, it appears, that 100 parts of this earth, and 100 parts of ſulphuric acid, at 40°, produce, by ſimple mixture, by the lixiviation of this mixture, by condenſation of the lixivia and cryſtalliſation, 95 parts of beautiful ſulphate of magneſia in fine ſilky cryſtals. The mother-waters, which have a yellow tinge imparted to them by a ſmall quantity of ſulphate of iron, may ſtill contain 5 parts of ſulphate of magneſia. This reſult preſents the manufacturers of ſulphuric acid with an advantageous method of preparing the ſulphate of magneſia in the large way. Medicine will derive from it another advantage; namely, that of eaſily procuring this ſalt in a ſtate of purity, as well as the common magneſia; for it is univerſally known that the ſulphate of magneſia, or Epſom ſalt, ſuch as is met with in commerce, and which is obtained from the water of ſalt marſhes, is a mixture of various ſalts, ſuch as ſulphate of magneſia, ſulphate of ſoda, muriate of magneſia, muriate of lime, &c.: it is alſo known that moſt druggiſts, by uſing the ſulphate of magneſia of commerce, in order to extract the magneſia, obtain a mixture of this earth and lime. This mixture muſt neceſſarily produce

effects very different from thoſe that belong to pure magneſia or its carbonate; and we ſhall be ſure of obtaining theſe two ſubſtances pure, if we employ the ſulphate of magneſia prepared with ſulphuric acid and the terre de Salinelle."

TERREUEL, a town of Spain, in Arragon, with a biſhop's ſee, ſeated in a large fertile plain, at the confluence of the Guadalquiver and Alhambra, 75 miles S.W. of Saragoſſa, and 112 E. of Madrid. Long. 1. 0. W. Lat. 40. 25. N.

TERROUEN, a town of France, in the department of the Straits of Calais, ſeated on the Lis, ſix miles S. of St. Omer.

TERVERE, or VEERE, a town of the United Provinces, in Zealand, on the N.E. coaſt of the iſle of Walcheren, with a good harbour, and a fine arſenal, four miles N.E. of Middleburg. Long. 3. 42. E. Lat. 51. 36. N.

TESCHEN, a town of Upper Sileſia, capital of a duchy of the ſame name, ſubject to the houſe of Auſtria. It was taken by the Pruſſians in 1757, but reſtored in 1763. It was ſurrounded on all ſides by a moraſs, and ſeated near the ſource of the Viſtula. At a little diſtance from it is an old caſtle, on an eminence, where the ancient dukes reſided. The inhabitants carry on a trade in leather, woollen ſtuffs, and Hungary wines; and make pretty good fire-arms, and excellent beer. A treaty of peace was concluded here, in 1779, between the Emperor Joſeph II. and Frederic William III. of Pruſſia. It is 27 miles S.E. of Troppau, and 65 S.W. of Cracow. Long. 18. 17. E. Lat. 49. 52. N.

TESEGDELT, a town of Morocco Proper, ſurrounded by a craggy rock, which renders it impregnable. It is ſeated at the mouth of the Techubit, 200 miles W. of Morocco.

TESINO, a river of Switzerland, which has its ſource in Mount St. Gothard, flows through the country of the Griſons, and the lake Maggiore; then running through part of the Milaneſe, it waſhes Pavia, and a little after falls into the Po.

TESSET, a town and diſtrict of Zahara, 170 miles S. of Morocco. Long. 6. 56. W. Lat. 15. 24. N.

TEST, or TESE, a river, which riſes in the N.W. of Hants, and watering Stockbridge and Rumſey, falls into the bay of Southampton.

TETBURY, a town in Glouceſterſhire, with a market on Wedneſday, and a conſiderable trade in cheeſe, yarn, and wool. It is 25 miles E N.E. of Briſtol, and 99 W. of London. Long. 1. 8. W. Lat. 51. 36. N.

TETICACO, a lake of Peru, in the audience of Lima and province of Callao, above 200 miles in circumference.

TETTNANG, a town of Suabia, and the principal place of a lordſhip of the ſame name. It is eight miles N. of Lindau, and 18 E.N.E. of Conſtance. Long. 9. 50. E. Lat. 47. 46. N.

TEVERONE, a river of Italy, the ancient Anio, which riſes in the Apennines, 50 miles above Tivoli, glides through a plain till it comes near that town, when it is confined for a ſhort ſpace between two hills, covered with groves. Theſe were ſuppoſed to be the reſidence of the ſibyl Albunea, to whom a temple here was dedicated, the elegant form of which indicates its having been built when the arts were in the higheſt ſtate of perfection. The river moving with augmented rapidity, as its channel is confined, at laſt ruſhes violently over a lofty precipice; the noiſe of its falls reſounds through the hills and groves of Tivoli; a liquid cloud ariſes from the foaming water, which afterwards divides into numberleſs ſmall caſcades. Having gained the plain, it ſoon afterward receives the waters of the lake Solfatara, and flows quietly on till it loſes itſelf in the Tiber.

TEVIOT, a river of Scotland, which riſes in the mountains in the S.W. of Roxburghſhire, and paſſing almoſt through the centre of that county, unites with the Tweed, near Kelſo.

TEURART, an ancient town of the kingdom of Fez, ſeated on a mountain near the river Za.

TEUSCHNITZ, a town of Franconia, in the biſhopric of Bamberg, 34 miles N.E. of Bamberg. Long. 11. 27. E. Lat. 50. 22. N.

TEUSERA, a town of Barbary, in Biledulgerid, divided into two parts by a river. It ſtands on the confines of Tunis, in a country abounding in dates. Long. 10. 16. E. Lat. 31. 28. N.

TEYA, a river of Germany, which riſes near Teltſh, in Moravia, flows E. by Znaim, on the borders of Auſtria, and enters the Moraw, on the confines of Hungary.

TEYN, a town of Bohemia, belonging to the archbiſhop of Prague, 52 miles S.W. of that city. Long. 13. 40. E. Lat. 49. 38. N.

TEZAR, a town of the kingdom of Fez, capital of the province of Cuzi. Here is a moſque larger than that of Fez, being half a mile in circumference. It is ſeated on a ſmall river, 45 miles E. of Fez. Long. 4. 15. W. Lat. 33. 40. N.

TEZCUCO, a town of New Spain, and the capital of a large government. Here Cortez cauſed a canal to be dug, where he built 18 brigantines, to carry on the ſiege of Mexico. It is ſeated near the lake of Mexico, 30 miles E. of the city of that name. Long. 100. 4. W. Lat. 20. 3. N.

TEZELA, a town of the kingdom of Algiers, in Tremeſen, with a caſtle, 15 miles from Oran. Long. 0. 25. E. Lat. 35. 25. N.

TEZOTE, a town of the kingdom of Fez, ſeated on the point of a rock, eight miles from Melilla. Long. 1. 55. W. Lat. 44. 40. N.

THAINEE, a town of the kingdom of Tunis, near the mouth of a river of the ſame name, 120 miles S. of Tunis. Long. 10. 15. E. Lat. 34. 50. N.

THAMSBRUCK, a town of Upper Saxony, in Thuringia, eight miles S.E. of Mulhauſen, and 16 W.N.W. of Erfurt. Long. 10. 52. E. Lat. 51. 20. N.

THANHAUSEN, a town of Suabia, ſituate on the Mindel, 14 miles N. of Mindelheim, and 22 E. of Ulm. Long. 9. 50. E. Lat. 48. 17. N.

THASO, an iſland of the Archipelago, on the coaſt of Macedonia, at the entrance of the gulf of Conteſſa. It is 12 miles long, and eight broad, and abounds in all the neceſſaries of life. The fruits and wine are very delicate; and there are mines of gold and ſilver, beſide quarries of fine marble. The chief town, of the ſame name, has a harbour frequented by merchants. Long. 24. 32. E. Lat. 40. 59. N.

THAXTED, a corporate town in Eſſex, with a market on Friday. It is governed by a mayor, and ſeated near the ſource of the Chelmer, 20 miles N.W. of Chelmsford, and 43 N.E. of London. Long. 0. 21. E. Lat. 51. 56. N.

THEBAID, a country of Upper Egypt, reaching from Fayoum to the Red Sea. It is the leaſt fertile, and the thinneſt of people, of any province in Egypt, being full of deſerts, and celebrated for the retreat of a great number of Chriſtians, who lived here in a ſolitary manner. It is now inhabited by Arabs, who are robbers by profeſſion.

THEBES, the ancient name of a city of Upper Egypt. It was celebrated for having 100 gates; and there are many magnificent remains of antiquity. Three villages, named Carnack, Luxor, and Gournou, are ſeated among its ruins, which are hence called the antiquities of Carnack and Luxor.

THENGEN, a town of Suabia, ſituate on the Hegau, eight miles N. of Schaffhauſen, and 22 N.W. of Conſtance. Long. 8. 40. E. Lat. 47. 46. N.

THERMIA, an iſland of the Archipelago, S. of the iſland of Zia, and near the gulf of Engia, 12 miles long and five

broad. The ſoil is good and well cultivated, and it has a great deal of ſilk. The principal town, of the ſame name, is the reſidence of a Greek biſhop. Long. 24. 59. E. Lat. 37. 31. N.

THETFORD, a borough in Norfolk, with a market on Saturday. It is ſeated on the Little Ouſe, and there is a high mount, which has been walled round, and fenced with a double rampart. It is governed by a mayor, ſends two members to parliament, and has three churches, a good free-ſchool, and a town-hall. The lent aſſizes for the county are kept here. The river, which here divides Suffolk from Norfolk, is navigable from Lynn; and a good deal of wool-combing is carried on here. It formerly had upwards of 40 churches, and was a biſhop's ſee; but it was deſtroyed in the time of the Danes. It is 30 miles S.S.E. of Lynn, and 80 N.E. of London. Long. 0. 50. E. Lat. 52. 28. N.

THEUX, a village three miles N.W. of Spa, in the biſhopric of Liege, where the French obtained a victory over the Auſtrians, in 1794.

THIBET, or GREAT THIBET, a country of Aſia, lying between 81 and 102° E. long. and 25 and 40° N. lat. bounded on the N.W. and N. by the Deſert of Kobi, in Tartary, on the E. by China, on the S. by Aſſam and Burmah, and on the W. and S.W. by Hindooſtan Proper and Bootan. This country is one of the higheſt in Aſia: it being a part of that elevated tract which gives riſe not only to the rivers of India and China, but alſo to thoſe of Siberia and Tartary. Its length from E. to W. cannot be leſs than 1000 miles; its breadth is very unequal. It is divided into three parts, Upper, Middle, and Lower Thibet. The Upper lies toward the ſources of the Ganges and Burrampooter; the Middle is that in which Laſſa, the capital, is ſeated; and the Lower, that which borders on China. Little Thibet is ſituate between Upper Thibet and Caſhgur. But Major Rennell, who conſiders the geography of the whole country as very obſcure, is very uncertain whether Little Thibet is ſubject to Laſſa or not. Notwithſtanding the very rough and ſterile ſtate of Thibet, and the ſeverity of its climate, from its wonderful elevation, its inhabitants are in a high ſtate of civiliſation; their houſes lofty and built of ſtone; and the uſeful manufactures in ſome degree of improvement. The Thibetians are governed by the grand lama, who is not only ſubmitted to, and adored by them, but is alſo the great object of adoration for the various tribes of pagan Tartars, who walk through the vaſt tract of continent which ſtretches from the river Volga to Corea. He is not only the ſovereign pontiff, the vicegerent of the deity on earth, but by the more remote Tartars is abſolutely regarded as the deity himſelf. They believe him to be immortal, and endowed with all knowledge and virtue. Every year they come from different parts to worſhip, and make each offerings at his ſhrine. Even the Emperor of China, who is of a Tartar race, does not fail to acknowledge the lama, in his religious capacity, although, as a temporal ſovereign, the lama himſelf is tributary to that emperor. The opinion of the moſt orthodox Thibetians is, that when the grand lama ſeems to die, either of old age or infirmity, his ſoul, in reality, only quits a crazy habitation, to look for another younger or better; and it is diſcovered again in the body of ſome child, by certain tokens known only to the lamas or prieſts, in which order he always appears. In 1774, the grand lama was an infant, who had been diſcovered ſome time before by the tayoſhoo lama, who, in authority and ſanctity of character, is next to the grand lama, and, during his minority, acts as chief. The lamas, who form the moſt numerous, as well as the moſt powerful body in the ſtate, have the prieſthood entirely in their hands; and they conſtitute many monaſtic orders, which are held in great veneration among them. Beſide the religious influence and authority of the grand lama, he is poſſeſſed of unlimited power throughout his dominions. His reſidence is at Patoli, a vaſt palace, on a mountain, near the banks of the Burampooter, ſeven miles from Laſſa. In 1774, the Engliſh Eaſt-India Company made a treaty with the lama. The religion of Thibet, though, in many reſpects, it differs from that of the Indian bramins, yet, in others, has a great affinity to it. The Thibetians have a great veneration for the cow, and highly reſpect alſo the waters of the Ganges, the ſource of which they believe to be in heaven. The ſunniaſſes, or Indian pilgrims, often viſit Thibet as a holy place; and the lama always maintains a body of near 300 of them in his pay.

THIEL, or TIEL, a ſtrong town of Dutch Guelderland, taken by the French in 1794. It is ſeated on the Waal, 20 miles W. of Nimeguen. Long. 5. 16 E. Lat. 51. 56. N.

THIELT, a town of Auſtrian Flanders, in the chatellany of Courtray, 10 miles N. of Courtray.

THIERS, a town of France, in the department of Puy de Dome, famous for its ſtatuary, hardware, and cutlery. It is ſeated on the ſide of a hill, 22 miles E. of Clermont, and 220 S. by E. of Paris. Long. 3. 38. E. Lat. 45. 51 N.

THIONVILLE, a ſtrong town of France, in the department of Moſelle. It was taken by the Prince of Condé in 1643. The Auſtrians bombarded it in 1792, but were obliged to raiſe the ſiege. It is ſeated on the Moſelle, over which is a bridge defended by a hornwork, 14 miles N. of Metz, and 195 N.E. of Paris. Long. 6. 15. E. Lat. 49. 21. N.

THIRSK, or THURSK, a borough in the north riding of Yorkſhire, with a market on Monday. It ſends two members to parliament; and was formerly noted for its ſtrong caſtle. It is 20 miles N.W. of York, and 230 N. by W. of London. Long. 1. 16. W. Lat. 54. 15. N.

THIVE, or THEBES, a celebrated city of Livadia, with a biſhop's ſee. It is nothing now to what it was formerly, and yet it is four miles in circumference, but ſo full of ruins, that there are not above 4000 Turks and Chriſtians in it. It is famous for a ſort of white clay, of which bowls for pipes are made after the Turkiſh faſhion; they are never burnt, but dry naturally, and become as hard as ſtone. Here are two moſques, and ſeveral Greek churches. It is ſeated between two rivers, 20 miles N.W. of Athens, and 280 S.W. of Conſtantinople. Long. 23. 40. E. Lat 38. 17. N.

THIVIERS, a town of France, in the department of Dordogne, 18 miles N.N.E. of Perigueux. Long. 0. 55. E. Lat. 45. 25. N.

THOISSEL, a town of France, in the department of Ain, with a handſome college. It is ſeated in a fertile country, near the Saone and Chalerone, 10 miles N. of Trevoux, and 200 S.E. of Paris. Long. 4 50. E. Lat. 46. 13. N.

THOMA, ST. an iſland of Africa, lying under the equator, in 8° E. long. It was diſcovered in 1429, and is almoſt round, about 30 miles in diameter. The ſoil is fertile, and produces plenty of ſugar-canes. On the ſame vine are bloſſoms, and green and ripe grapes, all the year round. It is a very unwholeſome country, poſſeſſed by the Portugueſe, and few live to a great age. It conſiſts chiefly of hills, intermixed with valleys, which are conſtantly filled with a thick ſtinking fog; but it agrees very well with the cattle, which are larger and finer here than on the Gold Coaſt of Guinea.

THOMAS, ST. one of the Virgin Iſlands, in the Weſt Indies, with a harbour, a town, and a fort. After the capture of St. Euſtatia, in 1781, it became the mart of that part of the Weſt Indies. It is 15 miles in circumference, and belongs to the Danes. Long. 64. 51. W. Lat. 18. 21. N.

THOMAS, ST. a town of Hindooſtan, on the coaſt of Co-

romandel, with an archbiſhop's ſee. It is ſubject to the Portugueſe, and three miles S. of Madras. Long. 80. 25. E. Lat. 13. 2. N.

THOMAS, ST. a town of Guiana, ſeated on the Oronoko, and ſubject to Spain. In 1618, it was taken and burnt by Sir Walter Raleigh. Long. 63. 30. W. Lat. 7. 6. N.

THOMDAMM, a town of Lower Saxony, in the duchy of Saxe-Lauenburg, ſituate on the Elbe, 25 miles S.E. of Lauenburg, and 58 S.E. of Hambnrg. Long. 11. 5. E. Lat. 53. 10. N.

THONON, a town of Savoy, capital of Chablais, with a palace, and ſeveral convents. It is ſeated on the lake of Geneva, at the mouth of the river Drama, 13 miles S.W. of Lauſanne, and 16 N.E. of Geneva. Long. 6. 44. E. Lat. 46. 19. N.

THORN, or THOREN, a town of Weſtphalia, in the biſhopric of Liege, with a noble abbey, ſeven miles S.W. of Ruremonde.

THORN, a town in the weſt riding of Yorkſhire, with a market on Wedneſday, ſituate on a marſhy ſoil, near the river Don, 10 miles N.E. of Doncaſter, and 167 N. by W. of London. Long. 1. 2. W. Lat. 53. 39. N.

THORNBURY, a corporate town of Glouceſterſhire, with a market on Saturday. It is governed by a mayor, and ſeated near the Severn, 24 miles S.W. of Glouceſter, and 121 W. of London. Long. 2. 31. W. Lat. 51. 35. N.

THORNEY, a ſmall iſland in the bay of the Engliſh Channel, near the coaſt of Suſſex, with a village of the ſame name, at the mouth of the Lavant, ſeven miles S.W. of Chicheſter.

THOUARS, a conſiderable town of France, in the department of Two Sevres. The capital of its ancient dukes is on a rock, ſurrounded by walls 120 feet high, which, from the whiteneſs of the ſtone, might be ſuppoſed not more than ten years old. It is ſeated on a hill by the river Thoue, 32 miles S.E. of Angers, and 162 S.W. of Paris. Long. 0. 15. W. Lat. 46. 59. N.

THRAPSTON, a town in Northamptonſhire, with a market on Thurſday, ſeated on the Nen, over which is a bridge, ſeven miles N. of Higham-Ferrers, and 75 N.N.W. of London. Long. 0. 36. W. Lat. 52. 26. N.

THREE HILLS ISLAND, an iſland, one of the New Hebrides, in the South Pacific Ocean, lying to the S. of Malicollo.

THUIN, a town of Auſtrian Hainault, but ſubject to the biſhop of Liege. It is ſeated on the Sambre, eight miles S.W. of Charleroy, and 15 S.E. of Mons. Long. 4. 22. E. Lat. 50. 21. N.

THUN, a lake of Switzerland, in the canton of Bern, five leagues long and one broad. Its borders are richly variegated, and covered with numerous villages. The river Aar paſſes through it, and at the north-weſt extremity is the town of Thun.

THUN, a town of Switzerland, in the canton of Bern, with a caſtle, where the avoyer reſides. It is ſeated on a lake of the ſame name, where the river Aar iſſues from it, partly in a ſmall iſland, and partly on a hill, 15 miles S.S.E. of Bern. Long. 7. 20. E. Lat. 46. 45. N.

THUNDER BAY, a bay nine miles broad, at the north-weſt corner of Lake Huron, in North America; ſo called from the continual thunder that is heard there.

THUR, a river of Switzerland, which riſes in the ſouth part of the county of Toggenburg, and runs into the Rhine, ſeven miles S.S.W. of Schaffhauſen.

THURGAU, a bailiwic of Switzerland, which lies along the river Thur, bounded on the eaſt and north by the lake, town, and biſhopric of Conſtance; on the ſouth by the territory of the abbot of St. Gallen; and on the weſt by the canton of Zurich. It is the largeſt bailiwic in Switzerland, as well as the moſt pleaſant and fertile; and is extremely populous. The ſovereignty belongs to the eight ancient cantons. Frauenfield is the capital.

THURSO, a borough in Caithneſsſhire, at the mouth of the river Thurſo, on the weſt ſide of Dunnet Bay. It has a conſiderable trade, and a manufacture of woollen and linen cloth. Long. 3. 16. W. Lat. 58. 36. N.

TIAGAR, a town of Hindooſtan, in the Carnatic, 50 miles W.S.W. of Pondicherry, and 75 S. of Arcot. Long. 79. 0. E. Lat. 11. 25. N.

TIANO, a town of Naples, in Terra di Lavoro, with a famous nunnery. Near it is a mineral ſpring, ſaid to be excellent for the ſtone. It is 15 miles N.W. of Capua. Long. 14. 8. E. Lat. 41. 14. N.

TIBUROON, a cape, at the moſt weſtern extremity of the iſland of St. Domingo, with a town, on an open road, oppoſite Port Antonia in Jamaica. It was taken by the Engliſh and royaliſts in 1794, but retaken by the republicans the next year.

TICKELL, a town in the weſt riding of Yorkſhire, with a market on Friday. It had a caſtle and fortifications, demoliſhed in the civil wars, of which ſome ruins remain. It has a diſtinct liberty, called the Honour of Tickell, which is part of the duchy of Lancaſter. It is five miles S. of Doncaſter, and 155 N. by W. of London. Long. 1. 11. W. Lat. 53. 27. N.

TICKELY, a town of the peninſula of Hindooſtan, in the circar of Cicacole, 30 miles N.E. of Cicacole, and 70 S.W. of Ganjam. Long. 84. 30. E. Lat. 43. 50. N.

TICONDEROGO, a fort of the United States, in New York, built by the French in 1756, on the narrow paſſage or communication between the lakes George and Champlain It had all the advantages that art or nature could give it. It was taken in 1759 by General Amherſt, and in 1779 by General Burgoyne, but evacuated ſoon after the convention at Saratoga. It is 110 miles S of Montreal, and 185 N. of New York. Long. 73. 25. W. Lat. 43. 45. N.

TIDESWELL, a town in Derbyſhire, on the ſouth confines of the Peak, with a market on Wedneſday. It is remarkable for a well that ebbs and flows two or three times in an hour after great rains; the waters guſhing from ſeveral cavities at once, for the ſpace of five minutes: the well is three feet deep and broad, and the water riſes and falls two feet. It is deemed one of the wonders of the Peak. Tideſwell is 22 miles N.W. of Derby, and 158 N.N.W. of London. Long. 1. 46. W. Lat. 53. 15. N.

TIDOR, an iſland in the Indian Ocean, one of the Moluccas, to the eaſt of Gilolo, and to the ſouth of Ternate. It is 17 miles in circumference, and produces cloves and flax. The Dutch are maſters of the iſland, though it has a king of its own. The woods and the rocks that ſurround it, render it a place of defence. Long. 126. 0. E. Lat. 0. 50. N.

TIENGEN, a town of Suabia, ſituate on the Wutach, 29 miles E. of Baſle, and 36 W. of Conſtance. Long. 8. 5. E. Lat. 47. 40. N.

TIERRA DEL ESPIRITU SANTO, the moſt weſtern and largeſt iſland of the New Hebrides, in the Pacific Ocean, being 40 leagues in circuit. The land is exceedingly high and mountainous, and in many places the hills riſe directly from the ſea. Except the cliffs and beaches, every part is covered with wood, or laid out in plantations. Beſide the bay of St. Philip and St. Jago, on the north ſide of it, the iſles which lie along the ſouth and eaſt coaſt, form ſeveral good bays and harbours. Long. 165. 0. E. Lat. 16. 0. S.

TIERRA DEL FUEGO, ſeveral iſlands at the ſouthern extremity of America. They take their name from a volcano on the largeſt of them, and are all very barren and mountainous. Upon the lower grounds and iſlands, that were ſheltered by the high mountains, Mr. Forſter found ſeveral ſorts of trees and plants, and a variety of birds. Among the trees was Winter's bark-tree, and a ſpecies of arbutus, loaded with red fruit of the ſize of ſmall cherries, which were very well taſted. In ſome places there is alſo plenty of celery. Among the birds was a ſpecies of large duck, which ran along the ſea with amazing velocity, beating the water with its wings and feet: at the Falkland Iſlands it is called the loggerhead-duck. There are alſo plenty of geeſe and falcons. The rocks of ſome of the iſlands are covered with large muſcle-ſhells, the fiſh of which is well flavoured. The natives of this country are ſhort in their perſons, not exceeding five feet ſix inches, their heads large, their faces broad, their cheek-bones prominent, and their noſes flat. They have little brown eyes, without life; their hair is black and lank, hanging about their heads in diſorder, and beſmeared with train-oil. On the chin they have a few ſtraggling ſhort hairs inſtead of a beard. The whole aſſemblage of their features forms the moſt loathſome picture of miſery to which human nature can be reduced. They had no other clothing than a ſmall piece of ſeal-ſkin, which hung from their ſhoulders to the middle of the back, being faſtened round the neck with a ſtring: the reſt of their body was perfectly naked. Their natural colour ſeems to be an olive brown, with a kind of gloſs, reſembling that of copper; but many of them diſguiſe themſelves with ſtreaks of red paint, and ſometimes, though ſeldom, with white. Their whole character is a ſtrange compound of ſtupidity, indifference, and inactivity. They have no other arms than bows and arrows, and their inſtruments for fiſhing are a kind of fiſh-gigs. They live chiefly on ſeals' fleſh, and like the fat oily part moſt. There is no appearance of any ſubordination among them, and their mode of life approaches nearer to that of brutes, than that of rational creatures.

TILBURY, East, a village in Eſſex, near the mouth of the Thames, eaſt of Tilbury Fort. It is ſuppoſed to be the place where the Emperor Claudius croſſed the Thames, in purſuit of the Britons. In this pariſh is a field, called Cave Field, in which is a horizontal paſſage to one of the ſpacious caverns in the neighbouring pariſh of Chadwell. Of theſe Camden has given a ſketch in his Britannia; and he deſcribes them as in a chalk cliff, built very artificially of ſtone, to the height of ten fathoms. Dr. Derham meaſured three of the moſt conſiderable of them, and found the depth of one of them to be 50 feet, of another 70 feet, and of the third 80 feet. Their origin is too remote for inveſtigation.

Tilbury, West, a village in Eſſex, ſituate on the Thames, north of Tilbury Fort. Here the four Roman proconſular ways croſſed each other, and, in 630, it was the ſee of Biſhop Ceadda, or St. Chad, who converted the Eaſt Saxons. The marſhes here feed a great number of Lincolnſhire and Leiceſterſhire ſheep, for the London market. In this pariſh is a celebrated ſpring of alterative water, diſcovered in 1717. When the Spaniſh armada was in the Channel, in 1588, Queen Elizabeth had a camp here, which was where the windmill now ſtands, and ſome traces of it are viſible.

TILBURY FORT, in Eſſex, ſituate on the Thames, oppoſite Graveſend, a regular fortification, which may be termed the key to London. It has a double moat, the innermoſt of which is 180 feet broad; with a good counterſcarp, a covered way, ravelins, and terails. Its chief ſtrength on the land ſide conſiſts in its being able to lay the whole level under water. On the ſide next the river is a ſtrong curtain, with a noble gate, called the Water-gate, in the middle; and the ditch is palliſaded. Before this curtain is a platform in the place of a counterſcarp, on which are planted 106 guns, from 26 to 46 pounders each, beſide ſmaller ones planted between them; and the baſtions and curtains are alſo planted with guns. It is 28 miles E. by S. of London.

TILLAGE, in agriculture, the proceſs of moving and ſtirring land with a view to promote the growth of uſeful vegetables. This is effected in a great variety of ways, as the plough, ſpade, &c. The following deſcription of an implement in Huſbandry, called a CULTIVATOR, by the inventor, Mr. William Leſter, of Northampton, is publiſhed in the Tranſactions of the Society for the Encouragement of Arts, Manufactures, and Commerce, who preſented their ſilver medal to Mr. Leſter for his invention.

"As," ſays he, "health and luxuriance of corn depend, in a great meaſure, on the pulveriſation of the ſoil, previous to the ſeed being ſown, the Society of Arts will, I am perſuaded, give every encouragement in their power to the introduction of any implement that promiſes an abridgment of labour; and as all the tenacious ſoils are pulveriſed in the beſt manner in dry weather, when their particles are the moſt diſjointed, and their contact broken, the propriety of taking the advantage of working them in that ſtate will be obvious: and at the ſame time it follows, that an improved implement for the abridgment of labour would be a deſirable thing, in a climate like England, where the ſeaſons are ſo uncertain.

"In working on a rough fallow, my cultivator ſhould be ſet at its greateſt expanſion, and contracted in proportion as the clods are reduced. I am confident that one man, a boy, and ſix horſes, will move as much land in a day, and as effectually, as ſix ploughs; I mean land in a fallow ſtate, that has been previouſly ploughed.

It will be requiſite in ſome ſtates of the ſoil to alter the breadth of the ſhares; but of this, I preſume, the farmer will always be a proper judge. By the expanſion and contraction of the cultivator, the points of the ſhares are, in a ſmall degree, moved out of the direct line; but this is ſo trifling, that it is no impediment to its working."

The following is a deſcription of the Cultivator as repreſented in Plate 53.

A, the beam; B, B, the handles; C, C, a croſs-bar, of a ſemi-circular form, containing a number of holes, which allow the two bars D, D, to be placed nearer or further from each other; D, D, are two ſtrong bars, moveable at one end, upon a pivot E, and extending thence in a triangular form to the croſs-bar C. In theſe bars are ſquare holes, which allow the ſhares F, placed therein, to be fixed to any height required. The ſeven ſhares marked F are ſhaped at their lower extremities like ſmall trowels: the upper parts of them ſquare iron bars. G, G, G, are three iron wheels, on which the machine is moved; they may be raiſed or lowered at pleaſure. H, the iron hook, to which the ſwingle-tree and horſes are to be fixed.

When the machine is firſt employed on the land, the bars D, D, are expanded as much as poſſible. As the ſoil is more looſened, they are brought nearer to the centre: the ſhares then occupy a leſs ſpace, and the ſoil will conſequently be better pulveriſed.

A certificate from Mr. William Shaw, of Cotton-End, near Northampton, accompanied this letter; in which he ſtates that he had uſed Mr. Leſter's cultivator upon a turnip fallow laſt ſummer, and that he believes it to be a very uſeful implement for cultivating the land in a fallow ſtate, by its working or ſcuffling off ſeven acres per day with ſix horſes.

He adds, that from its property of contracting and expanding, it is calculated to work the ſame land in a rough or fine ſtate, by which means it unites the principles of two implements in one; and, by the index on the axis, it may be worked at any given depth required.

A model of the above-deſcribed cultivator is reſerved in the Society's repoſitory, at which place it may be inſpected by any one who pleaſes.

TILLIERES, a town of France, in the department of Eure, ſix miles N.E. of Verneuil, and 12 W. of Dreux. Long. 1. 3. E. Lat. 48. 46. N.

TILSIT, a town of Pruſſia, in the Lithuanian department. It has a conſiderable trade in linſeed, butter, and other proviſions; and the number of inhabitants is about 7000. It is ſituate on the Memel, 50 miles N.E. of Konigſberg, and 95 S.S.W. of Mittau. Long. 22. 8. E. Lat. 55. 8. N.

TIMANA, a town of Terra Firma, in Popayan, capital of a territory of the ſame name, which abounds in fruits and paſtures. It is ſeated on a river, 130 miles E.S.E. of Popayan. Long. 73. 55. W. Lat. 1. 35. N.

TIME-KEEPER (*Encycl.*). The following hints on the improvement of time-keepers, by David Rittenhouſe, LL.D. Preſident of the American Philoſophical Society, appear in their Tranſactions.

"The invention and conſtruction of time-keepers may be reckoned among the moſt ſucceſsful exertions of human genius. Pendulum clocks eſpecially have been made to meaſure time with aſtoniſhing accuracy; and if there are ſtill ſome cauſes of inequality in their motions, the united efforts of mechaniſm, philoſophy, and mathematics, will probably in time remove them.

"The laſt and leaſt of thoſe cauſes, which perhaps may be worthy of notice when all others of more importance are removed, is that ariſing from unequal denſity of the air, which by varying the actual weight of the pendulum will accelerate or retard its motion. The effects ariſing from this cauſe will be found very ſmall: for if we ſuppoſe the greateſt range of the barometer to be three inches, which indicates a change of denſity in the air of above one tenth of the whole; and ſuppoſing lead, of which pendulums are generally made, to be 8,800 times heavier than air, the variations of the actual weight of a pendulum may be one 88,000th part of its whole weight, and conſequently the change in its rate of going one 176,000th part. And, as there are 86,400 ſeconds in a day, the clock may vary in its rate of going, from this cauſe, about $\frac{1}{2}$ a ſecond in 24 hours. Mentioning the barometer ſeems naturally to point out a remedy for this cauſe of irregularity by means of that inſtrument. But my deſign at preſent," ſays Dr. Rittenhouſe, "is to deſcribe a very different and extremely ſimple method, which, though only a matter of curioſity at preſent, may at ſome future time perhaps be found uſeful; eſpecially as the variation above mentioned is governed ſolely by the actual denſity of the ſurrounding air, and the barometer can only give the weight of an entire column, which does not ſtrictly correſpond with the denſity of its baſe; whereas the method I propoſe depends on the real denſity of the air ſurrounding the pendulum, and nothing elſe.

"Let A B (Plate 46. fig. 1) be a pendulum vibrating on the point A, and removed from the perpendicular line D E. Let the inflexible rod be continued from B A to C, and let a body C, of equal dimenſions with the pendulum B, but hollow and light as poſſible, be fixed on the rod, making A C equal to A B. Now it is evident that B will be preſſed upwards by a force equal to the weight of its bulk in air, and its deſcent retarded. But the body C will be equally preſſed upwards, and conſequently the motion of the pendulum towards the perpendicular will be as much accelerated. Theſe two forces therefore will deſtroy each other, and the pendulum will perform its vibrations in equal times, whether the air be light or heavy, denſe or rare.

"I have for greater perſpicuity deſcribed the moſt ſimple caſe, but perhaps not the moſt eligible, for if we can enlarge the veſſel or body C, in any proportion, the diſtance of its centre from A may be diminiſhed at the ſame rate.

"However plauſible the above may appear in theory, no doubt difficulties will occur when we attempt to reduce it into practice. But I am perſuaded they will not be found inſuperable.

"The only experiment I have hitherto made on this ſubject has been merely to ſhew that a pendulum can be made in this manner which ſhall vibrate quicker in a denſe medium than in one more rare, contrary to what takes place with common pendulums.

"I made a compound pendulum on the principles above mentioned, of about one foot in its whole length. This pendulum, on many trials, made in the air 37 vibrations in a minute. On immerſing the whole in water it made 59 vibrations in the ſame time, ſhewing evidently that its motion was quicker in ſo denſe a medium as water than in the air. When the lower bob or pendulum only was plunged in water it made no more than 44 vibrations in a minute; the remaining 15 being ſolely the effect of the preſſure of the water againſt the upper veſſel C."

TIMERYCOTTA, a town and fortreſs of the Decean of Hindooſtan, in the province of Golconda, 64 miles S.E. of Hydrabad, and 95 W. of Maſulipatam. Long. 79. 26. E. Lat. 15. 20. N.

TIMORLAND, an iſland in the Indian Ocean, between Timor and New Guinea. Long. of the S. point 131. 54. E. Lat. 8. 15. S.

TIN (*Encyl.*). The following obſervations concerning the tin extracted from bell-metal, and the fixity which antimony acquires when it has been uſed as an alloy for tin, by M. Le Sage, are inſerted in the Journal de Phyſique.

In order to ſeparate the copper from bell-metal, recourſe has been had to operations which ſcorify the tin, and a part of the copper. Metal was calcined in the reverberatory furnace; this oxyd was ſpread upon bell-metal kept in a ſtate of fuſion: the fire was kept up, the fuſed metal was run off, and pure copper was obtained in the proportion of 60 lbs. to the quintal of bell-metal; there remained blackiſh ſcoria intermixed with vitreous matter of a greeniſh colour. For want of means of reducing them, the ſcoria was abandoned to the purpoſes of mending roads and conſtructing dykes, as has been done at Romilly, near Rouen: however, the ſcoria contained ſtill from 30 to 40 lbs. of tin and copper per quintal, as has been aſcertained by the experiments of Citizen Anſry, a pupil of the firſt Academy of Mines, who has been able to turn them to ſuch great advantage, that he has reproduced at leaſt fifteen hundred thouſand weight of tin, and two millions of pure copper.

This chemiſt reduces the ſcoria by fuſing it with a pretty conſiderable quantity of charcoal: he obtains a metallic alloy with ſhining facettes, compoſed of copper, tin, and antimony; it is ſurmounted with an enamel of a greeniſh grey colour, which contains a quarter of its weight of tin. This metallic alloy he fuſes in the reverberatory furnace, takes away every hour what is oxydated, which is in the form of a dirty white powder, and which he ſeparates from the copper by lixiviation. There remains in the furnace an alloy of copper and tin, the fracture of which is not in facettes, but ſimilar to that of the bell-metal.

The copper is ſeparated from the tin by the proceſs indicated in the preceding paragraph.

The calx, or oxyd of copper, of a dirty white colour, when it has been reduced by the charcoal, produces an alloy of tin and copper; its colour is yellow, like that of the pyrites of copper, and its fracture exhibits ſtriated lamina, or cryſtals. This alloy, when in the ſtate of fuſion, is ſurmounted by a mixture of tin and the oxyd of this metal, which, when it has cooled, produces ſolid maſſes of a yellowiſh grey colour, the fracture of which preſents a ſhining grain like the irregular martial pyrites.

The vitreous matter, which floats upon this metallic alloy, is of a yellowiſh-grey colour when it has cooled; it is a glaſs or rather an enamel of tin, in which three layers are diſtinguiſhed; that which is in contact with the metal in a ſtate of fuſion, is grey, ſhining, contains a large quantity of tin in the metallic ſtate; the intermediate layer preſents an enamel of a yellowiſh-grey colour; and the ſuperior layer, which was expoſed to the contact of the air and fire, is ſcoriform of a blackiſh colour. Theſe three ſtates in which the tin preſents itſelf, depend upon the quantity of charcoal, as Citizen Anfry has obſerved. The oxyd, or white calx of tin, cannot be nitrified without the addition of a little charcoal, and cannot be reduced unleſs with the aid of ten parts.

During all theſe operations a very fine ſublimate is formed of the oxyd, or white calx of tin, which is extracted out of the chimneys of the reverberatory furnaces, in which the calcinations and reductions are performed.

It has been remarked, that the tin, which is extracted from the ſcoria of bell-metal, has more ſolidity than pure tin; that it is brittle, and exhibits a greyiſh metallic grain, which is not exhibited by pure tin. It owes this property to a portion of antimony which is employed by the pewterers in order to give durability to this metal. When this alloy has once been made, it is almoſt impoſſible to effect the ſeparation of the two metals. As the bell-founders employ the tin of commerce, it is not to be wondered at that the tin which is extracted from the ſcoria of bell-metal contains antimony; perhaps alſo the founders themſelves introduce ſome of it.

Being well convinced, by obſerving the ſolutions and effects of re-agents, that the tin extracted from bell-metal did not contain iron or copper in any perceptible quantity, and not being able to ſeparate the antimony from it, Mr. Le Sage made alloys of this ſemi-metal with tin, in different proportions, and found, that tin, alloyed with a ſixth part of antimony, was rendered ſimilar to that extracted from bell-metal by the proceſs of Anfry; that it had the ſame grain, the ſame durability, the ſame ſound, and that it had alſo loſt a part of its ſhrilneſs.

Though the tin extracted from bell-metal contains antimony, it may be employed in the fabrication of tin-plates, as he found by experience; it is more difficult to form into blocks than pure tin; it is more proper for tinning utenſils than the tin employed by the pewterers for ſpoons, &c. which is beſides alloyed with lead, biſmuth, and copper.

The experiments quoted ſhew that the bell-metal does not conſiſt merely of copper and tin, but that it alſo contains antimony.

The following are the mixtures employed by pewterers:
Beat tin.—Tin 100 lbs. copper 4 lbs. biſmuth 8 oz.
Pewterers metal.—Tin 100 lbs. copper 6 lbs. biſmuth 1 lb. 8 oz.
Common tin.—Tin 100 lbs. braſs 6 lbs. lead 15 lbs.

The pewterers always alloy this metal with more or leſs antimony.

TINA, a town of Turkey in Europe, in Boſnia, on the river Tis, 37 miles N.W. of Spalatro. Long. 17. 9. E. Lat

TINA, or TINOS, the ancient Tenos, an iſland of the Archipelago, one of the Cyclades, to the weſt of Nicaria. It is 17 miles long and eight broad, and is ſubject to the Venetians. This iſland produces 16,000 pounds of ſilk every year, and the ſtockings made of it are very good; but nothing can equal the gloves which are knit here for the ladies. The fortreſs ſtands on a rock; and here is a biſhop's ſee of the Latin church, though the Greeks have 200 papas or prieſts. St. Nicolo is the principal town. Long. 25. 24. E. Lat. 37. 30. N.

TINIAN, an iſland in the Pacific Ocean, one of the Ladrones, 12 miles in length and ſix in breadth. The ſoil is dry; and, being ſomewhat ſandy, is the leſs diſpoſed to rank and over-luxuriant vegetation. The land riſes in gentle ſlopes from the ſhore to the middle of the iſland, intermixed with valleys of an eaſy deſcent; which are beautifully diverſified with the mutual encroachments of the woods and lawns. The woods conſiſt of tall and well-ſpread trees, and the lawns are covered with clean and uniform turf, producing fine trefoil, and variety of flowers. Here are at leaſt 10,000 cattle, all milk white, except their ears, which are brown or black; alſo a vaſt number of fowls, which are eaſily caught, and plenty of wild hogs. In the woods are prodigious quantities of cocoa-nuts, cabbage-trees, guavoes, limes, ſweet and ſour oranges, and bread fruit. Here are alſo vegetables proper for the ſcurvy; ſuch as water-melon, dandelion, creeping purſlain, mint, ſcurvy-graſs, and ſorrel. Here are ſome ruins of a particular kind, conſiſting of two rows of ſquare pyramidical pillars, each pillar being about ſix feet from the next, and the diſtance between the rows is 12 feet; on the top of each there is a ſemi-globe, with the flat ſurface upward, and they are compoſed of ſand and ſtone cemented together. The climate is extremely healthful, for the rains are not continual, but fall in frequent refreſhing ſhowers. There are no ſtreams, but the water of the wells and ſprings is excellent. The principal inconvenience ariſes from the number of muſkitoes, and other kinds of flies; and there are likewiſe inſects called ticks, which faſten upon the limbs and bodies of men, and bury their heads under their ſkins. The road is inconvenient, and, in ſome ſeaſons, there is little ſecurity for a ſhip at anchor. Long. 146. 0. E. Lat. 15. 0. N.

TINMOUTH, a ſea-port in Northumberland, at the mouth of the Tyne, nine miles eaſt of Newcaſtle. It has a caſtle, ſeated on a high rock, inacceſſible on the ſea-ſide, and well mounted with cannon. There is a bar acroſs the mouth of the river, which is not above ſeven feet deep at low water. There are dangerous rocks about it, called the Black Middins; but there are light-houſes to guide the ſhips by night. Here ſhips take in their loading of coal, and of goods brought from Newcaſtle. Long. 1. 16. W. Lat. 55. 6. N.

TINTAGEL, a village in Cornwall, one mile weſt of Boſſiney, noted for the remains of a remarkable fortification called King Arthur's caſtle. It is ſeated on a bold promontory, in the Briſtol Channel; and is ſaid to have been the birth-place and royal reſidence of Arthur.

TINTO, a river of Spain, which riſes in the province of Seville, and has its name from the water being tinged of a yellow colour. Near its ſpring it has a petrifying quality, no trees or plants will grow on its banks, nor will any fiſh live in it; which properties continue till other rivulets run into it and alter its nature; for when it paſſes by Niebla it is not different from other rivers. It falls into the Atlantic about 18 miles below Niebla.

TINZEDA, a town of Barbary, in Biledulgerid. It is ſeated on a river of the ſame name, in a country fertile in

dates and barley, and abounding in indigo. Long. 6. 13. W. Lat. 27. 30. N.

TINZULIE, a ſtrong town of Barbary, in Biledulgerid, ſeated on the river Dras. Long. 5. 43. W. Lat. 28. 15. N.

TIORN, an iſland on the weſt coaſt of Sweden, about 27 miles in circumference, and abounding in excellent paſtures. Long. 11. 29. E. Lat. 58. 0. N.

TIPERAH, or TIPRAH, a kingdom of Aſia, in the dominions of the King of Burmah, lying under the tropic of Cancer, to the eaſt of Hindooſtan Proper.

TIPPERARY, a town of Ireland, in the county of the ſame name, nine miles S.S.W. of Caſhel.

TIRANO, a town of the country of the Griſons, capital of the Upper Terzero. It contains ſeveral handſome buildings, but from the narrowneſs of the ſtreets, and many ruinous houſes, its general appearance is deſolate. The river Adda divides it into two parts, which are joined by a ſtone bridge of a ſingle arch. There are ſome remains of the ſtone walls by which it was formerly ſurrounded, and which, with an adjoining fortreſs, was built by Ludovico Sforza, againſt the incurſions of the Griſons, but were diſmantled by the latter, when they acquired poſſeſſion of the Valteline. The ſtaple commerce of this town conſiſts in the exportation of wine and ſilk. Near the town on the other ſide of the Adda, is the magnificent church of the Madona, or Virgin Mary, much viſited by the Catholic pilgrims. The maſſacre of the Proteſtants of the Valteline, in 1620, began in this town. It is 17 miles S.W. of Bormio. Long. 9. 46. E. Lat. 46. 12. N.

TIREE, a ſmall but rich iſland of Scotland, one of the Hebrides, lying to the S.W. of Col, and noted for its marble quarry and a handſome breed of little horſes.

TIREH, a town of Turkey in Aſia, in Natolia, ſituate on the Meinder, 32 miles S.S.E of Smyrna. Long. 27. 30. E. Lat. 38. 10. N.

TIRLEMONT, a village of Auſtrian Brabant, formerly one of the moſt conſiderable places in that duchy, but ruined by the wars. It is ſeated on the river Geet, over which are ſeveral bridges, 12 miles E.S.E. of Louvain, and 25 E. of Bruſſels. Long. 4. 41. E. Lat. 50. 48. N.

TIRNAU, a ſtrong and conſiderable town of Upper Hungary, in the county of Neitra. It is ſeated on the Tirna, five miles W. of Leopoldſtadt, and 22 N.E. of Preſburg. Long. 17. 39. E. Lat. 48. 24. N.

TITAN, or CABAROS, an iſland of France, the moſt eaſtern of the Hieres, in the Mediterranean.

TITICACA, or CHUCUITO, an iſland of Peru, in the audience of Los Charcos. It is ſituate in a lake of the ſame name, which is one of the largeſt in South America.

TITLISBERG, one of the higheſt mountains in Switzerland, at the foot of which is the greateſt part of the valley of Engelberg.

TITTMAINING, or DITTMAINING, a town of Germany, in the archbiſhopric of Saltzburg. It was almoſt deſolated by the plague in 1310, and was reduced to aſhes by lightning in 1571; but it has been ſince rebuilt. It is ſeated on the Saltza, 24 miles N.W. of Saltzburg. Long. 12. 46. E. Lat. 47. 54. N.

TITUL, a ſtrong town of Upper Hungary, in the county of Bodrog. It is ſeated on the Teiſſe, near its confluence with the Danube, 23 miles E. of Peterwaradin, and 20 N.W. of Belgrade. Long. 20. 34. E. Lat. 45. 30. N.

TIVERTON, a borough in Devonſhire, with a market on Tueſday. It is ſeated on the Ex, over which is a ſtone bridge, is governed by a mayor, and ſends two members to parliament. It has a noble free-ſchool (founded by a clothier of this town), which has an endowment alſo for the maintenance of eight ſcholars at Baliol College, Oxford, and Sidney Suſſex College, Cambridge. Tiverton has ſuffered very ſeverely by fire, particularly in 1598, 1612, 1731, and 1794. This town has been noted for its great woollen manufacture, and is 14 miles N.N.E. of Exeter, and 161 W. by S. of London. Long. 3. 38. W. Lat. 50. 54. N.

TIUMEN, a town of Siberia, in the province of Tobolſk, on the Tura, 125 miles W. of Tobolſk.

TIVOLI, a celebrated town of Italy, in Campagna di Roma, with a biſhop's ſee. It is now wretchedly poor; but boaſts, however, of greater antiquity than Rome itſelf, being the ancient Tibur, which, Horace ſays, was founded by a Grecian colony. It was the favourite country reſidence of the ancient Romans, as Freſcati is of the moderns. Near the bottom of the eminence on which Tivoli ſtands, are the ruins of the vaſt and magnificent villa built by Emperor Adrian. Other illuſtrious Romans had alſo their villas here; as Julius Cæſar, Caius Caſſius, Auguſtus, Catullus, Propertuis, Mæcenas, &c. Horace is thought to have compoſed great part of his works in this favourite retreat. Near Tivoli are a celebrated caſcade, a temple of Veſta, and another of the ſybil Albunea, a magnificent villa belonging to the Duke of Modena, called the Villa Eſtenſe, and the remarkable lake of Solfatara. Tivoli is ſeated on the Teverone, 12 miles E.N.E. of Rome, and 15 N.N.E. of Freſcati. Long. 12. 43. E. Lat. 41. 59. N.

TIZZANO, a town of Italy, in the duchy of Parma, 13 miles S. of Parma.

TLASCALA, a province of New Spain, in the audience of Mexico; bounded on the N. by Panuco, on the E. by the gulf of Mexico, on the S. by Guaxaca and the Pacific Ocean, and on the W. by the audience of Mexico. In the weſt part of this province is the mountain of Tlaſcala, 12 miles in circumference: it is well peopled and cultivated, except on the ſummit, which is always covered with ſnow. There are alſo other mountains, covered with trees, in which are tigers and monkeys.

TLASCALO, a town of New Spain, capital of a province of the ſame name. It is ſeated on a river, partly on a mountain, and partly on a plain, 82 miles E.S.E. of Mexico. Long. 99. 22. W. Lat. 19. 30. N.

TOCAYMA, a town of New Granada, ſeated on the Pati, in a country abounding in fruit and ſugar-canes. Here are hot-baths between two cold ſprings; and near the town is a volcano. Long. 73. 50. W. Lat. 4. 3. N.

TOCKAY, a ſtrong town of Upper Hungary, in the county of Zimplin, with a caſtle. It is celebrated for its excellent wine; but being produced only by one vineyard, it is ſcarce even at Vienna. At ſome diſtance from it are large ſalt-works. It is ſeated at the confluence of the Bodrog and Teiſſe, 75 miles N.W. of Great Waradin, and 90 N.E. of Buda. Long. 21. 25. E. Lat. 48. 10. N.

TOCORT, or TUGGURT, a town of the kingdom of Algiers, 240 miles S.S.E. of Algiers. Long. 4. 40. E. Lat. 32. 40. N.

TODI, a town of Italy, in the duchy of Spoletto, with a biſhop's ſee; ſeated on a hill, near the Tiber, 22 miles S. of Perugia, and 50 N. of Rome. Long. 12. 32. E. Lat. 42. 44. N.

TOGGENBURG, a county of Switzerland, depending on the abbey of St. Gallen. It is a narrow country, ſituate between high mountains, is fertile in corn and fruit, and is divided into the Upper and Lower. It contains 30 pariſhes, and upwards of 46,000 inhabitants. There are more Proteſtants than Catholics, but both religions are bound by oath to maintain reciprocal harmony.

TOISSEY, a town of France, in the department of Ain, feated near the confluence of the Saone and Chalarogne, 25 miles N. of Lyons. Long. 4. 52. E. Lat. 45. 20. N.

TOLAGA BAY, a bay of the iſland of New Zealand. Long. 178. 33. E. Lat. 38. 21. S.

TOLEN, a town of the Dutch Netherlands, in Zealand, in an iſland of the ſame name, ſeparated by a narrow channel from Dutch Brabant. It is five miles N.W. of Bergen-op-Zoom. Long. 4. 20. E. Lat. 51. 30. N.

TOLENTINO, a town of Italy, in the marquiſate of Ancona, with a biſhop's ſee. It is the place where the relics of St. Nicholas are kept, and is ſeated on the river Chiento, eight miles S.E. of St. Severino, and 88 N.E. of Rome. Long. 13. 11. E. Lat. 43. 14. N.

TOLESBURG, a ſea-port of Ruſſia, in the government of Riga, ſeated on the gulf of Finland, 60 miles W. of Narva. Long. 26. 4. E. Lat. 59. 38. N.

TOLFA, a town of Italy, in the patrimony of St. Peter. In the environs are mines of alum and iron, with warm baths, and quarries of alabaſter and lapis lazuli. It is four miles from the ſea coaſt, and 25 N.W. of Rome. Long. 12. 40. N. Lat. 42. 10. N.

TOLHUYS, a town of Dutch Guelderland, ſeated on the Rhine. Here the French army paſſed the Rhine in 1672. It is eight miles E. of Nimeguen. Long. 6. 0. E. Lat. 51. 56. N.

TOLMEZZO, a town of Italy, in Venetian Friuli, 30 miles N.E. of Belluno. Long. 12. 50. E. Lat. 46. 30. E.

TOLMINO, a town of Germany, capital of a diſtrict in the duchy of Carniola, 12 miles N. of Goritz.

TOLNA, a town of Lower Hungary, capital of a county of the ſame name. It is ſeated on the Danube, in a country producing excellent wine, eight miles S.W. of Colocza, and 45 S. of Buda. Long. 19. 28. E. Lat. 46. 33. N.

TOLNANI, a town of the Deccan of Hindooſtan, in the country of Baglana, 70 miles W. of Burhampour, and 124 E. of Surat. Long. 75. 3. E. Lat. 21. 15. N.

TOLOSA, a town of Spain, the capital of Guipuſcoa, ſeated in a valley, between the Araxis and Oria, over which are two bridges, and near them ſeveral natural caſcades. It is inhabited by a great number of artiſts, who make ſword blades in high eſteem. It was taken by the French in 1794. It is 37 miles S.W. of Bayonne, and 47 S.E. of Bilboa. Long. 2. 5. W. Lat. 43. 10. N.

TOMAR, a town of Portugal, in Eſtremadura, ſeated on the river Naboan, at the foot of the mountains, where there is a caſtle belonging to the knights of Chriſt. It is 40 miles S.E. of Coimbra, and 65 N.E. of Liſbon. Long. 7. 55. W. Lat. 39. 30. N.

TOMBEC, a town of Auſtrian Brabant, eight miles S. of Louvain, and 10 E. of Bruſſels. Long. 4. 49. E. Lat. 50. 45. N.

TOMBELAINE, a ſmall iſland of France, with a town of the ſame name, on the coaſt of Normandy, in a ſmall gulf between Avranches and St. Malo. This iſland, as well as that of St. Michael, in which there is a monaſtery, are every day joined, at low water, to the main land.

TOMBUCTOO, a kingdom of Nigritia, which lies to the ſouth-eaſt of the great deſert of Zahara, and weſt of the empire of Caſhna. It produces great plenty of corn, cattle, milk, and butter. The king has 300 horſemen, beſide a great number of foot, who frequently take captives, and ſell them to the merchants for ſlaves. The houſes are built like bells, with walls of hurdles plaſtered with clay, and covered with reeds. The better ſort of women have their faces covered, their religion being Mahometaniſm. Both men and women are very fond of dancing, and ſpend a great part of the night in that exerciſe.

TOMBUCTOO, the capital of a kingdom of the ſame name, in Nigritia, with a ſtately moſque built of ſtone, and a royal palace. Here is a great number of weavers of cotton cloth; and hither the cloth and other merchandiſe are brought by caravans from Barbary. Inſtead of money, they make uſe of ſhells and ſmall bits of gold. In the proceedings of the African Aſſociation, this place is mentioned as a luxurious, opulent, and flouriſhing city, ſubject to a ſevere police, and, as ſuch, attracting the merchants of the moſt diſtant ſtates of Africa. It is ſeated near the Niger, 270 miles S.W. of Moorſook. Long. 0. 8. W. Lat. 19. 59. N.

TOMEBAMBA, a town of Peru, in the audience of Quito, where was a temple of the Sun, whoſe walls, as the Spaniards aſſert, were covered with gold. It is 120 miles S. of Quito. Long. 77. 50. W. Lat. 2. 16. S.

TOMINA, a government of South America, in the vice-royalty of Buenos Nyres, and archbiſhopric of La Plata.

TOMINI, a town on the eaſt coaſt of the iſland of Celebes, in a bay to which it gives name. Long. 119. 0. E. Lat. 0. 45. S.

TOMSK, a town of Siberia, in the province of Tomsk. On the higheſt part ſtands a wooden caſtle, defended by 14 pieces of cannon; and in it are a cathedral built of wood, the chancery, and an arſenal. The inhabitants carry on a great trade, this town lying on the great road through all the eaſt and north parts of Siberia. It contains above 2000 houſes, and is ſeated on the river Tom, 105 miles E.S.E. of Tobolsk. Long. 84. 59. E. Lat. 55. 45. N.

TONDEREN, or TUNDEREN, a town of Denmark, in the duchy of Sleswick, capital of a bailiwic of the ſame name, with a fort. It is ſeated in a fertile country, on the river Widaw, and on a bay of the German ocean, 25 miles S.E. of Ripen, and 30 N.W. of Sleswick. Long. 9. 40. E. Lat. 54. 58. N.

TONGATABOO, or AMSTERDAM ISLAND, one of the Friendly Iſlands, 20 leagues in circuit. It has the beſt harbour or anchoring-place to be found among theſe iſlands. It is wholly laid out in plantations, with roads or lanes for travelling; and is the ſeat of government for all the other iſlands, and the ordinary reſidence of all the principal chiefs. Long. 175. 5. W. Lat. 21. 8. S.

TONGRES, a town in the biſhopric of Liege, formerly one of the richeſt and moſt flouriſhing cities in the Roman province of Gallia Belgica. It has ſeverely ſuffered by the calamities of war; the firſt time by Attila, king of the Huns, and the laſt by the French in 1673 and 1677. It is ſeated on the Jecker, 12 miles S.W. of Maeſtricht, and 15 W. of Liege.

TONG-TCHANG-FOU, a city of China, in the province of Chang-tong, containing in its diſtrict, three cities of the ſecond, and 15 of the third claſs. It is 150 miles S. of Pekin. Long. 115. 25. E. Lat. 36. 30. N.

TONG-TCHUEN-FOU, a fortified city in China, in the province of Se-tchuen. The inhabitants are all ſoldiers, who have followed the profeſſion of arms from father to ſon. It is 867 miles S.W. of Pekin. Long. 101. 30. E. Lat. 25. 56. N.

TONGUSIANS, a people who inhabit the eaſt part of Siberia, and are ſubject to the Ruſſians. They are all Pagans, and chiefly ſubſiſt by grazing and hunting of ſables. They live in huts, which, when they remove their dwellings, they take down and ſet up elſewhere. Theſe huts are compoſed of wooden poles, covered all over with hair and rubbiſh, except a hole left at the top to let out the ſmoke. Their fire is made in the middle, and they all ſit round it upon turfs. Both ſexes are very ſtrong, and broad-

faced, and they all ride on horseback, not excepting the girls. Both men and women dress alike in a sort of frock, with boots of skins on their legs, and their common drink is water.

TONNA, a town of Upper Saxony, in the principality of Gotha, six miles N. of Gotha.

TONNAY BOUTONNE, a town of France, in the department of Lower Charente, seated on the river Boutonne, 17 miles N. of Saintes. Long. 0. 34. W. Lat. 45. 56. N.

TONNAY CHARENTE, a town of France, in the department of Lower Charente, with a castle and a small port. It is seated on the Charente, three miles from Rochefort, and 253 S.W. of Paris. Long. 0. 46. W. Lat. 45. 56. N.

TONNIENS, a town of France, in the department of Lot and Garonne, seated on the Garonne, two miles from its junction with the Lot, and seven E. of Marmande.

TONNERRE, a town of France, in the department of Yonne, famous for its good wines. It is seated on the Armancon, 27 miles S. of Troyes, and 102 E. of Paris. Long. 4. 4. E. Lat. 47. 51. N.

TONNINGEN, a town of Denmark, in the duchy of Sleswick, capital of a territory of the same name. It is seated on a peninsula formed by the river Eyder, where there is a commodious harbour, 25 miles S.W. of Sleswick, and 58 N.W. of Hamburg. Long. 9. 10. E. Lat. 54. 30. N.

TONSBERG, a sea-port of Norway, in the province of Aggerhuys, 30 miles W. of Frederickstadt. Long. 10. 20. E. Lat. 58. 50. N.

TOOBOUAI, an island in the Pacific Ocean, discovered by Captain Cook. It is not in any direction above six miles over; but there are hills in it of considerable elevation, covered with herbage, except a few rocky cliffs, with patches of trees interspersed to their summits. It is plentifully stocked with hogs and fowls, and produces several kinds of fruits and roots. Long. 149. 23. W. Lat. 23. 25. S.

TOOTH-ACH. See ODONTALGIA, *Supp.*

TOPCLIFF, a town in the North Riding of Yorkshire, seated on a considerable ascent on the Swale, 24 miles N. of York.

TOPEL, or TOPL, a town of Bohemia, in the circle of Pilsen, 24 miles N.W. of Pilsen, and 56 W. of Prague. Long. 14. 10. E. Lat. 50. 10. N.

TOPOLITZ, a town of Bohemia, in the circle of Leutmeritz, near which the Austrians defeated the Prussians in 1762. It is 14 miles W.N.W. of Leutmeritz. Long. 14. 10. E. Lat. 50. 36. N.

TOPOLITZA, a town of Turkey in Europe, in Moldavia, 12 miles S.W. of Niemecz. Long. 26. 9. E. Lat. 46. 51. N.

TOPOLTZAU, a town of Hungary, 42 miles N.E. of Presburg, and 68 E. of Vienna. Long. 17. 30. E. Lat. 48. 35. N.

TOPSHAM, a town of Devonshire, with a market on Saturday. It is seated on the Ex, five miles S.E. of Exeter (of which it is the port), and 170 S.W. of London. Long. 3. 26. W. Lat. 50. 39. N.

TOR, or ELTOR, a town of Arabia Petrea, seated on the Red Sea, with a good harbour defended by a castle. Here is a Greek convent, in the garden of which are fountains of bitter water, pretended to be those which Moses rendered sweet, by throwing in a piece of wood. Long. 33. 45. E. Lat. 28. 27. N.

TORBIA, a town of Piedmont, in the county of Nice. Here is an ancient tower, of Gothic architecture, and in the environs are found many remains of Roman monuments. It is seven miles E. of Nice.

TORBOLE, a town of Italy, in the Trentino, 14 miles S E. of Trent. Long 11. 39. E. Lat. 45. 56. N.

TORCELLO, a town of Italy, in the territory of Venice. It is thin of people, on account of the unwholesome air, and seated in a small island, seven miles N. of Venice. Long. 12. 9. E. Lat. 45. 32. N.

TORDA, or TORENBURG, a town of Transylvania, famous for its salt-works. The Hungarian language is said to be spoken with the greatest purity in this town. It is 15 miles W.N.W. of Clausenburg, and 48 N.W. of Hermanstadt. Long. 23. 13. E. Lat. 46. 50. N.

TORDESILLAS, a fortified town of Spain, in Leon, with a magnificent palace, where Queen Joan, mother of Charles V. ended her melancholy days. It is seated in a country fertile in corn and wine, on the river Douero, 24 miles W. of Valladolid, and 75 S.E. of Leon. Long. 4. 56. W. Lat. 41. 48. N.

TORGAU, a town of Upper Saxony, in Saxony Proper. It has a castle, the staircase of which is built in such a manner, that a person may ride in a chaise to the top of it. The inhabitants brew excellent beer, which they send to other places on the Elbe, on which the town is seated. Here the King of Prussia obtained a great victory over the Austrians in 1760. It is 27 miles N.E. of Leipsic, and 35 N.W. of Dresden. Long. 13. 3. E. Lat. 51. 34. N.

TORIGNY, a town of France, in the department of the Channel, with a magnificent castle, seated on a rivulet, seven miles S.E. of St. Lo. Long. 0. 42. W. Lat. 49. 0. N.

TORMES, a river of Spain, which rises in the mountains of Avila, in Castile, passes by Alva, Tormes, and Salamanca, and falls into the Douero, below Mirande-de-Douero.

TORNA, or TORNAW, a fortified town of Upper Hungary, capital of a county of the same name, with a castle. It is seated on an eminence, on the river Sayo, 22 miles W. of Cassovia. Long. 20. 43. E. Lat. 48. 50. N.

TORNE, a river of Sweden, which rises in the mountains of Norway, forms a lake of the same name, and flowing S.E. falls into the gulph of Bothnia, at Tornea.

TORNEA, a town of Sweden in West Bothnia, capital of a territory of the same name, with a good harbour. It is a place of some trade, because all the Laplanders in those parts come and exchange their skins and other articles, for what they want. The houses are low, and the cold so severe, that sometimes people lose their fingers and toes. It is seated at the mouth of the Torne, at the N. extremity of the gulf of Bothnia, 180 miles N.E. of Uma, and 420 N.N.E. of Stockholm. Long. 24. 17. E. Lat. 65. 51. N.

TORNOVA, a town of Turkey in Europe, in Jama, with a bishop's see. It is seated at the foot of Mount Dragoniza, on the river Salempria, 10 miles N.W. of Lariss. Long. 22. 36. E. Lat. 39. 52. N.

TORO, a town of Spain, in Leon, seated on a hill, on the river Douero, in a country fertile in corn and fruits, and whose vineyards yield excellent red wine. It is 37 miles N. by E. of Salamanca, and 100 N.W. of Madrid. Long. 5. 2. W. Lat. 41. 39. N.

TORELLA-DE-MONGRIS, a sea-port of Spain, in Catalonia, famous for a battle gained by the French over the Spaniards, in 1694. It is seated near the mouth of the Tor, in the Mediterranean, at the foot of the Pyrenées, 19 miles E. by S. of Gironna, and 60 N.E. of Barcelona. Long. 3. 18. E. Lat. 41. 55. N.

TORPERLEY, a town in Cheſhire, nine miles E. of Cheſter It was formerly a borough, and had a market.

TORRE-DEL-GRECO, a town of Naples, in Terra di-Lavoro, ſeated at the foot of Mount Veſuvius, on the bay of Naples, five miles S.E of that city. It was deſtroyed by an eruption of Veſuvius in 1631; and in 1794 was overwhelmed by a torrent of lava, from that volcano. The inhabitants, however, to the amount of 18,000, eſcaped with their lives, about 15 excepted; and the town is now rebuilding on the lava that covered the former habitations.

TORRE DE MONCORVO, a town of Portugal, in Tra los Montes, ſurrounded with a wall, and defended by a baſtion and a caſtle. It is 27 miles S.E of Mirandela, and 42 S.S.W. of Braganza. Long. 5. 55. W. Lat. 41. 0. N.

TORRE DE LAS SALINAS, a town of Spain, in Valencia, near the coaſt of the Mediterranean, which carries on a great trade in ſalt, procured from a ſmall lake formed by ſaline ſprings. This is the moſt conſiderable ſalt-work in all Spain. It is 20 miles S.E. of Origuela, and 37 N.N.E. of Carthagena. Long. 0 50. W. Lat. 37. 58. N.

TORREJO, a town of Spain, in New Caſtile, 15 miles S. of Madrid. Long. 3. 21. W. Lat. 40. 10. N.

TORRES, a ſea-port of Spain, in Granada, ſeated on the Mediterranean, 45 miles S.W. of Granada. Long. 3. 56. W. Lat. 36. 39. N.

TORRES NOVAS, a ſtrong town of Portugal, in Eſtremadura, with a caſtle. It is ſurrounded by walls, and ſeated in a fertile plain, on the river Almonda. 55 miles N.E. of Liſbon. Long. 8. 8. W. Lat. 39. 10. N.

TORRES VEDRAS, a town of Portugal, in Eſtremadura, with a caſtle, ſeated near the Atlantic, in a country abounding in corn, fruits, and good wine, 17 miles S. of Liſbon.

TORRIGLIA, a town of Italy, in the territory of Genoa, 10 miles N. of Genoa. Long. 8. 44. E. Lat. 44. 34. N.

TORRINGTON, a corporate town in Devonſhire, with a market on Saturday. It has two churches, a manufacture of ſtuffs, and is governed by a mayor. Some remains of a caſtle are ſtill viſible. It is ſeated on the Towridge, over which is a bridge, 11 miles S. by W. of Barnſtaple, and 194 W. by S. of London. Long. 4. 0. W. Lat. 51. 4. N.

TORSIL, a town of Sweden, in Sudermania, ſeated on the S. bank of the lake Maeler, 43 miles W. of Stockholm. Long. 17. 20. Lat. 59. 20. N.

TORTOLA, the principal of the Virgin Iſlands, in the Weſt Indies, 18 miles long and ſeven broad. It formerly belonged to the Dutch, who built a ſtrong fort, from which they were expelled by the Engliſh in 1666. It produces excellent cotton, ſugar, and rum, and of late years has undergone great improvements. Its fruits, of which there are no great variety, are but indifferent; ſome apples excepted. The entrance into the harbour is at the E. end of the iſland. Long. 63. 0. W. Lat. 18. 33. N.

TORTONA, a fortified town of Italy, in the duchy of Milan, capital of the Tortoneſe, with a biſhop's ſee, and a caſtle on an eminence. It is deemed a conſiderable frontier place; was taken by the allies in 1744, by the Spaniards in 1745, and by the French in 1796. It is ſeated on the Scrivia, 28 miles S.E. of Caſal, and 27 S.W. of Milan. Long. 8. 58. E. Lat. 45. 8. N.

TORTORELLA, a town of Naples, in Principato Citeriore, five miles N.E. of Policaſtro.

TORTOSA, a city of Spain, in Catalonia, with a biſhop's ſee, a univerſity, and a citadel. It is divided into the Old and New Town, both ſurrounded by modern fortifications. The entrance is over a large bridge of boats, on the river Ebro, whoſe head is fortified. It has a great number of churches and religious houſes; among which the cathedral, the royal college of Dominicans, and the convent of the Carmelites, are the moſt remarkable. It is ſituated in a country fertile in corn and fruits, and abounding with quarries and mine of ſilver, iron, alabaſter, jaſper of divers colours, and ſtones with veins of gold. Here is a great deal of ſilk and oil, and very fine potters-ware, which reſembles porcelain. It is ſeated partly on a plain, and partly on a hill, 35 miles S.W. of Tarragona, and 180 E. of Madrid. Long. 0. 35. E Lat. 40. 53. N.

TORTUGA, an uninhabited iſland near the coaſt of Terra Firma, 40 miles W. of the iſland of Margaretta, and about 30 miles in circumference. The E. end is full of bare rugged broken rocks, which ſtretch a little way out to ſea. At this end is a large ſalt pond, where the ſalt begins to kerm in April; and there have been 20 ſhips here at a time for ſalt. At the weſt end is a ſmall harbour with freſh water; and it is full of low trees. There are a few goats on it; and the turtles or tortoiſes come upon the ſandy banks to lay their eggs, whence this iſland has its name. It was formerly much frequented by the bucaniers. Long. 64. 50. W. Lat. 11. 30. N.

TORTUGA, an iſland of the Weſt Indies, near the north coaſt of the iſland of Hiſpaniola, where the French bucaniers uſed to fortify themſelves. It is about 80 miles in circumference, and has a ſafe harbour, but difficult of acceſs. Long. 75. 10. W. Lat. 20. 10. N.

TOSA, a ſea-port of Spain, in Catalonia, ſeated at the bottom of a bay, which forms a good harbour, where veſſels are ſheltered from all winds, except the S.W. It is built partly on a plain, and partly on a ſteep hill, which projects into the ſea. On the top of the hill, nearer the ſea, is a ſtrong citadel, with other fortifications. It is 37 miles N.E. of Barcelona. Long. 2. 54. E. Lat. 41. 42. N.

TOSCANELLA, a town of Italy, in the patrimony of St. Peter, 35 miles N. of Rome. Long. 12. 35. E. Lat. 42. 29 N.

TOSENA, a town of Sweden, in Weſt Gothland, 20 miles W.N.W. of Uddevalla. Long. 12. 2. E. Lat. 58. 33. N.

TOSSO, a town of Sweden, in Weſt Gothland, 42 miles N.N.E. of Uddevalla. Long. 12. 15. E. Lat. 58. 51. N.

TOTNESS, a borough in Devonſhire, with a market on Saturday. It is ſeated on the river Dart, on the ſide of a hill, and had formerly a caſtle and walls. It ſends two members to parliament, is governed by a mayor, and has a manufacture of ſerges. It is 27 miles S.W. of Exeter, and 196 W. by S. of London. Long. 3. 44. W. Lat. 50. 24. N.

TOUL, a town of France, in the department of Meurthe. Before the revolution it was a biſhop's ſee, and the cathedral and late epiſcopal palace are handſome ſtructures. It was an imperial town of Germany, till taken by the French in 1552. It is ſeated on the Moſelle, in a plain almoſt ſurrounded by mountains, 10 miles weſt of Nanci, and 167 S.E. of Paris. Long. 6. 2. E. Lat. 48. 40. N.

TOULOMBA, or TULMABINI, a fortreſs of Hindooſtan Proper, in Lahore, ſeated on the Rauvee, 70 miles E N.E. of Moultan.

TOUR, a town of France, in the department of Puy de Donne, 22 miles S. of Clermont. Long. 3. 10. E. Lat. 45. 25. N.

TOUR DE ROUSILLON, a town of France, in the department of Eaſtern Pyrenées, ſeated on a hill near the river Tet, two miles below Perpignan.

TOUR DU PIN, a town of France, in the department

of Iſere, ſeated on a river of the ſame name, 24 miles S. of Vienne.

TOUR LA BLANCHE, a town of France, in the department of Dordogne, 15 miles N.W. of Perigueux. Long. 0. 40. E. Lat. 45. 18. N.

TOUR LA VILLE, a town of France, in the department of Charente, ſeparated from Cherbourg by a river.

TOURANCOURCHY, a town of Hindooſtan, in the Carnatic, 35 miles S.S.W of Tritchinopoli. Long. 78. 36. E. Lat. 47. 50. N.

TOURINE, a town of Germany, in the biſhopric of Liege, 13 miles N.E. of Namur. Long. 5. 0. E. Lat. 50. 36. N.

TOURNAN, or TOURNANS, a town of France, in the department of Seine and Marne, 22 miles E. by S. of Paris. Long. 2. 45. E. Lat. 48. 43. N.

TOURNAY, a conſiderable city of Auſtrian Flanders, capital of the Tournayſis, with a biſhop's ſee, and a ſtrong caſtle. It has ſeveral fine manufactures, and is particularly famous for good ſtockings. The cathedral, and the abbey of St. Martin, are very magnificent. It was taken by the allies in 1709, and ceded to the houſe of Auſtria by the treaty of Utrecht; but the Dutch were allowed to place a garriſon in it, as one of the barrier towns. It was taken in 1745, by the French, who demoliſhed the fortifications, but reſtored it in 1748. In 1781, the Emperor Joſeph obliged the Dutch to withdraw their garriſon. It was again taken by the French in 1792: they were obliged to abandon it in 1793, but re-entered it again, on the final conqueſt of Auſtrian Flanders, in 1794. It is ſeated on the Scheld, which divides it into two parts, that are united by a bridge, 14 miles S.E. of Liſle, 30 S.W. of Ghent, and 135 N. by E. of Paris. Long. 3. 28 E. Lat. 50. 33. N.

TOURNEHEM, a town of France, in the department of Straits of Calais, nine miles N.W. of St. Omer.

TOURNIQUET *(Encycl.)*. A patent was lately granted to Mr. Savigny, of King's-ſtreet, Covent-garden, for an improved tourniquet. The conſtruction of it will be underſtood from the following deſcription:—In a braſs frame are placed two braſs rollers, the one fixed, the other moveable on its axis. To the former of theſe rollers is faſtened the bandage, which is to encircle the limb, and which, being drawn over the moving roller, is faſtened by a kind of buckle. A plate of braſs, being in ſhape a ſegment of a circle, is preſſed againſt the limb by the turning of a ſcrew, till it produce the requiſite degree of tightneſs.

TOURNON, a town of France, in the department of Ardeche, with a fine college, and a caſtle. It is ſeated on the declivity of a mountain, near the river Rhone, 40 miles W. of Grenoble, and 280 S. by E. of Paris. Long. 4. 50. E. Lat. 45. 6. N.

TOURNUS, a town of France, in the department of Saone and Loire, ſeated on the Saone, in a country fertile in corn and wine, 15 miles S. of Chalons, and 202 S. by W. of Paris. Long. 5. 0. E. Lat. 46. 34. N.

TOURS, a conſiderable city of France, capital of the department of Indre and Loire. From an archiepiſcopal ſee it has been lately reduced to a biſhopric, ſuffragan to that of Bourges. It is ſeated on the Loire, and near the Cher. Over the former is one of the fineſt bridges in Europe, conſiſting of 15 elliptic arches, each 75 feet diameter: three of theſe were carried away by the breaking-up of ice in 1789. The principal church is remarkable for the delicacy of its ſtructure, its curious clock, its moſaic pavement, and its rich library of manuſcripts. Under the miniſtry of Cardinal Richelieu, 27,000 perſons were here employed in the ſilk manufacture; but now the whole number of inhabitants is only 22,000. The red wines of Tours are much eſteemed. In one of the ſuburbs is the late abbey of Marmoutier, reputed the moſt ancient in the Weſt. Near the city is Pleſſis-les-Tours, a late royal palace, built by the profligate and ſuperſtitious Lewis XI. who died here, in 1483, notwithſtanding he had the precaution to be covered all over with relics. Tours is 52 miles N.N.E. of Poitiers, 54 E. of Angers, and 127 S.W. of Paris. Long. 0. 47. E. Lat. 47. 24. N.

TOUSERA, a town of Barbary, capital of Biledulgerid, ſeated in a country abounding in dates, and dependent on the kingdom of Tunis. Long. 10. 55. E. Lat. 32. 30. N.

TOWCESTER, a town in Northamptonſhire, with a market on Tueſday. It was once ſtrongly fortified, and is ſeated on a ſmall river, 52 miles S.E. of Coventry, and 60 N.W. of London. Long. 1. 15. W. Lat. 52. 4. N.

TOWTON, a village in the Weſt Riding of Yorkſhire, S.E. of Tadcaſter. It is famous for that bloody battle between the forces of the houſes of York and Lancaſter, ſo fatal to the latter, on Palm-Sunday, 1461.

TOWY, a river of S. Wales, which riſes in Cardiganſhire, enters Carmarthenſhire at its N.E. extremity, and paſſing by Carmarthen, enters the Britiſh Channel.

TRAARBACH, a town of Germany, in the circle of Upper Rhine and county of Sponheim, 20 miles E.N.E. of Treves, and 34 S.W. of Coblentz. Long. 6. 45. E. Lat. 50. 2. N.

TRACHENBURG, or DRACHENBURG, a town of Germany, in Sileſia, and capital of a principality of the ſame name. It is ſeated on the Bartch, 12 miles N.E. of Wolaw, and 26 N. of Breſlaw. Long. 17. 15. E. Lat. 51. 30. N.

TRAJANAPOLI, a town of Turkey in Europe, in Romania, with a Greek archbiſhop's ſee, though it is ſmall and thin of people. It is ſeated on the Marica, 37 miles S.W. of Adrianople, and 112 N.W. of Conſtantinople. Long. 26. 18. E. Lat. 41. 15. E.

TRAJETTO, a town of Naples, in Terra di Lavoro, built on the ruins of the ancient Minturna. Here are the ruins of an amphitheatre and an aqueduct. It is ſeated near the mouth of the Garigliano, in the Mediterranean, 25 miles N.W. of Capua. Long. 14. 4. E. Lat. 41. 20. N.

TRAIN, a town of Germany, in Upper Bavaria, ſituate on the Ambs, five miles S. of Abenſperg, and 20 E. of Ingoldſtadt. Long. 11. 52. E. Lat. 48. 40. N.

TRAINA, a town of Sicily, in Val di Demona, ſeated on a high mountain, at the ſource of the river Traina, 22 miles W. of Mount Etna, and 70 S.W. of Meſſina. Long. 14. 30. E. Lat. 37. 46. E.

TRALEE, a borough and ſea-port of Ireland, in the county of Kerry, ſeated near a bay of the ſame name, ſeven miles S.S.E. of Ardfert. Long. 9. 36. W. Lat. 52. 12. N.

TRALLEBORG, a ſea-port of Sweden, in the province of Schonen, near the Baltic, 19 miles S. of Uund. Long. 13. 5. E. Lat. 55. 20. N.

TRANCHIN, a town of Upper Hungary, capital of a county of the ſame name. The caſtle ſtands ſo high, that it may be ſeen at the diſtance of near 30 miles. There are two warm baths within a mile of this place, and a great number of mineral ſprings in the adjacent country. It is ſeated on the Waag, 50 miles N.E. of Preſburg. Long. 17. 50. E. Lat. 49. 56. N.

TRANCON, a town of Portugal, in Tra los Montes, with a caſtle, ſeated in a fertile country, 14 miles W. by S. of Pinnel. Long. 7. 0. E. Lat. 40. 44. N.

TRANI, a ſea-port of Naples, in Terra di Bari, with a caſtle, and an archbiſhop's ſee. It is the uſual reſidence of the governor of the province; but is much decayed ſince the harbour has been choked up with mud. It is ſeated on the gulf of Venice, 20 miles W. of Bars, and 125 N. by E. of Naples. Long. 16. 36. E. Lat. 41. 18. N.

TRANQUEBAR, a town of Hindooſtan, on the coaſt of Coromandel, with a fort and factory, belonging to the Danes. It is ſeated at the mouth of the Cauvery, 165 miles S. of Madras. Long. 79. 57. E. Lat. 10. 44. N.

TRANSPLANTER, an inſtrument calculated for expeditiouſly raiſing plants with their roots, and conſigning them to other parts of the field in which they grow. Notwithſtanding every precaution, it frequently happens in turnip-fields that large ſpots remain barren. In Pl. 54. we have given a repreſentation of a ſimple inſtrument invented by Mr. Gray, of South Repps, Norfolk, for the purpoſe of filling up ſuch vacant ſpaces from the adjoining parts of the ſame field; and which has alſo been employed for tranſplanting other vegetables.

The handle A, muſt be held with the left hand; and the ſhort handle B, drawn up with the right. The tranſplanter ſhould next be put over the vegetable intended to be taken up, and forced into the ground with the foot: it is then to be twiſted round, and carefully drawn up, ſo that the earth may adhere to the root. A hole ſhould, in the mean time, be made by an aſſiſtant, furniſhed with a ſimilar inſtrument, for the reception of the turnip; the root may be conveyed in the firſt tranſplanter, and depoſited in the cavity; after which, the right hand being kept ſteady, the left muſt be gradually raiſed; when the earth and plant will be left in the hole undiſturbed.

TRAON, or TRAU, a ſtrong town of Venetian Dalmatia, with a biſhop's ſee. It is ſeated on the gulf of Venice, in a ſmall iſland, joined to the mainland by a long bridge of wood, and to the iſle of Bua by another of ſtone, 27 miles S.E. of Sebenico. Long. 17. 52. E. Lat. 44. 0. N.

TRAPANI, or TRAPANO, a ſea-port on the W. ſide of Sicily, in Val di Mazara, with a fort, and an excellent harbour, in the form of a ſickle, whence its ancient name Drepanum. It contains 20,000 inhabitants, and is a trading place, famous for its ſalt-works, and fiſheries of tunnies and coral. It is ſeated on a ſmall peninſula, 20 miles N. of Mazara, and 45 W. of Palermo. Long. 12. 20. E. Lat. 38. 10. N.

TRAPPE, a once celebrated monaſtery of France, in the department of Orne, ſituate in a large valley, ſurrounded by mountains. The monks were famous for their auſterity, and keeping perpetual ſilence.

TRARBACH, a town of Germany, in the palatinate of Lower Rhine, and country of Spanheim, ſeated on the Moſelle. Its fortreſs, which is on a mountain, and commands the paſſage of the Moſelle, was taken by the French in 1794. It is 22 miles N.E. of Treves, and 28 S.W. of Coblentz. Long. 7. 7. E. Lat. 49. 55. N.

TRAVANCORE, a province of Hindooſtan, extending along the coaſt of Malabar from Cape Comorin to 10. 15. N. lat. and bounded on the N. by Myſore, and on the E. by the Carnatic. It is ſubject to a rajah, who is an ally of the Engliſh Eaſt-India Company, and in defence of whom they engaged, in conjunction with the Mahrattas and the nizam of the Deccan, in the war againſt Tippoo Sultan.

TRAVANCORE, the capital of a province of the ſame name, in the peninſula of Hindooſtan, 100 miles S.S.E. of Cochin. Long. 77 8. E Lat. 8. 15. N.

TRAVEMUNDE, a ſtrong town of Germany, in the duchy of Holſtein, ſeated at the mouth of the Trave. It is the port of Lubec, to which it belongs, and is 12 miles N.E. of that city. Long 10. 55. E. Lat. 54. 1. N.

TRAVERS, a town of Switzerland, in the county of Neufchatel, 11 miles W. of Neuchatel. Long. 6. 50. E. Lat. 47. 6. N.

TRAUNSTEIN, a town of Germany, in Upper Bavaria, ſeated on the river Traun. Near it are ſprings of ſalt-water.

TRAUTENAU, a town of Bohemia, in the circle of Konigſgratz, 21 miles north of Konigſgratz. Long. 16. 10. E. Lat. 50. 45. N.

TRAGUYERA, a town of Spain, in Valencia, 30 miles S. of Tortoſa. Long. 0. 30. E. Lat. 40. 26. N.

TREBBIN, a town of Upper Saxony, in the middle marche of Brandenburg, 10 miles S.S.E. of Potſdam, and 20 S.S.W. of Berlin. Long. 13. 50. E. Lat. 52. 44. N.

TREBIA, a river of Italy, which riſes in the territory of Genoa, waſhes Bobio in the Milaneſe, and falls into the Po, above Placentia. On the banks of this river the Romans, under the conſul Sempronius, were defeated by Hannibal.

TREBIGNI, or TREBIGNA, a town of Turkiſh Dalmatia, with a biſhop's ſee. The inhabitants are partly Turks and partly Greeks, and there are ſome Papiſts. It is ſeated on the gulf of Venice, on the river Trebenſka, 14 miles N. of Raguſa. Long. 18. 11. E. Lat. 43. 4. N.

TREBISSIACI, a town of Naples, in Calabria Ulteriore, ſeated on the Tarento, five miles E. of Caſſano.

TREBISOND, a large and ſtrong ſea-port of Turkey in Aſia, in Natolia, with a Greek archbiſhop's ſee, and a caſtle. It is ſeated at the foot of a very ſteep hill. The walls are ſquare and high, with battlements; and are built with the ruins of ancient ſtructures, on which are inſcriptions not legible. The town is not populous; for there are more woods and gardens in it than houſes, and theſe but one ſtory high. The caſtle is ſeated on a flat rock, with ditches cut in it. The harbour is at the E. end of the town, and the mole built by the Genoeſe is almoſt deſtroyed. It ſtands on the Black Sea, 104 miles N.N.W. of Erzerum, and 440 E. of Conſtantinople. Long. 40. 25. E. Lat. 40. 45. N.

TREBITZ, a town of Germany, in Moravia. It has a manufacture of cloth, and is ſeated on the Iglaw, 21 miles S.E. of Iglaw, and 52. N.W. of Budweis. Long. 16. 12. E. Lat. 49. 4. N.

TREBNITZ, a town of Germany, in Sileſia, with a large nunnery. Near it is a hill conſiſting of a ſoft clay, or ſtone, which is immediately formed into veſſels of all kinds; and on being expoſed to the air, they become as hard as if they had been baked. It is 12 miles N. of Breſlaw. Long. 17. 15. E. Lat. 51. 15. N.

TREFFURT, a town of Upper Saxony, in the landegravate of Heſſe, with a caſtle. It belongs to the elector of Mentz, and is ſeated near the Verta, 22 miles W. of Saxe-Gotha. Long. 10. 19. E. Lat. 51. 8 N.

TREGANNON, a corporate town in Cardiganſhire, with a market on Thurſday. It is governed by a mayor, and ſeated on the Tyvy, 15 miles S.E. of Aberyſtwith, and 202 W. by N. of London. Long. 3. 56. W. Lat. 52. 13. N.

TREGONY, a borough in Cornwall, with a market on Saturday. It is much decayed, has no church, and only 150 houſes poorly built, but is governed by a mayor, and ſends two members to parliament. It is ſeated on a creek by Falmouth haven, 41 miles W. by S. of Plymouth, and 245 of London. Long. 4. 43. W. Lat. 50. 16. N.

TREGUIER, a ſea-port of France, in the department of

the North Coaſt, ſeated near the Engliſh Channel, 22 miles N.W. of St. Brieux. Long. 3. 10. W. Lat. 48. 47. N.

TREILEBURG, a ſea-port of Sweden, in the province of Schonen, ſeated on the Baltic, 30 miles S.E. of Copenhagen. Long. 13. 26. E. Lat. 55 26 N.

TREMESEN, or TLEMSEN, a province of the kingdom of Algiers, 370 miles long and 125 broad: bounded on the N. by the Mediterranean, on the E. by the province of Africa, on the S. by the deſert of Zahara, and on the W. by the kingdom of Fez. It is dry, barren, and mountainous, except on the N. ſide, where there are plains abounding in corn, fruits, and paſtures. The capital, of the ſame name, is ſurrounded by ſtrong walls, and inhabited by poor Arabs, Moors, and Jews. Long. 1. 29. W. Lat. 34. 40. N.

TREMITI, three iſlands of Italy, in the gulf of Venice, 15 miles from the coaſt of Naples. They are called Capraria, St. Nicolo, and St. Domino.

TREMOUILLE, a town of France, in the department of Vienne, ſeated on the Bennaile, 23 miles E. by S. of Poitiers. Long. 1. 10. E. Lat. 46. 29. N.

TREMP, a town of Spain, in Catalonia, ſeated on the river Noguera Pallareſa, 85 miles N.W. of Barcelona.

TREPTOW, a town of Upper Saxony, in Pruſſian Pomerania. It has a manufacture of ſtockings and woollen ſtuffs, and is ſeated on the Rega, near its mouth, in the Baltic, 43 miles N.E of Stetin. Long. 15. 19. E. Lat. 54. 10. N.

TREPTOW, a town of Upper Saxony, in Anterior Pomerania, 50 miles S. of Stralſund, and 50 W.N.W. of Stetin. Long. 13. 12. E. Lat. 53. 39. N.

TRESEN, or TROSA, a ſea-port of Sweden, in Sudermania, ſeated on the Baltic, 35 miles S.W. of Stockholm. Long. 17. 29. E. Lat. 53. 0. N.

TRETHIMROW, a ſtrong town of Poland, in Volhinia, ſeated on the Dnieſter, 45 miles below Kiof.

TREUCENBRIETZEN, a town of Upper Saxony, in the middle marche of Brandenburg, 20 miles S. of Brandenburg, and 34 S.W. of Berlin. Long. 12. 43. E. Lat. 52. 5. N.

TREVI, a town of Italy, in Umbria, 23 miles S.E. of Perugia. Long. 11. 51. E. Lat. 42. 54. N.

TREVIGLIO, a town of Italy, in the duchy of Milan, 17 miles E.N.E. of Milan. Long. 9. 28. E. Lat. 45. 35. N.

TREVIGO, a town of Naples, in Principato Ulteriore, with a biſhop's ſee, 23 miles E. of Benevento. Long. 15. 20. E. Lat. 42. 6. N.

TREVINO, a ſtrong town of Spain, in Biſcay, with a citadel, ſeated on a hill, near the river Aguda, 10 miles S.W. of Vittoria. Long. 3. 4. W. Lat. 42. 48. N.

TREVISANO, a marquiſate of Italy, in the republic of Venice; bounded on the E. by Friuli and the gulf of Venice, on the S. by that gulf, the Dogado, and the Paduano, on the N. by the Feltrino and the Bellunefe, and on the W. by the Vicentino. The ſoil is fertile, and produces corn, wine, and wood: and they export cattle, ſilk, and woollen cloth. Treviſo is the capital.

TRIEST, a ſtrong ſea-port of Germany, in Carniola, with a biſhop's ſee. The harbour is ſpacious, but not good; being open to the W. and S.W. winds. The inhabitants have a good trade in ſalt, oil, almonds, iron, &c. brought from Laubach; and they make good wines. It is ſeated on the ſide of a hill, on the gulph of Venice, eight miles N. of Capo d'Iſtria, and 80 N.E. of Venice. Long. 14. 4. E. Lat. 45. 56. N.

TRIM, the county-town of E. Meath, in Ireland, ſeated on the Boyne, 23 miles N.W. of Dublin.

TRINCOMALE, a town on the E. ſide of the iſland of Ceylon, with a harbour, reckoned the fineſt in the Eaſt Indies. It was taken from the Dutch, by the Engliſh, in January, 1782; retaken by the French in Auguſt following; reſtored to the Dutch by the peace of 1783; and again taken by the Engliſh in Auguſt, 1795. It is ſeated on a gulf of the ſame name, 100 miles N.E of Candy. Long. 81. 52. E. Lat. 8. 45 N.

TRING, a town in Hertfordſhire, with a market on Friday, 22 miles W. of Hertford, and 31 W.N.W. of London. Long. 0. 36. W. Lat. 51. 46. N.

TRINIDAD, a ſea-port of New Spain, in the audience of Guatimala, ſeated on the Pacific Ocean. It is an open town, but very important, there being no other harbour on this coaſt. A mile and a half hence is a place which the Spaniards call one of the Mouths of Hell; becauſe it is continually covered by a thick ſmoke, and emits flames from time to time. It is 70 miles S.E. of Guatimala. Long. 89. 30. W. Lat. 12. 50. N.

TRINIDAD, a town of New Granada, ſeated on the Rio de la Madalena, 58 miles N.W. of St. Fé de Bogota. Long. 73. 45. W. Lat. 4. 45. N.

TRINITY, or LA TRINITE, a ſea-port of Martinico. The harbour is ſpacious and ſafe, and the town carries on a conſiderable trade. Long. 61. 8. W. Lat. 14. 53. N.

TRINO, a fortified town of Italy, in Montferrat, ſubject to the King of Sardinia. It was taken, in 1704, by the French, who abandoned it in 1706. It is ſeated near the Po, eight miles N.W. of Caſal, and 35 N.E. of Turin. Long. 8. 30. E. Lat. 45. 26. N.

TRINOMALY, a town of Hindooſtan, in the Carnatic, near which the troops of Hyder Ally were defeated by the Britiſh under Colonel Smith in 1768. It is 45 miles S.S.W. of Arcot, and 52 W.N.W. of Pondicherry. Long. 78. 35. E. Lat. 12. 2. N.

TRIST, a ſmall uninhabited iſland of New Spain, on the coaſt of Tabaſco, in the bay of Campeachy, ſeparated by a narrow channel, on the E. from the iſle of Port Royal. Long. of the E. point 92. 45. W. Lat. 18. 0. N.

TRISTAN D'ACUNHA, an iſland in the South Atlantic Ocean, 15 miles in circumference. The land is extremely high, and riſes gradually toward the centre of the iſland (where there is a lofty conical mountain) in ridges covered with trees of a moderate ſize and height. The coaſt is frequented by ſea-lions, ſeals, penguins, and albatroſſes. Long. 11. 43. W. Lat. 37. 8. S.

TRITCHINOPOLY, a ſtrong town of Hindooſtan, in the Carnatic, 208 miles S.S.W. of Madras. Long. 78. 46. E. Lat. 10. 49. N.

TRIVENTO, a town of Naples, in Moliſe, with a biſhop's ſee, ſeated on a hill, near the river Trigno, or Trino, 15 miles N. of Bogano, and 62 E. of Naples. Long. 15. 37. E. Lat. 40. 50. N.

TROCHTELFINGEN, an imperial town of Suabia, 16 miles N.W. of Buchau, and 29 S. of Stutgard. Long. 9. 7. E. Lat. 48. 18. N.

TROGEN, a town of Switzerland, and the chief place of the Proteſtant part of the canton of Appunzell. It is celebrated for its manufacture of cloth. Near it is a mineral ſpring containing copper, ſulphur, and alum, uſed externally for ſeveral complaints. It is ſeven miles N. of Appenzell, and ſeven S.E. of St. Gall.

TROJA, a fortified town of Naples, in Capitanata, with a biſhop's ſee, immediately under the pope. It is ſeated at the foot of the Apennines, on the river Chilaro, 32 miles N.E. of Benevento, and 60 N.W. of Naples. Long. 15. 15. E. Lat. 42. 21. N.

TROIS RIVIERES, a town of Upper Canada, on the river St. Lawrence, 55 miles S.W. of Quebec. Long. 71. 20. W. Lat. 46. 35. N.

TROKI, a town of Lithuania, capital of a palatinate of the ſame name. It is ſeated among moraſſes, 15 miles W. of Wilna, and 85 N.N.E. of Grodno. Long. 25. 13. E. Lat. 54. 38. N.

TRON, St. a town of Germany, in the biſhopric of Liege, with a famous Benedictine abbey, 21 miles W.N.W. of Liege. Long. 5. 22. E. Lat. 50. 48. N.

TROPEA, a populous town of Naples, in Calabria Ulteriore, with a biſhop's ſee. It was half ruined by an earthquake in 1638, and is ſeated on the top of a rock, on the E. coaſt, 10 miles N.W. of Nicotera, and 45 N. by E. of Reggio. Long. 16. 24. E. Lat. 38. 42. N.

TROPES, St. a ſea-port of France, in the department of Var, with a citadel. It is ſeated on the bay of Grimauld, in the Mediterranean, 12 miles S.W. of Frejus, and 58 E. of Marſeilles. Long. 6. 44. E. Lat. 43. 16. N.

TROPPAU, a ſtrong and conſiderable town of Germany, in Upper Sileſia, capital of a duchy of the ſame name, with an ancient caſtle. It was taken by the Pruſſians in 1741 and 1756, but reſtored to the houſe of Auſtria by a treaty ſubſequent to each capture. It is ſeated in a pleaſant plain, on the rivers Oppa and Mohra, 40 miles N. by E. of Olmutz, and 72 S. by E. of Breſlaw. Long. 17. 40. E. Lat. 50. 1. N.

TROWBRIDGE, a town in Wiltſhire, with a market on Saturday. The inhabitants are principally clothiers, who make ſuperfine broad-cloth and kerſeymere, in a great degree by machinery. It is ſeated on a hill, 23 miles S.W. of Marlborough, and 98 W. of London. Long. 2. 6. W. Lat. 51. 19. N.

TROYES, a conſiderable city of France, in the department of Aube, with a biſhop's ſee. It is ſurrounded by good walls, but almoſt all the houſes are of wood, and good water is wanting. Among the objects of curioſity are St. Stephen's, the principal church; the public library of the late Cordeliers; and the caſtle in which the ancient counts of Champagne reſided. Its commerce, once very flouriſhing, now conſiſts only in ſome linens, dimities, fuſtians, wax-chandlery, candles, and wine. It is ſeated on the Seine, 30 miles E.N.E. of Sens, and 90 E.S.E. of Paris. Long. 4. 10. E. Lat. 48. 13. N.

TRUGILLO, a town of Terra Firma, in Venezuela, 120 miles S. of the lake Maracaybo. Long. 7. 40. W. Lat. 9. 46. N.

TRUNS, a town of the country of the Griſons, where the independence of the Grey League was firſt ratified, and an alliance concluded between the chiefs and communities. It is ſeated on the Rhine, ſeven miles W. of Ilantz.

TRURO, a borough in Cornwall, with a market on Wedneſday and Saturday. It has the benefit of the coinage of tin, and its chief buſineſs is in ſhipping tin and copper ore, found in abundance in its neighbourhood. Here, after the battle of Naſeby, the forces of Charles I. under Lord Hopeton, ſurrendered to General Fairfax. Truro is ſeated in a vale, between the rivers Kenwyn and St. Allen, and at the very head of Falmouth Haven, 10 miles N. of Falmouth, and 257 W. by S. of London. Long. 4. 55. W. Lat. 50. 16. N.

TRUXILLO, a conſiderable town of Spain, in Eſtremadura, ſeated amoung mountains, on the ſide of a hill, at the top of which is a ſtrong citadel. It is the birth-place of the noted Francis Pizarro, and ſituate near the river Almont, 65 miles S.W. of Toledo, and 117 S.E. of Madrid. Long. 5. 23. W. Lat. 39. 6. N.

TRUXILLO, a rich commercial ſea-port of Peru, in the audience of Lima, built by Francis Pizarro, in 1553. In its territory are above 50,000 native Americans, who are tributary to Spain. It is ſeated in a fertile country, on a ſmall river, near the Pacific Ocean, 300 miles N.W. of Lima. Long. 78. 35. W. Lat. 8. 1. S.

TRUXILLO, a ſtrong ſea-port of New Spain, in the province of Honduras, ſeated on a gulf of the ſame name, between two rivers, and ſurrounded by thick groves. Long. 85. 50. W. Lat. 16. 20. N.

TRUXILLO, or NUESTRA SENORA DE LA PAZ, a town of Terra Firma, in Venezuela, 220 miles S. of Maracaybo. Long. 69. 15. W. Lat. 9. 21. N.

TSCHOFA, a town of Upper Saxony, in the circle of Erzeburg, celebrated for its blue manufactures, ſeven miles S.E. of Chemnitz.

TSCHUTSKI, a country in the E. extremity of Aſia, oppoſite the N.W. of America, bounded by the Anadir on the S. The attention of the natives is confined chiefly to their deer, with which their country abounds. They are a well-made, courageous, warlike race, and are formidable neighbours to the Koriacs, who often experience their depredations. The Ruſſians have long endeavoured to bring them under their dominion; and though they have loſt a great number of men, in their different expeditions to accompliſh this purpoſe, they have never yet been able to effect it.

TSI NAN-FOU, a celebrated city of China, the capital of Chang-tong. It was once the reſidence of a long ſeries of kings, whoſe tombs, riſing on the neighbouring mountains, afford a beautiful proſpect. In its diſtrict are four cities of the ſecond and 26 of the third claſs. It is ſeated S. of the river Tſi or Tſing-ho, 160 miles S. by E. of Pekin. Long. 117. 25. E. Lat. 36. 30. N.

TSI-NING-TCHEOU, a city of China, in the province of Chang-tong, and diſtrict of Yen-tcheou-fou. From its ſituation on the grand canal, it is little inferior to the capital of the province, either in extent, population, riches, or commerce.

TSONG-MING, an iſland of China, on the coaſt of the province of Kiang-nan, to which it belongs, and from which it is ſeparated by an arm of the ſea, 13 miles broad. It is 50 miles long and 13 broad. It was formerly a ſandy deſert, to which criminals were baniſhed: thoſe that firſt landed on it began to till the ground, that they might not periſh with hunger; ſome poor Chineſe families emigrated thither afterward; and, in leſs than ten years, the iſland was peopled and cultivated. Its principal revenue ariſes from ſalt, which is made in ſuch abundance that it can ſupply moſt of the neighbouring countries. In this iſland is only one city of the third claſs; but villages are ſo numerous, that they ſeem to touch each other, and to form one continued city. The country is delightful, and interſected by many canals. Long. of its S.E. end 121. 55. E. Lat. 30. 15. N.

TSUEN-TCHEOU-FOU, a city of China, in the province of Fo-kien. In its diſtrict are ſeven cities of the third claſs; and its ſituation, extent, commerce, triumphal arches, temples, and well-paved ſtreets, ſecure it a diſtinguiſhed rank among the moſt beautiful cities in the empire.

TUBAN, one of the ſtrongeſt towns in Java, with a harbour, and a king of its own. It is ſeated on the N. coaſt of the iſland. Long. 111. 51. E. Lat. 6. 0. S.

TUBE (*Encycl.*). The following remarks on the phenomena of capillary tubes, by M. Milon, is taken from the *Journal de Phyſique*.

The phenomena of capillary tubes are as follow: 1ſt, If one of theſe tubes be plunged in a fluid, ſuch as water, alcohol, &c. the fluid riſes within it above its external level; and this

elevation is in direct proportion to the ſmallneſs of the tube. 2d, But if it be plunged in mercury, inſtead of riſing as above deſcribed, it is depreſſed; and this depreſſion is alſo in direct proportion to the ſmallneſs of the tube.

In times, when the ſciences were cultivated with leſs accuracy than at preſent, and when chemiſtry in particular was not enriched with that beautiful theory which now forms its baſis, philoſophers have long debated on the cauſe of this phenomenon now generally attributed to molecular attraction; the only point on which they differ being, that ſome admit both the phenomena of aſcenſion and thoſe of depreſſion, while others only admit thoſe of aſcenſion.

The celebrated Hauy, in the third volume of the firſt part of the *Séances de l'Ecole Normale*, p. 40, after having deſcribed the firſt of the above-mentioned phenomena, ſays, "Mercury on the contrary remains below the level, and its depreſſion is in inverſe proportion to the diameter of the tube. But theſe effects preſuppoſe that the tube is applied without preparation; for we ſhall preſently ſee, that by means of certain precautions, the elevation of mercury above the level may in like manner be obtained." And in ſupport of this aſſertion, he quotes, page 50 of the ſame volume, an experiment made at Metz, by Citizen Caſbois, from which it appears, that the depreſſion of the mercury ariſes merely from the moiſture contained in the mercury and the tubes employed; which moiſture, interpoſing itſelf between the mercury and the glaſs, neutralizes the attraction which the glaſs may have for that fluid; and that, on removing this moiſture, mercury is governed by the general law above ſtated, and riſes in capillary tubes in the ſame manner as other fluids.

On the other hand, Citizen Libes, in his new and excellent *Traité élémentaire de Phyſique*, vol. II. page 23, &c. explains the depreſſion of mercury by obſervations to the following effect: "That although the glaſs may have ſome attraction for the mercury (a fact, which he proves, by a very ſimple experiment), the mutual attraction of the molecules of this fluid for each other is more conſiderable." This is proved by the following experiment: if a globule of mercury adhering to a plate of glaſs be preſented to a maſs of that metal, the globule abandons the glaſs and unites with the mercury. Hence he draws ſeveral very juſt inferences.

This contrariety of opinions muſt neceſſarily give riſe to doubts, which it is important to clear up. The following is the proceſs which has contributed to fix the opinion of M. Milon on this ſubject.

"I firſt," ſays he, "made the ordinary experiment with pure mercury, when the fluid was as uſual depreſſed. I then poured the mercury into a ſmall long-necked matraſs, and expoſed it to the fire of a ſimple furnace by means of a ſand bath. I placed this apparatus out of a window, which I ſhut, in order to obſerve what paſſed without expoſing myſelf to the dangerous influence of the mercurial vapour. After a while, the mercury began to boil, and then becoming volatile, it collected about the ſides of the matraſs in ſmall drops, which fell down again in proportion as their weight increaſed. This continued about a quarter of an hour, after which I thought I might conſider the mercury as deprived of all moiſture. I then heated to a white heat the capillary tubes I intended to employ, and having only allowed time for theſe as well as the mercury to return to the temperature of the place where I performed the experiment, I plunged them in the mercury thus deprived of its moiſture, and obſerved the ſame depreſſion as in my former experiment.

"To aſcertain that the depreſſion of the mercury did not ariſe from the moiſture that might remain in the tubes, notwithſtanding the precautions I had taken, I placed two of theſe tubes perpendicularly in the mercury, and, approximating them to each other, I perceived the ſame reſult as before; for the nearer they approached, the more was the mercury depreſſed between them.

"It may be replied, perhaps, that the mercury had already attracted the humidity of the air. But I would anſwer, 1ſt, That the weather was then very dry: a circumſtance by no means indifferent. 2d, That although the attraction of mercury for a certain portion of moiſture may be conſiderable, it is not ſudden; and that its union with ſurrounding water only takes place after a conſiderable interval of time, as, for inſtance, eight or ten hours, and that I was careful to perform the experiment with great diſpatch.

"Hence I think I am authoriſed to believe, that the depreſſion of mercury is conſtant, that the moiſture of the mercury makes no alteration in this phenomenon which is peculiar to it; and that, if it roſe above the level in the experiment of Citizen Caſbois, which, though very different from mine as to the proceſs purſued, ought to lead to the ſame reſult, the ſucceſs of that experiment certainly depends on peculiar circumſtances, which it would be well to examine: for, if the phenomenon of aſcenſion took place with mercury when well purified from water, it would follow, that it has a ſtronger affinity to glaſs than to itſelf, which is contrary to experience."

TUBINGEN, a fortified town of Suabia, in the duchy of Wirtemburg, with a univerſity, and a caſtle. Here is a large houſe called New Bau, where a certain number of ſtudents in law are lodged and boarded gratis; and in the town-houſe is a very curious clock. It is ſeated on the Neckar, in a country abounding in corn and wine, 20 miles S. of Stutgard, and 50 E. by S. of Straſburg. Long. 9. 4. E. Lat. 48. 30. N.

TUCUYO, a town of Terra Firma, in Venezuela, and in a valley of the ſame name. A river runs through the middle of the valley, and the ſoil abounds in ſugar-canes, cotton, and all the neceſſaries of life. Long. 69. 2. W. Lat. 7. 31. N.

TUDDINGTON, a town in Bedfordſhire, with a market on Saturday, five miles N. of Dunſtable, and 38 N.N.W. of London. Long. 0. 32. W. Lat. 52. 0 N.

TUDELA, a conſiderable town of Spain, in Navarre, with a caſtle. It is ſeated in a country that produces good wine, on the river Ebro, over which is a handſome bridge, 45 miles N.W. of Saragoſſa, and 140 N.E. of Madrid. Long. 1. 10. W. Lat. 42. 9. N.

TVER, a government of Ruſſia, once an independent principality, united to the empire by Ivan Baſilowitz, in 1490, and compriſed in the government of Novogorod, from which it has been ſeparated. The population has increaſed to a ſurpriſing degree; a circumſtance evincing the advantage ariſing from the new code of laws of Catharine II. It was the firſt province newly-modelled according to that code; and it has experienced the beneficial effects of theſe excellent regulations. The country produces abundantly all kinds of corn and vegetables. Its foreſts yield the moſt valuable timber. The quadrupeds, and the feathered race, are the ſame as in all the N. of Europe; and, beſide the fiſhes common to moſt lakes and rivers, there is a fiſh peculiar to the waters of theſe northern regions, called the ſterlet, the *acipenſer ruthenus* of Linnæus, and is a ſpecies of ſturgeon, highly eſteemed for the flavour of its fleſh, and for its roe, of which the fineſt caviare is made.

TVER, a commercial city of Ruſſia, capital of a government of the ſame name, ſeated at the confluence of the Tverza and Volga, along which is conveyed all the merchandiſe ſent by water from Siberia, and the S. provinces, toward Peterſburgh. It is divided into the old and new town: the former,

ſituate on the oppoſite ſide of the Volga, conſiſts almoſt entirely of wooden cottages: the latter having been deſtroyed by a dreadful conflagration, in 1763, has riſen with luſtre from its aſhes. Catherine II. ordered a regular and beautiful plan of a new town to be made. At her own expence, ſhe raiſed the governor's houſe, the epiſcopal palace, the courts of juſtice, the exchange, the priſon, and ſome other public edifices; and to every perſon who engaged to build a houſe of brick, ſhe offered a loan of 300l. for a year, without intereſt. The ſtreets are broad and long; extending in ſtraight lines, from an octagon in the centre; and the plan, when completed, is to compriſe two octagons. The houſes are of brick; ſtuccoed white, and make a magnificent appearance. Here is an eccleſiaſtical ſeminary, which admits 600 ſtudents. In 1796 the empreſs founded a ſchool for the inſtruction of 200 burghers' children; and, in 1779, an academy for the education of 120 of the young nobility of the province. Tver is 99 miles N.N.W. of Moſcow. Long. 36. 5. E. Lat. 56. 7. N.

TUGGURT, a country of Barbary, lying S. of Algiers, and W. of Biledulgerid. The capital, of the ſame name, is 310 miles S.S.E. of Algiers. Long. 5. 10. E. Lat. 33. 0. N.

TULA, a government of Ruſſia, formerly a province of the government of Moſcow. Its capital, Reſan, is ſeated on the Trubeſh, 118 miles S.E. of Moſcow. Long. 40. 45. E. Lat. 55. 25. N.

TULEBRAS, a town of Spain, in Navarre, ſituate on the Queios, ſeven miles W. of Tudela.

TULLAMORE, a town of Ireland, in King's County, ſituate on a river of the ſame name, 44 miles W.N.W. of Dublin.

TULLES, a commercial town of France, in the department of Correze, with a biſhop's ſee. The cathedral is famous for its ſteeple, which is very high and curious. It is ſeated at the confluence of the Borreze and Solane, partly on a mountain, and partly below it, in a country ſurrounded by mountains and precipices, 37 miles S.E. of Limoges, and 62 S.W. of Clermont. Long. 1. 42. E. Lat. 45. 23. N.

TULLOW, a town of Ireland, in the county of Carlow, eight miles E.S.E. of Carlow, and 38 S.S.W. of Dublin.

TULN, a town of Auſtria, near the Wienarwald, or wood of Vienna, with a biſhop's ſee. It is ſeated near the river Tuln, in a country abounding in corn and wine, 15 miles W. of Vienna. Long. 16. 6. E. Lat. 48. 14. N.

TULSK, a borough of Ireland, in the county of Roſcommon, nine miles N. of Roſcommon.

TUMBEZ, a town of Peru, in the audience of Quito, where the Spaniards firſt landed on their diſcovery of that country. It was then a place of ſome note, diſtinguiſhed by a ſtately temple, and a palace of the incas or ſovereigns of the country. It is ſeated on the Pacific Ocean, 270 miles S. by W. of Quito. Long. 79. 51. W. Lat. 3. 40. S.

TUMBREL, a machine employed chiefly in the county of Lincoln; for the purpoſe of giving food to ſheep, during the winter.

In the 4th vol. of the *Repertory of Arts*, &c. we meet with a deſcription of a contrivance which is equally ſimple and uſeful: we have, therefore, been induced to give a figure of it in Pl. 54.

It conſiſts of a circular cage or crib, which may be made of willow, oſiers, or ſimilar pliant bruſhwood. The whole is ten feet in circumference, being cloſely watled to the height of one foot, above which it is left open for the ſpace of about eighteen inches; when it is again wattled to the height of eight or nine inches; an opening, eighteen inches broad, being left at the top for the purpoſe of putting in turnips, or other provender. The ſtaves, forming the ſkeleton of the machine above deſcribed, are ten inches apart, ſo that twelve ſheep may feed at one time from each tumbrel.

Conſiderable advantages are derived from this method of feeding ſheep; as it greatly reduces the expence of provender, which is thus prevented from being ſoiled with dung, or trodden under foot. In ſuch a ſtate of ſeparation, the ſtronger animals cannot drive away the weaker ſheep; each being ſecured by the head, while they are eating. Further, the conſtruction of the tumbrel being attended with no difficulties, it may be readily procured, and be daily conveyed to any part of a farm: if proper care be taken, this utenſil may be preſerved in conſtant uſe, for eight or ten years.

TUMEL, a rapid river in Perthſhire, which, after exhibiting many beautiful cataracts, forms itſelf into a lake, called Loch Tumel, and then falls into the Garry.

TUMEN, a town of Siberia, in the province of Tobolſk, 125 miles W. of Tobolſk,

TUMPACH, a town of Bavaria, in the Upper Palatinate, 17 miles N.N.W. of Amberg, and 32 E.N.E. of Nuremburg. Long. 11. 55. E. Lat. 49. 40. N.

TUNGINSKOI, a town of Ruſſia, ſituate on the Irkut, 80 miles S.W. of Irkutſk. Long. 103. 15. E. Lat. 51. 18. N.

TUNJA, a town of New Granada, capital of a diſtrict of the ſame name. It is ſeated on a high mountain, in a country where there are gold and emeralds, 30 miles S.W. of Truxillo. Long. 73. 5. W. Lat. 5. 0. N.

TURA, a town of Germany, in the county of Tyrol, 24 miles S.W. of Trent.

TURKHEIM, a town of France, in the department of Upper Rhine, remarkable for a victory gained here by Turenne, over the Auſtrians, in 1675. It is ſeated near the river Colmar, one mile N.W. of Colmar.

TURCOMANS, TEREKEMENS, or TRUKHMENIANS, a people of Aſia, who ſpeak the Turkiſh dialect of the Tartar language, and inhabit the eaſtern ſlope of Mount Caucaſus, the coaſt of the Caſpian about Boinak, Derbent, and Uteniſh, and the ſouthern promontories between the ſea and the river Alazan. Some of them are ſubject to the khan of Cuba; others to a chief who reſides at Nukhu; and a third to the ſovereign of Georgia.

TURENNE, a town of France, in the department of Correze, with a caſtle, 42 miles S. of Limoges. Long. 1. 30. E. Lat. 45. 9. N.

TURINGE, a town of Sweden, in the province of Sudermanland, 24 miles W.S.W. of Stockholm. Long. 17. 54. E. Lat. 59. 10. N.

TURINSK, a town of Ruſſia, in the government of Tobolſk, 144 miles W. of Tobolſk. Long. 63. 44. E. Lat. 58. 5. N.

TURKIN, a town of Ruſſia, in the government of Caucaſus, ſituate on the Caſpian Sea, 140 miles S. of Aſtracan. Long. 47. 15. E. Lat. 44. 15. N.

TURNDORF, a town of Bavaria, in the Upper Palatinate, 21 miles N.N.W. of Amberg, and 32 N.E. of Nuremburg. Long. 11. 55. E. Lat. 49. 42. N.

TURNHOUT, a town of Auſtrian Brabant. Here, in 1596, Prince Maurice of Naſſau, at the head of only 800 cavalry, totally defeated the Spaniards, conſiſting of 6000 horſe. It is 24 miles N.E. of Antwerp. Long. 5. 0. E. Lat. 51. 22. N.

TURNIP-DRILL, an agricultural implement, by means of which turnip-ſeed may be ſown after the manner of the drill culture. The following account of ſome experiments to determine the comparative advantage of the drill or broadcaſt method in the cultivation of turnips, and deſcription of a new invented drill, by the Rev. T. C. Munnings, of Eaſt Dereham, in Norfolk, is publiſhed in the Tranſactions of the

Society for the Encouragement of Arts, Manufactures, and Commerce, who conferred on the author their ſilver medal and ten guineas.

" Reſiding in a country," ſays Mr. Munnings, " in which the turnip-crop is very deſervedly conſidered as the baſis of its huſbandry, I have, for ſome time, directed my attention, and made ſome experiments, relative to the improvement of the cultivation of that valuable vegetable; conceiving that in whatever degree I could more advantageouſly produce turnips, or when produced could provide for a more economical expenditure of the crop, I might fairly be regarded as in the ſame degree promoting the general and laſting intereſts of the community. With this view I have made repeated trials, to aſcertain the comparative advantage of the drill or broad-caſt method in the cultivation of turnips; and as the reſult of an experiment which I made laſt year has not only been ſatisfactory to myſelf, but alſo to all who have witneſſed the effects of it, I am induced to offer myſelf a candidate for the premium held out by the ſociety.

" But, before I proceed to a detail of my experiments, I think it right to obſerve, that I have, *by way of preparation for turnips*, given my land a *deeper* ploughing in the winter than is cuſtomary with the neighbouring farmers. For this purpoſe, I made uſe of a Scotch foot-plough; and I think that by *ſuch* ploughing I bring land into action, which has been for ſome time *dormant*; and which is therefore better ſuited to the turnip than land which has been exhauſted by the production of other crops. In every other reſpect my previous management of my land correſponds with the common practice of my neighbours.

" My land being thus prepared, inſtead of ſowing the turnips *broad-caſt* in the uſual method, I invented a drill for this purpoſe, ſimple in its conſtruction, and of eaſy management. It conſiſts of a tin box, in the ſhape of a barrel, affixed to the axis of a wheel, about twenty-two inches in diameter, vertical with the ſame, and its revolutions dropping the ſeed through ſmall apertures in the middle of the barrel. The holes through which the ſeed falls are diſtant from the wheel about fourteen inches. (See Plate 53. figs. 1, and 2.)

" I began by having the tops of the different ridges ſet out with the common Norfolk *two-horſe plough*; and, when the ſame plough took up the furrow next to the top, I immediately followed with my drill, and dropped the ſeeds upon the freſh mould the inſtant it was turned up. I was then followed by a one-horſe plough, the over ſhot mould of which as quickly buried the ſeeds. I was thus enabled to ſow my ſeeds as faſt as the land was ploughed, and to depoſit them in regular and ſtraight rows, at equal diſtances of about eighteen inches; after which I harrowed or rolled my land, in the ſame direction in which it was ploughed; and the conſequence has been, that my crop has grown as regularly as a gardener could plant cabbages. Nearly ſix acres of my field were thus drilled, and on the ſame day (in the third week of June) the remainder of the field, or ſomething more than three acres, was ſown broad-caſt, after the uſual practice of the country, and preciſely at the ſame time when the farmers around me were ſowing their lands in a ſimilar manner.

" In the courſe of my obſervations on the turnip-crop, I had frequently lamented that, when the crop was indeed abundant, the advantages derived from its expenditure were far from correſpondent, becauſe no effectual method has yet been adopted, to protect the turnips from the ſeverity of a winter's froſt. This, in the common method of *broad-caſt* ſowing, I conſidered as impracticable, and therefore reſolved to attempt it in my drilled crop; and in that crop I have been enabled by pulling up the alternate rows to leave regular rows about a yard apart, and have had the land ſo ploughed, with a one-horſe plough, as to mould up the turnips, on each ſide, moſt effectually, and to aſſume the appearance of what is called *two-furrow work*. I have therefore half my crop ſo buried, as to leſſen very materially, if not abſolutely to prevent, the danger ariſing from the frequently fatal effects of a cutting froſt.

" I am truly happy that the mildneſs of the preſent ſeaſon prevents my ſpeaking with greater confidence, as to the ſucceſs of this part of my experiment, though the very complete manner in which the turnips are now buried, leaves me without much doubt but that it fully anſwers my expectations. Many very experienced farmers, who have witneſſed my proceedings, honour them with their entire approbation, and look upon my method of protecting my plants as a grand diſcovery in the management of the turnip-crop. I am certainly aware, that I am not the firſt perſon who has drilled turnips; but I know of no one who has before done it in ſo ſimple a manner—in a manner attended with leſs expence—in a manner admitting of ſo much eaſe, in future operations, for the defence of the plants—or in a manner more likely to be clearly underſtood by all who may be deſirous of making ſimilar experiments. Of the ſuperior produce of the drilled crop over the broad-caſt, on equal quantities of land, every experiment that I have made has moſt powerfully convinced me; and I have the univerſal opinion of all who have viewed my preſent crop, to confirm my ſentiments. It has been obſerved by Mr. Kent, in his General View of the Agriculture of the County of Norfolk, that the ground does not reliſh turnips ſo well as formerly: and he ſuppoſes (in my opinion, with much juſtice), that the preſent comparative ignorance of the uſe of turnips amongſt the Hanoverians, has ariſen from the ground in that country being injured by repeated crops of them. It is certainly a very obvious truth, that turnips will grow in the greateſt abundance on land not accuſtomed to bear them: but it has frequently occurred to me, that one material reaſon of failure, in a crop of turnips ſown broad-caſt, has ariſen from the ſeed not being ſown ſoon enough after the plough; as I have, in numberleſs inſtances, taken notice of turnips vegetating very partially, when only a few furrows have been ploughed between one ſowing and another; and, in ſuch caſes, I have always thought that, if the ſeed could have been depoſited immediately after the plough, it would not have failed to grow uniformly. I truſt it will be found that my experiment powerfully tends to confirm this concluſion.

" In a part of my field, from which the alternate rows have not yet been taken, I have, with very great effect, uſed the hoe-plough, and have not only cut and deſtroyed whatever weeds were growing between the rows, but have alſo partially moulded up the apples of the turnips; and I am induced to believe that even ſo partial a moulding up, executed in the autumnal months, would have a ſtrong tendency to protect the plants, to facilitate a more complete moulding-up when part of the crop is removed, and to admit the full benefit reſulting from the expoſure of the earth to a winter's froſt. I am perſuaded that ſuch uſe of the hoe-plough ſerves likewiſe to retain neceſſary moiſture, and to produce future pulveriſation with much leſs than common labour. But I have more particularly noticed the very ſuperior verdure of the moulded-up plants, compared with what are not ſo, and with the larger and almoſt uninjured

tops of the former, in compariſon with the latter; for, during ſome late froſts, the effects of which were very perceptible in the expoſed plants, thoſe moulded up have continued to grow, and to branch luxuriantly, with all the vigour of vernal vegetation. I attribute this to the bulbs of ſuch plants not having their juices ſtagnated by the keenneſs of the weather.

"As I am anxious to have this ſubject fully ſubmitted to the Society for the Encouragement of Arts, &c. allow me to ſay, that I conſider my drill for turnips as much ſuperior to any other, from the ſingle circumſtance of its depoſiting the ſeed ſo *inſtantly* after the plough, as entirely to preſerve the good effects of the firſt evaporation; and that I conceive ſuch evaporation produces the uniform vegetation of ſuch minute ſeeds. So remarkably uniform was the vegetation laſt year, that in the ſix acres of my drilled plants, I believe there was not a deficiency of ſix ſquare yards; though on three acres of broad-caſt, before rain fell, not one half, perhaps not one-third part of the ſeeds vegetated. I am indeed fully perſuaded that the drill method, in the cultivation of turnips, will in all ſeaſons be ſuperior to the broad-caſt; but that the very great and ſtriking difference between the two methods will moſt effectually be perceived in a ſeaſon of uncommon drought; and it is for this reaſon that I am ſolicitous to procure for the drill-method an extenſive and impartial trial, that agriculturiſts in general may be ſatisfactorily convinced of its important advantages.

"Of the following advantages attending my method of drilling turnips, I am ſatisfactorily perſuaded:—in a dry time, as was the caſe laſt ſeaſon, the ſeed, by being immediately dropped upon the freſh turned up mould, has conſequently an increaſed probability of ſucceſsful vegetation. By being buried ſomewhat deeper than in the broad-caſt method, it receives more moiſture in its infant ſtate of vegetation; and by having, if I may ſo ſay, new hold of the earth, is leſs liable to injury, from the effects of continued drought. In confirmation of theſe perſuaſions I muſt ſtate, that turnips ſown on the ſame day, in the ſame field, broad-caſt, on land in every other reſpect treated previouſly in the ſame way, have not produced one half or one third of a crop, and that the ſame has been very generally the caſe with turnips ſown broad-caſt; but that every row of my drilled plants has ſucceeded to admiration. The advantages in the ſubſequent management of the crop I have already ſpoken of. If therefore it be deſirable to grow turnips to advantage, if it be deſirable to protect them when grown, and by ſuch protection be enabled to give ſtock, ſound, uninjured turnips, inſtead of what may be more than half-rotten, or froſt nipt almoſt to putrefaction; I would willingly flatter myſelf that the Society for the Encouragement of Arts, &c. will be convinced that, as far as any concluſion can be drawn from a ſingle experiment in favour of one method rather than another, I have, beyond diſpute, eſtabliſhed the ſuperiority of the drill-method of cultivating turnips.

"Of my previous experiments I am not able to furniſh the Society with any ſatisfactory particulars; yet I would by no means omit to declare, that each has been the mean of perſuading me, that the broad-caſt method of cultivating turnips can never be ſo advantageous as that of the drill, when properly managed; and I have much ſatisfaction in aſſuring the Society, that, from the extraordinary ſucceſs of my laſt year's experiment, many of my neighbours have expreſſed a reſolution to drill, and to protect their turnips for the time to come.

"In addition to the advantages I have before ſtated, that my drilled plants growing in ſuch ſtraight and equidiſtant rows, any noxious weeds, ſuch as charlock, thiſtles, or redweed, may be deſtroyed in the infant ſtate of the plants, by hoeing the intermediate ſpaces; that when the alternate rows are removed, and the land ploughed for the defence of the remaining rows, it receives moſt of the benefits of a winter's froſt, and is very much forwarded in preparation for the barley-crop; and that, above all, from my complete ſucceſs, I have rouſed a ſpirit of emulation in the cultivation of turnips, among the farmers of the county of Norfolk.

"With regard to my turnips, it would be eaſy to multiply certificates, and be diffuſe in my obſervations, becauſe no agriculturiſt has viewed them without being ſurpriſed both at the abundance of the crop (conſidering the quality of my land), and at the very obvious ſimplicity of my management of it, from beginning to end. I ſhall only further obſerve, that it is now in my power to ſow my ſeed at equal diſtances of nine, eighteen, twenty-ſeven, thirty-ſix inches, or at any given diſtance of inches, of which nine are an aliquot part; and that I conſider this as no trifling convenience."

The following will explain the references to the figure in Plate 53. fig. 1. A is the wheel, with an iron rim. B, the tin barrel, or ſeed-box, fixed to the axis of the above wheel. C, the aperture by which the ſeed is introduced into the box:—this aperture is afterwards cloſed by a cover. D, a ſemicircular plate of tin, to prevent any dirt falling upon the ſeed-box. E E, the two handles of the machine.

Fig. 2. F repreſents the ſeed-box on a larger ſcale. G, the holes in the tin box, through which the ſeed falls upon the land. H, part of the axis of the wheel, to which the ſeed-box is fixed.

A drill machine for ſowing turnip-ſeed has alſo been invented by T. A. Knight, eſq. of Elton, near Ludlow. The following account of it appears in the Tranſactions of the Society for the Encouragement of Arts, &c. who voted Mr. Knight their ſilver medal.

"The ſmall inſtrument for ſowing turnips," ſays Mr. Knight, "which I have ſent to the Society, I have tried on ſeveral different ſoils, and think I can venture to aſſert, that it will ſow the ſeed, and cover it perfectly well, in any ſoil that is nearly in a proper ſtate to receive it. It is neceſſary either to harrow the ground acroſs, or to roll it, previouſly to the inſtrument being uſed, that the labourer may ſee the rows he has made; but I have always found the crop to ſucceed better after the roller than the harrow, though the ground has been very ſtrong.

"In Plate 53. A is the iron wheel, which, running on its edge, formed by two concave ſides, makes the groove into which the ſeeds fall. I have ſometimes uſed a wheel with ſtraight ſides; but I think that concave ſides, when well executed, are to be preferred in ſtrong ſoils, and indeed in any ſoil. B is a wheel, moving on the ſame axis with A, and turning the wheel C (which gives out the ſeed) by means of a ſtrap. I have ſeveral ſizes of the wheel B, in order to increaſe or diminiſh the rapidity of C; and conſequently to ſow more or leſs ſeed. D, the tube through which the ſeed paſſes, and falls into the channel made by the iron wheel. E, the feet of the inſtrument. F, ſix lengths of jack-chain; which I find cover the ſeed remarkably well. The chain is perhaps preferable to any kind of harrow, becauſe it can never become incumbered with looſe ſtraw, which is almoſt always found on, or cloſe to, the ſurface, when the ground has been manured; and the iron cutting-wheel has a ſimilar advantage over any kind of ſhare. G, the ſeed-box. H H, the handles of the machine.

" The labour of uſing the inſtrument is very ſmall. My workman uſually accompliſhes four ſtatute acres, or ſomething more, in a day: and one night, with the one I ſend, he ſowed an acre and a half after ſix o'clock in the evening. There are two holes before the axis of the great wheel, which point out the proper width of the intervals between the rows. I uſually place my rows at eighteen or twenty inches diſtance; and I wiſh my plants to ſtand at not more than ſix inches apart in the row; for I find that three ſmall turnips weigh about as much as one large turnip, are more ſolid, and I think more nutritious, and certainly are much leſs apt to ſuffer by unfavourable weather. The ground between the rows is, of courſe, worked with the hoe.

" The angle which forms the edge of the wheel A, muſt be made more or leſs acute; and the inſtrument more or leſs heavy, proportional to the ſtrength of the ſoil. I have ſometimes added weights of lead over the axis of the wheel, but it will rarely be found neceſſary. I have tried the inſtrument on different ſoils, and I think it will anſwer on any. A great advantage may be derived by ſowing turnips with it, at a time when horſes, now commonly uſed for the ſame purpoſes, are engaged in other employments. A few days are frequently of importance in ſowing turnips, which, by fortunate rains, have got a wonderful ſtart of thoſe which have been ſown a day or two later.

" Fig. 3, is a ſection, on a larger ſcale, of the ſeed-box G, in fig. 2. The wheel, marked C, is alſo the ſame as in that figure: it is fixed upon the axis of the cylinder I, which is pierced upon the ſurface with holes at K, for the ſeed. This cylinder turns round within a groove at the bottom of the box, and is ſo well fitted therein, that no ſeed falls from the box but what is delivered by the holes K. A ſmall bruſh, marked L, rubs againſt the cylinder, to clear out any ſeeds which may remain in the holes. M is a front-view of the wheel, exhibiting its edge.

" The ſeeds fall into the tube underneath the cylinder, and thence into the channel, made by the indenting rim of the iron wheel. The looſe chains which follow cover the ſeeds with earth, as before mentioned."

Both theſe drill machines are placed in the Society's repoſitory for the inſpection of the public. We cannot conclude this article without noticing the patent granted to Mr. Jackſon, of Eaſingwold, in the county of York, for a machine or drill for turnips, which is to be fixed to a plough-beam. The patent is dated Nov. 3, 1801. Mr. Jackſon declares his invention to be according to the following deſcription:

Fig. 1 (Plate 53.) conſiſts of a braſs plate or frame, wherein the braſs roller A is fixed with two caps and ſcrews at B, B. The braſs roller hath three, four, or more ſets of holes, conſiſting of different numbers, viz. from ſix to eighteen in each ſet or circumference.

Fig. 2 is a ſliding cover, whoſe inſide cloſely fits the roller A. The opening B moved over any of the different numbers of holes, and ſcrewed faſt by the two ſcrews A, A, in one revolution will diſcharge different numbers of ſeeds. The row of holes with ſix in it will ſow the ſeed at ſixteen inches diſtance from each other; and the row with eighteen holes in it will ſow the ſeed five inches diſtance from each other: but the holes may be varied in their numbers, at the will of a purchaſer. At C is a braſs ſcrew, hollowed at the lower end, and cemented, full of horſe-tail hair, and of the diameter of the aperture B, in the centre of fig. 2.

Fig. 3 is a ſection of fig. 2, with the ſeed-box upon it.

Fig. 4, A is a ſliding bar of wood, two feet long, two inches broad, and one inch and a half thick. B, is a caſt-iron or wood wheel, thirty-one inches diameter, and faſtened by a ſquare hole and nut upon the end of the iron axletree C, which axletree runs, and is fixed, to the ſliding-bar A, by the two collars at D, D. The axletree hath a ſquare hole in the end at E, where it receives the ſquare end of the arbor E, in fig. 1. F F F is the ſide view of the ſeed-box ſprout, and fixing to the end of the ſliding box, by means of the cock E, part of the plate or frame, as at D, in fig. 1, is ſcrewed, ſo as to be in a direct line with the axletree of the wheel B. G is a ſliding cap or box, through which the ſliding-bar A moves backwards and forwards from D to D, and may be fixed in any part between, to ſuit the breadth of the furrow intended to be ploughed, through the upper part of the ſame. The wood frame B, fig. 6, ſlides likewiſe to and fro, and may be fixed by the ſame ſcrew (H, fig. 4); by which motion the ſeed may be dropped either under the furrow or upon the ſurface of the ground.

Fig. 6, A, the ſtud to go through the plough-beam as near the counter-hole as convenient, on the left-hand ſide of the beam. The frame B, two feet ſix inches in length, and three inches ſquare, ſlides through the box or cap as at I, in fig. 4. At E, the wheels, axletree, and the arbor of the drill-roller, join and couple by means of a male and female ſquare, or an univerſal joint.

Fig. 7, A, the ſtud, as at A, fig. 6, to put through the plough-beam, as near the coulter-hole as convenient, on the right-hand ſide. The ſame frame B, fig. 6. The ſame drill F and wheel B as deſcribed in fig. 4.

Figs. 8, 8, is a frame with two arms and two bolts, as at A A. The upper part of the wheel's axletree goes through the arm and frame at B, and riſes and falls to ſuit the depth you plough, ſecured by the ſcrew C, and in ſome meaſure anſwers the purpoſe of a ſingle-wheel plough. The ſame wheel, and the ſame drill, as deſcribed above, upon each centre or contrate wheel, are fixed of equal ſizes; and a rolling-ſhaft D, with a nut upon each end to ſuit each wheel: and, by varying the numbers of the nuts upon the ſhafts, you vary the quantity of ſeed to be ſown. This drill may be uſed advantageouſly in ſowing of rape and other ſmall round ſeeds.

TURON, a town of Cochin-china, ſituate at the bottom of a bay of the ſame name. Long. 107. 30. E. Lat. 15. 15. N.

TURSI, a town of Naples, in Baſilicata, ſeated on the river Sino, eight miles from the gulf of Tarento, and 50 S.W. of Bari. Long. 16. 50. E. Lat. 40. 36. N.

TUSIS, a town and community of Switzerland, in the country of the Griſons, ſeated near the torrent Nolla, at the beginning of the valley of Tomliaſca, 16 miles S. by W. of Coire.

TUTBURY, a town in Staffordſhire, with a market on Tueſday. It had a large caſtle, which ſtood on an alabaſtar hill; ſeveral of the towers and a ſmall part of the wall ſtill remain. It is 15 miles E. of Stafford, and 134 N.E. of London. Long. 1. 40. W. Lat. 53. 0. N.

TUTACORIN, a town of Hindooſtan, in the Carnatic, oppoſite the iſland of Ceylon. Here the Dutch have a factory. It is 60 miles N.E. of Cape Comorin. Long. 76. 40. W. Lat. 8. 15. N.

TUTURA, a town of Ruſſia, in the government of Irkutſk, ſituate on the Lena, 160 miles N. of Irkutſk. Long. 105. 40. E. Lat. 54. 40. N.

TUXFORD, a town in Nottinghamſhire, with a market on Monday; ſeated in a clayey ſoil, 13 miles N.N.W. of Newark, and 137. N. by W. of London. Long. 0. 50. W. Lat. 53. 16. N.

TUY, a town of Spain, in Galicia, with a biſhop's ſee. It is ſurrounded by ſtrong walls and ramparts, and well furniſhed with artillery, being a frontier town toward Portugal. It is ſeated on the top of a mountain, near the river Minho, in a fertile and well cultivated country, 62 miles S. of Compoſtella, and 254 W. of Madrid. Long. 8. 12. W. Lat. 42. 4. N.

TUZLA, a town of Turkey in Aſia, in Caramania, ſituate at the weſtern extremity of a lake to which it gives name, 28 miles N. of Cogni. Long. 35. 55. E. Lat. 38. 20. N.

TYCOKZIN, a town of Poland, in Polachia, with a caſtle and a mint. It is ſeated on the Narew, 22 miles N.W. of Bielſk. Long. 23. 40. E. Lat. 53. 0. N.

TYNE, a river in Northumberland, formed of a branch from the county of Durham, and another from the hills on the borders of Scotland. Theſe uniting a little above Hexham, form a large river, which flows to Newcaſtle, and enters the German Ocean at Tinmouth.

Tyne, a river which riſes in the mountains in the S. of Haddingtonſhire, waters Haddington, and enters the German Ocean to the W. of Dunbar.

TYPE. See Stereotype, *Supp.*

TYRNAW, a large fortified town of Upper Hungary, in the palatinate of Trentſchin, 30 miles N.E. of Preſburg. Long. 17. 33. E. Lat. 48. 23. N.

TYSTED, a town of N. Jutland, in the territory of Alberg, with a citadel, ſeated on the gulf of Limford, 44 miles N.W. of Wiburg, and 46 W. of Alburg. Long. 8. 25. E. Lat. 56. 54. N.

TYVY, or Teivy, a river in Cardiganſhire, which iſſues from a lake on the E. ſide of the county, waters Tregannon and Llanbeder, and enters the bay of Cardigan, below the town of that name.

TZADURILLA, a town of Natolia Proper, near the river Sangar, or Aclu, 63 miles S E. of Iſnic. Long. 31. 8. E. Lat. 39. 0. N.

TZARITZYN, a town of Ruſſia, in the government of Saratof, ſeated on the Volga, 120 miles N.W. of Aſtracan. Long. 45. 25. E. Lat. 48. 0. N.

TZERNITZ, a town of Turkey in Europe, in Romania, near a river of the ſame name, 32 miles N.N.E. of Adrianople. Long. 26. 40. E. Lat. 42. 5. V.

TZIVILSK, a town of Ruſſia, in the government of Kaſan, 56 miles W. of Kaſan. Long. 47. 25. E. Lat. 55. 40. N.

V. U.

VAD

VAAST, St, a town of France, in the department of the Channel, five miles from Harfleur, and eight from Valogne.

VABRES, a town of France, in the department of Aveiron. Though an epiſcopal ſee before the revolution, it is little better than a village; but has ſome manufactures of ſerges, dimities, and cottons. It is ſeated at the confluence of two ſmall rivers that fall into the Tarn, 30 miles S.E. of Rodez, and 32 E. of Alby. Long. 2. 55. E. Lat. 43. 57. N.

VACHA, a town of Germany, in the landgravate of Heſſe-Caſſel, 40 miles S.E. of Caſſel. Long. 10. 12. E. Lat. 50. 55. N.

VACHE, an iſland of the Weſt Indies, off the S. coaſt of St. Domingo, oppoſite St. Louis. It was formerly a rendezvous of the bucaniers, who began a ſettlement here in 1673.

VADA, a town of Italy, in Tuſcany, ſeated on the Tuſcan Sea, 20 miles S. of Leghorn. Long. 10. 20. E. Lat. 43. 15. N.

VADAGARY, a town of the peninſula of Hindooſtan, in the province of Madura, 64 miles S.S.W. of Madura.

VADIN, a town of Turkey in Europe, in Baſſarabia, ſituate on the Danube, 32 miles W. of Nicopoli. Long. 25. 0. E. Lat. 44. 25. N.

VADO, a ſea-port of Italy, in the territory of Genoa, with a fort; taken by the French in 1795. It is three miles W. of Savona, and 24 S.W. of Genoa. Long. 8. 8. E. Lat. 44. 15. N.

VADSTEIN, a town of Sweden, in Eaſt Gothland, where the kings of Sweden had formerly a palace, now in ruins. It is ſeated on the E. ſide of the lake Wetter, near the river Motala, 32 miles W. of Nordkioping. Long. 15. 55. E. Lat. 58. 12. N.

VAL

VADUTZ, a town and caſtle of Suabia, in the principality of Lichtenſtein, 26 miles S. Lidau, and 34 S.S.E. of Conſtance. Long. 9. 22. E. Lat. 47. 7. N.

VAENA, a town of Spain, in Andaluſia, ſeated at the ſource of the Caſtro, 23 miles. S.E of Cordova. Long. 3. 50. W. Lat. 37. 40. N.

VAIHINGEN, a town of Suabia, in the duchy of Wurtemburg, ſeated on the Neckar, 34 miles S.W. of Hailbron. Long. 9. 3. E. Lat. 48. 58. N.

VAISON, a decayed town of France, in the department of Vaucluſe, with a biſhop's ſee. It was lately ſubject to the pope, and is ſeated on a mountain, on which there is a caſtle, near the river Oreze, and the ruins of ancient Vaiſon, which was one of the largeſt cities of the Gauls. It is 15 miles E.N.E. of orange, and 22 N.E. of Avignon. Long. 5. 6. E. Lat. 44. 15. N.

VAL DI DEMONA, a province in the N.E. angle of Sicily. It means the valley of demons, and is ſo called becauſe Mount Etna is ſituate in this province, which occaſioned ignorant and ſuperſtitious people, at the time of its fiery eruptions, to believe it was a chimney of hell. The capital is Meſſina.

VAL DI MAZARA, a province in the W. angle of Sicily, ſo called from the town of Mazara. It contains Palermo, the capital of the whole iſland.

VAL DI NOTO, a province at the S.E. extremity of Sicily; ſo called from the town of Noto, its capital.

VALCKOWAR, a town of Sclavonia, ſeated on the Walpo, near its confluence with the Danube, between Eſſeck and Peterwaradin, 70 miles N.W. of Belgrade. Long. 19. 51. E. Lat. 45. 55. N.

VALDAI, a town of Ruſſia, in the government of Novogorod, on the ſide of a lake of the ſame name. It con-

tains ſeveral brick buildings; and even the wooden houſes are more decorated than the generality of Ruſſian cottages. Its environs riſe into a variety of gentle eminences, and abound with beautiful lakes, ſprinkled with woody iſlands, and ſkirted by foreſts, corn-fields, and paſtures.

VALDASNES, a town of Portugal, in Tra los Montes, nine miles E.S.E. of Mirandola.

VALDEBURON, a town of Spain, in the province of Leon, 34 miles N.N.E. of Leon, 34 miles N.N.E. of Leon. Long. 4. 55. W. Lat. 43. 5. N.

VALDECONA, a town in Spain, in Catalonia, 15 miles S. of Tortoſa. Long. 0. 35. E. Lat. 11. 15. N.

VALDIGEM, a town of Portugal, in Beira, ſituate near the Duero, four miles N.E. of Lamego.

VALENCE, a city of France, in the department of Drome, with a biſhop's ſee, a citadel, and a ſchool of artillery. It is ſurrounded by good walls, and the greateſt part of the public places, and many private houſes, are adorned with fountains. Beſide the handſome cathedral, there are many other churches, as well as late convents, that are worthy of notice. It is ſeated on the Rhone, 30 miles N. by E. of Viviers, 335 S. by E. of Paris. Long. 4. 52. E. Lat. 44. 56. N.

VALENCE, a town of France, in the department of Lot and Garonne, ſituate on the Garonne, 12 miles S.E. of Agen.

VALENCA D'ALCANTARA, a conſiderable town of Spain, in Eſtremadura, with an old caſtle. It is ſurrounded by walls after the antique manner, flanked by ſome ſmall baſtions, and a few towers; is very ſtrong by ſituation, being built on a rock, near the river Savar, 20 miles S.W. of Alcantara, and 40 N. of Badajoz. Long. 6. 30. W. Lat. 39. 26. N.

VALENCEY, a town of France, in the department of Indre, with a caſtle, ſeated on the Nabon, 15 miles S. of Romorentin.

VALENZO-DO-MINHO, a fortified town of Portugal, in Entre-Minho-e-Douero, ſeated on an eminence, near the river Minho, three miles S. of Tuy. Long. 8. 11. W. Lat. 42. 2. N.

VALENTINE, a town of France, in the department of Upper Garonne, nine miles N.E. of St. Bertrand. Long. 0. 57. E. Lat. 43. 1. N.

VALENZA, or VALENTIA, a ſtrong town of Italy, in the Milaneſe, capital of the Lomaline, and ſubject to the King of Sardinia, to whom it was ceded in 1707. It has been often taken and retaken, and is ſeated on a mountain, near the river Po, 12 miles E. of Caſal, and 35 S.W. of Milan. Long. 8. 56. E. Lat. 44. 58. N.

VALESTRA, a town of Italy, in the duchy of Modena, 12 miles S.W. of Modena. Long. 10. 52. E. Lat. 44. 26. N.

VALETTE, a town of France, in the department of Charente, 10 miles S. of Angoulême. Long. 0. 15. E. Lat. 45. 30. N.

VALKENBURG, or FAUQUEMONT, a town of Dutch Limburg. In 1568 it was ſacked by the Spaniards, and in 1672 was taken by the French, who demoliſhed the fortifications. It is ſeated on the Geule, eight miles E. of Maeſtricht. Long. 5. 50. E. Lat. 50. 52. N.

VALLELONGA, a town of Naples, in Calabria Ulteriore, 18 miles E.N.E. of Nicotera. Long. 16. 40. E. Lat. 38. 44. N.

VALLEMONT, a town of France, in the department of Lower Seine, with a caſtle, 16 miles N. by W. of Caudebec. Long. 1. 25. W. Lat. 49. 46. N.

VALLENCAY, a town of France, in the department of Indre, 20 miles N. of Chateauroux, and 22 E. of Loches. Long. 1. 26. E. Lat. 47. 10. N.

VALLENGIN, a town of Switzerland, capital of a county of the ſame name, in the principality of Neuchatel. It is ſeated near the lake of Neuchatel, 25 miles N.W. of Bern. Long. 6. 40. E. Lat. 47. 0. N.

VALLERS, a town of France, in the department of Indre and Loire, noted for mineral waters. It is four miles N.W. of Tours. Long. 0. 41. E. Lat. 47. 24. N.

VALLERY, ST. a commercial town of France, in the department of Somme, at the mouth of the river Somme, whoſe entrance is very dangerous. It is 10 miles N.W. of Abbeville, and 100 N. by W. of Paris. Long. 1. 37. E. Lat. 50. 11. N.

VALLERY-EN-CAUX, ST. a ſea-port of France, in the department of the Lower Seine, 15 miles W. by S. of Dieppe, and 105 N.W. of Paris. Long. 0. 41. E. Lat. 49. 52. N.

VALLIER, ST. a town of France, in the department of Ardeche, ſeven miles N.E. of Tournon. Long. 2. 5. E. Lat. 49. 10. N.

VALOGNE, a town of France, in the department of the Channel, noted for cloth and leather. It is ſeated on a brook, eight miles from the ſea, and 158 W. by N. of Paris. Long. 1. 26. W. Lat. 49. 30. N.

VALONA, a ſea-port of Turkey in Europe, in Upper Albania, with an archbiſhop's ſee. It was taken, in 1690, by the Venetians, who abandoned it after they had ruined the fortifications. It is ſeated on the gulf of Venice, near the mountains of Chimera, 50 miles S. of Durazzo. Long. 19. 23. E. Lat. 41. 4. N.

VALPARISSO, a town of Chili, with a well-frequented harbour, defended by a ſtrong fort. It is ſeated on the Pacific Ocean, at the foot of a high mountain. Long. 72. 14. W. Lat. 33. 3. S.

VALPERGA, a town of Piedmont, in the county of Canaveſe, 11 miles S.S.W. of Ivrea, and 16 N. of Turin. Long. 7. 44. E. Lat. 45. 21. N.

VALREES, a town of France, in the Venaiſſin, 12 miles E. of St. Paul Trois Chateaux.

VALS, a town of France, in the department of Ardeche, remarkable for mineral ſprings. It is ſeated on the Ardeche, three miles N. of Aubenas. Long. 4. 26. E. Lat. 44. 48. N.

VALTELINE, called by the inhabitants VALLE-TELINO, a fertile valley of Switzerland, ſubject to the Griſons. It extends from the confines of Bormio to the lake of Chiavenna, about the length of 50 miles, and is incloſed between two chains of high mountains. The N. chain ſeparates it from the Griſons, the S. from the Venetian territories; on the E. it borders on the county of Bormio; and is bounded on the W. by the duchy of Milan. The Valtelines have no manufactures; but they export wine, ſilk, planks, cheeſe, butter, and cattle. On the 20th of July, 1620, there was a general maſſacre of the Proteſtants in this valley. The inhabitants are computed to be 62,000, and are all Roman-catholics.

VALVA, a town of Naples, in Abruzzo Citeriore, 18 miles S.S.W. of Civita di Chieti, and 36 N.W. of Moliſe. Long. 14. 12. E. Lat. 42. 21. N.

VALVERDE, a town in Portugal, in Beira, on the confines of Spain, 30 miles N. by W. of Alcantara, and 38 S.S.E. of Guardia. Long. 6. 19. W. Lat. 39. 44. N.

VALVERDE, a town of Spain, in Eſtremadura, eight miles from Elvas, and eight from Badajoz.

VAN, a town of Turkey in Aſia, in Armenia, near the frontiers of Perſia. It is a populous place, defended by a caſtle, ſeated on a mountain. It is likewiſe a beglerbeglic, under which there are nine ſangiacates, or particular go-

vernments. The Turks always keep a numerous garriſon in the caſtle. Long. 44. 30. E. Lat. 38. 30. N.

VAN DIEMEN'S ROAD, a road of the iſland of Tongataboo, one of the Friendly Iſlands. Long. 174. 56. W. Lat. 21. 4. S.

VANIAMHADDY, a town of the peninſula of Hindooſtan, in the Myſore country, 105 miles S.W. of Madras, and 112 E. of Seringapatam. Long. 78. 45. E. Lat. 12. 41. N.

VANNES, a ſea-port of France, in the department of Morbihan, with a biſhop's ſee. Its principal trade is in wheat and rye for Spain; and it has a trade alſo in pilchards and ſea-eels. It is ſeated on the gulf of Morbihan, three miles from the Atlantic, 56 S.W. of Rennes, and 255 W. by S. of Paris. Long. 2. 46. W. Lat. 47. 39. N.

VAR, a department of France, including part of the late province of Provence. It takes its name from a river which has its ſource in the county of Nice, and falls into the Mediterranean, four miles W. of Nice.

VARALLO, a ſtrong town of Italy, in the Milaneſe, 28 miles N.N.W. of Novara, and 47 W.N.W. of Milan. Long. 8. 25. E. Lat. 45. 42. N.

VARAMBON, a town of France, in the department of Ain, ſeated on the Ain, 14 miles N.N.W. of Bourg. Long. 5. 15. E. Lat. 46. 23. N.

VARRELLA, a cape on the E. coaſt of the kingdom of Ciampa. Behind it is a mountain, remarkable for having a high rock, like a tower, on its ſummit. Long. 109. 17. E. Lat. 12. 50. N.

VARENDORF, a fortified town of Germany, in the biſhopric of Munſter, ſeated on the river Embs.

VARENNES, a town in France, in the department of Allier, ſeated on an eminence near the river Allier, 14 miles S.S.E. of Moulins. Long. 3. 31. E. Lat. 46. 22. N.

VARHELY, a town of Tranſylvania, 60 miles E. of Temeſwar. Long. 17. 10. E. Lat. 45. 40. N.

VARIOLÆ VACCINÆ, the diſeaſe popularly named the Cow-Pox. See Cow-Pox. *Supp.*

VARNA, a conſiderable ſea-port of Turkey in Europe, in Bulgaria, capital of the territory of Drobugia, with an archbiſhop's ſee. It is ſeated near the mouth of the Varna, in the Black Sea, 22 miles N. of Meſembria, and 145 N.W. of Conſtantinople. Long. 28. 28. E. Lat. 42. 44. N.

VARZEY, a town of France, in the department of Yonne, with a caſtle, 32 miles from Auxerre.

VASIL, a town of Ruſſia, in the government of Novogorod, ſituate on the Volga, 60 miles E. of Novogorod. Long. 45. 44. E. Lat. 56. 16. N.

VASSERBURG, a town of Bavaria, in the territory of Munich, with a caſtle. It is ſurrounded by high mountains, and ſeated on the river Inn, 28 miles E. of Munich. Long. 12. 15. E. Lat. 48. 10. N.

VASSI, a town of France, in the department of Upper Marne, ſeated on the Blaiſe, 10 miles N.W. of Joinville, and 115 E. of Paris. Long. 5. 10. E. Lat. 48. 27. N.

VATAN, a town of France, in the department of Indre, ſeated in a fine plain, eight miles N.W. Iſſoudun. Long. 1. 56. E. Lat. 47. 2. N.

VATICA, a ſea-port of Turkey in Europe, in the Morea, ſituate in a large bay to which it gives name, 44 miles S.E. of Miſitra. Long. 23. 2. E. Lat. 36. 38. N.

VAUCOLEURES, a town of France, in the department of Meuſe, ſeated on the ſide of a hill, on the river Meuſe, 10 miles W. of Toul, 22 S.W. of Nanci, and 150 E. of Paris. Long. 5. 40. E. Lat. 48. 36. N.

VAUCLUSE, a new department of France, including the county of Venaiſſin and territory of Avignon. It takes its name from the fountain of Vaucluſe. The chief town is Avignon.

VAUCLUSE, a village and fountain of France, in the department of the ſame name, 12 miles E. of Avignon, celebrated by Petrarch.

VAUD, PAYS DE, a country of Switzerland, in the canton of Bern. It extends along the lake of Geneva, riſing gradually from the edge of that lake, and is richly laid out in vineyards, corn fields, and meadows, and checquered with continued villages and towns. It was wreſted from the Duke of Savoy, by the canton of Bern, in 1536. Lauſanne is the capital.

VAUDABLES, a town of France, in the department of Puy de Donne, five miles from Iſſoire, and 240 S. by E. of Paris.

VAUDEMONT, a town of France, in the department of Meurthe, with a caſtle. It is ſeated in the moſt fertile country for corn in all Lorrain, 15 miles S.E. of Toul, and 18 S.W. of Nanci. Long. 5. 57. E. Lat. 48. 26. N.

VAUDOIS, VALLEYS OF, in Piedmont. They lie N. of the marquiſate of Saluzzo, and the chief town is Lucerna. The inhabitants are called Vaudois; alſo Waldenſes, from Peter Waldo, a merchant at Lyons, who expoſed the ſuperſtitions of the church of Rome, in 1160, and being baniſhed from France, came here with his diſciples. The Vaudois underwent the moſt dreadful perſecutions in the 17th century, particularly in 1655, 1656, and 1696.

VAUDREVANGE, a decayed town of France, in the department of Meurthe, ſeated on the Sare, near the ſtrong fortreſs of Sir Louis, 50 miles N.E. of Nanci. Long. 6. 36. E. Lat. 49. 28. N.

UBEDA, a town of Spain, in Andaluſia, with a ſtrong caſtle, ſeated in a fertile country, abounding in corn, wine, oil, and fruits, eſpecially figs. It is five miles N.E. of Baeza, and 158 S.E of Madrid. Long. 3. 13. W. Lat. 37. 48. N.

UBERLINGIN, a free imperial city of Suabia, in the county of Furſtenburg. The inhabitants, who are partly Roman-catholics and partly Proteſtants, carry on a great trade in corn, which they ſend to Switzerland; and not far hence are very famous baths. It is ſeated on a high rock, near the lake of Conſtance, 12 miles N. of Conſtance. Long. 9. 10. E. Lat. 47. 50. N.

UBERSKO, a town of Bohemia, in the circle of Chrudim, 10 miles E.N.E. of Chrudim.

UBIGAU, a town of Upper Saxony, in the electorate of Saxony, 28 miles S.E. of Wiltemburg. Long. 13. 12. E. Lat. 51. 34. N.

UBY, or PULO UBY, an iſland in the Indian Ocean, at the entrance of the bay of Siam, 20 miles in circumference. It yields good water and plenty of wood. Long. 105. 56. E. Lat. 8. 25. N.

UCKER, a river of Germany, which iſſues from a lake of the ſame name, near Prenzlo, in the Ucker marche of Brandenburg, runs N. through Pomerania, and being joined by the Rando, enters the Friſchen Haf, a bay of the Baltic.

UCKERMUNDE, a town of Upper Saxony, in Pruſſian Pomerania, with a caſtle, ſeated on the Friſchen Haf, a bay of the Baltic, 25 miles N.W. of Stetin. Long. 14. 12. E. Lat. 53. 53. N.

UDDEVALLA, a town of Sweden, in Weſt Gothland, ſituate on a bay of the Categate. The houſes are built of wood painted red and yellow, and the ſtreets are ſpacious. It contains 3000 inhabitants, has a trade in iron, planks, and herrings, and is 50 miles N. of Gothenborg.

UDENSKOI, a town of Siberia, in the government of Irkutzk, ſeated on the lake Balkul, on the road from To-

bolſk to China, 1000 miles N.W. of Pekin, and 1200 E. of Tobolſk. Long. 96. 30. E. Lat. 53. 0. N.

UDINA, or UDINE, a city of Italy, capital of Venetian Friuli, with a citadel. It contains 16,000 inhabitants, and is ſeated in a large plain, near the rivers Taglimento and Liſenzo, 10 miles N. of Aquileia, and 55 N. by E. of Venice. Long. 13. 3. E. Lat. 46. 12. N.

UDSKOI, a town of Ruſſia, in the government of Irkutſk, ſituate on the Udda, 1100 miles E.N.E. of Irkutſk. Long. 135. 30. E. Lat. 55. 16. N.

VECHTA, a fortified town of Weſtphalia, in the biſhopric of Munſter, 30 miles N. of Oſnaburg. Long. 8. 24. E. Lat. 52 54. N.

VEDENSKOI, a town of Ruſſia, in the government of Archangel, ſituate on the Vokſcha, 200 miles E.S.E. of Archangel. Long. 46. 44. E. Lat. 58. 45. N.

VEGA, a town of Spain, in the province of Aſturias, 84 miles N.W. of Oviedo. Long. 6. 5. W. Lat. 43. 45. N.

VEGLIA, an iſland in the gulf of Venice, on the coaſt of Dalmatia, with a biſhop's ſee, a good harbour, and a citadel. It is the moſt populous iſland on this coaſt, abounds in wine and ſilk, and has ſmall horſes in high eſteem. The only town, of the ſame name, is ſeated on the ſea, on a hill commanded by two mountains, 17 miles N.W. of Arbe, and 110 S.E. of Venice. Long. 14. 56. E. Lat. 45. 22. N.

VEGLIANA, a town of Piedmont, in the marquiſate of Suſa, ſeated on an eminence, near the river Doria, 12 miles N.W. of Turin. Long. 7. 34. E. Lat. 45. 7. N.

VEIROS, a town of Portugal, in Alentejo, with a caſtle, ſeated on the Anhaloura, 10 miles S.S.W. of Portalegre. Long. 7. 34. W. Lat. 38. 57. N.

VEIT, ST. a ſtrong town of Germany, in Carinthia, with an old caſtle, ſeated at the confluence of the Glan and Wunich, eight miles N. of Clagenfurt, and 173 S.W. of Vienna. Long. 14. 20. E. Lat. 47. 1. N.

VELA, a cape of the N. coaſt of Terra Firma, 160 miles E.N.E. of St. Martha. Long. 71. 25. W. Lat. 12. 30. N.

VELDEN, a town of Bavaria, in the principality of Neuburg, 22 miles N.W. of Ratiſbon. Long. 11. 50. E. Lat. 40. 10. N.

VELDENTZ, a town of Germany, in the palatinate of the Rhine, capital of a county of the ſame name, with a caſtle. It is ſeated on the E. ſide of the Moſelle, 13 miles N.E. of Treves. Long. 7. 3. E. Lat. 49. 52. N.

VELETRI, or VELLETRI, a town of Italy, in Campagna di Roma. It is the reſidence of the Biſhop of Oſtia, whoſe palace is magnificent; and there are large ſquares adorned with fine fountains. It is ſeated on an eminence, ſurrounded by hills, eight miles E.S.E. of Albano, and 20 S.E. of Rome. Long. 12. 56. E. Lat. 41. 46. N.

VELEZ, a town of Spain, in New Caſtile, with a caſtle, 45 miles N.E. of Toledo, and 50 S.E. of Madrid. Long. 2. 22. W. Lat. 40. 0. N.

VELEZ MALAGA, a town of Spain, in Granada, with a caſtle, ſeated in a large plain, near the Mediterranean, 12 miles N.E. of Malaga, and 52 S.W. of Granada. Long. 3. 24. W. Lat. 36. 42. N.

VELIKA, a town of Sclavonia, ſeated on the river Bakawa, 10 miles E. of Cruetz, and 60 N.W. of Poſega. Long. 16. 50. E. Lat. 46. 18. N.

VELIKI USTIUG, a province of Ruſſia, in the government of Vologda. Uſtiug is the capital.

VELORE, a town of Hindooſtan, in the Carnatic. It is a poſt of great importance, commanding the great road from Myſore into the Carnatic. It conſiſts of three ſtrong forts on as many hills, and is deemed impregnable to an Indian army. During the laſt war againſt Hyder Ally, it was relieved by Sir Eyre Coote, in the face of the whole army of that chief. It is 90 miles W. of Madras.

VENA, or MONTI-DELLA-VENA, mountains of Carniola, on the confines of Iſtria, on the S. of the lake Czernic.

VENAFRO, a town of Naples, in Terra di Lavoro, with a biſhop's ſee, ſeated near the Volturno, 27 miles W. of Capua, and 43 N. of Naples. Long. 14. 19. E. Lat. 43. 32. N.

VENAISSIN, a ſmall but fertile territory of France, lately depending on the pope, but now decreed a part of the republic of France, and included in the department of Vaucluſe.

VENANT, ST. a town of France, in the department of the Straits of Calais. It can be laid under water at any time, which is its chief defence, and is 27 miles S.E. of Dunkirk, and 22 N.W. of Arras. Long. 2. 39. E. Lat. 50. 38. N.

VENASQUE, a town of Spain, in Arragon, in a valley of the ſame name, with a ſtrong caſtle. It is ſeated on the Eſſara, in a country producing good wine, 35 miles E. of Balbaſtro. Long. 0. 25. E. Lat. 41. 58. N.

VENEATIGHERY, a town of the peninſula of Hindooſtan, in the Myſore country, 51 miles E. of Bangalore, and 54 W. of Arcot. Long. 78. 38. E. Lat. 13. 5. N.

VENCE, a town of France, in the department of Var. Before the revolution, it was a biſhop's ſee. It is eight miles from the Mediterranean, and 10 W. of Nice. Long. 7. 13. E. Lat. 43. 43. N.

VENDEE, a department of France, including part of the late province of Poitou. It is ſo called from a ſmall river of the ſame name. Fontenay-le-Compte is the capital.

VENDEN, a town of Ruſſia, in the government of Riga, ſituate on the Aa, 36 miles N.E. of Riga. Long. 25. 15. E. Lat. 57. 12. N.

VENDOME, a town of France, in the department of Loir and Cher, ſeated on the river Loir, 30 miles N.E. of Tours, and 95 S.W. of Paris. Long. 1. 8. E. Lat. 47. 50. N.

VENDRELL, a town of Spain, in Catalonia, 25 miles W.S.W. of Barcelona. Long. 1. 50. E. Lat. 41. 12. N.

VENZUELA, a province of Terra Firma, bounded on the N. by the Caribbean Sea, on the E. by Caraccus, on the S. by New Granada, and on the W. by St. Martha. When the Spaniards landed here in 1499, they obſerved ſome huts built upon piles, in an Indian village, in order to raiſe them above the ſtagnated water that covered the plain: and this induced them to give it the name of Venezuela, or Little Venice. Near the ſea-coaſt are high mountains, the tops of which are barren, but the lower parts in the valley are fertile, producing plenty of corn, rich paſtures, ſugar, tobacco, and fruits. There are alſo plantations of cocoa-nuts, which are exceedingly good; and gold is found in the ſands of the rivers. This province was beſtowed by the Emperor Charles V. on the Velſers of Augſburg, the moſt opulent merchants, at that time, in Europe, in conſideration of large ſums they had advanced to him. They were to hold it as an hereditary fief of the crown of Caſtile, on condition of conquering the country and eſtabliſhing a colony within a limited time. Unfortunately, they committed the execution of their plan to ſome of the ſoldiers of fortune with which Germany abounded in the 16th century, by whoſe rapacity and extortion the country was ſo deſolated, that it could hardly afford them ſubſiſtence, and the Velſers were obliged to relinquiſh their property. The Spaniards immediately reſumed poſſeſſion of it; but, notwithſtanding its many natural advantages, it is ſtill one of their moſt languiſhing and unproductive ſettlements.

VENEZUELA, the capital of a province of the ſame name, in Terra Firma, with a biſhop's ſee. It ſtands on a peninſula, on the E. ſide of the gulf of Venezuela, 70 miles N.E. of Maracaybo. Long. 70. 15. W. Lat. 10. 43. N.

VENEZUELA, a gulf on the N. coaſt of Terra Firma, which communicates with the lake of Maracaybo, by a narrow ſtrait.

VENLO, a ſtrong town of Dutch Guelderland, formerly in alliance with the Hanſeatic towns. It was more than once taken and retaken in the wars beween the Dutch and Spaniards. In 1752 it ſurrendered to the allies, and was confirmed to the ſtates-general by the barrier treaty in 1715. It was taken by the French, October 28, 1794. It is ſeated on the E. ſide of the Maeſe (on the oppoſite ſide of which is Fort St. Michael), 19 miles N. of Ruremonde, and 35 N.W. of Juliers. Long. 5. 50. E. Lat. 51. 20. N.

VENOSA, a town of Naples, in Baſilicata, with a biſhop's ſee. It is ſeated in a fertile plain, at the foot of the Apennines, 13 miles N.W. of Accrenza, and 72 N.E. of Naples. Long. 15. 52. E. Lat. 40. 54. N.

VENTA-DE-CRUZ, a town of Terra Firma, in the iſthmus of Darien, ſeated on the river Chagre. Here the Spaniards uſed to bring the merchandiſe of Peru and Chili on mules from Panama, and embark it on the river for Porto Bello. Long. 79. 0. W. Lat. 9. 20. N.

VENZONE, a town of Italy, in the country of Friuli, ſituate on the Tajamento, 18 miles W.N.W. of Friuli, and 32 E.N.E. of Belluno. Long. 13. 40. E. Lat. 46. 22. N.

VERA, a ſea-port of Spain, in Granada, with a biſhop's ſee. It is 43 miles N.E. of Almeria, and 32 S.W. of Carthagena. Long. 1. 30. W. Lat. 37. 15. N.

VERA PAZ, a province of New Spain, in the audience of Guatimala; bounded on the N. by Jucatan, on the E. by the bay and province of Honduras, on the S. by Guatimala Proper, and on the W. by Chiapa. It is 88 miles in length, and nearly as much in breadth, and is full of mountains and foreſts; but there are many fertile valleys, which feed a great number of horſes and mules. There are alſo many towns and villages of the native Americans. The capital, of the ſame name, has a biſhop's ſee, but is inconſiderable. It is 120 miles N.E. of Guatimala. Long. 89. 0. W. Lat. 15. 10. N.

VERBERIE, an ancient town of France, in the department of Oiſe, ſeated on the river Oiſe, 10 miles N.E. of Senlis. Long. 2. 51. E Lat. 49. 22. N.

VERCELLI, a ſtrong town of Piedmont, capital of a lordſhip of the ſame name, with a biſhop's ſee, a citadel, and a caſtle. The town-houſe, the governor's palace, and the hoſpital, are handſome ſtructures. It is ſeated at the confluence of the Seſſia and Cerva, 10 miles N.W. of Caſal, and 40 N.E. of Turin. Long. 8. 24. E. Lat. 45. 31. N.

VERCHOLENSK, a town of Ruſſia, in the government of Irkutſk, ſeated on the Lena, 120 miles N. of Irkutſk. Long. 105. 35. E. Lat. 54. 0. N.

VERCHOTURE, a town of Ruſſia, in the government of Perm, with a biſhop's ſee. This was the firſt town the Ruſſians built in Siberia. It is ſituate 120 miles N. of Catharinenburg. Long. 60. 15. E. Lat. 58. 45. N.

VERDEN, a duchy of Germany, in the circle of Lower Saxony, 28 miles long and nearly as much broad; bounded on the E. and S by the duchy of Lunenburg, on the W. by the Weſer and the duchy of Bremen, and on the N. by the duchies of Bremen and Lunenburg. It conſiſts chiefly of heaths and high dry lands; but there are good marſhes on the river Weſer and Aller. In 1712, the Danes wreſted this duchy from Sweden, and, in 1715, ceded it to the Elector of Hanover; which ceſſion, in 1718, was confirmed by the Swedes. The inhabitants are Lutherans.

VERDEN, a town of Lower Saxony, capital of a duchy of the ſame name. It contains four churches, and is ſeated on a branch of the Aller, 26 miles S.E. of Bremen. Long 9. 0. E. Lat. 53. 10 N.

VERDUN, a town of France in the department of Meuſe, with a biſhop's ſee, and a ſtrong citadel. Its fortifications were conſtructed by the Chevalier de Ville and Marſhal de Vauban; the latter of whom was a native of this place. In 1755 great part of the cathedral was deſtroyed by lightning. Verdun was taken by the Pruſſians in 1792, but retaken ſoon after. The inhabitants are noted for making fine ſweatmeats: It is ſeated on the Meuſe, which runs through the middle, 42 miles S.W. of Luxemburg, and 150 E. of Paris. Long. 5. 22. E. Lat. 49. 9. N.

VERDUN, a town of France, in the department of Upper Garonne, ſeated on the Garonne, 22 miles N.W. of Toulouſe. Long. 1. 20. E. Lat. 43. 54. N.

VEREA, a town of Turkey in Europe, in the province of Macedonia, and the ſee of a Greek metropolitan. It is 48 miles W. of Salonichi, and 115 E. of Valona. Long. 22. 18. E. Lat. 40. 40. N.

VERERIA, a town of Ruſſia, in the government of Moſcow, 56 miles W.S.W. of Moſcow. Long 25. 50. E. Lat. 55. 18. N

VERINA, a town of Terra Firma, in the province of Comana, celebrated for its tobacco. It is ſituate on a gulf of the Atlantic, 45 miles E. of Comana. Long. 63. 44. W. Lat. 10. 8. N.

VERMANDOIS, a late territory of France, in Picardy; which, with the late province of Soiſſonnois, is now included in the department of Aiſne. It abounds in corn, and excellent flax.

VERMANTON, a town of France, in the department of Yonne, ſeated on a river, 10 miles S.E. of Auxerre. Long. 3. 49. E. Lat. 47. 40. N.

VERMONT, one of the United States of America; bounded on the N. by Canada, on the E. by the river Connecticut, which divides it from New Hampſhire, on the S. by Maſſachuſets, and on the W. by New York. It is 157 miles long and 65 broad, and divided into eleven counties. A chain of high mountains, running N. and S. divides the ſtate nearly in the centre, between the river Connecticut and lake Champlain. The natural growth upon this chain is hemlock, pine, ſpruce, and other ever-greens: hence it has always a green appearance, and obtained the deſcriptive name of Vermont, from the French *Verd Mont*, Green Mountain. The country is generally hilly, but not rocky. It is finely watered, the ſoil is very fertile, and there is not a better climate in the world. The inhabitants have lately been eſtimated at 100,000. The principal town is Bennington.

VERNEUIL, a town of France, in the department of Eure, ſeated on the Aure, 22 miles S.W. of Evreux, and 65 W. by S. of Paris. Long. 0. 59. E. Lat. 48. 42. N.

VERNEUIL, a town of France, in the department of Allier, three miles from the river Allier, and 15 S. of Moulins. Long. 3. 25. E. Lat. 46. 20. N.

VERNON, a town of France, in the department of Eure, with an ancient caſtle, and a fortreſs at the end of the bridge, over the Seine, 27 miles S.E. of Rouen, and 42 N.W. of Paris. Long. 1. 42. E. Lat. 49. 6. N.

VERNOIS, a conſiderable town of Ruſſia, in the government of Rezan, ſeated on a mountain, near a river of the ſame name, which a little lower falls into the Don. Long. 42. 29. E. Lat. 53. 15. N.

VEROLI, an ancient and populous town of Italy, in Campagna di Roma, with a biſhop's ſee. It is ſeated on the Coſa, at the foot of the Apennines, 45 miles S.E. of Rome. Long. 13. 15. E. Lat. 41. 28. N.

VERREZ, a town of Piedmont, in the duchy of Aoſta, with a fortreſs deemed impregnable. It is 15 miles S.S.E. of Aoſta, and 35 N. of Turin.

VERRIERES, a town of Switzerland, in the principality of

Neuchatel. The environs are celebrated for excellent cheeſe. It is ſix miles E.N.E. of Pontarlier, and 20 W.S.W. of Neuchatel.

VERSOI, a village of France, in the department of Ain, ſeated on the lake of Geneva, near the mouth of the river Verſoi, ſix miles S.E. of Gex, and ſeven N. of Geneva. It goes by the name of *Choiſeul's Folly*; for Geneva having fallen under the diſpleaſure of France, the Duke de Choiſeul (then prime-miniſter) endeavouring to take advantage of the troubles in 1768, formed a plan to ruin that city, and monopolize the whole trade of the lake. With this view, he fixed on Verſoi as a proper ſituation for a large town, and began to ſink a pier, to make a harbour, &c. But when the harbour was nearly completed, and 125,000l. had been expended on the project, it was ſuddenly relinquiſhed.

VERTUS, a town of France, in the department of Marne, ſeated in a plain, at the foot of a mountain, on which are vineyards, producing very good wines, 17 miles S.W. of Chalons, and 78 N.E. of Paris. Long. 4. 2. E. Lat. 48. 53. N.

VERUN, or VERRUA, a town of Piedmont, in the county of Aſti. It was beſieged in 1705, by the French, who did not carry it till after ſix months, when it was reduced to a heap of ruins, becauſe the commander had blown up all the fortifications. It was afterward reſtored to the Duke of Savoy. It is ſeated on a hill, near the river Po, 20 miles W. of Caſal, and 23 N.E. of Turin. Long. 8. 2. E. Lat. 45. 13. N.

VERVIERS, a town of the Netherlands, in the biſhopric of Liege, ſeated on the Weze, four miles S.W. of Limbourg, and 17 S.E. of Liege.

VERVINS, a town of France, in the department of Aiſne, famous for a treaty, in 1598, between Henry IV. of France and Philip II. of Spain. It is ſeated on the Serre, 110 miles N.E. of Paris. Long. 4. 0. E. Lat. 49. 50. N.

VERULAM, the veſtiges of a celebrated Roman town in Hertfordſhire, cloſe by St. Alban's. In the time of Nero it was a *municipium*, or town, the inhabitants of which enjoyed the privileges of Roman citizens. By Tacitus it is called *Verulamium*, and by Ptolemy *Urolamium*. After the departure of the Romans, it was entirely ruined in the wars between the Britons and Saxons; and nothing remains of it but the ruins of walls, teſſelated pavements, and Roman coins, which are ſtill ſometimes dug up.

VERZUOLO, a town of Piedmont, in the marquiſate of Saluzzo, with a caſtle. It is ſurrounded with an ancient wall, flanked with towers; and is three miles S. of Saluzzo.

VESLEY, a town of France, in the department of Aiſne, ſeated on the river Aiſne, 10 miles E.N.E. of Soiſſons.

VESOUL, a town of France, in the department of Upper Saone. Since the revolution it has been created a biſhop's ſee. In its vicinity is a well, ſimilar to that near Ornans. It is ſeated at the foot of a mountain, called Motte de Veſoul, near the river Durgeon, 22 miles N. of Beſançon, and 200 S.E. of Paris. Long. 6. 8. E. Lat. 47. 36. N.

VESPERIN, or WEISBRAIN, a ſtrong town of Lower Hungary, capital of a county of the ſame name, with a caſtle, and an epiſcopal ſee, whoſe biſhop is chancellor to the King of Hungary, and has a right to crown him. It is ſeated on the lake Balaton, at the mouth of the river Sarwiſe, 50 miles S.W. of Strigonia, and 83 S.E. of Vienna. Long. 17. 57. E. Lat. 47. 14. N.

VEVAY, the ancient Vibuſcum, a town of Switzerland, capital of a baſiliwic of the ſame name, in the canton of Bern. The famous General Ludlow retired to this place, on the reſtoration: here he died in 1693, and is interred in the church. Vevay is ſurrounded by vineyard hills, and the wine is in great eſtimation. It ſtands in a ſmall plain, on the edge of the lake of Geneva, 37 miles S.W. of Bern. Long. 7. 4. E. Lat. 46. 28. N.

VEUDRE, a town of France, in the department of Allier, ſeated on the river Allier, 17 miles N.W. of Moulins.

VEZELAY, a town of France, in the department of Nievre. In 1560, this town, being in the poſſeſſion of the Calviniſts, was beſieged by the troops of Charles IX. without ſucceſs, after the loſs of 1500 men. Theodore Beza was a native of Vezelay. It is ſeated on the top of a mountain, near the river Cure, 20 miles S. of Auxerre, and 117 S. by E. of Paris. Long. 3. 42. E. Lat. 47. 26. N.

VEZELIZE, a town of France, in the department of Meurthe, ſeated on the Brenon, 12 miles S. of Nanci, and 14 S.E. of Toul. Long. 6. 10. E. Lat. 48. 39. N.

UFA, a government of Ruſſia, formerly included in the government of Orenburgh. It is divided into the two provinces of Ufa and Orenburgh.

UFA, a town of Ruſſia, capital of a government of the ſame name. It is ſeated on the Bielaid, below the mouth of the Ufa, 760 miles from Moſcow. Long. 57. 0. E. Lat. 54. 40. N.

UFFENHEIM, a town of Franconia, in the principality of Anſpach, 18 miles S.S.E. of Wurtburgh, and 22 N.N.E. of Anſpach.

UGENTO, a town of Naples, in Terra d'Otranto, with a biſhop's ſee, eight miles W. of Alceſſano, and 20 S.W. of Otranto.

UGLIANI, a town of Piedmont, in the duchy of Aoſta, nine miles N. of Ivrea, and 16 E.S.E. of Aoſta. Long. 7. 47. E. Lat. 25. 30. N.

UGOCZ, a town of Upper Hungary, capital of a county of the ſame name, with a caſtle. It is ſeated on a ſmall river that falls into the Neiſſe, 15 miles N. of Zatmar. Long. 22. 34. E. Lat. 48. 5. N.

UGOGNA, a town of Italy, in the duchy of Milan, ſeated on the Toſa, 16 miles N. of Varallo, and 45 N.W. of Milan. Long. 8. 24. E. Lat. 45. 52. N.

VIADANA, a town of Italy, in the duchy of Mantua, ſeated on the Po, eight miles N. of Parma, and 17 S. of Mantua. Long. 10. 35. E. Lat. 44. 58 N.

VIANA, a town of Spain, in Navarre, ſeated near the Ebro, three miles N. of Logronno, and 46 S.W. of Pampeluna. Long. 2. 20. E. Lat. 42. 32. N.

VIANA, a town of Portugal, in Entre-Douero-e-Minho, ſeated at the mouth of the Lima, with a good harbour, defended by a fort, 15 miles W. of Braga, and 36 N. of Oporto. Long. 8. 29. W. Lat. 41. 39. N.

VIANDEN, a town of Auſtrian Luxemburgh, capital of a county of the ſame name. It is divided into two towns by the river Uren. In the one is a caſtle, on an inacceſſible mountain. It is 22 miles N. of Luxemburg, and 22 N.W. of Treves. Long. 6. 13. E. Lat. 49. 55. N.

VIANEN, a town of the United Provinces, in Holland, with a caſtle. It was taken, in 1672, by the French, who demoliſhed the fortifications. It is ſeated on the Leck, ſeven miles S. of Utrecht. Long. 5. 8. E. Lat. 52. 0. N.

VIATKA, a government of Ruſſia, which was formerly a province of Kaſan. It takes its name from the river Viatka, which runs through it.

VIATKA, a town of Ruſſia, capital of a government of the ſame name, with a biſhop's ſee, and a caſtle. It was formerly called Khlynof, and is ſeated on the river Viatka, 100 miles N. of Kaſan. Long. 54. 15. E. Lat. 57. 25 N.

VIC, a town of France, in the department of Meurthe, ſeated on the Seille, 12 miles E.N.E. of Nanci, and 197 E. of Paris. Long. 6. 38. E. Lat. 48. 47. N.

VIC, a town of France, in the department of the Upper Pyrenées, ſituate on the Adour, 12 miles N. of Tarbes. Long. 0. 9. E. Lat. 43. 24. N.

VIC, or VICQ, a town of Spain, in Catalonia, with a biſhop's ſee. The cathedral is adorned with a fine portico,

ſupported by large pillars; and the market-place is very ſpacious. It is ſeated in a fertile plain, on a ſmall river that falls into the Tar, 30 miles N. of Barcelona, and 265 E.N.E. of Madrid. Long. 2. 13. E. Lat. 41. 55. N.

VIC-FEZENSAC, a town of France, in the department of Gers, ſeated on the Douze, 15 miles W. of Auch.

VIC-LE-COMPTE, a town of France, in the department of the Puy de Dome, with a palace, where formerly the counts of Auvergne reſided, and about a mile from it are mineral ſprings. It is ſeated near the Iſſoire, 15 miles S.E. of Clermont, and 130 S. of Paris. Long. 3. 22. E. Lat. 45. 36. N.

VICEGRAD, or VIZEGRAD, a ſtrong town of Lower Hungary, with a caſtle on the top of a rock, where the kings of Hungary formerly reſided. It was taken from the Turks, in 1684, by the Auſtrians. It is ſeated on the S. ſide of the Danube, eight miles S.E. of Gran, and 16 N.W. of Buda. Long. 19. 7. E. Lat 47. 35. N.

VICENTINO, a territory of Italy, belonging to the Venetians; bounded on the N. by Tretino and Feltrino, on the E. by Treviſano and Paduano, on the S. by Paduano, and on the W. by the Veroneſe. It is 35 miles long and 27 broad; and ſo very pleaſant and fertile, that it is called the garden of Venice. The wine is excellent, and the butter and cheeſe very good. Here are alſo great numbers of mulberry-trees, for ſilkworms; and there are mines of ſilver and iron, and quarries of ſtone, almoſt as fine as marble.

VICENZA, a ſtrong town of Italy, the capital of Vicentino, with a biſhop's ſee. It is without walls, but is a large place, adorned with ſeveral palaces, and has a fine ſquare, with piazzas under the houſes. There are alſo ſeveral other ſquares, and fine churches. Here is an academy, whoſe members meet in the Olympic theatre, a maſterpiece of workmanſhip by Palladio. It is ſeated between the rivers Bachiglione and Rerone, and two mountains, in a fertile plain, 13 miles N.W. of Padua, 31 W. of Venice, and 135 N. of Rome. Long. 11. 43. E. Lat. 45. 26. N.

VICHY, a town of France, in the department of Allier, famous for the mineral waters near it. It is ſeated on the Allier, 15 miles S.E. of Gennat, and 180 S. by E. of Paris. Long. 3. 22. E. Lat. 46. 0. N.

VICO, a town of Naples, in Terra di Lavora, with a biſhop's ſee. It was almoſt ruined by an earthquake in 1694, and is ſeated near the bay of Naples, 15 miles S. by E. of Naples. Long. 14. 28. E. Lat. 40. 38. N.

VICO, a town of Naples, in Principato Citeriore, 17 miles S.S.E. of Naples. Long. 14. 30. E. Lat. 40. 43. N.

VICO, a town of Corſica, in which is the cathedral of the biſhop of Sagona, a town now in ruins. It is 15 miles S.W. of Corte, and 30 S. of Calvi. Long. 9. 16. E. Lat 41. 55. N.

VICOVARO, a town and principality of Italy, in the province of Sabina, ſeated near the Teverone, eight miles E. of Tivoli, and 40 N.E. of Rome. Long. 13. 8. E. Lat. 42. 30. N.

VIELSK, a town of Ruſſia, in the government of Vologda, ſituate on the Vaga, 156 miles N.N.E. of Vologda. Long. 41. 45. E. Lat. 61. 40 N.

VIENNE, a conſiderable town of France, in the department of Iſere. It is ſeated on the Rhone, over which it had formerly a bridge, of which only ſome piers remain, that render the navigation dangerous. Under the Romans it was the capital of a colony, and the ſeat of a ſenate. In the 5th century, the Burgundians made it the capital of their kingdom. Its commerce conſiſts in wines, ſilk, and ſword-blades, which laſt are highly eſteemed. Before the revolution, it was the ſee of an archbiſhop. The cathedral is a handſome Gothic ſtructure. In 1311, a general council was held here, at which Pope Clement V. preſided, and Philip the Fair of France, Edward II. of England, and James II. of Arragon, aſſiſted. This council is famous for the ſuppreſſion of the order of the Knights Templars of Jeruſalem. Near Vienne, on the banks of the Rhone, are produced the excellent wines of Côte-Rôtie, in a ſoil where the grape, as the name imparts, is almoſt parched up by the ſun; and, a little further, are grown the famous hermitage wines, ſo called, becauſe a hermit had his grotto there. Vienne is 15 miles S. of Lyons, and 265 S.E. of Paris. Long. 4. 55. E. Lat. 45. 31 N.

VIENNE, a department of France, formed of part of the late province of Poitou. It takes its name from a river which riſes in the department of Correze, and falls into the Loire between Chinon and Saumur. Poitiers is the capital.

VIENNE, UPPER, a department of France, compriſing the late province of Limoſin. Limoges is the capital.

VIERARDEN, a town of Germany, in the marche of Brandenburg, ſeated on the Veſſe, near its confluence with the Oder, 24 miles S.E. of Prenzlo, and 30 N.W. of Cuſtrin. Long. 14. 20. E. Lat. 53. 2. N.

VIERZON, an ancient town of France, in the department of Cher, famous for its forges. It is ſeated on the Cher and Yevre, in the moſt fertile part of the department, 17 miles N.W. of Bourges, and 100 S.W. of Paris. Long. 2. 10. E. Lat. 47 12. N.

VIESTI, a town of Naples, in Capitanata, with an archbiſhop's ſee. It is ſeated on the gulf of Venice, in the place called the Spur of the Boot, and at the foot of Mount Garden, 25 miles N.E. of Manfredonia, and 117 of Naples. Long. 16. 40. E. Lat. 41. 51. N.

VIGAN, a town of France, in the department of Gard, 25 miles W. of Alais, and 25 N.W. of Niſmes.

VIGEVANO, a town of Italy, in the duchy of Milan, capital of the Vigevenaſco, with a biſhop's ſee, and a ſtrong caſtle on a rock. It was formerly the reſidence of the dukes of Milan, but is now ſubject, with its territory, to the King of Sardinia. It is ſeated near the Teſino, 12 miles S.E. of Novaro, and 15 S.W. of Milan. Long. 8. 54. E. Lat. 45. 22. N.

VIGNAMONT, a town of the Netherlands, in the biſhopric of Liege, two miles N. of Huy. Long. 5. 22. E. Lat. 48. 46. N.

VIGNOT, a town of France, in the department of Meuſe, ſituate on the Meuſe, 16 miles E. of Bar le Duc, and 24 S.S.E. of Verdun. Long. 5. 25. E. Lat. 48. 46. N.

VIGNUOLA, or VIGNOLA, a town of Italy, in the duchy of Modena, 15 miles S.E. of Modena.

VIHIERS, a town of France, in the department of Maine, ſeated on a lake, 20 miles S. of Angers, and 162 S.W. of Paris. Long. 0. 29. W. Lat. 47. 8. N.

VILAINE, a river of France, which riſes in the department of Maine, waters Vitré and Rennes, divides the department of Morbihan from that of Lower Loire, and enters the bay of Biſcay, below Roche Bernard. When Sir Edward Hawke defeated the French fleet, in 1759, ſeveral of their men-of-war took ſhelter in this river, in which they were obliged to lie ſeveral months.

VILLA-ARAGONESE, a town of Sardinia, 17 miles N.E. of Saſſari. Long. 8. 50. E. Lat. 40. 56. N.

VILLA-BOHIM, a town of Portugal, in Alentejo, 10 miles S.W. of Elvas

VILLA-DEL-REY, a town of Spain, in Eſtremadura, on the frontiers of Portugal, taken by the allies in 1706. It is ſeated on the Guadiana, 17 miles N.W. of Badajoz. Long. 7. 10. W. Lat. 38. 43. N.

VILLA-DE-CONDE, a ſea-port of Portugal, in the province of Entre-Douero-e-Minho, at the mouth of the Ava, 10 miles E. of Barcelos, and 20 N.W. of Oporto. Near it is an ancient aqueduct. Long. 8. 23. W. Lat. 41. 14. N.

VILLA-DE-HORTA, the capital of the iſland of Fayal, one of the Azores. It is ſeated on the W. coaſt, and has a harbour, land-locked on every ſide except the E. and N.E. and defended by ſeveral forts. Long. 28. 36. W. Lat. 38. 32. N.

VILLA-FLOR, a town of Portugal, in the province of Tra-los-Montes, ſeated on a river, that falls into the Douero. It is 40 E. of Villa Real.

VILLA-REAL, a town of Portugal, in the province of Tra-los-Montes, and capital of Comarca. It is ſea ed at the confluence of the Corgo and Ribera, 15 miles N.E. of Lamego, and 45 S.E. of Braga. Long. 7. 20. W. Lat. 41. 9. N.

Villa-Real, a town of Spain, in the province of Valencia, 26 miles N. of Valencia. Long. 0. 20. E. Lat. 39. 46. N.

Villa-Real, a town of Spain, in Guipuſcoa, ſix miles S.S.W. of Placentia.

VILLA-VICIOSA, a fortified town of Portugal, in Alentejo, with an old caſtle, and a palace, where the dukes of Braganza formerly reſided. In the ſuburb is an ancient temple, originally built to the honour of Proſerpine. The ſoil about this town is extremely fertile, and there are quarries of fine green marble. It ſuſtained a famous ſiege againſt the Spaniards, in 1667; which occaſioned a battle in a neighbouring plain, the event of which placed the crown of Portugal on the head of the Duke of Braganza. It is 16 miles S.W. of Elvas, and 83 S.E. of Liſbon. Long. 7. 16. W. Lat. 38. 36. N.

Villa-Vicioſa, a ſea-port of Spain, in Aſturia d'Oviedo, ſeated on the bay of Biſcay, 22 miles N.E. of Oviedo. Long. 5. 24. W. Lat. 43. 22. N.

Villa-Vicioſa, a town of Spain, in New Caſtile. Here, in 1710, General Staremberg defeated the French and Spaniards under the Duke of Vendome, although they were twice his number; but, from want of proviſions, he was obliged to leave to the vanquiſhed all the advantages of a complete victory, which, accordingly, they aſcribed to themſelves. Villa Vicioſa is ſix miles N.E. of Brihuega, and 49 N.E. of Madrid.

VILLAC, a town of Germany, in the ducky of Carinthia, belonging to the Biſhop of Bamberg, with a caſtle. It carries on a great trade with the Venetians; and near it are the baths of Toplitz. It is ſeated at the confluence of the Drave and Geil, ſurrounded by mountains, 12 miles S.W. of Clagenfurt, and 88 N.E. of Brixen. Long 14. 3. E. Lat. 46. 50. N.

VILLAGER, the ſame as cottager, a village being only an aſſemblage of cottages or mean habitations. See Village, and alſo the article Cottager in this Supplement.

VILLE DIEU, a town of France, in the department of the Channel, 12 miles N.N.E. of Avranches, and 18 S.E. of Coutances. Long. 1. 8. W. Lat. 48. 52. N.

VILLEFORT, a town of France, in the department of Lozere, 18 miles E. of Mende, and 19 N. of Alais. Long. 3. 50. E. Lat. 44 27. N.

VILLA-FRANCA, a ſea-port of Italy, in the county of Nice, with a caſtle and fort. In 1744 it was taken by the French and Spaniards, but reſtored: and was again taken by the French in 1792. It is three miles E. of Nice. Long. 7. 25. E. Lat. 43. 42. N.

Villa-Franca, a town of Italy, in the Veroneſe, with a ſilk manufacture, 10 miles S. of Verona. Long. 11. 23. E. Lat. 45. 36. N.

Villa-Franca, the capital of the iſland of St. Michael, one of the Azores. Long. 25. 35. W. Lat. 37. 50. N.

VILLEMUR, a town of France, in the department of Upper Garonne, ſeated on the Tarn, 12 miles N.N.E. of Toulouſe.

VILLENA, a town of Spain, in the province of Murcia, with a caſtle, formerly of great ſtrength. It is 55 miles N.W. of Murcia, and 175 S.E. of Madrid. Long. 0. 49. W. Lat. 38. 40. N.

VILLENEUVE, a town of France, in the department of Lot and Garonne, ſeated on the river Lot, 17 miles N. of Agen.

Villeneuve, a town of France, in the department of Gard, 23 miles N.W. of Niſmes.

Villeneuve, a town of Switzerland, in the canton of Bern, celebrated for its trout fiſhery. It is ſituate on the eaſt extremity of the lake of Geneva, three miles from the mouth of the Rhone, 15 E.S.E. of Lauſanne, and 38 S.S.W. of Bern. Long. 6. 58. E. Lat. 46. 24. N.

VILLENEUVE-DE-BERG, a town of France, in the department of Ardeche, 10 miles N.W. of Viviers.

VILLERS COTERETS, a town of France, in the department of Oiſe, with a caſtle, 10 miles S.E. of Compiegne. Long. 3. 12. E. Lat. 49. 14. N.

VILLINGEN, a town of Suabia, in the Briſgaw, ſeated in the Black Foreſt, between the ſources of the Danube and Neckar, 28 miles E. by S. of Friburg. Long. 8. 37. E. Lat. 48. 8. N.

VILSHOFEN, a town of Lower Bavaria. In 1703 it was taken by the Imperialiſts; and in 1745, the Auſtrians took it by ſtorm. It is ſituate at the confluence of the Vils and Danube, 11 miles W. of Paſſau, and 72 E.N.E. of Munich. Long. 13. 20. E. Lat. 48. 29. N.

VILVORDE, a town of Auſtrian Brabant, ſeated on the canal from Bruſſels to the Scheldt, ſeven miles N.E. of Bruſſels. Long. 4. 31. E. Lat. 50. 56. N.

VIMIOSO, a town of Portugal, in the province of Tra-los-Montes, 15 miles W.N.W. of Miranda-de-Douero, and 17 S.E. of Braganza. Long. 6. 30. W. Lat. 41. 29. N.

VINCENT, Cape St. the moſt ſouthern promontory of Portugal, 25 miles W. by S. of Cape Lagos. Long. 9. 0. W. Lat. 36. 44. N.

VINCENT, St. one of the Cape Verd Iſlands, on the coaſt of Africa. It is uninhabited; but on the N.W. ſide of it is a good bay, where ſhips may wood and water, and wild goats be ſhot. It is ſaid that more turtle is caught near this iſland than round all the reſt, and that it abounds with ſaltpetre.

Vincent, St. a province of Braſil, extending along the coaſt of the Atlantic, from the province of Rio Janeiro in the N.E. to that of Del Rey in the S. The capital, of the ſame name, has a good harbour. Long. 46. 30. W. Lat. 24. 15. S.

Vincent, St. a town of Spain, in Old Caſtile, with a caſtle, ſeated on a hill, near the river Ebro, 138 miles N.E. of Madrid. Long. 2. 40. W. Lat. 42. 30. N.

VINEGAR *(Encycl.)*. To what has been there offered we wiſh to add the following important obſervations on vinegar, by Cit. Parmentier, publiſhed in the *Annales de Chimie*.

Vinegar, conſidered with a view to its economical pharmaceutical, and chemical uſes, is at preſent of ſuch general utility, that it may be looked upon as an article of the firſt neceſſity.

Simple as the proceſs by which it is prepared may appear to be, it is by no means unattended with difficulty; but it is principally when we wiſh to obtain this acid in its greateſt perfection, that we find reaſon to acknowledge how much its qualities may be influenced by art, and how neceſſary it conſequently is, that we ſhould make ourſelves well acquainted with what happens during the proceſs of acetous fermentation, in order that we may be enabled to direct its progreſs, and calculate its product.

Influenced by theſe motives, the authors of the tenth and laſt volume of the *Cours complet d'Agriculture*, conceived that an Eſſay on Vinegar, as forming a natural appendix to

that which Chaptal had publiſhed on the manufacture of wine, would afford their readers an inſight into the different changes which are experienced by liquors ſuſceptible of the vinous and acetous fermentation, and thus enable them the better to appreciate the comparative worth of the proceſſes followed in the common routine of manufacture, and thoſe founded upon practice, enlightened by theory.

It is to Citizen Parmentier, one of the fellow-labourers of Roſier in the *Cours d'Agriculture*, that we are indebted for the eſſay on vinegar, of which we are about to preſent our readers with an extract.

Before entering upon this ſubject, the author has thought fit to inform us, that it is not the art of the vinegar-manufacturer that he means to publiſh; this art, he ſays, is fully explained in the Collection of Arts and Manufactures, printed in 4to. at Neufchâtel; but as the very copious and intereſting details which it contains would be out of their place in a ſimple eſſay, which ought only to exhibit general views and the principal facts, he has thought it better to dwell upon the formation, preparation, preſervation, and properties of the different ſorts of vinegar moſt uſed in Europe, and to compriſe, within a ſmall treatiſe, all the advantages which may accrue from the employment of this acid to the arts, to pharmacy, and to economy.

In order to give a greater perſpicuity to his treatiſe, Cit. Parmentier has divided it into ſeveral paragraphs: in the firſt, he preſents us with general reflections on the theory of acetification.

It appears that the ancients had but very confuſed ideas concerning the cauſe of converſion of wine into vinegar. And how, in fact, could they form any accurate notions upon this ſubject, when we know that they were far from being acquainted with the nature of the principles which act ſo important a part in the proceſs of acetous fermentation?

We muſt acknowledge, that it is only ſince the gaſes and their properties have been diſcovered, that we have learnt to reaſon with greater preciſion concerning this ſpecies of fermentation; and it is alſo particularly ſince we have carefully obſerved all that happens during its different ſtages, that we have ſucceeded in eſtabliſhing a theory, which lays the greater claim to adoption, as it is founded upon facts, the reality of which can no longer be called in queſtion.

At the preſent day it cannot be diſputed that oxygene, hydrogene, and carbone, are the principal agents that contribute to the formation of vinegar. Theſe three principles, which are alſo found in the greater part of the other vegetable acids, cannot form vinegar, unleſs when combined in proportions ſo conſtant and ſo rigorouſly determined, that be they varied never ſo little, they immediately afford new products.

It is to this cauſe that we ought to attribute the frequent changes that take place in vinegar when the requiſite precautions are not taken for maintaining, between the three principles which we have juſt mentioned, that ſpecies of equilibrium upon which the exiſtence of this acid depends.

If the acetous fermentation exhibits phenomena analogous to thoſe which accompany the vinous fermentation, it can alſo not be denied, that there are certain phenomena peculiar to each of theſe kinds of fermentation, and ſo open to obſervation, that it is very eaſy to diſtinguiſh them.

For example, it is very certain that, during the courſe of vinous fermentation, there conſtantly takes place an extrication of elaſtic fluids, which are formed at the expence of the liquid itſelf, which is ſubjected to the fermentation: whilſt, in the acetous fermentation, the production and diſengagement of aëriform fluids take place only during certain ſtages of the proceſs, and that at one period during its courſe a very ſenſible abſorption may be obſerved.

Roſier, the firſt who inſiſted upon this fact, conceived that it was atmoſpherical air that was abſorbed in this caſe; but it has ſince been proved, to demonſtration, that the oxygene contained in the atmoſpherical air is the only principle that enters into combination with the other principles of the fermenting liquid, and that it eſſentially contributes to the formation of the acid which conſtitutes vinegar.

This being aſcertained, we cannot be at a loſs what to think of the aſſertion of Becher, who pretends that he has converted wine into very ſtrong vinegar, by merely letting it digeſt for a long time over the fire, in a bottle hermetically ſealed. If he really has ſucceeded, it could only be owing to his having operated upon a very ſmall quantity of wine contained in a ſpacious veſſel.

Amongſt the number of operations formerly practiſed for converting wine into vinegar, many were uſeleſs or defective, the greater part did not anſwer the purpoſe for which they were intended; and it was undoubtedly for this reaſon that the neceſſity was felt of ſimplifying them, and ſubſtituting other more advantageous ones. *Carthauſer*, *Boerhaave*, *Demachy*, *Guyton-Morveau*, *Prozet*, &c. &c. have principally employed themſelves on this ſubject. By pointing out the improvements which ought to be adopted, and the only operations which were proper to be employed, they rendered almoſt univerſally known the art of making vinegar, which was formerly practiſed only by a few individuals, whoſe proceſſes were always concealed under a veil of myſtery.

It muſt however be admitted, that the improvements propoſed by the above-mentioned learned men, were not ſo generally adopted as was to have been wiſhed. In many of the departments of France the ancient proceſſes are ſtill in uſe, and it is undoubtedly to the careleſſneſs which exiſts with reſpect to this ſubject, that we have to aſcribe the defective vinegars often met with in commerce, the quality of which is generally ſo bad as to render them altogether uſeleſs.

In the ſecond paragraph, Citizen Parmentier points out the moſt general conditions requiſite for the formation of good vinegar.

Theſe are four in number:

1. The acceſs of the external air into the veſſel which contains the liquid intended to become acid.
2. A temperature higher than that of the atmoſphere.
3. The addition of ſubſtances which perform the office of a ferment.
4. The preſence of a certain quantity of alkali.

The acceſs of the atmoſpherical air is ſo indiſpenſably neceſſary to the formation of vinegar, that this acid cannot be produced without it. What has been ſaid in an earlier part of this eſſay, concerning the manner in which this aëriform fluid acts during the acetous fermentation, is ſo well known at the preſent day, that it ſeems unneceſſary to revert to it. Neither can the neceſſity of the concurrence of heat be called in queſtion; but the heat ought to be moderate. In general it ought not to exceed 18,20 degrees of Reaumur's thermometer: if a higher temperature is applied, it injures the quality of the product.

The following is a ſtriking inſtance of the inconvenience which reſults from employing a higher degree of temperature than that which we have indicated.—A vinegar-manufacturer of Orleans, conceiving that the higher he raiſed the temperature in his workſhop, the ſtronger his vinegar would turn out, heated his ſtove to ſuch a degree as to raiſe the temperature of the atmoſphere to 30°; but, upon examining the vinegar which he had obtained, he found, to his no ſmall ſurpriſe, that it was not only very weak, but

alſo of a bad quality. He then applied to Citizen Prozet, who acquainted him with the proper degree of temperature, and ſince that time he has always obtained vinegar of very good quality.

But even though ſo concluſive an experiment ſhould not be thought to prove the neceſſity of moderating the heat in the places where vinegar is manufactured, we need only reflect for a moment upon what happens in the proceſs of acetous fermentation, to be convinced that if it be neceſſary to determine the formation of the different combinations from which, in their turn, an acid is to be produced, it is alſo neceſſary that, when theſe combinations have once been produced, we ſhould prevent their ſeparating from the liquid in which they are contained: now the ſureſt means of preſerving them is to avoid a too high degree of temperature, and it is preciſely for this reaſon that pains have been taken to aſcertain the degree at which we ought to deſiſt from augmenting the temperature, which has been fixed at between 18° and 20° of Reaumur's thermometer.

The addition of ſubſtances proper for forming ferments, is a condition ſo indiſpenſably neceſſary to the production of acetous fermentation, that it would be difficult to prove that it can be omitted without detriment. It is well known that the great art of the manufacturer of vinegar conſiſts in eſtabliſhing, at one and the ſame time, in the whole maſs of vinous fluid, an internal motion, which agitates its conſtituent principles, compelling them to ſeparate from each other, and afterwards re-unite into combinations different from thoſe in which they previouſly exiſted. It would be in vain for us to expect to obtain ſuch a motion by leaving the wine to itſelf; a part of this fluid might indeed become at length acidifiſed, but before the whole could become completely ſo, it would require a great length of time, and then the firſt portions of acid that had been formed would be very near to a ſtate of decompoſition. Be that as it may, the choice of the ſubſtances proper for forming ferments is by no means a matter of indifference, and this choice ought always to be determined according to the quality of the fluid upon which one operates. The author enters into details relative to this ſubject, which are the more intereſting as being the reſult of experience and obſervation.

Finally, the obligation impoſed upon us, as the fourth condition, to employ wines of good quality if we wiſh to obtain excellent vinegar, is naturally deduced from the ſtate of the conſtituent parts of theſe wines; it is eaſily conceived, that the more they poſſeſs of a ſpecies of perfection, the more they will alſo influence that of the new product which is about to be formed. Moreover, in this caſe experience entirely accords with theory, for it is univerſally admitted that the beſt kinds of vinegar are thoſe that have been manufactured from generous wines.

The third paragraph preſents us with a deſcription of the operations requiſite for the manufacture of different kinds of vinegar.

The author has not contented himſelf with deſcribing the proceſſes for making wine-vinegars; but he has alſo deſcribed thoſe employed for obtaining the vinegars of cyder, of perry, of malt-liquors, of the bran of wheat, with ſuch preciſion, that whoever may wiſh to repeat them may be ſpared the trouble of making any trials that may prove unſucceſsful.

In the ſame paragraph, the author makes mention of ſeveral other acids, which, in certain places, are employed as ſubſtitutes for ordinary vinegar.

Such are verjuice, the acid of milk, that of honey, &c. &c.; though theſe acids, chemically conſidered, are ſomewhat different from thoſe furniſhed by wine, it is no leſs true that they afford great reſources, and that in ſome departments of the republic, where they are principally conſumed, they are in daily uſe, without producing any bad effects upon the health of the inhabitants.

The fourth paragraph is entitled, *Of the Acids uſed as Subſtitutes for Vinegar.*

The greater part of the vegetable acids ſtands in the ſame predicament with thoſe that have been treated of in the preceding paragraphs. Though eſſentially different from wine-vinegar, they have, in certain reſpects, ſo great an analogy with the latter, that people have not heſitated to make uſe of them in its ſtead. It is for this purpoſe, undoubtedly, that the juice of the currant, barberry, &c. are expreſsly ſubjected to the acetous fermentation. The liquors procured by theſe means afford very uſeful ſubſtitutes for vinegar; but they have the diſadvantage that they will not keep. In general they ſoon become covered with mould, ſoon after they have been prepared, and at length are entirely decompoſed.

Before the revolution, vinegar formed a very important article of commerce with certain nations; the Dutch in particular carried on a very conſiderable traffic with it. The vinegars which they manufactured were exported to their colonial poſſeſſions, and, as they were of good quality, they bore long voyages without ſpoiling.

Citizen Parmentier imagines that this branch of commerce might alſo become very productive in the *Department de la Seine*, and that the inhabitants, by their commercial genius, might eaſily increaſe their exports, and thus add to the great advantages which they derive from their geographical poſition.

The manner of preſerving vinegar forms the ſubject of the fifth paragraph.

Vinegar, be it ever ſo well prepared, is ſubject to the lot of all compound fluids; namely, that at the end of a certain period it undergoes ſenſible alterations.

There are however means by which theſe alterations may be retarded; they conſiſt in defending the vinegar againſt the influence of the external air, by keeping it in proper veſſels, well cloſed and placed in a cool ſituation.

Its alteration may alſo be retarded by depriving it of a portion of the water which it contains; for which purpoſe nothing more is neceſſary than to let it boil for an inſtant; but the veſſels which are employed in this operation muſt not be made of copper.

The proceſs propoſed by Scheele, with a ſimilar intention, is very ſimple: it conſiſts in filling, with this acid, glaſs veſſels, which are placed in boilers full of water. The water is then made to boil for a full quarter of an hour, after which the vinegar is taken out, and may then be kept for ſeveral years without undergoing any alteration.

Diſtillation has alſo been recommended as a means of preſerving vinegar; but, beſides that it is a tedious and difficult proceſs, it deprives the acid of the agreeable ſmell and taſte peculiar to it in its natural ſtate, and which one always wiſhes to find in it.

In fact, diſtilled vinegar is not ſuſceptible of alteration, and it is partly on this account, and partly alſo becauſe it contains no ſubſtance foreign from its compoſition, that it is reſerved for chemical operations, and employed in preference to the other in many pharmaceutical preparations.

The ſame is the caſe with vinegar that has been concentrated by freezing. The acid, by this ſimple proceſs, becomes much ſtronger, and may be kept for a greater length of time; but it acquires an empyreumatic ſmell and taſte, which render it unfit for being employed as a ſeaſoning for aliments. This vinegar, like the diſtilled, is almoſt ſolely employed in chemical laboratories.

Finally, ſea ſalt, or muriate of ſoda, which ſome have recommended to be added to vinegar, as being able to preſerve this acid, ſometimes ſucceeds well enough; however it is not without its inconveniences; for the vinegars that contain this ſaline ſubſtance grow turbid, and at length loſe their primitive qualities.

However, this proceſs ought not to be neglected; and though it may not ſucceed quite ſo perfectly as we could wiſh, we may ſtill employ it in certain caſes with advantage, eſpecially if the quantity of ſalt added to the vinegar be not too conſiderable.

The ſigns by which we may diſcover whether the vinegar be good, adulterated, or ſpoiled, form the ſubject of the ſixth paragraph.

Nothing is more common than to meet, in commerce, with vinegars of bad quality. Two cauſes principally contribute to their being in that ſtate: the firſt, that they have been manufactured with weak wines, or ſuch as are already ſpoiled; the ſecond, that they have either been mixed with acrid ſubſtances, ſuch as pimento, &c. or mineral acids, ſuch as the ſulphuric and muriatic, have been added to them.

When the buyer, unacquainted with the fraud, taſtes theſe kinds of vinegar, he imagines that the effect which they produce upon his palate is to be aſcribed to the ſtrength of the vinegar, and frequently that alone is ſufficient to make him conclude that the vinegar is of good quality. How groſsly he is miſtaken is very evident.

However, nothing is more eaſy than to detect ſuch a fraud; it being ſufficient to ſaturate a given quantity of potaſh with the vinegar that is ſuſpected of being adulterated, and to compare the quantity of vinegar that we have been obliged to employ before we could obtain a complete ſaturation with that conſumed in a ſimilar experiment made with vinegar, the good quality of which we are aſſured of.

We ought afterwards to evaporate a portion of this vinegar till a pellicle is formed upon it, and examine if, when it has cooled, it has not depoſited ſome ſaline precipitate. If it has, the form of the cryſtals will ſhew us what ſpecies of acid has been uſed for adulterating the vinegar.

As to the acrid vegetable ſubſtances that may have been mixed with it, they will readily be recognized by their taſte, which will be altogether different from that of vinegar, and which will become the more perceptible the more the acid has been concentrated by evaporation.

In general, vinegar that has not been adulterated, or which has not been ſpoiled by an incipient decompoſition, is readily known by its acid taſte, its tranſparency, and its agreeable ſmell, a ſmell which becomes ſtill more developed when we rub ſome of the vinegar between the hands.

In the ſeventh and eighth paragraphs, the author treats of the uſe of vinegar in preſerving freſh meat, fruits, and eſculent vegetables.

Every one is acquainted with the great utility of vinegar in preſerving fleſh from the change which it ſpeedily undergoes, particularly during the heat of the ſummer; it is alſo known that this acid, which is daily employed in our kitchens, has the property of giving to certain kinds of fleſh meat an agreeable taſte, and rendering them more tender, and conſequently more fit to be eaten: but, in order to produce theſe effects, it is neceſſary that the vinegar ſhould be of good quality; otherwiſe the reſult would be directly contrary to that which we hoped to obtain.

As to the preſervation of fruits and eſculent vegetables in vinegar, it is a practice almoſt univerſally in uſe: but in this caſe alſo it is neceſſary that the vinegar ſhould be good; otherwiſe the fruits become ſoft, and at length unfit to be eaten.

The *aromatic vinegars* form the ſubject of the ninth paragraph.

The author dwells, in this article, upon the property which vinegar poſſeſſes of imbibing the aroma of plants; he mentions ſeveral aromatic vinegars, which are the moſt in uſe, both for the table and the toilet, and he points out the precautions that muſt be taken in order to make them keep for a long time. But this acid alſo imbibes the more active properties of the vegetables, and it is upon this that the art of making medicated vinegars is founded; the method formerly practiſed with the intention of forming ſuch vinegars, by letting the medicinal plants ferment together with the wine, is now known to be grounded in an error.

In the tenth and laſt paragraph, Citizen Parmentier treats of the medicinal and economical uſes of the vinegar itſelf: he ſhews the great utility of this acid in putrid and contagious diſeaſes, whether adminiſtered internally, or applied externally. He quotes, under this head, the regulations by which the marine of France commands the captains of ſhips not to put to ſea without a quantity of vinegar ſufficient for waſhing their decks, cabins, &c. at leaſt once every five days. He proves that it is frequently owing to a ſimilar uſe of vinegar that crews have been preſerved from the diſeaſes prevalent in fleets, and that on this account alone more attention than ever ought to be paid to the execution of the regulations mentioned above.

Finally, the author dwells upon the utility of vinegar in the arts, and the impoſſibility of ſupplying its place by any other known acid.

From the expoſition which we have given, it may be eaſy to ſee that the treatiſe on Vinegar in the *Cours complet d'Agriculture* fulfils all the conditions that were to be deſired in ſuch a treatiſe. If Citizen Parmentier has not thought it neceſſary to treat his ſubject with all the detail of which it was ſuſceptible, it will at leaſt be admitted, that he has dwelt upon thoſe points which it was moſt eſſential to know, and that in this reſpect he has completely fulfilled the views propoſed to themſelves by the authors of the work for which this article was intended. We therefore have no doubt that the labours of Citizen Parmentier will be favourably received, and that, as we have already ſaid, they will form a worthy counterpart to the article on wine by Citizen Chaptal, which, according to the avowal of all who have read and ſtudied it, deſerves to be ranked amongſt the beſt productions of that chemiſt.

VINGORLA, a Dutch ſettlement in the peninſula of Hindooſtan, on the coaſt of Concan, a little N. of Goa. Long. 73. 22. E. Lat 15. 57. N.

VINGORLA ROCKS, rocks lying about ſeven miles from the coaſt of Concan, in the peninſula of Hindooſtan, and 10 miles S.S.W. of the iſland of Melundy, or Sunderdoo. They are poſſeſſed by the Malwaans, a piratical tribe. Long. 73. 16. W. Lat. 15. 52 N.

VINTIMIGLIA, a town of Italy, in the republic of Genoa, with a biſhop's ſee, a ſmall harbour, and a ſtrong caſtle on a high rock. It has been often taken and retaken, and is ſeated on the Mediterranean, at the mouth of the Rotta, 20 miles E.N.E. of Nice, and 70 S.W. of Genoa. Long. 7. 37. E. Lat. 43. 53. N.

VIRE, a town of France, in the department of Calvados, with ſeveral manufactures of coarſe woollen cloths. It is ſeated on the Vire, 30 miles S.E. of Courances, and 150 W. of Paris. Long. 0. 45. W. Lat. 48. 48. N.

VIRGIN ISLANDS, about thirty iſlands and keys in the Weſt Indies, between St. Juan de Puerto Rico and the Leeward Caribbee Iſlands. They were called *Las Virgines* by the Spaniards, in honour of the 11,000 virgins of the legend. They are poſſeſſed by the Engliſh and Danes. In

the firſt diviſion, belonging to the Engliſh, is Tortola, the principal, to which belongs Joſt Van Dyke's and Little Van Dyke's, Guana iſle, with Beef and Thatch Iſlands. In the ſecond diviſion is Virgin Gorda, to which belong Anegada, or Drowned Iſle, Nicker, Prickly Pear, and Muſkito Iſlands, the Commanoes, Scrub and Dog Iſlands, the Fallen City (two rocky iſlets, cloſe together, at a diſtance reſembling ruins), the Round Rock, Ginger, Cooper's Salt Iſland, Peter's Iſland, and the Dead Cheſt. Of the Daniſh diviſion, the principal iſlands are St. Thomas and St. John. Long. from 63. 45. to 64. 55. W. Lat. from 17. 10. to 18. 30. N.

VIRNENBERG, a town and citadel of Weſtphalia, the capital of a county to which it gives name. It is 20 miles W. of Coblentz. Long. 7. 5. E. Lat. 50. 27. N.

VIRTON, a town of Auſtrian Luxemburg, 22 miles W. of Luxemburg. Long. 5. 41. E. Lat. 49. 36. N.

VISAGAPATAM, a town of the peninſula of Hindooſtan, in the Circar of Cicacole, 50 miles S.W. of Cicacole, and 100 N.E. of Rajamundry. Long. 83. 40. E. Lat. 17. 45. N.

VISCHMA, a town of Ruſſia, in the government of Tobolſk, 268 miles S.W. of Tobolſk. Long. 61. 22. E. Lat. 62. 36. N.

VISET, a town of the Netherlands, in the biſhopric of Liege, ſeated on the Maeſe, ſeven miles N. of Liege. Long. 5. 40. E. Lat. 50. 44. N.

VISHNEI-VOLOTCHOK, a town of Ruſſia, in the government of Tver, one of the imperial villages enfranchiſed by Catherine II. It has a canal, which, by uniting the Tverza and the Maſta, connects the inland navigation between the Caſpian and the Baltic; and the inhabitants, raiſed from the ſituation of ſlaves to that of freemen, ſeem to be awakened to a ſenſe of their commercial advantages. The town is divided into regular ſtreets. All the buildings are of wood, except the court of juſtice erected by the late empreſs, and four brick houſes belonging to a rich burgher. It is ſeated on the river Zua, 50 miles N.W. of Tver. Long. 35. 0. E. Lat. 57. 23. N.

VISIAPOUR, or Bejapour, a conſiderable city of the Deccan of Hindooſtan, once the capital of a large kingdom of the ſame name, but now ſubject to the Poonah Mahrattas. It is 136 miles S.E. of Poonah, and 234 S.E. of Bombay. Long. 75. 19. E. Lat. 17. 26. N.

VISOGOROD, a town of Poland, in Maſovia, with a caſtle, ſeated on the Viſtula, 50 miles N.W of Warſaw.

UIST, North and South, two iſlands of the Hebrides, on the W. coaſt of Scotland; each about 20 miles in length, and of conſiderable breadth. They contain about 6,000 inhabitants. Kelp is the ſtaple commodity, of which about 1100 tons are annually manufactured in theſe iſlands. North Uiſt is about 15, and South Uiſt 20 miles W. of the Iſle of Skye.

VITERBO, a town of Italy, in the patrimony of St. Peter, with a biſhop's ſee. It contains 10,000 inhabitants, 16 pariſh-churches, and many palaces and fountains. Near it is a ſpring, ſo hot, that it will boil an egg, and even fleſh. It is ſeated at the foot of a mountain, from the top of which, the city of Rome and the Mediterranean Sea may be ſeen; the latter at the diſtance of near 50 miles. It is 20 miles S.E. of Orvieto, and 35 N. by W. of Rome. Long. 12. 26. E. Lat. 42. 25. N.

VITRE, a town of France, in the department of Iſle and Vilaine. It has a trade in linen cloth, and knit ſtockings and gloves. It is ſeated on the Vilaine, 20 miles N.E. of Rennes, and 52 S.E. of St. Malo. Long. 1. 13. W. Lat. 48. 14. N.

VITRI-LE-BRULE, a village of France, two miles N.E. of Vitri-le-François. It was formerly a conſiderable town, but was burnt (as its name imports) by Lewis VII.

VITRI-LE-FRANCOIS, a conſiderable town of France, in the department of Marne. It is well built, though the houſes are of wood; and there is a fine ſquare, in which the church ſtands. It has a great trade, particularly in corn; and is ſeated on the Marne, 15 miles S.E. of Chalons, and 100 E. of Paris. Long. 4. 38. E. Lat. 48. 44. N.

VITRING, a town of Germany, in the duchy of Carinthia, with an abbey of Ciſtertians. It is ſituate on a lake, called the Wordtſee, four miles S.W. of Clagenfurt.

VITRIOL, the name by which ſalts, produced by combining vitriolic (now called *ſulphuric*) acid with different metals, has heretofore been diſtinguiſhed. Thus we had *blue* vitriol, *green* vitriol, &c. according to the colour of the ſalt. The chemiſts of the new ſchool call theſe ſubſtances *ſulphates*, as the *ſulphate* of copper; *ſulphate* of iron, &c. (ſee Table of Nomenclate, Chemistry); but the London College of Phyſicians call theſe ſubſtances by the name of *vitriolated*, and denominate the foregoing combinations, *vitriolated* copper, *vitriolated* iron, &c.

VITTEAUX, a town of France, in the department of Côte d'Or, ſeated on the river Braine, among the mountains, where there are quarries of marble, 12 miles S.E. of Semur, and 27 W. of Dijon. Long. 4. 27. E. Lat. 57. 20. N.

VITTORIA, or Victoria, a conſiderable town of Spain, capital of the province of Alaba, in Biſcay. It is ſurrounded by double walls, and in the principal ſquare are the town-houſe, two convents, and a fine fountain. The large ſtreets are bordered with fine trees, which are a good defence againſt the heat of the ſun. It has a great trade in hardware, particularly in ſword-blades, which are made here in large quantities. It is ſeated on an eminence, at the end of a plain, fertile in corn and grapes, 32 miles S.E. of Bilboa, and 155 N. of Madrid. Long. 2. 56. E. Lat. 42. 55. N.

VIVARAIS, a late ſmall province of France, part of that of Dauphiny, and now included in the department of Ardeche.

VIVERO, a town of Spain, in Galicia, ſeated at the foot of a ſteep mountain, near the river Landrova, whoſe mouth forms a large harbour on the Atlantic, 30 miles N.W. of Mondonnedo. Long. 7. 34. W. Lat. 43. 50. N.

VIVIERS, a town of France, in the department of Ardeche, with a biſhop's ſee. It is ſeated among rocks (on one of which the cathedral is built) on the river Rhone, 20 miles N. of Orange, and 70 N.E. of Montpellier. Long. 4. 46. E. Lat. 44. 20. N.

VIZA, a town of Turkey in Europe, in Romania, with a Greek archbiſhop's ſee. It is ſeated at the foot of a mountain, at the ſource of the river Glicenero.

UKENSKOI, a town of Ruſſia, in the government of Tobolſk, ſituate at the confluence of the Irtiſch and Oby, 196 miles N. of Tobolſk. Long. 69. 15. E. Lat. 61. 10. N.

ULEA, or Ulaborg, a ſea-port of Sweden, in Eaſt Bothnia. It is the largeſt town in Eaſt Bothnia, and ſituate at the mouth of a river of the ſame name, 320 miles N. of Abo. Long. 22. 20. E. Lat. 65. 40. N.

ULIERBECK, a town of Auſtrian Brabant, two miles E. of Louvain, and 11 S.E. of Mechlin. Long. 4. 52. E. Lat. 50. 53. N.

ULLSWATER, a lake of Weſtmoreland, 10 miles N. of Ambleſide, and 14 S.W. of Penrith. It is eight miles long, and abounds with char, and a variety of other fiſh. The navigators of this lake find much amuſement by diſcharging guns, or ſmall cannon, in certain ſtations. The report is reverberated from rock to rock, promontory, cavern, and hill, with every variety of ſound; now dying away upon the ear, and again returning like peals of thunder, and thus re-echoed ſeven times diſtinctly.

ULMEN, a town of Germany, in the archbiſhopric of Mentz, 30 miles N.E. of Treves. Long. 7. 8. E. Lat. 50. 7. N.

ULOTHO, or VLOTHOW, a town of Weſtphalia, in the county of Ravenſberg, near which is a medical ſpring. It is ſix miles S. of Minden.

ULRICSHAMN, a town in Sweden, in Weſt Gothland, formerly called Bogeſund, the preſent name being given it, in 1741, in compliment to Queen Ulrica Eleanora. It is 24 miles W. of Jonkioping, and 47 E. of Gotheborg. Long. 14. 22. E. Lat. 57. 10. N.

ULTZEN, or VELTZEN, a town of Lower Saxony, in the duchy of Lunenburg. It was formerly a hanſeatic town, has now a conſiderable trade in wool, and is ſeated on the Ilmenau, 22 miles S. of Lunenburg. Long. 10. 38. E. Lat. 52. 55. N.

ULVERSTONE, a town in Lancaſhire, with a market on Monday. The country people call it Ouſton, and it is ſeated at the foot of a ſwift deſcent of hills to the S.E. near a ſhallow arm of the Iriſh Sea. It is the port of the diſtrict of Furneſs. The principal inns are kept by the guides, who regularly paſs the ſands, to and from Lancaſter, every Sunday, Tueſday, and Friday. It is 18 miles N.W. of Lancaſter, and 267 N.N.W. of London. Long. 3. 12. W. Lat. 54. 14. N.

UMA, or UMEA, a town of Sweden, in Weſt Bothnia, ſeated on the river Uma, in the gulf of Bothnia. The houſes are built of wood; and it was twice burnt by the Ruſſians. It is the reſidence of the governor of Weſt Bothnia, and 280 miles N. of Stockholm. Long. 19. 9. E. Lat. 63. 58. N.

UMAGO, a ſea-port of Venetian Iſtria, ſeated between the gulf Largona and the mouth of the river Quieto.

UMBRIATICO, a town of Naples, in Calabria Citeriore, with a biſhop's ſee, though now reduced to a ſmall place. It is ſeated on the Lipuda, 15 miles N. by W. of St. Severina. Long. 17. 10. E. Lat. 38. 29. N.

UNDERSWEN, or UNDERSEEN, a handſome town of Switzerland, in the canton of Bern, near which is the famous cavern of St. Pat. It is ſeated on the lake Thun, 25 miles S.S.E. of Bern, and 30 S.E. of Friburg. Long. 7. 32. E. Lat. 46. 32. N.

UNGHWAR, a town of Upper Hungary, capital of a county of the ſame name, in an iſland formed by the Ungh. It is ſtrong from its ſituation among the mountains of Crapach, and is 47 miles E. of Caſſovia. Long. 22. 23. E. Lat. 48. 48. N.

UNION (*Encycl.*). This term ceaſes to be applied excluſively to the political connection between England and Scotland; Ireland having, in 1800, experienced a ſimilar fate. In Plate 51. we have given a ſketch of *the enſigns armorial of the united kingdom of Great Britain and Ireland*, as ſettled by the king in council. Theſe are quarterly, firſt and fourth, England; ſecond, Scotland; third, Ireland: on an eſcutcheon of pretence, the arms of his majeſty's German dominions, enſigned with the electoral bonnet.

The union badges—the roſe, thiſtle, and ſhamrock—iſſuant from the ſame ſtalk; namely, the roſe between the thiſtle and ſhamrock, and alternated by the roſe between the ſhamrock and thiſtle; both enſigned with the imperial crown.—See the plate.

The union flag combines the ſaltiers of St. Andrew and St. Patrick, ſurmounted by the croſs of St. George, as repreſented alſo in the plate.

The creſt of Ireland is a tower, triple-towered proper; in the portal a hart, lodged, argent, attired, and hooſed, or.

The badge of Ireland is a ſhamrock enſigned with the imperial crown.

The badge of the ſhamrock to be within the collar of St. Patrick, enſigned with the imperial crown.

The ſtyle of his majeſty is as follows:—"*Georgius Tertius Dei Gratia Britanniarum Rex, Fidei Defenſor, et in Terrâ Eccleſiæ Anglicanæ et Hibernicæ ſupremum Caput.*" In Engliſh, "*George the Third, by the Grace of God, of the united Kingdom of Great Britain and Ireland, King, Defender of the Faith, and of the united Church of England and Ireland on Earth, ſupreme Head.*"

The ſupporters, creſt, and crown, remain without any alteration.

UNION, the county town of Fayette, in Pennſylvania, 14 miles from the Monongohela, and 58 S. of Pittſburg. Long. 79. 48. W. Lat. 39. 54. N.

UNNA, a town of Weſtphalia, in the county of March, formerly a conſiderable Hanſeatic town. It is ſeated on a brook called Kottelbeck, 10 miles N.E. of Dortmund, and 35 S. of Munſter. Long. 7. 49. E. Lat. 51. 28. N.

UNNA, a river of Turkey in Europe, which runs through Croatia, paſſes by Wihitſch and Dubitza, and falls into the Save.

UNNARY, a town of Sweden, in the province of Smoland, 43 miles W. of Wexio.

UNST, the moſt remote of the Shetland Iſlands, extending beyond 61° N. lat. It is eight miles long, and four broad.

UNTERSEEN, a town of Switzerland, in the canton of Bern, ſituate between the lakes of Brientz and Thun, 23 miles S.S.W. of Lucern, and 26 S.E. of Bern. Long. 7. 28. E. Lat. 46. 35. N.

UNZA, or UNSHA, a town of Ruſſia, in a province of the ſame name, in the government of Koſtroma. It is ſituate on the river Unza, 92 miles E.N.E. of Koſtroma. Long. 44. 15. E. Lat. 57. 56. N.

VOERDEN, a town of the United Provinces, in Holland. It was taken by the French in 1672 and 1795. It is ſeated on the Rhine, 10 miles W. of Utrecht, and 20 S. of Amſterdam. Long. 4. 58. E. Lat. 52. 6. N.

VOGHERA, a fortified town of Italy, in the duchy of Milan and territory of Pavia. It is ſeated on the Staffora, 14 miles S.S.W. of Pavia, and 30 S. by W. of Milan. Long. 9. 10. E. Lat. 44. 59. N.

VOGLABRUCK, a town of the archduchy of Auſtria, which enjoys the privilege of granting protection to all ſlaves; and its burghers and merchants, together with their wares, are toll-free through all the Auſtrian countries. It is 27 miles S.S.E. of Paſſau. Long. 13. 40. E. Lat. 48. 1. N.

VOID, a town of France, in the department of Meurthe, ſeated on a rivulet of the ſame name, 10 miles from Toul.

VOIGTLAND, a territory of Upper Saxony, one of the four circles of the marquiſate of Miſnia; bounded on the E. by Bohemia, on the N. by the duchy of Altenburg, and on the W. by Thuringia and Franconia. Plawen is the capital.

VOIGTSBERG, a town and citadel of Upper Saxony, belonging to the Elector of Saxony, 18 miles S.S.W. of Zurickau.

VOKELMARK, or WOLICKMARCK, a town of Germany, in Carinthia, ſeated on the Drave, 26 miles S.E. of Clagenfurt. Long. 14. 56. E. Lat. 46. 45. N.

VOLANO, a ſea-port of Italy, in the Ferrareſe, ſeated on the gulf of Venice, at one of the mouths of the Po, 40 miles E. of Ferrara. Long. 12. 36. E. Lat. 44. 52. N.

VOLCANO, one of the moſt conſiderable of the Lipari Iſlands, in the Mediterranean, lying S. of the iſland of Lipari, from which it is ſeparated by a deep channel, a mile and a half broad. It is 12 miles in circumference, and is a volcano, in the form of a broken cone, but now emits ſmoke only. Volcano, as well as all the reſt of theſe iſlands, is ſuppoſed to have been originally the work of ſubterranean fire. Of the production of this iſland, in particular, Fazzello ſays, that it happened in the early time of the Roman republic, and is recorded by Pliny and others.

VOLGA, the largeſt river in Europe, which has its ſource in two ſmall lakes, in the government of Pleſkof, in Ruſſia, about 80 miles W. of Tver. It begins to be navigable a few miles above that town, and is conſiderably augmented here by the junction of the Tverza, which is a broader, deeper, and more rapid river. By means of the Tverza, a communication is made between the Volga and the Neva, or, in other words, between the Caſpian and the Baltic. This river waters ſome of the fineſt provinces in the Ruſſian empire, paſſes by Yaroſlaf, Koſtroma, Niſhnei-Novogorod, Kaſan, Simbirſk, and Saratof, entering the Caſpian Sea, by ſeveral mouths, below Aſtracan.

VOLHYNIA, a palatinate of Ruſſian Poland, 300 miles long and 150 broad; bounded on the N. by Poleſia, on the E. by Kief, on the S. by Podolia, and on the W. by Auſtrian Poland. It conſiſts chiefly of plains watered by a great number of rivers. Lucko is the capital.

VOLLENHOVEN, a town of the United Provinces, in Overyſſel, capital of a territory of the ſame name, with a caſtle. It is ſeated on the Zuider Zee, eight miles S.W. of Steenwich, and 12 N.W. of Zwol. Long. 5. 42. E. Lat. 52. 44. N.

VOLO, a town of Turkey in Europe, in Janna, with a citadel and a fort. It was taken, and almoſt ruined, in 1655, by the Venetians. It is ſeated on a gulf of the ſame name, where there is a good harbour, 30 miles S.E. of Lariſſa. Long. 22. 55. E. Lat. 39. 21. N.

VOLODIMIR, or VLADIMIR, a government of Ruſſia, formerly a province of the government of Moſcow. The ſoil is extremely fertile, and in the foreſts are innumerable ſwarms of bees.

VOLODIMIR, or VLADIMIR, a town of Ruſſia, capital of a government of the ſame name, and once the metropolis of the empire. It is ſeated on the Kliaſma, 110 miles E. by N. of Moſcow.

VOLOGDA, a government of Ruſſia, divided into the two provinces of Vologda and Veliki-Uſtiug. It is a marſhy country, full of foreſts, lakes, and rivers, and noted for its fine wool.

VOLOGDA, a town of Ruſſia, capital of a province of the ſame name, and the ſee of an archbiſhop. It has a magnificent cathedral, ſeveral churches, a caſtle, and a fortreſs; and carries on a conſiderable trade. It is ſeated in a marſh, on the river Vologda, which falls into the Sukhona, 257 miles N. by E. of Moſcow. Long. 39. 46. E. Lat. 59. 20. N.

VOLSK, a town of Ruſſia, in the government of Saratof, ſituate on the Volga, 76 miles N.E. of Saratof. Long. 47. 45. E. Lat. 52. 15. N.

VOLTA, a river of Guinea, which runs from N. to S. and falls into the Atlantic Ocean, E. of Acra.

VOLTERRA, a town of Tuſcany, in the territory of Piſa, with a biſhop's ſee. It is ſurrounded by walls, contains ſeveral antiquities, is noted for its medicinal waters, and is ſeated on a mountain, 30 miles S.W. of Florence, and 32 S.E. of Piſa. Long. 10. 42. E. Lat. 43. 26. N.

VOLTRI, a town of Italy, in the Genoeſe, near which the Auſtrians were defeated by the French in 1796. It is ſix miles W. of Genoa.

VOLTURNO, a river of Naples, which riſes in the Apennines, paſſes by Iſernia and Capua, and falls into the gulf of Gaieta.

VOLTURARA, a town of Naples, in Capitanata, with a biſhop's ſee. It is ſeated at the foot of the Apennines, 20 miles W. of Lucera, and 52 N.E. of Naples. Long. 15. 14. E. Lat. 41. 26. N.

VOLVIC, a town of France, in the department of Puy de Dome. Here are immenſe quarries, formed by a current of lavas, which furniſh materials for the buildings of the adjacent towns. The ſculptors have employed no other for the ſtatues in the churches, which are all of a black colour. Volvic is two miles from Riom.

VOORN, a fort of Dutch Guelderland, on an iſland formed by the junction of the Wahal and the Maeſe, at the E. end of the Bommel Waert.

VOORNLAND, a territory of the United Provinces, anciently part of Zealand. It conſiſts of the iſlands of Voorn, Goree, and Overflackee.

VORALBERG, or VORARLBERG, a diſtrict of Upper Auſtria; bounded on the W. by the lake of Conſtance, on the E. by the mountains of Arlberg, which ſeparates it from Tyrol, on the S. by the country of the Griſons, and on the N. by Suabia. It compriſes the four counties of Feldkirch, Bregentz, Pludentz, and Sonnaberg.

VORDEN, a town of Weſtphalia, in the biſhopric of Oſnaburg, 10 miles E.N.E. of Oſnaburg. Long. 8. 24. E. Lat. 52. 20. N.

VORINGEN, a town of Suabia, in the principality of Hohenzollern, ſituate on the Lauchart, 10 miles S.E. of Hohenzollern. Long. 9. 12. E. Lat. 48. 15. N.

VORONETZ, a government of Ruſſia, the capital of which, of the ſame name, is ſeated on the Voronetz, below its junction with the Don, 217 miles S. by E. of Moſcow. Long. 39. 14. E. Lat. 51. 36. N.

VOSGES, a department of France, including that part of Lorrain, which was lately a province of the ſame name. It is ſo called from a chain of mountains, covered with wood, that ſeparates this department from the department of Upper Saone and Upper Rhine.

VOU-HOU-HIEN, a city of China, in the province of Kiang-nan, and juriſdiction of Tay-ping-fou; the moſt conſiderable, in point of riches, in that juriſdiction. It is 52 miles S.W. of Tay-ping-fou.

VOUILLE, a village of France, in the department of Vienne, 10 miles W. of Poitiers. Here Clovis gained a battle, in 507, againſt Alaric, king of the Viſigoths, which extended the French empire from the Loire to the Pyrenées.

VOU-TCHANG-FOU, the capital of the province of Hou-quang, in China; the rendezvous, as it were, of all the commercial people in the empire. As every branch of trade is carried on here, its port, ſeated on the Yang-tſe-kiang, is always crowded with veſſels; the river being ſometimes covered with them to the diſtance of two leagues. The beautiful cryſtal found in its mountains, the plentiful crops of fine tea, and the prodigious ſale of the bamboo paper made here, contribute no leſs to make it famous than the continual influx of ſtrangers. Its extent is compared to that of Paris. Its diſtrict contains one city of the ſecond claſs, nine of the third, a fortified town, and ſeveral fortreſſes. It is 875 miles S. of Pekin. Long. 112. 25. E. Lat. 30. 30. N.

VOU-TCHEOU-FOU, or FOU-TCHEOU-FOU, a city of China, in the province of Kiang-ſi, formerly one of the moſt beautiful in the empire; but, ſince the invaſion of the Tartars, it has been a heap of ruins, which, however, ſtill convey ſome idea of its ancient magnificence. Its diſtrict contains ſix cities of the third claſs. It is 250 miles S. by W. of Nanking. Long. 116. 25. E. Lat. 27. 30. N.

UPPINGHAM, a town of Rutlandſhire, with a market on Wedneſday; ſeated on an eminence, ſix miles S. of Oakham, and 90 N. by W. of London. Long. 0. 45. W. Lat. 52. 36. N.

UPTON, a town in Worceſterſhire, with a market on Thurſday; ſeated on the Severn, 11 miles S. of Worceſter, and 109 W.N.W. of London. Long. 1. 55. W. Lat. 51. 59. N.

URACH, a town of Suabia, in the duchy of Wirtemburg. Here are conſiderable manufactures of damaſk and other linens. It is 21 miles S.S.E. of Stutgard, and 24 W. of Ulm. Long 9. 15. E. Lat. 48. 27. N.

URAL, a river of Ruſſia, which riſes in Mount Caucaſus, and watering Orenburg, Uralſk, and Gurief, falls by three mouths into the Caſpian Sea. See the next article.

URALIAN COSSACS, a Tartar tribe that inhabit the Ruſſian province of Orenburg, on the S. ſide of the Ural. Theſe Coſſacs are deſcended from thoſe of the Don; and are a valiant race. They profeſs the Greek religion; but there are diſſenters from the eſtabliſhed religion, whom the Ruſſians called *Roſkolniki*, or Separatiſts, and who ſtyle themſelves *Staroverſki*, or Old Believers. Theſe conſider the ſervice of the eſtabliſhed church as profane, and have their own prieſts and ceremonies. The Uralian Coſſacs are all enthuſiaſts for the ancient ritual, and prize their beards almoſt equal to their lives. A Ruſſian officer having order a number of Coſſac recruits to be publicly ſhaved in the town of Yaitſk, in 1771, this wanton inſult excited an inſurrection, which was ſuppreſſed for a time; but, in 1773, the impoſtor Pugatchef, having aſſumed the name of Peter III. appeared among them, and, taking advantage of this circumſtance, rouſed them once more into open rebellion. This being ſuppreſſed by the defeat and execution of the impoſtor, in order to extinguiſh all remembrance of this rebellion, the river Yaik was called the Ural; the Yaik Coſſacs were denominated Uralian Coſſacs; and the town of Yaitſk was named Uralſk. Theſe Coſſacs are very rich, in conſequence of their fiſheries in the Caſpian Sea. Their principal fiſhery is for ſturgeons and beluga, whoſe roe ſupplies large quantities of caviare; and the fiſh, chiefly ſalted and dried, afford a conſiderable article of conſumption in the Ruſſian empire.

URALSK, a town of Ruſſia, in the government of Caucaſus and province of Orenburg. It was formerly called Yaitſk (ſee the preceding article), and is ſeated on the river Ural, 375 miles N.N.E. of Aſtracan. Long. 50. 10. E. Lat. 52. 0. N.

URANIENBURGH, once a magnificent caſtle of Denmark, in the iſland of Huen. It was built by Tycho Brahe, a celebrated aſtronomer, who called it Uranienburgh, or Caſtle of the Heavens, and here made his obſervations. It is now in ruins. Long. 12. 52. E. Lat. 55. 54. N.

URBANEA, a town of Italy, in the duchy of Urbino, with a biſhop's ſee. It was built by Pope Urban VIII. on the river Metro, 12 miles S. of Urbino. Long. 12. 40. E. Lat. 43. 34. N.

URBANNA, a town of Virginia, on the river Rappahannoc, 70 miles N.E. of Richmond.

URBINO, a duchy of Italy, in the Eccleſiaſtical State, 55 miles long and 45 broad; bounded on the N. by the gulf of Venice, on the S. by Perugino and Spoletto, on the E. by Ancona, and on the W. by Tuſcany and Romagna. The air is not very wholeſome, nor is the ſoil fertile.

URBINO, a town of Italy, capital of the duchy of Urbino, with a citadel, an archbiſhop's ſee, and a palace, where the dukes formerly reſided. Great quantities of fine earthen ware are made here; and it is famous for being the birth-place of the illuſtrious painter Raphael. It was taken by the French in 1796. It is ſeated on a mountain, between the rivers Metro and Foglia, 18 miles S. of Rimini, 58 E. of Florence, and 120 N.E. of Rome. Long. 12. 40. E. Lat. 43 46. N.

VREDEN, a town of Weſtphalia, in the biſhopric of Munſter, 26 miles W.N.W. of Munſter, and 26 S.W. of Bentheim. Long. 7. 8. E. Lat. 52. 8. N.

URGANTZ, or JURGANTZ, a town of the country of the Turcomans, formerly a conſiderable place, four miles in circumference, but now in ruins, and no public buildings remain but a moſque. It is 240 miles E. of the Caſpian Sea, and 70 S. of the lake Aral. Long. 60. 25. E. Lat. 40. 55. N.

URGEL, a town of Spain, in Catalonia, capital of a county of the ſame name, with a biſhop's ſee. It is ſeated on the river Sagra, in a fertile plain, ſurrounded by mountains, planted with vineyards, 60 miles W. of Perpignan, and 75 N. by W. of Barcelona. Long. 1. 44. E. Lat. 42. 32. N.

URI, the moſt ſouthern canton of Switzerland, and the fourth in rank. It is 30 miles long and 12 broad; bounded on the N. by the canton of Schweitz and the Lake of the Four Cantons, on the E. by the country of the Griſons and the canton of Glarus, on the S. by the bailiwics of Italy, and on the W. by the cantons of Underwalden and Bern. See SCHWEITZ.

URMUND, a town of Weſtphalia, in the duchy of Juliers, 10 miles N.N.E. of Maeſtricht.

URSEL, a town of Germany, in the circle of Upper Rhine and county of Konigſtein, five miles E.N.E. of Konigſtein, and 18 N.E. of Mentz. Long. 8. 28. E. Lat. 50 9. N.

URSEREN, a town of Switzerland, in the canton of Uri, ſituate on the Reuſs, in a valley to which it gives name, 17 miles S S.E. of Altorf. Long. 11. 20. E. Lat. 49. 8. N.

URSITZ, St. a town of Switzerland, in the biſhopric of Baſle, capital of an extenſive and populous though hilly bailiwic of the ſame name, in which ſteel is manufactured with great ſucceſs. The town is indebted for its origin to a hermitage, built in the ſeventh century by St. Urſinius. It is ſeated on the Doubs, over which is a ſtone bridge, ſeven miles S. of Porentru.

USBEC TARTARY, a vaſt country of Weſtern Tartary, bounded on the N. by the country of the Kalmucks, on the E. by Thibet, on the S. by Hindooſtan, and on the W. by Perſia and the Caſpian Sea. Theſe Tartars are divided into ſeveral tribes, governed by their reſpective khans, or princes. When under one ſovereign, they were the moſt powerful of all the Tartarian nations. The principal khans pride themſelves in being deſcended from Tamerlane, whoſe birth-place was the ancient city of Samarcand, the preſent capital of the country. The Uſbecs, in their perſons, are ſaid to have better complexions and more engaging features than the Kalmucs. Their religion is Mahometaniſm; and they differ, in general, very little from the people of the northern provinces of Hindooſtan.

USEDOM, an iſland of Pruſſian Pomerania, at the mouth of the river Oder, in the Baltic Sea, between which and the iſland of Wollin, is a paſſage called the Swin. It had formerly a conſiderable town of the ſame name, which was almoſt reduced to aſhes in 1473. Long. 14. 11. E. Lat. 54. 6. N.

USERCHE, a town of France, in the department of Correze, ſeated on a ſteep craggy rock, at the foot of which flows the Vezere, 37 miles S.E. of Limoges, and 217 S. of Paris. Long. 1. 37. E. Lat. 45. 27. N.

USINGEN, a town of Germany, in the circle of Upper Rhine and principality of Naſſau Weilburg, 22 miles N.E. of Mentz. Long. 8. 25. E. Lat. 50. 10. N.

USK, a town in Monmouthſhire, with a market on Monday; ſeated on the river Uſk, 12 miles S.W. of Monmouth, and 140 W. by N. of London. Long. 2. 56. W. Lat. 51. 41. N.

USSEL, a town of France, in the department of Correze, 32 miles N E. of Tulles. Long. 2. 15. E. Lat. 45. 32. N.

USTANIO, a town of Italy, in the Cremoneſe, ſeated on the Oglio, 12 miles N.E. of Cremona. Long. 10. 8. E. Lat. 45. 17. N.

USTARITZ, a town of France, in the department of

Lower Pyrenées, ſix miles S. of Bayonne. Long. 1. 30. W. Lat. 43. 23. N.

USTIUG, a town of Ruſſia, in the government of Vologda, and capital of the province of Veliki-Uſtiug. It is ſeated on the Sukhona, 464 miles N.E. of Moſcow. Long. 16. 30. E. Lat. 60. 56. N.

UTOXETER, a town in Staffordſhire, with a market on Wedneſday; ſeated on a riſing ground, near the river Dove, 13 miles N.E. of Stafford, and 136 N.N W. of London. Long. 1. 50. W. Lat. 53. 10. N.

UTRERA, a town of Spain, in the province of Seville, 20 miles S. of Seville. Long. 5. 20. W. Lat. 37. 12. N.

UTZNACH, a town of Switzerland, in a baliwic belonging to the cantons of Schweitz and Glarus. It was almoſt entirely burnt in 1762, but has ſince been elegantly rebuilt. It is three miles E. from the lake of Zuric, and 29 S.E. of the city of that name.

VURLA, a ſea-port of Turkey in Aſia, in Natolia, ſituate on the S. ſide of the gulf of Smyrna, on a bay to which it gives name, 21 miles W. of Smyrna. Long. 27. 58. E. Lat. 38. 27. N.

UXBRIDGE, a corporate town in Middleſex, with a market on Thurſday. The Coln runs through it in two ſtreams, and over the main ſtream is a ſtone bridge. A treaty was carried on here between Charles I. and the parliament, in 1644; and the houſe in which the plenipotentiaries met, is ſtill called the Treaty Houſe. Near this town are the remains of an ancient camp. Uxbridge is 15 miles W. by N. of London. Long. 0. 23. W. Lat. 51. 31. N.

UZEDA, a town of Spain, in New Caſtile, capital of a duchy of the ſame name, with a caſtle. It is ſeated on the Cogolludo, 20 miles N. by W. of Alcala, and 26 N.N.E. of Madrid. Long. 3. 13. W. Lat. 40. 46. N.

UZEL, a town of France, in the department of the North Coaſt, 17 miles S.W. of St. Brieux. Long. 2. 52. W. Lat. 48. 16. N.

UZES, a town of France, in the department of Gard, ſeated in a country abounding in corn, oil, ſilk, and good wine, 12 miles N. of Niſmes, and 20 S.W. of Orange. Long. 4. 27. E. Lat. 44. 2. N.

W

WAI

WAACKHAUSEN, a town of Lower Saxony, in the duchy of Bremen, 12 miles N. of Bremen.

WACHENHEIM, a town of Germany, in the palatinate of the Rhine, 15 miles W. of Manheim, and 31 E. of Deux Ponts. Long. 8. 16. E. Lat. 49. 20. N.

WACHOVIA, a tract of land in North Carolina, ſituate between the rivers Dan and Yadkin, 10 miles S. of Pilot Mountain, in the county of Surrey. It conſiſts of 100,000 acres, purchaſed by the Moravians, in 1751, and named by them from an eſtate of Count Zinzendorf's in Auſtria. In 1755, by an act of aſſembly, it was made a ſeparate pariſh, called Dobb's Pariſh, and it now contains ſeveral flouriſhing ſettlements, of which Salem is the principal.

WACHTENDONCK, a town of Pruſſian Guelderland, ſeated on a moraſs, on the river Niers, five miles S. of Gueldres. Long. 6. 7. E. Lat. 51. 23. N.

WADSTENA, a town of Sweden, in the province of Eaſt Gothland, remarkable for its caſtle, built by Guſtavas Vaſa, in 1544, and inhabited by his ſon Magnus, who was inſane. It is ſeated on the E. ſide of the lake Wetter, 160 miles S.W. of Stockholm. Long. 15. 37. E. Lat. 58. 18. N.

WAGENINGEN, a town of Dutch Guelderland, ſeated on the Leck, 10 miles N.W. of Nimeguen. Long. 5. 31. E. Lat. 52. 0. N.

WAGERIA, or WAGERLAND, a fertile territory in the duchy of Holſtein, 20 miles in length, and 15 in breadth. Lubec is the capital.

WAHREN, a town of Germany, in the duchy of Mecklenburg, ſeated on the lake Malcho, 10 miles S. of Malchin.

WAIHLINGEN, a town of Suabia, in the duchy of Wurtemburg, ſeven miles E.N.E. of Stutgard.

WAINFLEET, a town in Lincolnſhire, with a market on Saturday. It is ſeated near the ſea, in a fenny part of the country, and on the river Witham, 14 miles N.E. of

WAL

Boſton, and 130 N. by E. of London. Long. 0. 20. E. Lat. 53. 10. N.

WAITZEN, or WAITZ, a town of Hungary, with a biſhop's ſee. A large annual fair is kept here. It has frequently been taken by the Turks, and retaken by the Imperialiſts. It is ſituate on the Danube, 72 miles E.S.E. of Preſburg. Long. 18. 38. E. Lat. 47. 29. N.

WALCOT, a village in Lincolnſhire, on the borders of the fens, within one mile of Folkingham. It has a chalybeate ſpring, formerly much frequented.

WALCOUR, a town of the Auſtrian Netherlands, in the county of Namur, between the Meuſe and Sambre. In 1615 it was entirely deſtroyed by fire. The French attempted to take it in 1689, but were defeated, and compelled to retire with great loſs, by the Prince of Waldeck. It is ſeated on the Heura, 12 miles S. of Charleroy, and 27 S.W. of Namur. Long. 4. 30. E. Lat. 50. 10. N.

WALDBURGH, a town of Suabia, in a barony of the ſame name, 24 miles W. of Kempten. Long. 9. 50. E. Lat. 47. 49. N.

WALDECK, a principality of Germany, in the circle of Upper Rhine, 30 miles long and 20 broad; bounded on the E. and S. by Heſſe-Caſſel, and on the W. and N. by Weſtphalia. It is a mountainous country, covered with woods; and has mines of iron, copper, quickſilver, and alum.

WALDECK, a town of Germany, capital of a principality of the ſame name, with a caſtle, ſeated on the Steinbach, 25 miles W.S.W. of Caſſel. Long. 9. 4. E. Lat. 51. 10. N.

WALDENBURG, a town of Upper Saxony, ſituate on the Muldau. The old town of Waldenburg, which is directly oppoſite it on the other ſide of the Muldau, is famous for its brown and white earthen ware. It is nine miles N. of Zwickau, and 44 W. of Dreſden. Long. 12. 30. E. Lat. 50. 49. N.

WALDENBURG, or WALLENBURG, a town of Switzerland, in the canton of Baſle, with a caſtle on a high rock. It is ſeated at the foot of Mount Jura, 15 miles S. of Baſle, and 15 N.E. of Soleure. Long. 7. 35. E. Lat. 47. 22. N.

WALDKIRK, a town of Suabia, in Auſtrian Briſgaw, and in an iſland formed by the river Eltz, five miles from Friburg. Long. 8. 3. E. Lat. 48. 9. N.

WALDSCHUT, a ſtrong town of Suabia, and one of the four Foreſt Towns, ſubject to the houſe of Auſtria. It is ſeated oppoſite the place where the Aar falls into the Rhine at the entrance of the Black Foreſt, eight miles N.E. of Lauffenburg, and 17 W. of Schaffhauſen. Long. 8. 12. E. Lat. 47. 38. N.

WALDSTÆDTE, a name given to the Swiſs cantons of Lucern, Uri, Schweitz, and Underwalden. It ſignifies *Foreſt Towns*; theſe cantons containing a great number of foreſts. This diſtrict muſt not be confounded with the Waldſtædte, or Foreſt Towns of Suabia, which are Lauffenburg, Waldſchut, Seckingen, and Rheinfelden.

WALDSTÆTTER SEE, or LAKE OF THE FOUR CANTONS, one of the fineſt lakes in Switzerland. It conſiſts of three principal branches, called the lakes of Lucern, Schweitz, and Uri. The upper branch, or lake of Lucern, is in the form of a croſs; the ſides of which ſtretch from Kuſſnatcht to Dullenwal, a village near Stantz. It is bounded toward the town by cultivated hills ſloping gradually to the water, contraſted on the oppoſite ſide by an enormous maſs of barren and craggy rocks; Mount Pilate, one of the higheſt mountains in Switzerland, riſing boldly from the lake. Toward the E. of this branch, the lake contracts into a narrow creek, ſcarcely a mile acroſs. Soon after, it again widens, and forms the ſecond branch, or lake of Schweitz; on the W. ſide, the canton of Underwalden, on the E. that of Schweitz. Here the mountains are more lofty, and infinitely varied; ſome covered to the very ſummits with verdure, others perpendicular and craggy; here forming amphitheatres of wood; there jutting into the water in bold promontories. Near Brumen, commences the third branch, or lake of Uri, which takes a S.E. direction. It is deep and narrow, about nine miles long, bordered on both ſides by rocks uncommonly wild and romantic, with foreſt of beech and pine growing down their ſides to the very edge of the water.

WALHOF, a town of the duchy of Courland. In the year 1626 the Poles were defeated near this town by Guſtavus, king of Sweden. It is 34 miles E. of Mittaw. Long. 24. 25. E. Lat. 56. 35. N.

WALKENREID, a town of Upper Saxony, in Thuringia, ſeated on the Sorge, 20 miles S.W. of Halberſtadt. Long. 21. 5. E. Lat. 51. 33. N.

WALLENSTADT, a town of Switzerland, in the canton of Appenzel; incorporated into the bailiwic of Sargans, but enjoying many diſtinct privileges. It derives its exiſtence from the paſſage of the merchandiſe tranſported from Germany, through the country of the Griſons, to Italy. The communication occaſions the frequent reſort of Italian merchants; and that language is underſtood by many of the inhabitants. This town is ſeated at the E. end of a lake of the ſame name, nine miles W. of Sargans, and 15 N.W. of Coire. Long. 9. 14. E. Lat. 47. 1. N.

WALLENSTADT, a lake of Switzerland, 12 miles long and two broad, bounded by high mountains, except to the E. and W. On the ſide of the canton of Glarus, the mountains are chiefly cultivated; enriched with wood or fine meadows; and ſtudded with churches, cottages, and ſmall villages; the Alps of Alarus riſing behind, their tops covered with ſnow. On the other ſide, for the moſt part, the rocks are groteſque, craggy, inacceſſible, and perpendicular: but here and there a few cultivated necks of land are formed at the very edge of the lake, and at the bottom of theſe very rocks; exhibiting a beautiful contraſt to the barrenneſs above and around them. Numberleſs waterfalls, occaſioned by the melting of the ſnows, fall down the ſides of the mountains from a very conſiderable height, and with an almoſt inconceivable variety. Through this lake flows the Mat, which, ſoon after, joining the Linth, forms the river Limmat.

WALLERSTEIN, a town of Suabia, with a caſtle belonging to the counts of Oettingen, ſix miles S.W. of Oettingen.

WALLINGFORD, a borough in Berkſhire, with a market on Thurſday and Saturday. It was once ſurrounded by a wall, and had a caſtle, now demoliſhed, and four churches, of which one only is now in uſe. It is ſeated on the Thames, over which is a ſtone bridge, 14 miles N.W. of Reading, and 46 W. of London. Long. 1. 1. W. Lat. 51. 36. N.

WALLINGFORD, a town of the United States, in Connecticut, 13 miles N.E. of Newhaven.

WALNEY, an iſland on the coaſt of Lancaſhire. It is long and narrow, and ſerves as a bulwark to the hundred of Furneſs, againſt the waves of the Iriſh Sea.

WALPO, a town of Sclavonia, capital of a county of the ſame name, with a caſtle. It is ſeated on the river Walpo, 20 miles W. of Eſſeck, and 110 S. of Buda. Long. 19. 22. E. Lat. 45. 35. N.

WALPOLE (Horace), earl of Orford, was the youngeſt ſon of the celebrated Sir Robert Walpole, afterwards earl of Orford, by his firſt wife, Catherine, daughter of Robert Shorter, eſq. of Bybrook in Kent. He was born 1716; and was educated, firſt at Eton ſchool, and afterwards at Cambridge. At Eton he formed an intimate acquaintance with the celebrated poet Gray; and they went together on the tour of Europe, in the years 1739, 1740, and 1741. Unhappily they had a diſpute in the courſe of their travels, which produced a ſeparation.

Mr. Walpole was able to make a ſplendid figure during the remainder of his deſtined courſe; but poor Gray, after the ſeparation, was obliged to obſerve a very ſevere economy. "This difference aroſe from the difference of their tempers: the latter being, from his earlieſt years, curious, penſive, and philoſophical; the former, gay, lively, and inconſiderate. This, therefore, occaſioned their ſeparation at Reggio. Mr. Gray went before him to Venice; and ſtaying there till he could find means of returning to England, he made the beſt of his way home, repaſſing the Alps, and following almoſt the ſame route, through France, which he had before gone to Italy. In juſtice to the memory of ſo reſpectable a friend, Mr. Walpole (ſays Mr. Maſon, Life of Gray, 4to. p. 41) enjoins me to charge him with the chief blame in their quarrel, confeſſing that more attention, complaiſance, and deference, to a warm friendſhip, and ſuperior judgment and prudence, might have prevented a rupture that gave much uneaſineſs to them both, and a laſting concern to the ſurvivor; though in the year 1744 a reconciliation was effected between them, by a lady who wiſhed well to both parties."—This event took place after their return to England; but the *wound* in their friendſhip left a *ſcar* that never was totally effaced.

We do not, indeed, think that Horace Walpole and Mr. Gray were formed, either by nature or by habits, to continue long in a ſtate of intimate friendſhip. Gray appears to have been a man of the pureſt moral principles, a friend to religion, penſive, and at leaſt ſufficiently conſcious of his in-

tellectual powers and intellectual attainments. Walpole's morality was certainly of a looſer kind; he ſeems to have had no religion; he was often unſeaſonably gay; and to an equal ſhare of intellectual pride, though without equal reaſon, he added the pride of birth. It can therefore excite no ſurpriſe that a man of Gray's independent ſpirit could not bear the ſupercilious freaks of ſuch a character.

Mr. Walpole was nominated to repreſent the city of Norwich, when his father viſited it July 3d, 1733, having acquired conſequence, not only as the ſon of the miniſter, but as having attended the Prince of Orange to England in that year. He was choſen member for Callington, in Cornwall, in the parliament which met June 25th, 1741; was a ſecond time in parliament as repreſentative for Caſtle-Riſing, in Norfolk, in 1747; and for King's Lynn in 1754 and 1761; and at the expiration of that parliament he finally retired from the ſtage of politics, and confined himſelf wholly to literary purſuits. He held to his death the office of uſher of his Majeſty's exchequer, comptroller of the pipe, and clerk of the eſtreats. Upon the death of his nephew, George, third earl of Orford, in 1791, he ſucceeded to the title and eſtates; but that event made ſo little alteration in his mode of living, that we know not whether he ever took his ſeat in the houſe of peers. During almoſt the whole courſe of his life he was the victim of the gout, which at laſt reduced him to a cripple: but it never impaired his faculties; and, to the very moment of death, his underſtanding ſeemed to bid defiance to the ſhock of nature. He died at his houſe in Berkeley-ſquare, in 1796, having juſt entered his 80th year; and was interred in the family vault at Houghton, in a private manner, agreeably to his particular directions.

Horace, lord Orford, was never married, and, by one of his biographers, his chief miſtreſs through life is ſaid to have been the muſe. It is certain that he devoted the greater part of his life to *belles-lettres* and *virtú*, though he ridiculouſly affected, in his letters to his friends, to deſpiſe learning and learned men, for which he was very properly reprimanded both by Gray and Hume. It was an affectation peculiarly abſurd in him, who was conſtantly publiſhing ſomething, and who wrote with uncommon acrimony againſt all who preſumed to call in queſtion the fidelity of the picture which he had drawn of Richard III. or indeed to controvert any of his opinions. Hence his antipathy to Johnſon, becauſe he was a tory, a Chriſtian, and a rigid moraliſt; whilſt he himſelf was a whig, an infidel, and ſuch a moraliſt as could retail, without bluſhing, all the ſcandalous anecdotes, whether true or falſe, of that auguſt family, from whom he acknowledged his whole fortune to be derived. He had, indeed, another reaſon for diſliking Johnſon. Lord Orford ſhone in converſation, and ſurpaſſed all his contemporaries in that kind of talk, which, without dazzling by its wit, always delighted: while Johnſon, when rouſed, knocked down, as by a flaſh of lightening, his lordſhip, and every one elſe who had the confidence before him to talk profanely. Johnſon's wit was original: Lord Orford's conſiſted of ludicrous ſtories, and of literary and political anecdotes. His works, of which by far the moſt valuable part has long been in the hands of the public, were collected in 1798, and publiſhed in five volumes, 4to. They reſemble his converſation, being rather amuſing than profound or inſtructing.

WALPOLE, a town of the United States, in New Hampſhire, ſituate on Connecticut River, 108 miles W. of Portſmouth.

WALLSALL, a corporate town in Staffordſhire, with a market on Tueſday and Friday. It has ſeveral manufactures in iron, ſuch as nails, bridlebits, ſtirrups, ſpurs, buckles, &c. and is governed by a mayor. It is ſeated on the ſide of a hill, 15 miles S. of Stafford, and 116 N.W. of London. Long. 1. 56. W. Lat. 52. 46. N.

WALSHAM, NORTH, a town in Norfolk, with a market on Tueſday, 10 miles E. of Norwich, and 125 N.N.E. of London. Long. 1. 31. E. Lat. 52. 40. N.

WALTHAM, or BISHOP'S WALTHAM, a town in Hampſhire, with a market on Friday. It obtained this laſt name from a palace of the Biſhop of Wincheſter, once ſituate here; and here are the ruins of an abbey, called by the country people, the Biſhop's Abbey. The ſtatute 9 George I. commonly called the Waltham Black Act, was occaſioned by a party of the inhabitants of this town, who had retired to a recluſe dell in the New Foreſt, whence, being in diſguiſe, or with their faces blacked, they iſſued in the night, committing great depredations, killing deer, ſheep, &c. for their ſubſiſtence. Hence they were called the Waltham Blacks. The place of their retreat was acceſſible only by a ſubterraneaan paſſage: they dreſſed like foreſters, and the croſsbow was their weapon. They were diſperſed, at laſt, by the activity of the neighbouring gentlemen. Waltham is eight miles S. of Wincheſter. and 65 W. by S. of London. Long. 1. 20. W. Lat. 50. 57. N.

WALTHAM ABBEY, or WALTHAM HOLY CROSS, a town in Eſſex, with a market on Tueſday. It received its ſecond appellation from a holy croſs, pretended to have been miraculouſly conveyed here; and it obtained its firſt name from a magnificent abbey, founded, in honour of this croſs, by King Harold, ſome fragments of which remain. Harold, and his two brothers, after the battle of Haſtings, were interred here. A plain ſtone is ſaid to have been laid over him, with this inſcription, Haroldus Infelix; and a ſtone coffin, ſuppoſed to have been his, was diſcovered in the reign of Elizabeth. At Waltham Abbey are ſome gunpowder mills, and ſome manufactures of printed linens and pins. It is ſeated on the river Lea, which here forms ſeveral iſlands, 12 miles N. by E. of London. Long. 0. 3. E. Lat. 51. 42. N.

WALTHAM CROSS, or WEST WALTHAM, a village in Hertfordſhire, which takes its firſt appellation from a croſs erected here by Edward I. in honour of his queen Eleanor; and has its ſecond name from its ſituation W. of Waltham Abbey. It it ſeated near the river Lea, 12 miles N. by E. of London.

WALTHAM ON THE WOULD, a town of Leiceſterſhire, with a market on Thurſday, almoſt diſuſed. It is 19 miles N.E. of Leiceſter, and 113 N. by W. of London. Long. 0. 46. W. Lat. 52. 51. N.

WALTINBRUCH. a town of Suabia, in the duchy of Wurtemburg, ſeated on the river Aich.

WANDERSLEBEN, a town of Upper Saxony, in the principality of Altenburg, nine miles S.W. of Erfurt.

WANDIWASH, a town of Hindooſtan, in the Carnatic, 27 miles S.S.E. of Arcot, and 38 N.N.W. of Pondicherry.

WANGEN, an imperial town of Suabia. The inhabitants are papiſts, and carry on a great trade in paper and hardware. It is ſeated on the Overarg, 17 miles N.E. of Lindau, and 30. E. of Conſtance. Long. 9. 56. E. Lat. 47. 38. N.

WANGEN, a town of Switzerland, capital of the bailiwic of Wangen, in Upper Argau. It is ſeated on the Aar, 10 miles E. of Soleure, and 23 N.N.E. of Bern. Long. 7. 30. E. Lat. 47. 16. N.

WANGEN, a town of France, in the department of Lower Rhine, ſeated on the ſide of a mountain, and ſur-

rounded by a wall. It is eight miles N.W. of Straſburg. Long. 7. 42. E. Lat. 48. 38. N.

WANGFRIED, a town of Germany, in the circle of Upper Rhine and principality of Heſſe Rhinfels, ſituate on the Werra, 13 Miles W. of Mulhauſen, and 30 S.S.E. of Caſſel. Long. 9. 58. E. Lat. 51. 5. N.

WANTAGE, a town of Berkſhire, with a market on Saturday. It is famous for being the birth-place of King Alfred, and is ſeated on a branch of the Ock, 12 miles S. by W. of Oxford, and 60 W. of London. Long. 1. 16. E. Lat. 51. 35. N.

WANTZENAU, a town of France, in the department of Lower Rhine. It was taken by the Auſtrians in October, 1793. It is ſix miles N. of Straſburg.

WANZLEBEN, a town of Lower Saxony, in the principality of Magdeburg, 10 miles W.S.W. of Magdeburg.

WARADIN, GREAT, a ſtrong town of Upper Hungary, capital of a county of the ſame name, with a citadel, and a biſhop's ſee. It was taken by the Turks in 1660, but the Auſtrians retook it in 1692. It is ſeated on the Sebes Keres, 117 miles N.E. of Peterwaradin, and 150 E.S.E. of Buda. Long. 21. 50. E. Lat. 47. 5. N.

WARADIN, LITTLE, a ſtrong town of Sclavonia, capital of a county of the ſame name. It is ſeated on the Drave, 28 miles W.S.W. of Kamiſca, and 34 N. by E. of Zagrad. Long. 16. 15. E. Lat. 46. 48. N.

WARANGOLE (the Arinkill of Feriſhta), once the capital of Golconda, in the Deccan of Hindooſtan. The ſite of it is ſtill evident from the old ramparts, which are amazingly extenſive. A modern fortreſs is conſtructed within it, and is in the poſſeſſion of the Nizam of the Deccan. Its 62 miles N.N.E. of Hydrabad. Long. 79. 30. E. Lat. 18. 6. N.

WARBURG, a ſea-port of Sweden, in the province of Halland, with a caſtle, 30 miles S. of Gottenburg. Long. 11. 46. E. Lat. 57. 12. N.

WARBURG, a town of Germany, in the biſhopric of Paderborn, formerly imperial and hanſeatic. It is ſeated on the Dymel, 20 miles S.E. of Paderborn. Long. 9. 19. E. Lat. 51. 33. N.

WARDE, a town of Denmark, in North Jutland, near the mouth of a river of the ſame name, 15 miles N. of Ripen.

WARDHUYS, a ſea-port of Daniſh Lapland, on a ſmall iſland of the ſame name, near the continent. It has an old fort, where the governor reſides, and is 120 miles S.E. of the North Cape. Long. 31. 6. E. Lat. 70. 22. N.

WARBRIDGE, or WARDBRIDGE, a town in Cornwall, with a market on Saturday. It has a bridge over the river Camel, which is the handſomeſt in the county, and ſupported by 20 arches. It is 13 miles S.W. of Camelford, and 241 W. by S. of London. Long. 5. 9. W. Lat. 50. 36. N.

WAREHAM, a borough and ſea-port in Dorſetſhire, with a market on Saturday. It is ſeated between the Frome and Piddle, at their fall into Lochford Lake, the W. part of Poole harbour. It had ſeveral churches, now reduced to three; alſo a wall and caſtle; but has ſuffered much by the various turns of fortune, and the harbour is almoſt choked up. In 1762, two thirds of the town was deſtroyed by fire, but has been rebuilt. Above the bridge, over the Frome, is a good ſalmon fiſhery; and in the neighbourhood fine tobacco-pipe clay is dug, of which nearly 10,000 tons are annually exported to London, Liverpool, &c. Wareham is governed by a mayor, ſends two members to parliament, and is 20 miles E. of Dorcheſter, and 114 W. by S. of London. Long. 2. 16. W. Lat. 50. 43. N.

WARKA, a town of Poland, in the palatinate of Maſovia, ſeated on the river Pilſa. Long. 21. 15. E. Lat. 51. 35. N.

WARMINSTER, a town in Wiltſhire, with a market on Saturday, ſeated on the ſource of the Willybourn, 22 miles N.W. of Saliſbury, and 97 W. by S. of London. Long. 2. 15. W. Lat. 51. 11. N.

WARNEMUNDE, a ſea-port of Germany, in the duchy of Mecklenburg. The Swedes had a houſe here to take toll; but, in 1710, when their affairs were upon the decline, the Duke of Mecklenburg put a garriſon in it. It is ſeated on the Baltic, at the mouth of the Warne, 26 miles N.E. of Wiſmar. Long. 12. 26. E. Lat. 50. 4. N.

WARNETON, a town of Auſtrian Flanders, on the river Lis, eight miles N.W. of Liſle. Long. 3. 4. E. Lat. 50. 45. N.

WARRINGTON, a town in Lancaſhire, with a market on Wedneſday, and large manufactures of ſailcloth, ſacking, cotton, pins, and glaſs. It is ſeated on the Merſey, over which is a bridge, 18 miles E. of Livepool, and 183 N.N.W. of London. Long. 245. W. Lat. 53. 23. N.

WARRIORE, a town of Hindooſtan, in the Carnatic, 32 miles N.N.E. of Tanjore, and 55 S.S.W. of Pondicherry.

WARTA, a town of Great Poland, in the palatinate of Siradia, ſeated on the river Warta, 12 miles N. of Siradia, and 57 S.E. of Poſnania. Long. 18. 0. E. Lat. 51. 41. N.

WARTENBURG, a town of Sileſia, capital of a lordſhip of the ſame name. In 1742 it was entirely reduced to aſhes, except the caſtle. It is 22 miles N.E. of Breſlaw. Long. 17. 42. E. Lat. 51. 19. N.

WARTON (Joſeph, D. D.), was born either towards the end of the year 1721, or in the beginning of the year 1722. He was the eldeſt ſon of Thomas Warton, B. D. who had been fellow of Magdalen College, Oxford; poetry profeſſor from the year 1718 to 1728, and vicar of Baſingſtoke in Hampſhire, and of Cobham in Surrey. Where the ſubject of this memoir was born we have not learned, though, were we to hazard a conjecture, we would ſay that it was in Oxford, as his father probably reſided in that city during his profeſſorſhip.

Our knowledge of the private hiſtory of Dr. Warton is indeed extremely limited. We do not even know at what ſchool, or in what college, he was educated; though it was probably at Winchester ſchool, and certainly in ſome of the colleges in the univerſity of Oxford. For many years, he was ſucceſſively under and upper maſter of Winchester college; but reſigned the laſt of theſe offices when he found the infirmities of age coming upon him; and was ſucceeded by Dr. Goddard, the preſent excellent maſter. He was likewiſe prebendary of the cathedral church of Winchester, and rector of Wickham in Hampſhire, where he died, aged 78.

His publications are few, but valuable. A ſmall collection of poems without a name, was the firſt of them, and contained the Ode to Fancy, which has been ſo much and ſo deſervedly admired. They were all of them afterwards printed in Dodſley's Collection. He was alſo a conſiderable contributor to the Adventurer, publiſhed by Dr. Hawkeſworth; and all the papers which contain criticiſms on Shakſpeare were written by him and his brother Thomas Warton, the ſubject of the next article.

The firſt volume of his Eſſay on the Life and Writings of Pope was publiſhed, had paſſed through ſeveral editions,

and an interval of between twenty and thirty years had elapſed before he gave a ſecond volume of that elegant and inſtructive work to the world. He had not only meditated, but had collected materials for a literary hiſtory of the age of Leo X.; and propoſals were actually in circulation for a work of that kind; but it is probable that the duties of his ſtation did not leave him the neceſſary leiſure for an undertaking which required years of ſecluſion and independence. His laſt and late work, which he undertook for the booksellers at a very advanced age, was an edition of Pope's Works, that has not altogether ſatisfied the public expectation. He retained, with great propriety indeed, many of the notes of Warburton; but is ſeverely reprehended by the author of the Purſuits of Literature for ſuppreſſing the name of that prelate on his title-page, or including it only, as ſubordinate to his own, in the general expreſſion *others*.

Dr. Warton was cheerful in his temper, convivial in his diſpoſition, of an elegant taſte and lively imagination: with a large portion of ſcholarſhip, and a very general knowledge of the belles-lettres of Europe, it may be preſumed that Dr. Warton poſſeſſed, beyond moſt men, the power of enlivening claſſical ſociety. He was the intimate friend of Dr. Johnſon; was ſeen at the parties of Mrs. Montague, as well as at the table of Sir Joſhua Reynolds, and was an original member of the Literary Club. He poſſeſſed a liberal mind, a generous diſpoſition, and a benevolent heart. He was not only admired for his talents, and his knowledge, but was beloved for thoſe qualities which are the beſt gifts in this imperfect ſtate.

Warton (Thomas), the brother of the preceding, was born in the year 1728. He received, as we have reaſon to believe, the firſt part of his education at Wincheſter; and at the age of 16 was entered a commoner of Trinity College, Oxford, under the tuition of Mr. Geering.

He began his poetical career at an early age. In 1745, he publiſhed five paſtoral eclogues, in which are beautifully deſcribed the miſeries of war to which the ſhepherds of Germany were expoſed. Not long after, in the year 1748, he had full ſcope afforded for the exertion of his genius. It is well known that Jacobite principles were ſuſpected to prevail in the univerſity of Oxford about the time of the rebellion in the year 1745. Soon after its ſuppreſſion, the drunkenneſs and folly of ſome young men gave offence to the court, in conſequence of which a proſecution was inſtituted in the court of King's Bench, and a ſtigma was fixed on the vice-chancellor and ſome other heads of colleges in Oxford. Whilſt this affair was the general ſubject of converſation, Mr. Maſon publiſhed his Iſis, an elegy, in which he adverts to the above-mentioned circumſtances In anſwer to this poem, Mr. Warton, encouraged by Dr. Huddesford, the preſident of his college, publiſhed, in 1749, The Triumph of Iſis, which excelled more in manly expoſtulation and dignity than the poem that produced it did in neatneſs and elegance. With great poetical warmth, and a judicious ſelection of circumſtances, he characteriſes the eminent men who had been educated in Oxford, and draws a ſtriking and animated portrait of Dr. King, the celebrated public orator of that time. The whole poem ſhews the early maturity of his genius, and is finiſhed with happy diligence.

In the year 1751 he ſucceeded to a fellowſhip of his college, and was thus placed in a ſituation eaſy and independent, and particularly congenial with his habits of retirement and ſtudy. In 1753 appeared his Obſervations on The Faery Queene of Spenſer, in 8vo, a work which he corrected, enlarged, and republiſhed, in two volumes crown octavo, in the year 1762. He ſent a copy of the firſt edition to Dr. Johnſon, who, in a letter to him upon the ſubject, expreſſed this handſome compliment: "I now pay you a very honeſt acknowledgement for the advancement of the literature of our native country: you have ſhewn to all, who ſhall hereafter attempt the ſtudy of ancient authors, the way to ſucceſs, by directing them to the peruſal of the books which theſe authors had read."

In 1754 Dr. Johnſon viſited Oxford for the firſt time after he had quitted reſidence there. Much of his time was ſpent with Mr. Warton; and there appeared to have been a conſiderable degree of confidential intercourſe between them upon literary ſubjects, and particularly on their own works. A pleaſing account of this viſit was communicated by Mr. Warton to Mr. Boſwell, afterwards inſerted in his Life of Johnſon.

In 1755 Mr. Warton exerted himſelf to procure for his friend the degree of maſter of arts by diploma from the univerſity of Oxford; an honour which Johnſon eſteemed of great importance to grace the title-page of his dictionary which he was about to publiſh. In 1756 Mr. Warton was elected profeſſor of poetry, which office he held for the uſual term of ten years. His lectures were remarkable for elegance of diction and juſtneſs of obſervation. One of them, on the ſubject of paſtoral poetry, was afterwards prefixed to his edition of Theocritus. In 1758 he contributed to and aſſiſted Dr. Johnſon in the ſubſcription to his edition of Shakſpeare, and furniſhed him with ſome valuable notes. The doctor remarks, in a letter to him, when ſoliciting his further aid, "It will be reputable to my work, and ſuitable to your profeſſorſhip, to have ſomething of yours in my notes."

From the Clarendon preſs, in the year 1766, he publiſhed Anthologiæ Græcæ, a Conſtantino Cephalâ conditæ, Libri tres, in two vols, 12mo. He concludes the learned and claſſical preface to this work, which is replete with accurate remarks on the Greek epigram, in the following words, which mark this publication for his own: "Vereor ut hactenus in plexendis florum corollis otium nimis longum pertraxerim. Proximè ſequetur, cui nunc omnes operas et vires intendo Theocritus. Interea quaſi promulſidem convivii Lectoribus meis elegantias haſce vetuſtatis eruditæ propino."

In 1770 the academical preſs produced his Theocritus, in two vols. 8vo. He undertook this work by the advice of Judge Blackſtone, then fellow of All-Souls College, and an ardent promoter of every publication that was likely to do credit to the Clarendon preſs. This elaborate publication reflects no ſmall credit on the learning, diligence, and taſte of the editor.

In 1771 he was elected a fellow of the Antiquarian Society, and was preſented by the Earl of Lichfield to the ſmall living of Kiddington, in Oxfordſhire, which he held till his death. He likewiſe in this year publiſhed an improved account of "The Life of Sir Thomas Pope, Founder of Trinity College, Oxford. In compoſing theſe memoirs, he beſtowed much labour and reſearch, and ſhewed great judgment in the arrangement of his materials. But poſſibly, in his ardour to pay a debt of gratitude, he has not ſufficiently conſidered what was due to his own fame. The ſame ſtrength of deſcription and vigour of remark would have better ſuited the life of ſome eminently diſtinguiſhed character, and extended the reputation of the author as a biographer beyond the circle of thoſe academical readers who are influenced by the ſame feelings of veneration, reſpect, and gratitude, which prompted Mr. Warton to compoſe this work. The preface contains ſome excellent remarks on biographical writing.

The plan for a hiſtory of Engliſh poetry was laid by Pope, enlarged by Gray: but to bring an original plan nearly to a completion was reſerved for the perſeverance of Warton. In 1774 appeared his firſt volume; in 1778, the ſecond and third; which brings the narrative down to the commencement of the reign of Elizabeth in 1581. This work diſplays the moſt ſingular combination of extraordinary talents and attainments. It unites the deep and minute reſearches of the antiquary with the elegance of the claſſical ſcholar and the ſkill of the practiſed writer. The ſtyle is vigorous and manly; the obſervations acute and juſt; and the views of the ſubject are extenſive and accurate.

In 1777 he collected his poems into an octavo volume, containing miſcellaneous pieces, odes, and ſonnets. This publication may be conſidered in ſome meaſure original; there being only ſeven pieces that had before appeared, and near three times that number which were then printed for the firſt time.

In vindication of the opinion he had given in his ſecond volume of The Hiſtory of Poetry, relative to the ingenious attempt of Chatterton to impoſe upon the public, he produced, in 1782, An Enquiry into the Authenticity of the Poems attributed to Rowley. In this excellent pamphlet the principles of true criticiſm are laid down, an appeal is properly made to the internal evidence of the poems; and upon theſe grounds it is proved, in the moſt ſatisfactory manner, that they could not have been written by a monk of the fourteenth century.

The year 1785 brought him thoſe diſtinctions which were no leſs honourable to thoſe who conferred than to him who received them. He was appointed poet-laureat on the death of Whitehead, and elected Camden profeſſor of ancient hiſtory on the reſignation of Dr. Scott. His inauguration-lecture was delivered in a clear and impreſſive manner from the profeſſorial chair. It contained excellent obſervations on the Latin hiſtorians, and was written in a ſtrong, perſpicuous, and claſſical ſtyle. In his odes, the vigour and brilliancy of his fancy were not proſtituted to an inſipid train of courtly compliments: each preſents an elegant ſpecimen of deſcriptive poetry, and as all of them have only a ſlight relation to the particular occaſion on which they were written, and have always a view to ſome particular and intereſting ſubject, they will be peruſed with pleaſure as long as this ſpecies of compoſition is admired.

He made occaſional journeys to London to attend the Literary Club, of which he was ſome years a member; and to viſit his friends, particularly Sir Joſhua Reynolds. At his houſe he was ſure to meet perſons remarkable for faſhion, elegance, and taſte.

His laſt publication, except his official odes, conſiſted of Milton's ſmaller poems. A quarto edition appeared in 1790, with corrections and additions. The great object of theſe notes is to explain the alluſions of Milton, to trace his imitations, and to illuſtrate his beauties.

Until he reached his ſixty-ſecond year, he continued to enjoy vigorous and uninterrupted health. On being ſeized with the gout, he went to Bath, and flattered himſelf, on his return to college, that he was in a fair way of recovery. But the change that had taken place in his conſtitution was viſible to his friends. On Thurſday, May the 20th, 1790, he paſſed the evening in the common room, and was for ſome time more cheerful than uſual. Between ten and eleven o'clock he was ſtruck with the palſy, and continued inſenſible till his death, which happened the next day at two o'clock. On the 27th, his remains were interred in the college chapel with the moſt diſtinguiſhed academical honours. The inſcription upon the flat ſtone which is placed over his grave contains only an enumeration of his preferments.

The following is a liſt of Mr. Warton's works: 1. "Five Paſtoral Eclogues," 4to. 1745. Reprinted in Pearch's Collection of Poems. 2. "The Pleaſures of Melancholy," written in 1745; firſt printed in Dodſley's Collection, and afterwards in the Collection of Mr. Warton's Poems. 3. "Progreſs of Diſcontent," written in 1746. Firſt printed in the Student, a periodical paper. 4. "The Triumph of Iſis, a Poem," 4to. 1750. 5. "Newmarket, a Satire," folio, 1751. 6. "Ode for Muſic," performed at the theatre in Oxford, 1751. 7. "Obſervations on the Faerie Queene of Spenſer," 8vo. 1754. 8. "Inſcriptionum Metricarum Delectus," 4to. 1758. 9. "A Deſcription of the City, College, and Cathedral, of Wincheſter," 8vo. no date. 10. "The Life of Sir Thomas Pope," in the 5th volume of the Biographia Britannica, republiſhed in 1772. 11. "The Life and literary Remains of Ralph Bathurſt, M.D. Dean of Wells, and Preſident of Trinity College in Oxford," 1761. 12. "A Companion to the Guide, and a Guide to the Companion," 12mo, 1762. 13. "The Oxford Sauſage," in which are ſeveral Poems by Warton. 14. "Anthologiæ Græcæ a Conſtantino Cephalâ conditæ Libri tres," 2 tom. 1766. 15. "Theocritis Syracuſii quæ ſuperſunt, cum Scholiis Græcis," &c. 2 tom. 4to. 1770. 16. "Hiſtory of Engliſh Poetry, from the Cloſe of the 11th to the Commencement of the 18th Century," 4to. vol. I. 1774.; vol. II. 1778.; vol. III. 1781. 17. "Poems," 8vo. 1777. 18. "Specimen of a Hiſtory of Oxfordſhire," 1783. 19. "An Enquiry into the Authenticity of the Poems attributed to Thomas Rowley," 8vo. 1782. 20. "Verſes on Sir J. Reynolds's painted Window in New College Chapel," 4to. 1782. 21. "Poems on ſeveral Occaſions, by John Milton, with Notes critical and explanatory," 8vo. 1785.

WARWICK, a town of the ſtate of Rhode Iſland, the chief town of Kent County. It is ſituate at the head of Narraganſet Bay, eight miles S. of Providence.

WARWICK, a town of Maryland, in Cecil County on the eaſt ſhore of Chefapeak Bay, 57 miles S.W. of Philadelphia.

WARWICKSHIRE, a county of England, 47 miles long and 30 broad; bounded at its N. extremity by a point of Derbyſhire, on the N.W. by Staffordſhire, on the N.E. by Leiceſterſhire, on the W. by Worceſterſhire, on the E. by Northamptonſhire, on the S.W. by Glouceſterſhire, and on the S.E. by Oxfordſhire. It lies partly in the dioceſe of Lichfield and Coventry, and partly in that of Worceſter; contains four hundreds and one liberty, one city, 12 market towns, and 158 pariſhes; and ſends ſix members to parliament. The air is very mild, pleaſant, and healthy. The north part, called the Woodlands, is divided from the ſouth, called the Feldon, by the river Avon; and the ſoil of both is rich and fertile. It produces corn, malt, wood, wool, cheeſe, coal, iron, and limeſtone. The principal rivers are the Avon, Tame, and Arrow. The capital is Warwick, but Birmingham is the largeſt town.

WASHING-MACHINE, an invention calculated to render more expeditious and effectual the neceſſary periodical operation of cleanſing family linen, with the help of ſoap and alkaline ſolutions. Many of theſe have been invented, though few are free from ſome objection or other. We ſhall only, therefore, deſcribe (from the *Domeſtic Encyclopædia*) a waſhing machine that has lately been invented in Germany by M. M. Fiſcher and Kerzig; and which promiſes to be ſuperior to any ſimilar contrivance hitherto ſuggeſted.

In Pl. 54. fig. 1. is a ſection of the waſhing cylinder, with its 16 ladles, projecting four inches; but of theſe ladles only

4 jut out internally, as repreſented by the dotted line *b, b, b, b*. *c*, the iron roller, which is on the outſide, fixed to the bottom of the cylinder, by means of an iron croſs at *d, d, d, d*, with ſcrews or nails: it reſts on the beam *e*, ſo as to be upheld in the four excavated columns or poſts *f, f, f, f*, by the lever *g*, and to be either raiſed or lowered, and afterwards ſecured by the pins *h, h*, according to the greater or leſs depth of water: *i*, the ciſtern, at the ſides of which the four poſts are firmly inſerted.

Fig. 2, is a plan or bird's-eye view of the machine. The laths between the ladles may be here diſtinctly ſeen, together with the roller *c, c*, as it reſts on the beam or ſupporter *e, e, e, e*, and is ſecured by a cap, K: *l*, the boarded floor above the ciſtern or reſervoir of water, on which the perſon ſtands, when the cylinder is to be placed higher or lower.

By means of this excellent contrivance, we underſtand from the inventors, by whom it was firſt uſed for cleanſing the felts in an extenſive paper-mill, that from 14 to 18 ſhirts may be completely waſhed within one hour; and that the friction is far leſs than in performing that operation by the hand; while the foul water is not ſuffered to flow back into the linen, but is continually renewed. If table-cloths, &c. happen to be greaſy, they muſt be whirled round in the machine for the ſpace of from 20 to 30 minutes; when it will be neceſſary to take them out; and, after rubbing them well with ſoap, to expoſe them again to the action of the engine for half an hour, when they will be found thoroughly cleaned. Fine linen may be incloſed in a bag, and waſhed in a ſimilar manner, ſo as to prevent it from being injured by friction. There are, however, two points which ought to be ſtrictly attended to; namely, the agitation of the water ſhould not be too violent; and a ſufficient quantity of foul linen muſt be thrown in at a time, in order to amount to ſuch weight as will cauſe it to deſcend, after having been carried to the uppermoſt part of the cylinder. The only obſtacle to the general introduction of this machine is, that it cannot be adopted in thoſe ſituations which are not provided with a current or ſtream of water to work it; but, wherever a brook or rivulet occurs, ſuch apparatus will be found highly ſerviceable in work-houſes, great ſchools, priſons, and hoſpitals, not leſs than in private families; as 200 ſhirts may be waſhed by one perſon in the ſpace of 12 hours. It may be erected in a mill-reach, ſo as to be ſet in motion by the immediate preſſure of the water; or by connecting its mechaniſm with the main cylinder of the water-wheel.

WASHINGTON (George), whoſe name is likely to live as long as that of any monarch, was born on the 11th of February, 1732, in the pariſh of Waſhington, Virginia. He was deſcended from an ancient family in Cheſhire, of which a branch had been eſtabliſhed in Virginia about the middle of the 17th century. We are not acquainted with any remarkable circumſtances of his education or his early youth; and we ſhould not indeed expect any marks of that diſorderly prematureneſs of talent, which is ſo often fallacious, in a character whoſe diſtinguiſhing praiſe was to be regular and natural. His claſſical inſtruction was probably ſmall, ſuch as the private tutor of a Virginian country gentleman could at that period have imparted; and if his opportunities of information had been more favourable, the time was too ſhort to profit by them. Before he was twenty he was appointed a major in the colonial militia, and he had very early occaſion to diſplay thoſe political and military talents, of which the exertions on a greater theatre have ſince made his name ſo famous throughout the world.

The plenipotentiaries who framed the treaty of Aix-la-Chapelle, by leaving the boundaries of the Britiſh and French territories in North America unfixed, had ſown the ſeeds of a new war, at the moment when they concluded a peace. The limits of Canada and Louiſiana, negligently deſcribed in vague language by the treaties of Utrecht and Aix-la Chapelle, becauſe the greater part of theſe vaſt countries was then an impenetrable wilderneſs, furniſhed a motive, or a pretext, for one of the moſt ſucceſsful, but one of the moſt bloody and waſteful wars in which Great Britain had ever been engaged.

In the diſputes which aroſe between the French and Engliſh officers on this ſubject, Major Waſhington was employed by the governor of Virginia, in a negociation with the French governor of Fort du Queſne (now Pittſburgh), who threatened the Engliſh frontiers with a body of French and their Indian allies. He ſucceeded in averting the invaſion; but hoſtilities becoming inevitable, he was in the next year appointed lieutenant-colonel of a regiment raiſed by the colony for its own defence; to the command of which he ſoon after ſucceeded. The expedition of Braddock followed in the year 1755; of which the fatal iſſue is too well known to require being deſcribed by us. Colonel Waſhington ſerved in that expedition only as a volunteer; but ſuch was the general confidence in his talents, that he may be ſaid to have conducted the retreat. Several Britiſh officers are ſtill alive who remember the calmneſs and intrepidity which he ſhewed in that difficult ſituation, and the voluntary obedience which was ſo cheerfully paid by the whole army to his ſuperior mind. After having acted a diſtinguiſhed part in a ſubſequent and more ſucceſsful expedition to the Ohio, he was obliged by ill health, in the year 1758, to reſign his military ſituation. The ſixteen years which followed of the life of Waſhington ſupply few materials for the biographer. Having married Mrs. Cuſtis, a Virginian lady of amiable character and reſpectable connections, he ſettled at his beautiful ſeat of Mount Vernon, of which we have had ſo many deſcriptions; where, with the exception of ſuch attendance as was required by his duties as a magiſtrate and a member of the aſſembly, his time was occupied by his domeſtic enjoyments, and the cultivation of his eſtate, in a manner well ſuited to the tranquillity of his pure and unambitious mind. At the end of this period he was called by the voice of his country from this ſtate of calm and ſecure though unoſtentatious happineſs.

For almoſt half a century ſymptoms of diſaffection to the mother-country had been ſo viſible in the New England provinces, that ſo early as 1734 the celebrated Biſhop Berkeley had predicted a total ſeparation of North America from Great Britain. That prelate, when a private clergyman, had lived three years in Rhode Iſland, and was an attentive and ſagacious obſerver of the manners and principles of the people, among whom he perceived the old leaven of their forefathers fermenting even then with great violence. The middle and ſouthern provinces, however, were more loyal, and their influence, together with perpetual dread of the French before the peace of 1763, put off the ſeparation to a more diſtant day than that at which, we have reaſon to believe, the biſhop expected it to take place. Virginia, the moſt loyal of all the colonies, had long been in the habit of calling itſelf, with a kind of proud pre-eminence, *his Majeſty's ancient dominion*; and it was with ſome difficulty that the demagogues of New England could gain over that province when the time arrived for effecting their long-meditated revolt. At laſt, however, they ſucceeded; and we find Mr. Waſhington as a delegate from Virginia in the Congreſs which met at Philadelphia on the 26th of October, 1774. As no American united in ſo high a degree as he did, military experience with reſpectability of character, he was appointed to the command of the army which had aſſembled in the New England provinces, to hold in check the Britiſh army which was then encamped under General Gage at Boſton.

At this period there is ſome reaſon to believe that neither Mr. Waſhington nor his conſtituents entered heartily into the views of the New Englanders; but afraid leſt the army of thoſe rebellious fanatics, after ſhaking off the yoke of Great Britain, might give law to the continent, he took upon himſelf the command of that army in the month of July, 1775. To detail his conduct in the years which followed, would be to relate the hiſtory of the American war, which has been already related in a great variety of ways. Within a very ſhort period after the declaration of independence, the affairs of America were in a condition ſo deſperate, that perhaps nothing but the *peculiar* character of Waſhington's genius could have retrieved them. Activity was the policy of invaders. In the field of battle the ſuperiority of a diſciplined army is diſplayed. But delay was the wiſdom of a country defended by undiſciplined ſoldiers againſt an enemy who muſt be more exhauſted by time than he could be weakened by defeat. It required the conſummate prudence, the calm wiſdom, the inflexible firmneſs, the moderate and well-balanced temper of Waſhington to embrace ſuch a plan of policy, and to perſevere in it: to reſiſt the temptations of enterprize; to fix the confidence of his ſoldiers without the attraction of victory; to ſupport the ſpirit of the army and the people amidſt thoſe ſlow and cautious plans of defenſive warfare which are more diſpiriting than defeat itſelf; to contain his own ambition and the impetuoſity of his troops; to endure temporary obſcurity for the ſalvation of his country, and for the attainment of ſolid and immortal glory; and to ſuffer even temporary reproach and obloquy, ſupported by the approbation of his own conſcience and the applauſe of that ſmall number of wiſe men, whoſe praiſe is an earneſt of the admiration and gratitude of poſterity. Victorious generals eaſily acquire the confidence of their army. Theirs, however, is a confidence in the *fortune* of their general. That of Waſhington's army was a confidence in his *wiſdom*. Victory gives ſpirit to cowards, and even the agitations of defeat ſometimes impart a courage of deſpair. Courage is inſpired by ſucceſs, and it may be ſtimulated to deſperate exertion even by calamity; but it is generally palſied by inactivity.—A ſyſtem of cautious defence is the ſevereſt trial of human fortitude; and by this teſt the firmneſs of Waſhington was tried. It muſt not, however, be concealed, that ſome of the Britiſh commanders gave him advantages, which he ſurely did not expect; for more than once, as it appears to us, they had it in their power to annihilate his army, merely by following up their victories. The iſſue of the conteſt is known.

Much has been ſaid by the Britiſh and American democrats of the magnanimity of Waſhington during the ravages of a civil war, in which he acted ſo conſpicuous a part; and we feel not ourſelves inclined to refuſe him the praiſe which he may have merited on this or any other account. But granting that duty required him to execute as a ſpy the accompliſhed *André*, true magnanimity would have prevented him from inſultingly erecting, in the view of that unfortunate officer, the gallows on which he was to be hung, ſeveral days before his execution! When Earl Cornwallis was overpowered by numbers, and obliged at York-town to ſurrender to the united armies of America and France, a magnanimous conqueror would not have maliciouſly claimed, contrary to the uſage of civiliſed war, the ſword from the hands of that gallant nobleman. On theſe two occaſions, and on ſome others, the conduct of Waſhington agreed ſo ill with his general character, that we are inclined to believe that he muſt have been influenced by the leaders of the French army, Rochambeau and Fayette. One thing is certain, that he was ſo little pleaſed either with his own conduct on particular occaſions, or with the general principle of the American revolution, that he never could be forced to talk on the ſubject. An Italian nobleman, who viſited him after the peace, had often attempted, in vain, to turn the converſation to the events of the war. At length he thought he had found a favourable opportunity of effecting his purpoſe; they were riding together over the ſcene of an action where Waſhington's conduct had been the ſubject of no ſmall animadverſion. Count —— ſaid to him, "Your conduct, Sir, in this action has been criticiſed." Waſhington made no anſwer, but clapped ſpurs to his horſe: after they had paſſed the field, he turned to the Italian and ſaid, "Count ——, I obſerve that you wiſh me to ſpeak of the war; it is a converſation which I always avoid. I rejoice at the eſtabliſhment of the liberties of America. But the time of the ſtruggle was a horrible period, in which the beſt men were compelled to do many things repugnant to their nature." This, we think, is the language of a good man not altogether ſatisfied with the part which he had been compelled to act, and who, though he rejoiced at the eſtabliſhment of the *liberties* of America, probably foreſaw that ſhe would reap no benefit from her favourite *independence*.

The concluſion of the American war permitted Waſhington to return to thoſe domeſtic ſcenes, from which no views of ambition ſeem to have had the power to draw him. But he was not allowed long to enjoy this privacy. The ſupreme government of the United States, haſtily thrown up, in a moment of turbulence and danger, as a temporary fortification againſt anarchy, proved utterly inadequate to the preſervation of general tranquillity and permanent ſecurity. The confuſions of civil war had given a taint to the morality of the people, which rendered the reſtraints of a juſt and vigorous government more indiſpenſably neceſſary. Confiſcation and paper money, the two greateſt ſchools of rapacity and diſhoneſty in the world, had widely ſpread their poiſon among the Americans. One of their own writers tells us, that the whole ſyſtem of paper money was a ſyſtem of public and private frauds. In this ſtate of things, which threatened the diſſolution of morality and government, good men ſaw the neceſſity of concentrating and invigorating the ſupreme authority. Under the influence of this conviction, a convention of delegates was aſſembled at Philadelphia, which ſtrengthened the bands of the Federal Union, and beſtowed on Congreſs thoſe powers which were neceſſary for the purpoſes of good government. Waſhington was the preſident of this convention, as he, in three years after, was elected preſident of the United States of America, under what was called "The New Conſtitution," though it ought to have been called a *reform* of the republican government, as that republican government itſelf was only a *reform* of the ancient colonial conſtitution under the Britiſh crown. None of theſe changes extended ſo far as an attempt to new-model the whole ſocial and political ſyſtem.

Events occurred during his chief magiſtracy which convulſed the whole political world, and which tried moſt ſeverely his moderation and prudence. The French revolution took place; Waſhington, who had experienced the evils of one revolution, augured, from the beginning, no good from the daring ſpeculations of inexperienced viſionaries; and the progreſs of the revolution was not calculated to cure his diſtruſt. When, in the year 1793, France, then groaning under the moſt intolerable and hideous tyranny, became engaged in war with almoſt all the governments of the civilized world, it is ſaid to have been a matter of deliberation with the Preſident of the United States, whether the republican envoy or the agent of the French princes ſhould be received in America as the diplomatic repreſentative of France. But whatever might be his private feelings of repugnance and horror, his public

conduct was influenced only by his public duties. As a virtuous man, he muſt have abhorred the ſyſtem of crimes which was eſtabliſhed in France. But as the firſt magiſtrate of the American commonwealth, he was bound only to conſider how far the intereſt and ſafety of the people whom he governed were affected by the conduct of France. He ſaw that it was wiſe and neceſſary for America to preſerve a good underſtanding and a beneficial intercourſe with that great country, in whatever manner ſhe was governed, as long as ſhe abſtained from committing injury againſt the United States. Guided by this juſt and ſimple principle, uninfluenced by the abhorrence of crimes which he felt, and which others affected, he received M. Genet, the miniſter of the French Republic. The hiſtory of the outrages which that miniſter committed, or inſtigated, or countenanced, againſt the American government, muſt be freſh in the memory of all our readers. The conduct of Waſhington was a model of firm and dignified moderation. Inſults were offered to his authority in official papers, in anonymous libels, by incendiary declaimers, and by tumultuous meetings. The law of nations was trampled under foot. His confidential miniſters were ſeduced to betray him, and the deluded populace were ſo inflamed by the arts of their enemies, that they broke out into inſurrection. No vexation, however galling, could diſturb the tranquillity of his mind, or make him deviate from the policy which his ſituation preſcribed. With a more confirmed authority, and at the head of a longer eſtabliſhed government, he might perhaps have thought greater vigour juſtifiable. But in his circumſtances, he was ſenſible that the nerves of authority were not ſtrong enough to bear being ſtrained. Perſuaſion, always the moſt deſirable inſtrument of government, was in his caſe the ſafeſt. Yet he never overpaſſed the line which ſeparates conceſſion from meanneſs. He reached the utmoſt limits of moderation, without being betrayed into puſillanimity. He preſerved external and internal peace by a ſyſtem of mildneſs, without any of thoſe virtual confeſſions of weakneſs, which ſo much diſhonour and enfeeble ſupreme authority. During the whole of that arduous ſtruggle, his perſonal character gave that ſtrength to a *new magiſtracy* which in other countries ariſes from ancient habits of obedience and reſpect. The authority of his virtue was more efficacious for the preſervation of America than the legal powers of his office.

During this turbulent period, he was re-elected to the office of the Preſidency of the United States, which he held from April 1789 till September 1796. Probably no magiſtrate of any commonwealth, ancient or modern, ever occupied a place ſo painful and perilous. Certainly no man was ever called upon ſo often to ſacrifice his virtuous feelings (he had no other ſacrifices to make) to his public duty. Two circumſtances of this ſort deſerve to be particularly noticed. In the ſpring of 1794 he ſent an ambaſſador to Paris with credentials, addreſſed to his "dear friends the citizens compoſing the Committee of Public Safety of the French Republic," whom he prays God "to take under his holy protection." Fortunately the American ambaſſador was ſpared the humiliation of preſenting his credentials to theſe bloody tyrants. Their power was ſubverted, and a few of them had ſuffered the puniſhment of their crimes, which no puniſhment could expiate, before his arrival at Paris. Readily as we admit the purity of the motives which induced him to ſend this embaſſy to Paris, we cannot poſſibly approve of his conduct in deviating ſo far from the uſual diplomatic ſtyle, as to call Robeſpierre his friend: but he was beſet by an abſurd, though formidable, faction at home.

He had another ſtruggle of feeling and duty to encounter, when he was compelled to ſuppreſs the inſurrection in the weſtern counties of Pennſylvania by force of arms. But here he had a conſolation. The exerciſe of mercy conſoled his mind for the neceſſity of having recourſe to arms. Never was there a revolt quelled with ſo little blood. Scarcely ever was the baſeſt daſtard ſo tender of his own life, as this virtuous man was of the lives of his fellow-citizens. The value of his clemency is enhanced by recollecting that he was neither without provocations to ſeverity, nor without pretexts for it. His character and his office had been reviled in a manner almoſt unexampled among civilized nations. His authority had been inſulted:—his ſafety had been threatened. Of his perſonal and political enemies ſome might, perhaps, have been ſuſpected of having inſtigated the inſurrection; a greater number were thought to wiſh well to it; and very few ſhewed much zeal to ſuppreſs it. *Is habitus animorum fuit, ut peſſimum faſcinus auderent pauci, plures vellent, omnes paterentur.* But neither reſentment, nor fear, nor even policy itſelf, could extinguiſh the humanity of Waſhington. This ſeems to have been the only ſacrifice which he was incapable of making to the intereſt of his country.

Throughout the whole courſe of his ſecond Preſidency, the danger of America was great and imminent almoſt beyond example. The ſpirit of change, indeed, at that period, ſhook all nations. But in other countries it had to encounter ancient and ſolidly eſtabliſhed power; it had to tear up by the roots long habits of attachment in ſome nations for their government; of awe in others; of acquieſcence and ſubmiſſion in all.—But in America the government was new and weak. The people had ſcarce time to recover from the ideas and feelings of a recent civil war. In other countries the volcanic force muſt be of power to blow up the mountains, and to convulſe the continents that held it down, before it could eſcape from the deep caverns in which it was impriſoned:—in America it was covered only by the aſhes of a late convulſion, or at moſt by a little thin ſoil, the produce of a few years' quiet.

The government of America had none of thoſe ſalutary prejudices to employ, which in every other country were uſed with ſucceſs to open the eyes of the people to the enormities of the French revolution. They had, on the contrary, to contend with the prejudices of the people in the moſt moderate precautions againſt internal confuſion, in the moſt meaſured and guarded reſiſtance to the unparalleled inſults and enormous encroachments of France. Without zealous ſupport from the people, the American government was impotent. It required a conſiderable time, and it coſt an arduous and dubious ſtruggle, to direct the popular ſpirit againſt a ſiſter republic, eſtabliſhed among a people to whoſe aid the Americans aſcribed the eſtabliſhment of their independence. It is probable, indeed, that no policy could have produced this effect, unleſs it had been powerfully aided by the crimes of the French Government, which have proved the ſtrongeſt allies of all eſtabliſhed governments; which have produced ſuch a general diſpoſition to ſubmit to any *known* tyranny, rather than ruſh into all the unknown and undefinable evils of civil confuſion, with the horrible train of new and monſtrous *tyrannies* of which it is uſually the forerunner. But of theſe circumſtances Waſhington availed himſelf with uncommon addreſs. He employed the horror excited by the atrocities of the French revolution for the moſt honeſt and praiſe-worthy purpoſes;—to preſerve the internal quiet of his country; to aſſert the dignity, and to maintain the rights, of the commonwealth which he governed, againſt foreign enemies. He avoided war without incurring the imputation of puſillanimity; he cheriſhed the deteſtation of Americans for anarchy, without weakening the ſpirit of liberty; and he maintained, and even conſolidated, the authority of government, without abridging the privileges of the people.

The reſignation of Waſhington in 1796 was certainly a meaſure of prudence, and we doubt not of patriotiſm; but the conduct of his ſucceſſor has been ſuch as to give the Americans reaſon to regret that the reins of government were thrown up by the only hand, perhaps, that was fit to guide them during ſo unſettled a ſtate of public affairs. When he retired, he publiſhed a valedictory addreſs to his countrymen, as he had before done when he relinquiſhed the command of the army in 1783. In theſe compoſitions, the whole heart and ſoul of Waſhington are laid open. Other ſtate papers have, doubtleſs, ſhewn more ſpirit and dignity, more eloquence, greater force of genius, and a more enlarged comprehenſion of mind; but none ever diſplayed more ſimplicity and ingenuouſneſs, more moderation and ſobriety, more good ſenſe, more prudence, more honeſty, more earneſt affection for his country and for mankind, more profound reverence for virtue and religion; or more ardent wiſhes for the happineſs of his fellow-creatures, and more juſt and rational views of the means which alone can effectually promote that happineſs.

From his reſignation till the month of July, 1798, he lived in retirement at Mount Vernon. At this latter period, it became neceſſary for the United States to arm. They had endured with a patience, of which there is no example in the hiſtory of ſtates, all the contumely and wrong which ſucceſſive adminiſtrations in France had heaped upon them. Their ſhips were every-where captured, their miniſters were detained in a ſort of impriſonment at Paris; while incendiaries, clothed in the ſacred character of ambaſſadors, ſcattered over their peaceful provinces the fire-brands of ſedition and civil war. An offer was made to terminate this long courſe of injuſtice, for a bribe to the French miniſters. This offer was made by perſons who *appeared* to be in the confidence of M. Talleyrand, who *profeſſed* to act by his authority; who have been ſince, indeed, diſavowed by him; but who never will be believed not to have been his agents, till he convict them of impoſture by legal evidence, and procure them to be puniſhed for ſo abominable a fraud.

The United States reſolved to arm by land and ſea. The command of the army was beſtowed on General Waſhington; which he accepted, becauſe he was convinced that "every thing we hold dear and ſacred was ſeriouſly threatened;" though he had flattered himſelf "that he had quitted for ever the boundleſs field of public action, inceſſant trouble and high reſponſibility, in which he had long acted ſo conſpicuous a part." In this office he continued during the ſhort period of his life which ſtill remained. On Thurſday the 12th December, 1799, he was ſeized with an inflammation in his throat, which became conſiderably worſe the next day; and of which, notwithſtanding the efforts of his phyſicians, he died on Saturday the 14th of December, 1799, in the 68th year of his age, and in the 23d year of the independence of the United States, of which he may be conſidered as the founder. The ſame calmneſs, ſimplicity, and regularity, which had uniformly marked his demeanor, did not forſake him in his dying moments. He ſaw the approaches of death without fear:—he met them without parade—Even the perfectly well ordered ſtate of the moſt minute particulars of his private buſineſs, bore the ſtamp of that conſtant authority of prudence and practical reaſon over his actions, which was a diſtinguiſhing feature of his character. He died with thoſe ſentiments of piety which had given vigour and conſiſtency to his virtue, and adorned every part of his illuſtrious life.

WASHINGTON, the name of ſeveral counties in the United States of America: namely, in Rhode Iſland, in New York, in Pennſylvania, in Maryland, in Virginia, in Tenaſſee, in North Carolina, in South Carolina, and in Georgia. Theſe, and ſeveral towns of the ſame name, take their denomination from the illuſtrious General Waſhington, who was elected the firſt preſident of the United States in 1788.

WASHINGTON, a commercial town of the United States, in North Carolina, ſeated on the river Tar, 38 miles N. by E. of Newbern. Long. 77. 3. E. Lat. 34. 40. N.

WASHINGTON, a town in the State of Georgia, in the county of Wilkes. A mile and a half from this town, is a medicinal ſpring which has been found very beneficial in rheumatic caſes: it riſes from a hollow tree, the inſide of which is covered with a coat of nitre, an inch thick; and the leaves around the ſpring are incruſted with a ſubſtance as white as ſnow. It is 50 miles N.W. of Auguſta. Long. 82. 30. W. Lat. 33. 12. N.

WASHINGTON, a town of Pennſylvania, capital of a county of the ſame name, 300 miles W. of Philadelphia. Long. 80. 20. W. Lat. 40. 11. N.

WASSENBERG, a town of Weſtphalia, in the duchy of Juliers, nine miles E.S.E. of Ruremonde.

WASSERBURG, a town of Bavaria, with a caſtle. It is ſeated among mountains, 25 miles E. by S. of Munich, and 28 N.W. of Saltzburg. Long. 12. 13. E. Lat. 48. 4. N.

WATCHET, a town in Somerſetſhire, with a market on Saturday, ſeated on the Briſtol Channel, at the mouth of a good harbour, much frequented by coal ſhips, which are freighted hence with lime-ſtone, alabaſter, and kelp. It is 14 miles N.W. of Bridgewater, and 153 W. by S. of London. Long. 3. 25. W. Lat. 51. 12. N.

WATEEOO, an iſland in the Pacific Ocean, diſcovered by Captain Cook. It is ſix leagues in circuit, compoſed of hills and plains, and the ſurface covered with verdure. The ſoil, in ſome parts, is light and ſandy; but further up the country, a reddiſh caſt was ſeen on the riſing grounds, where the iſlanders build their houſes, which are long and ſpacious. The manners of the people, their general habits of life, and their method of treating ſtrangers, greatly reſemble thoſe of Otaheite, and its neighbouring iſlands. There is alſo a great ſimilarity between their religious opinions and ceremonies. Long. 158. 15. W. Lat. 21. 1. S.

WATER (*Encycl.*). The following method of preſerving freſh water ſweet during long voyages at ſea, by Samuel Bentham, eſq. appears in the Tranſactions of the Society for the Encouragement of Arts, Manufactures, and Commerce, who conferred on the author their gold medal.

"The mode in which I conceived freſh water might be preſerved ſweet," ſays Mr. Bentham, "was merely by keeping it in veſſels of which the interior lining at leaſt ſhould be of ſuch a ſubſtance as ſhould not be acted upon by the water, ſo as to become a cauſe of contamination. Accordingly, on board two ſhips, the greater part of the water was kept, not in caſks, but in caſes or tanks, which, though they were made of wood, on account of ſtrength, were lined with metallic plates, of the kind manufactured by Mr. Charles Wyatt, of Bridge-ſtreet, under the denomination of *tinned copper-ſheets*; and the junctures of the plates or ſheets were ſoldered together, ſo that the tightneſs of the caſes depended entirely on the lining, the water having no-where acceſs to the wood. The ſhape of theſe caſes was adapted to that of the hold of the ſhip, ſome of them being made to fit cloſe under the platform, by which means the quantity of water ſtowed was conſiderably greater than could have been ſtowed, in the ſame ſpace, by means of caſks; and thereby the ſtowage-room on board ſhip was very much increaſed.

"The quantity of water kept in this manner on board

each ſhip, was about forty tons divided into ſixteen tanks; and there was likewiſe, on board each of the ſhips, about thirty tons ſtowed in caſks as uſual.

"As the ſtowing the water in tanks was conſidered as an experiment, the water in the caſks was uſed in preference; that in the tanks being reſerved for occaſions of neceſſity, excepting that a ſmall quantity of it was uſed occaſionally for the purpoſe of aſcertaining its purity, or when the water in the caſks was deemed, when compared with that in tanks, too bad for uſe.

"The water in thirteen of the tanks, on board one ſhip, and in all the tanks on board the other, was always as ſweet as when firſt taken from the ſource; but in the other three of the tanks, on board one ſhip, the water was found to be more or leſs tainted as in the caſks. This difference, however, is eaſily accounted for, by ſuppoſing that the water of theſe tanks was contaminated before it was put into them; for in fact the whole of the water was brought on board in caſks, for the purpoſe of filling the tanks, and no particular care was taken, to taſte the water at the time of taking it on board.

"After the water kept in this manner had remained on board a length of time which was deemed ſufficient for experiment, it was uſed out, and the tanks were repleniſhed as occaſion required: but in ſome of the tanks, on board one ſhip at leaſt, the original water had remained three years and a half, as appears by the certificates herewith incloſed. About twenty-five gallons of the water, which had remained this length of time in the ſhip, are ſent to the Society, in two veſſels made of the ſame ſort of tinned copper with which the tanks were lined."

A certificate from Capt. Bolton, commander of the veſſel, accompanied this letter, ſtating that the water delivered to the Society was taken from a tank holding about ſeven hundred gallons, and which his predeceſſor, Capt. Portlock, had informed him had been poured into the tank in December, 1796, except about thirty gallons added in 1798, and had remained good during the whole time.

In a letter, dated January 27, General Bentham alſo ſtates, that the water which had been preſerved ſweet on board his Majeſty's ſloops Arrow and Dart, and of which he had ſent ſpecimens to the Society, was taken from the well at the king's brew-houſe, at Weevil, from whence ſhips of war, lying at or near Portſmouth, are uſually ſupplied with water for their ſea-ſtore, as well as for preſent uſe.

WATERLAND (*Encycl.*). Into the ſhort account there given of Dr. Waterland, we wiſh to introduce a correction, equally neceſſary in all biographical works which we have yet ſeen. All ſay he was born at *Waſeley*, in Lincolnſhire. His baptiſm, however, is regiſtered in the pariſh of *Wailſby*, near Rasen, of which his father, Eraſmus Waterland, had been rector and reſident many years. We believe there is not any ſuch place in the county of Lincoln as *Waſeley*.

WATER-POTS, in Spain known by the name of *Alcarrazas*, are earthen veſſels, extremely porous, deſtined to cool the water for drinking, by means of the continual evaporation which takes place on their whole ſurface. Every houſe in Madrid is provided with theſe veſſels, which are known to have been introduced into the country by the Arabs, and to be equally uſed in Syria, Perſia, China, Egypt, &c. Thoſe of Madrid are made of a kind of marly earth, found on the banks of the river Tanuſoro, near the town of Auduxar, in Andaluſia. On being carefully analyſed, it is found to contain about one third of calcareous earth, a third of alumine, a third of ſilex, and a very ſmall portion of iron.

The proceſs for manufacturing the *alcarrazas* is as follows: After the earth has been dried, it is ſeparated into ſmall lumps about the ſize of wainuts, which are thrown into a tub or vat, covered with water, and left to ſoak during twelve hours, after which it is kneaded. After it has been well wrought, it is ſpread in layers of about ſix fingers depth on a ſmooth ſurface covered with brick, over which has been ſprinkled a ſmall quantity of ſifted aſhes.

Here it is ſuffered to remain until it has become chapped: it is then cleared from the aſhes, carried to a clean flagged floor, where it receives the addition of about the twentieth part of its weight of ſea-ſalt if intended for the fabrication of large jars, or only a fortieth if deſtined to be made into veſſels of ſmaller ſize. An obſervant traveller ſays, that a quantity of ſand is alſo added.

This mixture is kneaded anew with the feet, and then wrought on the wheel, after having been firſt carefully cleaned from any bits of ſtraw or gravel which might have adhered to it. The veſſels, when made, are placed in the potter's oven, but not more than half baked. It is to this circumſtance, and to the marine ſalt which they contain, that they are indebted to their poroſity: for the very ſame earth is wrought into common pottery, without the addition of the ſalt, or the diminution of the baking.

In the hotteſt weather, water put into one of theſe veſſels, and placed in the open air, more particularly in a current of air, becomes in a very ſhort time agreeably cool.

In Eſtremadura, at a place called Salvatierra, are made red vaſes called *bucaros*, which ſerve alſo to preſerve water cool. They impart to it a diſagreeable clayey taſte, which is, however, much admired by the women of Madrid. Girls are ſaid to be particularly fond of this ſpecies of pottery, and eat it in the green-ſickneſs. Nearly ſimilar vaſes are uſed in Portugal for moiſtening ſnuff, which is done by placing them in water after they have been filled with the ſnuff.

WATER-PROOF, a term applied to thoſe ſtuffs which have undergone certain chemical or mechanical proceſſes, and thus become impermeable to moiſture.

In 1801, a patent was granted to Meſſrs. Ackermann, Suardy, and Co. for their invention of a proceſs, by which every ſpecies of cloth may be rendered *water-proof*.—As the patentees have not thought proper to publiſh the particulars of their proceſs (though ſuch concealment is contrary to the nature of *Letters Patent*), we ſhall briefly remark, from our own obſervation, that their method appears to be a ſimple impregnation of cloth with wax previouſly diſſolved, and incorporated with water, by the addition of pure vegetable alkali, or pot-aſh. This being the cheapeſt and moſt expeditious mode of reducing wax to a fluid ſtate, we are further inclined to believe that our conjecture is well founded; becauſe all the woollen cloth prepared in the manufactory of Meſſrs. Ackermann, Suardy, and Co. *feels* ſomewhat harder than ſuch as has not been *waxed*: for the ſame reaſon, it will ſtand a ſhower of rain only ſo long as it has not been ſubject to friction; and we underſtand from thoſe who have worn *patent water-proof coats*, that, in the ſleeves particularly, they are very apt to admit moiſture through the different folds. Nevertheleſs, their proceſs is entitled to attention; and it deſerves to be adopted principally in thoſe caſes where the manufacture is not liable to be impaired by friction; ſuch as coverings for tents; for horſes expoſed to the rain when at reſt; and eſpe-

cially for paper in which gunpowder, or ſteel and other goods, are to be packed.

The following ſimple proceſs is ſtated to be that employed by the Chineſe, for rendering cloth *water-proof*: Let an ounce of white wax be diſſolved in one quart of ſpirit of turpentine, the cloth be immerſed in the ſolution, and then ſuſpended in the air, till it be perfectly dry. By this method, the moſt open muſlin, as well as the ſtrongeſt cloths, may be rendered impenetrable to the heavieſt ſhowers: nor will ſuch compoſition fill up the interſtices of the fineſt lawn; or in the leaſt degree affect the moſt brilliant colours.

WATERSAY, one of the Hebrides, on the weſt coaſt of Scotland, about one mile ſouth from South Uiſt, from which it is ſeparated by a channel called Chiſamul Bay.

WATER-WORKS *(Encycl.)* In a communication to the Editor of the Philoſophical Magazine, Mr. Buchanan has juſtly obſerved, that there are many caſes in which it is of importance to know the proportion of power neceſſary to give different degrees of velocity to a mill. But as the conſtruction of mills, and the purpoſes they ſerve, are various, it is perhaps impoſſible to find any law of univerſal application. Mr. Banks, in his Treatiſe on Mills, pages 17, 18, 144, 145, 146, has drawn a concluſion, which he appears to conſider as invariable, namely, that 'when a wheel acts by gravity, its velocity will be as the cube root of the quantity of water it receives.'

"But," ſays Mr. Buchanan, "if we ſuppoſe a wheel raiſing water, by means of cranks and pumps, on Mr. Banks's principle, it might eaſily, I think, be demonſtrated, that, by reducing the velocity of the wheel to a certain degree, the wheel would raiſe more water than would be neceſſary to move it at that velocity; a thing evidently impoſſible.

"In this view, it would ſeem there is no actual caſe in which Mr. Banks's concluſions will hold true. But, however they may apply to other mills, the experiments which I am going to mention ſeem to me to prove, at leaſt, that they do not apply to cotton mills. On the ground of theſe experiments, made at different times, and with all the attention in my power (and not from any abſtract conſideration), have I preſumed to call in queſtion an authority for which I entertain the higheſt reſpect.

"In January 1796 I meaſured the quantity of water the old Rothesay cotton mill required, 1ſt, when going at its common velocity; and, 2dly, when going at half that velocity. The reſult was, that the laſt required juſt half the quantity of water which the firſt did. It is to be obſerved, that in theſe experiments the quantities of water were calculated from the heads of water and apertures of the ſluices.

"From theſe experiments I inferred, 'that the quantity of water neceſſary to be employed in giving different degrees of velocity to a cotton mill, muſt be nearly as that velocity.'

"I was ſatisfied with this experiment, and the inference I drew from it, till ſome gentlemen, well acquainted with the theory and practice of mechanics, expreſſed their doubts on the ſubject. I had then recourſe to another experiment, which I conſidered as leſs liable to error than the former.

"The water which drives the old cotton-mill, falls, a little below it, into a perpendicular-ſided pond, which ſerves as a dam for a corn-mill. To aſcertain, therefore, the proportional quantities of water uſed by the old mill, nothing more was neceſſary than to meaſure the time the water took to riſe to a certain height in that pond; and accordingly, on the 1ſt of May, 1793, I made the experiments noted in the following table:

1	2	3	4	Number of experiments.
46	46	24	23	Revolutions of one of the upright ſhafts per minute.
5	5	5	5	Riſe of water in the pond in inches
9.58	6.57	14.45	15.0	Time in minutes and ſeconds.

"The firſt and ſecond experiments were made with the mill at its common velocity; the third and fourth at nearly half that velocity.

"The time which the mill required to uſe the ſame quantity of water in theſe experiments may be taken in round numbers; the proper velocity at ſeven minutes, and half that velocity at fifteen minutes.

"The reſult of theſe experiments approaches very nearly to that of 1796. The difference may be accounted for by the ſmall degree of leakage which muſt have taken place at the ſluices on the lower end of the pond; and the time being greater in the third and fourth experiments, the leakage would, of courſe, be greater.

"Mr. Smeaton and others have proved, in a very ſatisfactory manner, that 'the mechanical power which muſt be employed in giving different degrees of velocity to the ſame body, muſt be as the ſquare of that velocity.' But it appears to me that the reſult of the above experiments may be eaſily reconciled to this propoſition by conſidering what Mr. Smeaton ſays immediately afterwards:—'If the converſe of this propoſition (ſays he) did not hold true, viz. that if a body in motion, on being ſtopped, would not produce a mechanical effect equal or proportional to the ſquare of its velocity, or to the mechanical power employed in producing it, the effect would not correſpond with its producing cauſe.' Now, it is to be obſerved, that Mr. Smeaton's experiments were made on the *velocity* of heavy bodies *free from friction* and *other cauſes of reſiſtance*; but in mills there is not only friction, but obſtacles to be removed: and experiments made on friction have proved that the frictions of many kinds of bodies increaſe in direct proportion to their velocity. But the velocity of a cotton-mill at work may be conſidered as a mechanical effect, and, if ſo, muſt correſpond with its producing cauſe."

The latest contrivance, within our knowledge, for facilitating the motion of machinery, is the *undershot water-wheel*, invented by the late Mr. Beſant, of Brompton; on whoſe widow the Society for the Encouragement of Arts, &c. in 1801, conferred a reward of ten guineas: and, as it promiſes to be of great ſervice in many ſituations, we have given a repreſentation of it, in Pl. 54.

Fig. 1. A, repreſents the body of the water-wheel, which is hollow, in the form of a drum, and is ſo conſtructed as to reſiſt the admiſſion of water. B, is the axis on which the wheel turns. C, the float-boards, placed on the periphery of the wheel, each of which is firmly fixed to its rim, and to the body of the drum, in an oblique direction. D, is the reſervoir, that contains the water. E, the pen-ſtock, for regulating the quantity of water which runs to the wheel. F, repreſents the current that has paſſed ſuch wheel.

Fig. 2, is a front view of the water-wheel, exhibiting the oblique direction in which the float-boards, C, are placed on the face of the wheel.

In the common water-wheels, more than half the quantity of that fluid paſſes from the gate through the wheel, without affording it any aſſiſtance: the action of the floats

is resisted by the incumbent atmosphere, at the moment when these leave the surface of the tail-water; and, as a similar proportion of water with that which passed between the floats at the head, necessarily flows between them at the tail, the motion of the wheel is greatly impeded. On the contrary, by Mr. Besant's contrivance, no water can pass, excepting that which acts with all its force on the extremity of the wheel; and, as the floats emerge from the water in an oblique direction, the weight of the atmosphere is thus prevented from taking any effect. Although his new wheel is considerably heavier than those constructed on the old plan, yet it revolves more easily on its axis; the water having a tendency to float it. Lastly, repeated experiments have proved Mr. Besant's wheel to be so decidedly superior, that, when working in deep tail-water, it will carry weights in the proportion of three to one; on which account it will be particularly serviceable to tide-mills.

A machine, which is constructed on the principle of Hiero's Fountain, forms the subject of a plate in Dr. Darwin's admirable work, entitled "*Phytologia:*" it is designed to raise water to a great perpendicular height, for the irrigation of land, in such situations as have the advantage of a small fall.

a b (Pl. 55.), is the stream of water; *b c c*, represents the water-fall, supposed to be ten feet; *d e*, are two leaden or iron vessels, containing a certain quantity of water, which may be computed to be about four gallons each; *f g h i k l*, are leaden vessels, each holding about two quarts; *o p*, two cocks, each of which passes through two pipes, opening the one and closing the other; *q r*, is a water-balance, that moves on its centre, *s*, and by which the two cocks, *o* and *p*, are alternately turned; *t u*, and *w x*, are two air-pipes of lead, both internally one inch and a quarter in diameter; *y z*, *y z*, *y z*, are water-pipes, each being one inch in diameter.

The pipe, *b c c*, is always full from the stream, *a b*; the small cisterns, *g i l*, and the large one, *d*, are supposed to have been previously filled with water. The fluid may then be admitted by turning the cock, *o*, through the pipe, *c e*, into the large cistern, *e*. This water, Dr. Darwin remarks, will press the air, confined in the cistern, *e*, up the air-pipe, *w x*, and will force the fluid out of the cisterns, *g i l*, into those marked *h k*, and C. At the same time, by opening B, the water and condensed air, which previously existed in the large cistern, *d*, and in the smaller ones, marked *f h k*, will be discharged at B. After a short time, the water-balance, *q r s*, will turn the cocks, and exclude the water, while it opens the opposite ones: the cisterns, *f h k*, are emptied in their turns by the condensed air from the cistern, *d*, as the water progressively enters the latter from the pipe, *b c*.

A curious machine, of which the figure, in Pl. 55. will convey an accurate idea, was executed at Oulton, in Cheshire, by Mr. Whitehurst, for the service of a brewhouse, and other offices, belonging to Philip Egerton, esq. Its design is, to raise water by the *momentum*, or force, which this fluid acquires when confined: it having effectually answered the purpose, we have been induced to give a description of its constituent parts, from the sixty-fifth volume of "The Philosophical Transactions of the Royal Society," for 1774.

A, represents the original reservoir, or spring; the upper surface of which corresponds with the horizontal line, B C, and also with the bottom of the reservoir, K. D, the main pipe, which is one inch and a half in diameter, and nearly two hundred yards in length. E, is a branch-pipe of similar dimensions, for the use of the kitchen-offices.—Mr. Whitehurst observes, that these offices are situated at eighteen or twenty feet, at the least, beneath the surface of the reservoir, A, and that the cock, F, is about sixteen feet below it. G, represents a valve-box; and *g* exhibits the valve. H, is an air-vessel; *o o*, represent the ends of the main pipe, which are inserted in the air-vessel, and are bent downwards, to prevent the air from being driven out, when the water is forced into it. W, denotes the surface of the water.

Mr. Whitehurst remarks, that, as water discharged from an aperture beneath a pressure of sixteen feet perpendicular height, moves at the rate of thirty-two feet in one second of time, its velocity from the cock, F, will be in a similar ratio. And, though the aperture of such cock be not nearly equal to the diameter of the pipe, D, yet the pressure of the fluid contained in the pipe will be very considerable: so that if a column of water, two hundred yards high, be thus set in motion, and then suddenly stopped by the cock, F, its great force will open the valve, *g*, and condense the air in the box, H. as often as the water is drawn from the cock. This condensation was sufficient to force the water into the reservoir, K, and even to burst the vessel, H, within a few months after its first construction; though it was made of sheet-lead, in the proportion of nine or ten pounds to one square foot, and was apparently very firm. Hence it may be rationally concluded, that the impetus of the water is far superior to the simple pressure of the column, I K, and is therefore equal to a greater resistance (if it were required) than a pressure of four or five feet perpendicular height.

This ingenious contrivance is now applied to a variety of machinery, by Mr. Boulton, of Soho, near Birmingham; who obtained a patent, in December, 1797, for an improved apparatus, and methods of raising water and other fluids. —Mr. Boulton has substituted valves for cocks, and manufactures the pipes of such materials as are calculated to prevent accidents from bursting.

WATFORD, a town in Hertfordshire, with a great corn-market on Tuesday. It is seated on the river Coln, seven miles S. by W. of St. Alban's, and 14 N.W. of London. Long. 0. 17. W. Lat. 51. 41. N.

WATLINGTON, a town in Oxfordshire, with a market on Saturday. It is seated on the Chiltern Hills, on a brook, which, with the continued ridge, divides the county from Buckinghamshire. It is 14 miles S.E. of Oxford, and 46 W. of London. Long. 1. 0. W. Lat. 51. 37. N.

WATTEN, a town of France, in the department of the North, seated on the river Aa, five miles from St. Omer.

WATTON, a town in Norfolk, with a market on Wednesday, 18 miles S.W. of Norwich, and 90 N.N.E. of London. Long. 0. 53. E. Lat. 52. 36. N.

WAVEREN, a town of the duchy of Brabant, situated on the Dyle, 12 miles S. of Louvain.

WAXHOLM, a fortress on the coast of Sweden, in the Baltic, situated on a small island at the entrance of the lake Malar, where all homeward-bound ships are searched. It is 16 miles E. of Stockholm.

WAYNESBOROUGH, a town of the state of Georgia, in the county of Burke, 30 miles S. of Augusta. Long. 82. 46. W. Lat. 33. 45. N.

WEAR, a river, which rises in the west part of the county of Durham, and divides it into two parts; flowing S.E. by Stanhope to Bishop Auckland, and thence N.E. by Durham to Sunderland, where it falls into the German Ocean.

WEARMOUTH, a village in Durham, on the N. side of the mouth of the river Wear, opposite Sunderland. It is also called Monk Wearmouth, having, before the dissolution, belonged to the monks. Here is an iron bridge over the Wear, of one arch, 236 feet span, erected in 1796, and the first ever constructed of parts so formed as to unite in the manner of key-stones.

WEARMOUTH, Bishop, a village in Durham, one mile S.W. of Sunderland. It has a manufacture of sail-cloth.

WEATHERSFIELD, a town of the United States, in Connecticut, noted for raising onions. It is five miles S. of Hartford.

WEDDENSCHWEIL, a town of Switzerland, in the canton of Zuric. Near it is a remarkable water-fall. It is seated on the W. side of the lake of Zuric, 10 miles S.E. of that city.

WEERT, a town of Dutch Brabant, taken by the French in 1794. It is 12 miles W. of Ruremonde. Long. 5. 38. E. Lat. 51. 7. N.

WEEVER, a river, which rises in the N. part of Shropshire, runs across Cheshire, and receiving the Dane from the E. enters the estuary of the Mersey. It is navigable to Winsford, some miles above Northwich in Cheshire.

WEGELEBEN, a town of Germany, in the circle of Lower Saxony, and county of Halberstadt: five miles N. of Quedlingburg, and four E. Halberstadt.

WEGGIS, a town of Switzerland, in the canton of Lucerne, and capital of a bailiwic, situated on the north side of the Lake of Lucerne: seven miles E. Lucerne.

WEIBSTADT, a town of Germany, in the bishopric of Spire, 20 miles S.E. of Heidelberg. Long. 9. 23. E. Lat. 49. 19. N.

WEICHTERBACH, a town in Germany, in Weteravia, and in the county of Isenberg, seated on the river Kintz, with a castle, where the count resides.

WEIDEN, a town of Germany, in the upper palatinate of Bavaria, seated on the Nab, 10 miles N.W. of Leuchstenberg. Long. 12. 10. E. Lat. 49. 34. N.

WEIGHTS *(Encycl.)*. Some account of these has been given under Measures *(Supp.)*; but the following, we have no doubt, will be acceptable to our readers.

The principal measure of length is the *metre*, which is equal to 39.404 English inches: it is multiplied by prefixing the Greek numeral adjectives to the word metre: thus, the *decametre* signifies 10 metres; *hectometre*, 8; *kilometre*, 1000; and *myriametre*, 10,000 metres. The measures below a metre are named in a similar manner; the Latin numeral adjectives being substituted for those of the Greek: hence, a *decimetre* denotes the tenth part; *centimetre*, the hundredth part; and *millimetre*, the thousandth part of a metre.

The standard measure of capacity is denominated a *litre*, which is equivalent to 61.1816 English cubic inches, or about 1 5-7ths of a pint, ale-measure, and 2 1-10th of a pint, wine-measure. Its multiplication and submultiplication are performed in a similar manner.

The *gramme* is adapted to weighing bodies, and is equal to 15.4457 English grains, troy weight. Its divisions and subdivisions correspond with those of the metre.

The French *are* is employed for measuring the superficies of land, and is equal to 1076 2-5ths square feet, or 119 3-5th square yards, or about one fortieth part of an acre.

Lastly, the *stere* is used in measuring wood for fuel: it is equal to 35.31467 cubic feet.

The following is a Comparative Table of the Unities of the French Metres, Litres, and Grammes, with their corresponding English Inches, Gallons, and Grains.

Fr. Meas.	Metres in English Inches.	Litres in English. Cubic Inches.	Ale Gall. 282 Inch.	Wine Gall. 231 Inch.	Grammes in English Grs Troy.
1	39.404	61.1816	0.21695	0.26485	15.4457
2	78.808	122.3632	0.43390	0.52970	30.8914
3	118.212	183.5448	0.65085	0.79455	46.3371
4	157.616	244.7264	0.86780	1.05940	61.7828
5	197.020	305.9080	1.08475	1.32425	77.2285
6	236.424	367.0896	1.30170	1.58910	92.6742
7	275.828	428.2712	1.51865	1.85395	108.1199
8	315.232	489.4528	1.73560	2.11880	123.5656
9	354.636	550.6344	1.95255	2.38365	139.0113
10	394.04	611.816	2.1695	2.6185	154.457
20	788.08	1223.632	4.3390	5.2970	308.914
30	1182.16	1835.448	6.5085	7.9455	463.371
40	1576.16	2447.264	8.6780	10.5940	617.828
50	1970.20	3059.080	10.8475	13.2425	772.285
60	2364.24	3670.896	13.0170	15.8910	926.742
70	2758.28	4282.712	15.1865	18.5395	1081.199
80	3152.32	4894.528	17.3560	21.1880	1235.656
90	3546.36	5506.344	19.5255	23.8365	1390.113
100	3940.4	6118.16	21.695	26.485	1544.57

From the table here given, the English weights and measures, corresponding with those used in France, may be easily ascertained, by multiplying the hundreds, and adding the tenths and units, as circumstances may direct; or, if the number be less than one hundred, by adding the units to the tens. After the number required is thus found, it may be reduced to English feet or inches, to quarts or pints, to pounds, ounces, drachms, or grains, by means of the common rules of arithmetic.

A more ample specification of these weights and measures is published in the third volume of Mr. Nicholson's Journal; and which is abstracted from a report published in 1799, at Paris, by authority of the French government.

WEIL, or Weyll, a free imperial town of Suabia, in the duchy of Wirtemburg. The inhabitants are Roman-catholics. It is seated on the Worm, 12 miles W. of Stutgard, and 20 N. of Tubingen. Long. 8. 50. E. Lat. 48. 46. N.

WEILBURG, a town of Germany, in the circle of Upper Rhine, and county of Nassau. It is seated on the Lohn, 22 miles N.E. of Nassau, 22 N.W. of Francfort, and 29 E. of Mentz. Long. 8. 26. E. Lat. 50. 18. N.

WEILHEIM, a town of Suabia, in the duchy of Wirtemburg, seated on the river Laurer.

WEILNAU, a town of Germany, in the circle of the Upper Rhine, and principality of Nassau Weilburg: thirteen miles S. Weilburg, and eighteen N.E. Mentz.

WEILTINGEN, a town of Germany, in the circle of Swabia, and duchy of Wurtemburg, on the Warnitz: forty miles S.W. Nuremburg, and fifty-four E.N.E. Stuttgart.

WEIMAR, a town of Upper Saxony, in Thuringia, with a magnificent castle, the residence of the Duke of Saxe-Weimar. It is seated on the Ilm, 20 miles N.E. of Erfurt, and 20 W.S.W. of Naumburg. Long. 11. 52. E. Lat. 51. 6. N.

WEINGARTIN, a town of Germany, in the palatinate

of the Rhine, ſeated on the Printza, four miles N.E. of Dourlach, and nine S. of Philipſburg. Long. 9. 30. E. Lat. 49. 5. N.

WEINHEIM, a town of Germany, in the palatinate of the Rhine, 10 miles N. of Heidelberg. Long. 8. 46. E. Lat. 49. 35. N.

WEISBADEN, a town of Germany, in the electorate of Mentz, where there are hot baths in high eſteem. It is eight miles N.E. of Mentz, and 13 W. of Francfort. Long. 8. 20 E. Lat. 49. 56. N.

WEISELMUNDE, a fortreſs of Weſtern Pruſſia, ſeated at the mouth of the Viſtula, below Dantzic, whoſe harbour it defends Long. 18. 40. E. Lat. 54. 24. N.

WEISSEMBURG, a town of France, in the department of Lower Rhine. Between this place and Lauterburg, are the famous lines from which the French drove the Auſtrians in 1744; and, in 1793, the Pruſſians drove the French from the ſame ſituation. It is ſeated on the Lauter, 10 miles S.W. of Landau, and 22 N.E. of Straſburg. Long. 8. 11. E. Lat. 48. 53. N.

WEISSEMBURG, a free imperial town of Franconia, in the biſhopric of Aichſtadt. The inhabitants are Proteſtants. It is ſeated on the Rednith, five miles N. of Pappenheim, and 30 S.W. of Nuremburg. Long. 11. 2. E. Lat. 49. 4. N.

WEISSEMBURG, a town of Germany, in the duchy of Saxony, 20 miles N. by W. of Wittemburg, and 20 N.E. of Deſſaw. Long. 12. 31. E. Lat. 52. 8. N.

WEISSEMBURG, or ALBA JULIA, a city of Tranſylvania, capital of a county of the ſame name, with a biſhop's ſee, and a univerſity. It is ſeated on the ſide of a hill, near the river Ompias, 35 miles W. of Hermanſtadt. Long. 24. 0. E. Lat. 46. 26. N.

WEISSEMBURG, or STUHLWEISSEMBURG, a town of Lower Hungary, ſeated at the W. end of the Platten Sea, 36 miles S.W. of Buda. Long. 18. 30. E. Lat. 47. 22. N.

WEISSENFELS, a town of Upper Saxony, in Miſnia, remarkable for a victory which the Swedes gained here over the Auſtrians. Above the town is a fine citadel, called Auguſtuburg, the reſidence of the Duke of Saxe-Weiſſenfels. It is ſeated on the Sala, 17 miles S.W. of Leipſic. Long. 12. 15. E. Lat. 51. 9. N.

WEILR, or WEDEL, a ſea-port of Denmark, in N. Jutland, ſituate on a bay in the Little Belt, 35 miles S.S.W. of Arhuſen, and 38 N.E. of Ripen. Long. 9. 30. E. Lat. 55. 45. N.

WEILTINGEN, a town of Suabia, in the duchy of Wirtemberg, ſituate on the Warnitz, 40 miles S.W. of Nuremberg, and 14 E.N.E. of Stutgard. Long. 10. 21. E. Lat. 48. 58. N.

WEINSBERG, a town of Suabia, in the duchy of Wirtemberg. The valley in which it is ſituate is famous for its wine. It is 25 miles N. of Stutgard. Long. 9. 15. E. Lat. 49. 15. N.

WELL (*Encycl.*). The following method of procuring water, in almoſt every ſituation, has lately been ſuggeſted by M. Cadet de Vaux.—He directs the ſoil to be perforated with a borer: a wooden pipe is then to be placed in the hole, and driven down with a mallet; after which the boring muſt be continued, in order that a pipe may be driven to a greater depth. As the auger becomes filled with earth, it ought to be drawn up, and emptied; ſo that, by the addition of freſh portions of the pipe, the boring is carried to a conſiderable extent under ground, and water is in moſt inſtances obtained. Wells, thus formed, are preferable to thoſe dug in the uſual manner; being leſs expenſive, while the ſupply of water is both copious and certain. Indeed, it often happens, in the common practice of digging for wells, that the workmen are obliged to fix the windlaſs, in order to prevent the ſprings from gaining on them: by this practice, a ſmall quantity of water is the neceſſary conſequence, and it is apt to fail during dry ſummers. Hence, M. de Vaux adviſes the earth to be perforated; a cylindrical pipe to be inſerted; and to ſearch for that element at a greater depth, in the manner before ſuggeſted —This method is ſtated to be very uſeful in camps, or fortreſſes; and, in caſe the fluid near the ſurface be neither ſufficiently ſweet, nor of a good quality, he ſuppoſes his expedient to be the beſt that can be adopted, for obtaining water of a purer kind, at a greater depth.—Further, when wells have, in large towns, been rendered unfit or uſeleſs, in conſequence of the ground having been tainted by privies, church-yards, &c. he very properly recommends ſuch reſervoirs to be emptied, and the bottom perforated in a ſimilar manner, ſo as to reach the lower ſheet of water; which, being thus contained within the cylindrical pipe, will riſe in a pure ſtate into the body of the pump fixed for this purpoſe.—For an account of the relative ſalubrity of *well-water*, the reader will revert to the article WATER.

If wells be diſuſed for a conſiderable time, the water generally becomes foul: the ambient atmoſphere is corrupted; and thus ariſe mephitic vapours which have often proved fatal to animal life. Hence it has been ſuggeſted, to employ a pair of ſmith's bellows and a tube; but as theſe are too bulky to be conveniently carried to any diſtance, and frequently cannot be procured on the ſpur of the occaſion, Mr. Salmon, of Canterbury, has invented the following apparatus, for diſperſing noxious air from wells.—We are induced to recommend this ingenious contrivance to the notice of our country readers; as it is not very expenſive, and will prevent many fatal accidents.

A, B, C, D, E, F (Plate 46.), repreſent ſix *lengths* of a metal pipe, each being eight feet long, and two inches in diameter: all theſe joints (except that marked F, which is made of copper, for the better ſupport of heat) are manufactured of tin-plate. G, is a tin-kettle, or veſſel (containing about two gallons), that is faſtened to the upper pipe F, and the ſides of which are perforated for the admiſſion of air, and conſequently for ſupporting the fire. This veſſel muſt be fixed in ſuch a direction as to have at leaſt five feet of the pipe above its top. H, is a conical cap, deſigned to confine the heat to the ſides of the tube.

When the machine is applied to the well, a wire muſt be paſſed through the holes *a*, *a*, in the upper part of the *length* A, and in the lower extremity of B, the joint ought to be luted with *oil-putty*, to render it air-tight; the upper end of each joint ſhould be covered with wire, to prevent it from bending; and to form a receptacle for the putty. The other lengths are then to be managed in a ſimilar manner, till that marked A, reach nearly to the ſurface of the water. The veſſel G, ought to be placed on two pieces of timber laid acroſs the well.

The apparatus, being now fixed, will ſpeedily be filled with the foul air extracted from the well: and as the gravity of the external and internal air is equal, they become ſtationary. Burning coal or wood muſt next be put into the kettle G; by which the copper tube, F, is heated; and, the internal air being rarefied, while the external air preſſes downward, the noxious vapours are gradually diſſipated; and a purer element is introduced into the well, whence it iſſues during the continuance of the fire.

Mr. Salmon remarks, that however ſmall the current of air paſſing out of the funnel or pipe, F, may appear, the effect is conſiderable; becauſe ſuch diſcharge conſiſts wholly of noxious vapour; whereas ten gallons of freſh air are probably

blown into the well, by means of the common bellows and leather pipe, before two gallons of mephitic vapour are removed. Such purification will be ſtill more effectual, if the fire-kettle G, be placed at D, when the internal air becomes more rarefied: it ought, however, to be remarked, that this advantage is over-balanced by the atmoſphere being rendered unfit for reſpiration, in conſequence of the ſuffocating properties of the charcoal.

In the year 1794, the Society for the Encouragement of Arts, &c. conferred their ſilver medal on George Butler, eſq. for his invention of a *bucket for drawing water from deep wells*. It conſiſts of a common barrel, the head of which is taken out: acroſs the top are fixed two thin bars of iron, having in the centre a ſmall piece of the ſame metal, which Mr. Butler terms a *ſtandard*. This is furniſhed with a collar, which has four moveable arms; and above it, there are a mortiſe containing a ſmall braſs pulley, and a loop to which the well-rope is ſecured: further, a cord is tied to one extremity of the collar, which, after paſſing over the pulley, communicates with a valve applied to the lower head of the veſſel.—The bucket, thus conſtructed, when let down into the well by a rope, is filled through ſuch valve; and, on being drawn up, the iron croſs above mentioned is preſſed againſt two parallel bars, ſo that the valve is opened, and the water diſcharged into a trough, or veſſel, prepared for its reception.—The principal advantage ariſing from this contrivance is, that the bucket is not only filled expeditiouſly, but it is alſo brought up ſteadily, ſo that no water is ſpilt; and, if any of it accidentally drop, it falls directly from the valve into the well, without wetting the deſcending rope, a circumſtance of conſiderable importance; for, by ſuch continual moiſture (which is neceſſarily occaſioned by the common buckets), it ſpeedily decays, while the veſſels are ſeldom drawn up completely filled.

The following method of procuring good water from wells, appears in the *Decade Philoſophique*, &c.

"If you wiſh the water of a well to be clear, and free from any diſagreeable taſte," ſays the writer, "the excavation ſhould be made conſiderably larger than is uſually done. If, for example, you wiſh to conſtruct a well five feet in diameter, the excavation ought to be from twelve to fifteen feet. A falſe well is made ten or twelve feet in diameter; in the middle of this large well the real well is conſtructed with a diameter of about five feet, but in ſuch a manner that the water may filter through the interſtices left between the ſtones, which form the outſide of the inner well: the falſe well is then filled with ſand and pebbles, ſo that the water muſt firſt filter through them before it reaches the real well. By this method you are ſure of having filtered water perfectly clear and fit to drink. This operation is rather expenſive, it is true; but the expence is amply compenſated by the advantage of having limpid and wholeſome water."

WELLAND, a river which riſes in Northamptonſhire, and ſeparates that county from Leiceſterſhire, Rutlandſhire, and Lincolnſhire; it paſſes by Market Harborough to Stamford, and is thence navigable to the Foſsdike waſh, which it enters below Spalding.

WELLINGBOROUGH, a town in Northamptonſhire, with a market on Wednesday. A fire happened here in 1738, which conſumed above 800 houſes. It is ſeated on the ſide of a hill, on the river Nen, 12 miles N.E. of Northampton, and 68 N. by W. of London. Long. 0. 59. W. Lat. 52. 16. N.

WELLINGTON, a town in Shropſhire, with a market on Thurſday, ſeated near Wrekin hill, 12 miles E. of Shrewſbury, and 152 N.W. of London. Long. 2. 30. W. Lat. 52. 40. N.

WELLINGTON, a town in Somerſetſhire, with a market on Thurſday, ſeated on the Tone, 15 miles N.E. of Exeter, and 147 W. by S. of London. Long 3. 25. W. Lat. 50. 57. N.

WELLS, a ſea-port in Norfolk, which has a large church, and a conſiderable corn trade. It is 27 miles N. of Swaffham, and 121 N.N.E. of London. Long. 1. 1. E. Lat. 53. 1. N.

WELLS, a town of the United States, in the diſtrict of Maine, ſituate on a bay of the ſame name, 20 miles S.W. of Portland, and 88 N.E. of Boſton. Long. 70. 32. W. Lat. 43. 20. N.

WELLS, a town of Upper Auſtria, ſeated on the Trawn, 18 miles S. of Lintz. Long. 13. 53. E. Lat. 48. 4. N.

WELSHPOOL, a town in Montgomeryſhire, with a market on Monday. It is the principal trading town in the county, being the great mart for Welſh cottons, flannels, &c. The caſtle, called Powis caſtle, is built of a reddiſh ſtone, and is a large ſtately ſtructure. It is ſeated in a rich vale, on the river Severn, nine miles N of Montgomery, 19 W. of Shrewſbury, and 169 N.W. of London. Long. 3. 5. W. Lat. 52. 33. N.

WEM, a town in Shropſhire, with a market on Thurſday, ſeated on the Roden, nine miles N. of Shrewſbury, and 164 N.W. of London. Long. 2. 40. W. Lat. 52. 10. N.

WENDLINGEN, a town of Suabia, in the duchy of Wirtemburg, ſituate on the Neckar, 12 miles S.E. of Stutgard, and 28 N.W. of Ulm. Long. 9. 18. E. Lat. 48. 38. N.

WENDOVER, a borough in Buckinghamſhire, with a market on Thurſday. It ſends two members to parliament, and is ſeven miles S.E. of Aileſbury, and 35 W. by N. of London. Long. 0. 35. W. Lat. 51. 46. N.

WENLOCK, a borough in Shropſhire, with a market on Monday. It ſends two members to parliament, and is twelve S.E. of Shrewſbury, and 147 N.W. of London. Long. 2. 30. W. Lat. 52. 36. N.

WENNER, the largeſt lake of Sweden, in W. Gothland, to the N.W. of the lake Wetter. It is 100 miles in length, and, in ſome places, 40 in breadth.

WENNERSBURG, a town of Sweden, in W. Gothland, which is the ſtaple for all the iron ſent from the province of Wermeland to Gotheborg. It is ſeated at the S.W. extremity of the lake Wenner, 15 miles E. of Uddevalla.

WENSYSSEL, a peninſula of Denmark, which makes the N. part of N. Jutland; bounded on the S. by the canal of Alburg, on the E. by the Categate, and on the N. and W. by the German Ocean.

WENSYSSEL, a town of Denmark, in N. Jutland, capital of a prefecture of the ſame name. It is ſeated on the Ryaa, 17 miles N.W. of Alburg. Long. 9. 40. E. Lat. 57. 4 N.

WEOBLY, an ancient borough in Herefordſhire, with a market on Tueſday. It ſends two members to parliament, and is eight miles N.W. of Hereford, and 141 W.N.W. of London. Long. 2. 41. W. Lat. 52. 9. N.

WERBEN, a town of Germany, in the old marche of Brandenburg, formerly a ſtrong paſſage on the river Elbe, but now all the fortifications are ruined. It is ſeated at the place where the Habel falls into the Elbe, 60 miles N.W. of Berlin. Long. 12. 12. E. Lat. 53. 5. N.

WERCHTERN, a town of Auſtrian Brabant, ſeated at the confluence of the Demer and Dyle, nine miles E. of Mechlin. Long. 4. 49. E. Lat. 51. 0. N.

WERDEN, a town of Weſtphalia, in the country of Marck, with an abbey. The inhabitants are Proteſtants, un-

der the protection of Pruſſia. It is ſeated on the Roer, 10 miles N.E. of Duſſeldorf, and 10 E. of Duiſburg. Long. 7. 1. E. Lat 51. 17. N.

WERDENBERG, a town of Switzerland, ſubject to the canton of Glarus, and capital of a county of the ſame name, which is ſeparated from the canton by the county of Sargans, and bounded on the S. by the Rhine. It has a ſtrong caſtle, the reſidence of the bailiff, ſeated on an eminence, commanding a beautiful proſpect It is 16 miles N.E. of Glarus. Long. 9. 25. E. Lat. 46. 58. N.

WERDENFELDS, a town and caſtle of Bavaria, which gives name to a county in the biſhopric of Freiſingen. It is 20 miles S. of Weilheim.

WERDOHL, a town of Weſtphalia, in the county of Marck, 31 miles N.E. of Cologne. Long. 7. 22. E. Lat. 51. 14. N.

WERFEN, a town and fortreſs of Bavaria, in the archbiſhopric of Saltzburgh, ſituate on the Saltza, 15 miles N.W. of Raſtadt.

WERLE, a town of Weſtphalia, in the biſhopric of Munſter, ſeated on the river Siſek, 30 miles S. of Munſter. Long. 7. 20. E. Lat. 51. 35. N.

WERMELAND, or WARMELAND, a province of Sweden, in W. Gothland, 100 miles long and 50 broad; bounded on the N. by Dalecarlia, on the E. by Weſtmania and Nericia, on the S. by the lakes Wenner and Dalia, and on the W. by the mountains of Norway, It is fertile, and diverſified by mountains, rocks, hills, and dales, clothed with foreſts of birch, poplar, mountain aſh, pine, and fir. It alſo abounds with lakes, which ſucceed each other almoſt without intermiſſion: they are from four to forty miles in circumference; ſome ſo narrow as to appear like broad rivers, and others of a circular ſhape; their ſhores, in ſome parts, ſteep and rocky; in others gently ſloping, and feathered with hanging wood to the margin of the water. Numerous rivulets flow from theſe lakes, and form, ſometimes, ſmall pictureſque cataracts. Carlſtadt is the capital.

WERN, a town of Weſtphalia, in the biſhopric of Munſter, with a monaſtery, ſeated near the Lippe, 28 miles S. by W. of Munſter. Long. 7. 30. E. Lat. 51. 35. N.

WERNIGERODE, a town of Upper Saxony, capital of a county of the ſame name, with a caſtle. The principal buſineſs of the town conſiſts in brewing, diſtilling, and manufactures of cloth and ſtuff. It is 10 miles W. of Halberſtadt, and 27 S.S.E. of Wolfenbuttle. Long. 11. 10. E. Lat. 52. 2. N.

WERTHEIM, a town of Franconia, capital of a county of the ſame name. It is ſeated at the confluence of the Tauber and Maine, 20 miles W. of Wurtzburg. Long. 9. 53. E. Lat. 49. 46. N.

WERWICK, a town of Auſtrian Flanders, taken by the French in 1793. It is ſeated on the Lis, eight miles S.E. of Ypres. Long. 2. 58. E. Lat. 50. 46. N.

WESEL, a town of Weſtphalia, in the duchy of Cleves, with a ſtrong citadel, near the confluence of the Rhine and Lippe. Here are two Calviniſt churches, one for the Lutherans, and another for the papiſts; but the regency of the town is in the hands of the Calviniſts. It was formerly an imperial and Hanſeatic town, but it now belongs to the King of Pruſſia. It was taken by the French in 1759, but reſtored in 1762. It is 25 miles S.E. of Cleves, and 45. N. of Cologne. Long. 6. 37. E. Lat. 51. 27. N.

WESEL, a town of Germany, in the archbiſhopric of Treves, 20 miles S. of Coblentz, and 46 E.N.E. of Treves. Long. 7. 30. E. Lat. 50. 4. N.

WESENBURGH, a fortified town of Ruſſia, in the government of Eſthonia, ſeated on the Wiſs, 55 miles S.E. of Revel, and 55 N.W. of Narva. Long. 25. 48. E. Lat. 59. 10. N.

WESER, a conſiderable river of Germany, which riſes in the county of Henneburg, being then called the Werra. It paſſes by Smalkald, croſſes a corner of Thuringia, enters the duchy of Brunſwick, and receives the Fulde at Munden. It then aſſumes the name of Weſer, runs along the confines of the circles of Weſtphalia and Lower Saxony, waters Hamelin, Minden, and Hoye; receives the Aller below Verden; and paſſing by Bremen, enters the German Ocean.

WESTBURY, a borough in Wiltſhire, with a market on Friday. It ſends two members to parliament, and is 26 miles N.W. of Saliſbury, and 101 W. of London. Long. 2. 13. W. Lat 51. 16. N.

WESTERHAM, a town in Kent, with a market on Wedneſday. It is the birth-place of Biſhop Hoadley and General Wolfe: the latter is interred in the church. It is ſeated on the river Darent (which riſes from nine ſprings near this town), 14 miles N.W. of Tunbridge, and 22 S.S.E. of London. Long. 0. 6. E. Lat. 51. 18. N.

WESTEROS, a town of Sweden, capital of Weſtmania, with a biſhop's ſee, a citadel, and a famous college. It carries on a conſiderable commerce with Stockholm, acroſs the lake Maeler; particularly in copper and iron from the neighbouring mines. Here are the ruins of an ancient palace, formerly inhabited by the kings of Sweden. The cathedral, built of brick, is celebrated for its tower, eſteemed the higheſt in the kingdom. In this cathedral is the tomb of the unfortunate Eric XIV. Weſteros is ſeated on the lake Maeler, 45 miles N.W. of Stockholm. Long. 17. 0. E. Lat. 59. 38. N.

WESTERBURG, a town of Germany, in Wetteravia, with a caſtle. It is the capital of a lordſhip of the ſame name, and 35 miles N. of Mentz. Long. 8. 18 E. Lat. 50. 26. N.

WESTERN TERRITORY, a country in North America, comprehending all that part of the United States which lies to the N.W. of the river Ohio. It is bounded on the W. by the Miſſiſippi, on the N. by the Lakes, on the E. by Pennſylvania, and on the S.E. and S. by the Ohio. It contains 11,000 ſquare miles, equal to 263,040,000 acres; from which, if we deduct 43,040,000 for water, there will remain 220,000,000 acres, belonging to the federal government, to be ſold for the diſcharge of the national debt. This country, which is intended to be divided into ſeveral new ſtates, is affirmed to be the moſt healthy and fertile ſpot in America, that is yet known to Europeans.

WESTERWICK, a ſea-port of Sweden, in Smoland, ſeated on the Baltic, 50 miles N. of Calmar, and 120 S.W. of Stockholm. Long. 16. 0. E. Lat. 57. 40. N.

WESTHOFEN, a town of Germany, in the palatinate of the Rhine, five miles N.N.W. of Worms, and 20 N.W. of Manheim.

WESTHOFEN, a town of France, in the department of Lower Rhine, 12 miles W. of Straſburg.

WESTMANIA, or WESTMANLAND, a province of Sweden Proper, between Sudermania, Geſtricia, Nericia, and Upland. It is 75 miles long and 45 broad, and abounds in copper and iron mines. The face of the country is diverſified like Wermeland. Weſteros is the capital.

WESTPORT, a ſea-port of Ireland, in the county of Mayo, ſeated at the mouth of a ſmall river, which runs into Clew-Bay, eight miles W. of Caſtlebar. Long. 9. 22. W. Lat. 13. 48. N.

WESTRA, one of the Orkney iſlands, eight miles long, and from one to three broad. The number of inhabitants is about 1,500. It is nine miles N.N.E. of Mainland.

WETHERBY, a town in the weſt riding of Yorkſhire, with a market on Thurſday, ſeated on the Wharf, 14 miles W. of York, and 177 N. by W. of London. Long. 1. 20. W. Lat. 53. 57. N.

WETTER, a lake of Sweden, in Gothland, S.E. of the lake Wenner. It is 100 miles from N. to S. and 25 from E. to W.

WETTING, a town of Lower Saxony, in the duchy of Magdeburg ſituate on the Saale, 34 miles S. of Magdeburg. Lon 11. 40 E. Lat. 11. 31 N.

WETTINGEN, a town of Switzerland, on the Limmat, one mile S. of Baden. Its wooden bridge is a beautiful piece of mechaniſm, 240 feet long, and ſuſpended 20 feet above the ſurface of the water. It is the laſt work of Grubenman, the ſelf-taught architect, and is far more elegant than his bridge at Schaffhauſſen.

WETZLAR, a free imperial town of Germany in Wetteravia, ſurrounded by ditches and walls flanked with towers. The inhabitants are Proteſtants, and have a council of 24 members. In 1693, the imperial chamber was transferred hither from Spire, on account of the wars which ravaged the palatinate. It is ſeated at the confluence of the Lahn, Diſle, and Dillen, five miles S. of Solms, and 78 N. by E. of Spire. Long. 8 32. E. Lat. 50. 26 N.

WEXIO, a ſea-port of Sweden, in Smoland, ſeated on a lake, which contains a group of woody iſlands. Though a biſhop's ſee, it is very ſmall, and the houſes moſtly of wood. It is 50 miles W. of Calmar and 155 S.W. of Stockholm. Long. 14. 57. E. Lat. 56. 51. N.

WEY, a river, which riſes in Hampſhire, flows through Surrey by Godalming and Guildford, and enters the Thames at Weybridge.

WEYMOUTH, a town in Dorſetſhire, incorporated with that of Melcomb-Regis, but a diſtinct borough. It is ſeated on the W. ſide of an inlet of the ſea: but its port is injured by the ſand, ſo that its trade, which was once conſiderable, is much reduced, a few ſhips only being ſent hence to Newfoundland. This decline is, in ſome degree, compenſated by the great reſort of perſons of all ranks, for the purpoſe of ſea-bathing, for which it is excellently fitted by its remarkable fine beach; and their majeſties and the royal family have often honoured it with their reſidence for many weeks. A few plain and ſtriped cottons are made here. Weymouth is 130 miles W.S.W. of London.

WHEAT (*Encycl.*). The following important obſervations on the ſmut in wheat, blights, and the manner in which plants are nouriſhed, by Sir John Call, bart. M.P. appear in the Communications to the Hon. Board of Agriculture.

"Having often reflected," ſays Sir John, "upon the nature of ſmut in wheat, and conſidered the various propoſitions and ſuggeſtions which had been made from time to time, for cleanſing the grain, ſo as to prevent its affecting the flour, as alſo to prevent the ſmut from being propagated into the ſeed wheat ſo affected, I was led to deliberate in my mind whether the ſmut was a diſorder, or diſeaſe, inherent in the ſeed, or an adventitious effect from the atmoſphere, or ſome animalcula depoſited in the ears of corn during their growth. In reaſoning on this ſubject, it occurred to me, that if the diſorder, or diſeaſe, called the ſmut, was inherent in, or latent in the ſeed grain, and that all ſuch grain, when ſown, would produce only ears full of ſmut; then, unleſs the diſorder could be cured by ſome previous application, there would be a riſk of having all the crops rendered abortive, where a remedy was not applied; or if, as ſome perſons had ſuppoſed, that the nature of the ſoil had contributed to produce the ſmut in wheat, then ſuch ſoil, unleſs it could be corrected, would become unfit for, or dangerous to tillage. To ſatisfy myſelf at leaſt how far the ſmut was a diſorder liable to be propagated by ſeed grain taken out of ſmutty ears, or other grain mixed up with, and rubbed in ſmut, I reſolved to make the following experiment.

"In the year 1797, when my men were threſhing out my wheat, I deſired them, as well as ſome of my neighbours, to ſave all the ears they met with affected with the ſmut; having collected all I could get, previous to the beginning of October, I found ſome ears wholly decayed, ſome with one, two, or more grains, apparently perfect, all which I cauſed to be rubbed out with the hand in a bag of paper, ſmut and all together; and after mixing and rubbing the grain in the ſmut, all I could get perfect out of ſmutty ears amounted to ſeventy-two grains, which were carefully dipped in, and marked in a ridge amongſt other wheat, in a field then under tillage. Their growth from the firſt was ſimilar to the reſt of the field. The certificate which I deliver herewith, and the ſpecimens of about ſixty ears, gathered from the produce of the ſeventy-two grains, among which are contained every ear that appeared diſcoloured, or was thought by the examiners to be tending to ſmut, will ſerve to corroborate my opinion; which, as I obſerved before, is, that certain animalcula are depoſited in the huſks which cover each grain, about the time the wheat is in bloſſom, which are fed and brought to perfection by devouring the juice, or milky ſubſtance which riſes at the root [*i. e.* the *root of each grain* in the huſk], and that if not intercepted would form a complete grain: inſtead of which, as in many other caſes of vegetation, the vegetable life, if I may ſo call it, is deſtroyed. And as a further proof that this is the caſe, and that the effect is not by the juices iſſuing from the earth, or riſing through the tubes of the ſtalk, I need notice no other effect, than, that ſome grains periſh and become ſmutty, while others flouriſh and become perfect in the ſame ear of corn; whereas, was the diſeaſe, which is ſuppoſed to occaſion the ſmut, radical in the original grain of ſeed wheat, or infectious from the juice ariſing through the pores and tube of the ſtalk, all the grains in each ear would be affected, or thoſe more particularly at the lower part; whereas the grains decayed are often found intermixed with others quite perfect, and diſperſed throughout the ear. I therefore truſt, that the prejudice conceived, that the ſmut in wheat is an inherent diſorder, will be relinquiſhed; or that another idea, that one kind of ground is more likely to produce ſmut than another, will be abandoned. I do not deny that a conſiderable degree of ſmutty wheat threſhed out, and the ſmut of it mixed with other purer grain, will injure and prejudice the white caſting of the flour, and that it may be neceſſary to waſh and cleanſe ſuch wheat, previous to its being ground, where the ſmut evidently prevails; but I think my opinion of the origin of ſuch ſmut is much ſtrengthened by its prevailing more in one year than in another, and that it ſeldom happens the ſame complaint is made by farmers in the two ſucceeding years, notwithſtanding there is no precaution taken, or remedy applied to the ſeed grain to prevent it; and with regard to my own experience, during twenty-nine years, I have neither mixed up my wheat with lime, nor ſteeped it in brine, nor waſhed it in any other liquid to prevent the growth of ſmut: nor do I believe any of my neighbours have made uſe of any ſuch precautions.

"Analogous to this idea which I have juſt endeavoured,

to explain, I am tempted, from obſervation, to hazard another reſpecting the bloſſoms and ſetting of young fruit, on fruit trees, but more particularly that of apple trees, in which a failure of fruit happens one, two, or three years together, and which is ſo detrimental to the produce of the orchards in Devon and Cornwall, that in the pariſh of Stoke Climſland, where I reſide, there have not been made, during the three laſt years, 500 hogſheads of cyder, whereas in a good bearing year there are uſually made from 1500 to 2000 hogſheads. This defect is generally aſcribed to froſty mornings, cold winds, and blights, particularly to the latter; and I am apt to believe that it is in, and from the latter, where the miſchief ariſes; not from any ſimple effect of the atmoſphere, but from the animalcula with which it is replete in ſuch fogs, and which are depoſited in the bloſſom, as in a nidus, and there brought to perfection by feeding on, and deſtroying the vegetable life by which they were originally nouriſhed. Hence it is, that bunches of young fruit, ſet, and grown as big as hazle nuts, fall off from the branches of the tree at the ſtem, which ſeem to be eaten off, and deprived of the reception or conveyance of all nouriſhment, and often crumpled up by a kind of web and dry leaves. To prevent the ſuppoſed effect of blight, cold wind, and hoar froſt, on wall-fruit, a net is often hung up before them, ſtuck full of dry fern, or other branches, to ſhelter the trees, without obſtructing the air; and others ſtick in among the fruit trees, branches of fir, to cover and protect the bloſſoms, both which modes probably have ſome good effect, by intercepting and preventing the animalcula from taking poſt in the bloſſoms, or attaching themſelves to the root of the young fruit.

"It is now three years that I have repeated the experiment of dibbling in, and ſowing ſome of the beſt ſeed wheat, and ſome of the moſt ſhrivelled grains, or tail part of the ſame wheat, after winnowing; and from the reſult of the experiments, I am ſatisfied that a gallon of ſhrivelled grains of wheat, retaining the power of vegetation, will produce a return of as good wheat in quality, and probably more in quantity, than a gallon of the fineſt grain of the ſame ſort that can be ſeparated by winnowing, or any other ſelection. The only advantage that I am diſpoſed to grant, to fair, clean, and well ſcreened ſeed wheat, is, that it will be more free from cockle, or any other extraneous ſeed, than the tail winnowings, or ſhrivelled ſeed, is likely to be; but on the other hand, a gallon of the ſhrivelled ſeed will contain three grains to two of the other, and probably will not be ſo much an object to be devoured by inſects, birds, and vermin, as the more plump and full grains are; hence if my hypotheſis is well founded, the advantage in favour of produce at the harveſt will be in the ſhrivelled grains.

"The concluſion which I am diſpoſed to draw from theſe experiments goes much beyond the advantage of converting the beſt kind of wheat, or other grain, to flour, and making uſe of an inferior ſort for ſeed. I have been led to conſider and revolve in my mind how far, and in what manner, any kind of manure contributes to the production of the crop: that it does ſo in the moſt eſſential manner, I do not entertain a doubt; but I differ from thoſe who think that any kind of manure mixed with the earth, riſes up through the roots, and forms any conſiderable part of the plant, fruit, or grain whatſoever: it may contribute to break the tenacity of the ſoil, to render it warm, open, and eaſy of perforation; ſo that the tender fibres and roots of any plant may find an eaſy paſſage and genial protection therein; but I conceive that all the nouriſhment and juices neceſſary for the growth of the plants, and formation of their fruits and ſeeds, isderived from the atmoſphere, that it enters and deſcends by the buds and heart of all vegetables, and the earth is only a protecting matrix to retain and ſupport all vegetable matter in a poſition to receive its nouriſhment. It is in forming, collecting, or attracting this nouriſhment, that manures are of ſuch importance to all kinds of vegetation, either by attracting and fixing the circulating atmoſphere, to hover over the earth where they are, ſo that the plants may imbibe what is proper for them; or by cauſing ſuch a fermentation, or ſecretion in the earth, that by the attraction of heat it ſhould throw up ſuch a ſpecies of food and nouriſhment as is moſt congenial to that kind of vegetation for which the earth is cultivated.

"I will not pretend to enter into a nice diſcuſſion of the cauſe and powerful effects of vegetation, or attempt to controvert any opinions which have been long held on the ſubject; all I deſire is, thattheideas I have thrown out may be favourably conſidered, or the experiments fairly repeated, and that I may be allowed to think that a large turnip, weighing five or ſix pounds, with a very ſtrong and large top, held only to the earth by a ſmall tap root, and a few little fibres; or that a cabbage weighing twenty or thirty pounds, ſtanding high on a ſmall ſtalk; were not wholly formed and grew to that ſize by moiſture or ſubſtance riſing through their roots out of the earth."

WHITCHURCH, a decayed borough in Hampſhire, with a market on Friday. It ſends two members to parliament, and is 24 miles E. by N. of Saliſbury, and 58 W. by S. of London. Long. 1. 10. W. Lat. 51. 15. N.

WHITCHURCH, a town in Shropſhire, with a market on Friday, 20 miles N. of Shrewſbury, and 161 N.W. of London. Long. 2. 40. W. Lat. 52. 0. N.

WHITEHORN, a royal burgh of Scotland, in Wigtonſhire, governed by a provoſt. It is a place of great antiquity, and ſaid to have been the firſt biſhop's ſee in Scotland. It is eight miles S. of Wigton.

WHITEHORN, an iſland of Scotland, near the S.E. coaſt of the county of Wigton. Long. 4. 20. W. Lat. 54. 46. N.

WHITE MOUNTAINS, the higheſt part of a ridge of mountains, in the ſtate of New Hampſhire, in North America. They extend N.E. and S.W.; and their height above an adjacent meadow, is 5500 feet; and the meadow is 3500 feet above the level of the ſea. The ſnow and ice cover them nine or ten months in the year; and during that time they exhibit the bright appearance from which they are denominated the White Mountains. Although they are ſeventy miles inland, they are ſeen many leagues off at ſea, and appear like an exceedingly bright cloud in the horizon. Their higheſt ſummit is in lat. 44° N.

WHITE-WASHING, a cheap kind of colouring of fair white given to brick or plaſtered walls by waſhing them over with a ſolution of quick-lime. The proceſs is the ſimpleſt imaginable. Some lumps of quicklime are plunged into a bucket of cold water, and ſtirred about till they are diſſolved and mixed, after which a bruſh with a large head, and a long handle to reach the ceiling of the room, is uſed to ſpread it thinly on the walls, &c. When dry it is beautifully white, but its *known cheapneſs* has induced the plaſterers to ſubſtitute a mixture of glue ſize and whitening for the houſes of their opulent cuſtomers; and this, when once uſed, precludes the employment of *lime-waſhing* ever after; for the latter, when laid on whitening, becomes yellow.

White-waſhing is an admirable means of rendering the dwellings of the poor clean and wholeſeme, as will be evident from the following account of the expence and benefit of frequently white-waſhing the rooms of a poor-houſe, by Wm. Emm, eſq. publiſhed by the Society for Bettering the Condition of the Poor.

" The poor-houſe of Biſhop Auckland has been, during the preceding ſummers," ſays the account, " white-waſhed every ſix weeks. The method of preparing the lime (which is rock or ſtone-lime from Coxhoe, about ten miles from Auckland, and coſts, including carriage, four pence a buſhel) is as follows:—a large tub is procured to ſlake it in, and this is filled with lime nearly to the top, cold water being poured upon it by degrees, and it being ſtirred with a ſtick that is broad at one end, until the tub is filled with lime: when the lime and water are well incorporated, and of the conſiſtence of mud, it is to be taken out of the tub with a wooden ſcoop, and ſtrained through a hair or fine wire ſieve into another veſſel, where it ſettles to the bottom in a ſolid maſs of white-waſh. There will be ſome water at the top, not imbibed by the lime; this ſhould be ſkimmed off. It is then to be mixed with cold water, till it is of the conſiſtence of thin paint, being ſtirred occaſionally while it is uſing. In this ſtate it is laid on with a whitening bruſh by the man and his wife who have the care of the houſe.

" The quantity uſed for white-waſhing the fifteen rooms at Aukland poor-houſe, is half a buſhel, which coſts two pence; the expence of the four white-waſhings being, in the whole, not quite *eight pence a-year*. This trifling expenditure has produced a very great benefit to the poor in the work-houſe, to thoſe who viſit it, and indeed to the pariſh in general, that is not eaſily to be calculated.—I have the pleaſure of being able to ſay, that there is neither diſeaſe nor vermin in our poor-houſe at preſent; but that the inhabitants are very comfortable and happy.

" It would be well for the inhabitants of cottages, as well as poor-houſes, if the cuſtom of very frequently white-waſhing them were prevalent throughout the kingdom. Clean white-waſhed walls not only contribute to prevent the exiſtence of vermin, but induce habits of cleanlineſs in thoſe who reſide within them. It was obſerved by the late Mr. Howard, in his work on Lazarettos, that in the cottages on his eſtate in Bedfordſhire, which had been made comfortable, ' *and white-waſhed both within and without*, the very ſame families, which were before ſlovenly and dirty, had upon this change of habitation, become neat in their perſons, their houſes, and their gardens.'

" When it is generally known that the four white-waſhings of Auckland poor-houſe have produced the moſt beneficial effects, and have coſt only a little trouble, and *the ſum of eight pence a-year*, I flatter myſelf that there will be very few poor-houſes in England * which will not be frequently white-waſhed.—The price and quality of lime is very different in different parts of the kingdom. In London, and in ſome other places, it is as high as a ſhilling a buſhel, and the lime chiefly in uſe is chalk lime, which does not anſwer ſo well as ſtone lime. The difficulty and expence, however, of obtaining the beſt ſtone lime, for this purpoſe, in any part of the kingdom, muſt be too inconſiderable to prevent its general uſe, if moſt approved of. In the neighbourhood of Manchester, a horſe load of lime, which is ſufficient to white-waſh about a dozen cottages, coſts fourteen pence; which for each cottage would be two pence halfpenny a year, ſuppoſing them regularly white-waſhed in ſpring and autumn. In ſome places the expence may be increaſed, perhaps as high as a ſhilling a cottage; but, as a general average for each cottage, two pence or three pence a year, expended by the landlord or the pariſh, in ſupplying the cottager with the materials for white-waſhing his cottage, would wonderfully contribute to the cleanlineſs and health of the poor throughout the kingdom.

" If the lime-waſh is prepared with lime already ſlaked, it may, in many inſtances, require ſize to be mixed with it; but if the *quick lime* is uſed, and in the metropolis, and in moſt towns, it may be obtained at all times in the ſmalleſt quantities, it will not be neceſſary to mix ſize with it; and the good effects of the white waſhing in deſtroying vermin and removing infection will be much increaſed. The ſooner, indeed, the lime is uſed after it is ſlaked, the better; eſpecially if there is any apprehenſion of infection in the houſe. In that caſe, it is proper that the walls ſhould be frequently waſhed with quick lime, freſh ſlaked in water, and put on while it continues bubbling and hot, as is the practice of the Houſe of Recovery at Manchester.

" I ſuppoſe the maſter of the poor-houſe to do the work himſelf. If a workman is employed to put it on, the additional expence would be about 6d. a room, which for the fifteen rooms would be 7s. 6d. a time, or 1l. 10s. a-year.—If indeed the overſeer's brother or nephew is to be employed in the *job* by the yard, the increaſe of expence would be very conſiderable: and might, inſtead of eighteen pence a-year, amount to an annual expenditure of ſeveral pounds, and the coſt prove almoſt equal to the benefit of the work being done."

WHITTLEBURY FOREST, a foreſt in the S. part of Northamptonſhire, nine miles in length, and, in ſome parts, above three in breadth. Here the wild cat is ſtill found. In

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* The penitentiary houſe in Cold-Bath Fields was white-waſhed in 1796. The charge for the work was fairly made, according to the ordinary courſe of trade, and amounted to *one hundred and one pounds*. In 1797 it was white-waſhed again; the materials were bought, and a priſoner in the houſe employed in the work; which, as far as one could judge, was extremely well done: the expence of the materials was 1l. 7s. 6d.; the donation to the man for his trouble 2l. 12s. 6d.; in all four pounds.—In the Foundling Hoſpital, they have tried the experiment of white-waſhing ſome of the rooms. The greater kitchen is thirty-four feet by twenty-one, and twelve high; and the leſſer kitchen, is twenty-one feet by ſeventeen; both of them arched, and containing a great deal of extra work: the materials, for white-waſhing both of them twice, coſt 3s. Of the girls' dining-room over it, being 102 feet long by twenty-four feet wide, and twelve feet high; the expence of the materials, for white-waſhing the ceiling and cornice, and colouring of a ſtraw colour that part of the ſides of the room which was ſtucco, was 4s. 10d.: the workmanſhip, 5s. The two wards above this floor are, one of them 129 feet long by twenty-four feet wide, and twelve feet high, and the other 111 feet long by eighteen wide, and twelve feet high; all plain walls, without dado or ſurbaſe: the expence of white-waſhing the ceilings and cornice of both of theſe, and colouring the ſides of the rooms, was, for the materials, 16s.; for the workmanſhip, 24s. In both inſtances ſize was uſed; which is included in the account, and was neceſſary, becauſe the walls were not new plaſtered walls, but had been ſo white-waſhed or coloured before.—When it is known at how ſmall a price the benefit of white-waſhing may be attained in poor-houſes, and other public buildings, we truſt the conductors of them will take care that they do not want thoſe means of preventing vermin, filth, and infection among them.

1685, the firſt Duke of Grafton was appointed hereditary ranger of this foreſt, in which the preſent duke has a fine ſeat, called Wakefield Lodge.

WIBLINGEN, a town of Auſtrian Suabia, where is a Benedictine abbey. It is ſeated near the confluence of the Iller and Danube, three miles S.S.W. of Ulm.

WIBURG, a government of Ruſſia, formerly Ruſſia Finland, and compriſed in Carelia. It was ceded by the Swedes to the Ruſſians, partly by the peace of Nyſtadth in 1721, and partly by the treaty of Abo in 1743. Beſide paſtures, the country produces rye, oats, and barley, but not ſufficient for the inhabitants. It retains its own civil and criminal courts of juſtice: in general caſes, not capital, the puniſhments preſcribed by the provincial judicature are inflicted; but whenever a criminal is condemned to death, the Ruſſian laws interpoſe, and reprieving him from the ſentence of beheading or hanging, as enjoined by the Swediſh code, conſign him to the knoot and tranſportation to Siberia. In the governor's court, buſineſs is tranſacted in the Swediſh, German, and Ruſſian tongues. The peaſants talk only the Finniſh dialect; but the inhabitants of the towns underſtand Swediſh alſo, and many of them German. Lutheraniſm is the eſtabliſhed religion; but the Greek worſhip has been introduced by the Ruſſians.

Wiburg, a commercial ſea-port of Ruſſia, capital of a government of the ſame name, with a biſhop's ſee, and a ſtrong citadel, It contains about 9000 inhabitants. A few houſes are conſtructed with brick; but the greateſt part are of wood. It is ſeated on the N.E. point of the gulf of Finland, 110 miles N.N.W. of Peterſburg, and 250 N.E. of Riga. Long. 29. 10. E. Lat. 60. 56. N.

WICK, a borough and ſea-port in Caithneſsſhire, ſeated on an inlet of the German ocean, S. of Noſe Head. Long. 3. 2. W. Lat. 58. 30. N.

Wick, a fortified town of Dutch Limburg, ſeated on the Maeſe, oppoſite Maeſtricht, with which it communicates by a bridge. Long. 5. 41. E. Lat. 50. 52. N.

WICK-BY-DUERSTEDE, a town of the United Provinces, in Utrecht, with a ſtrong caſtle. It is ſeated at the place where the Leck branches off from the Rhine, nine miles W. of Rhenen, and 15 S.E. of Utrecht. Long. 5. 22. E. Lat. 52. 0. N.

WICKWARE, a corporate town in Glouceſterſhire, governed by a mayor, with a market on Monday. It is 17 miles N.E. of Briſtol, and 111 W. of London. Long. 2. 16. W. Lat. 51. 36. N.

WIDDIN, a fortified town of Turkey in Europe, with an archbiſhop's ſee. It has often been taken and retaken by the Turks and Auſtrians. It is the ſeat of the government of the pacha, Paſwan Oglou, who was lately, for ſeveral years, in open rebellion againſt the Porte, and repeatedly defeated all the Turkiſh forces ſent againſt him, till at length the Porte thought proper to conclude a treaty with him almoſt on his own terms. Widden is ſeated on the Danube, 88 miles N.E. of Niſſa, and 150 S.E. of Belgrade. Long. 24. 27. E. Lat. 44. 12. N.

WIED, a ſmall principality of Germany, in the circle of Upper Rhine. The capital is Neuwied.

WIEDENBRUCK, a town of Weſtphalia, in the biſhopric of Oſnaburg, 32 miles S.S.E. of Oſnaburg. Long. 7. 50. E. Lat. 51. 48. N.

WIELUN, a town of Great Poland, in the palatinate of Siradia. It was ruined by the Swedes in 1656, but has been ſince rebuilt, and has a good caſtle. It is ſeated on a river which falls into the Warta, 20 miles S. of Siradia. Long. 18. 55. E. Lat. 51. 12. N.

WIELITSKA, a village of Poland, lately included in the palatinate of Cracow, but now compriſed in the Auſtrian kingdom of Lodomeria. It is celebrated for its ſalt-mines, which lie eight miles S.E. of Cracow. In theſe inexhauſtible mines, are ſeveral ſmall chapels excavated in the ſalt, in which maſs is ſaid on certain days of the year. One of theſe chapels is 30 feet long and 25 broad; the altar, crucifix, ſtatues, and ornaments, all carved out of the ſalt. Theſe mines are of a moſt ſtupendous extent and depth, and perfectly dry. There is, however, one ſmall ſpring of water, which is impregnated with ſalt, as it runs through the mine. Theſe mines have been worked above 600 years. Before the partition of Poland, in 1772, they furniſhed a conſiderable part of the revenue of the king, who drew from them an average profit of about 97,000l. ſterling.

WIESENTEIG, a town of Suabia, capital of a lordſhip of the ſame name. It is 16 miles N.W. of Ulm, and 25 S. of Stutgard. Long. 10. 2. E. Lat. 48. 35. N.

WIGAN, a borough in Lancaſhire, with a market on Monday and Friday. It is governed by a mayor, and ſends two members to parliament. Here the ſtrongeſt checks are made, and other articles of linen and cotton manufacture. That elegant ſpecies of coal, called Cannel, is found in plenty and great perfection in the neighbourhood. The river Douglas is made navigable hence to the Ribble; and it is joined by a canal from Liverpool. Wigan is 30 miles S. of Lancaſter, and 196 N.N.W. of London. Long. 2. 50. E. Lat. 53. 34. N.

WIGHTON, a town in the E. riding of Yorkſhire, with a market on Wedneſday, ſeated at the ſource of the Skelſler, 16 miles S.E. of York, and 192 N. by W. of London. Long. 0. 40. W. Lat. 53. 52. N.

WIGTON, a town in Cumberland, with a market on Tueſday, ſeated among the moors, 12 miles S.W. of Carliſle, and 304 N.N.W. of London. Long. 3. 4. W. Lat. 54. 50. N.

Wigton, a borough and ſea-port, the county-town of Wigtonſhire. On the S. ſide are the veſtiges of an ancient caſtle, and to the N.E. is a great moraſs, called the Moſs of Cree. It is ſituate on a hill, which overlooks the bay of Wigton, 95 miles S.W. of Edinburgh. Long. 4. 43. W. Lat. 55. 0. N.

WIGTONSHIRE, a county of Scotland, ſometimes called Upper, or West Galloway; bounded on the N. by Ayrſhire, on the E. by Kircudbrightſhire, and on the S. and W. by the Iriſh Sea. Its greateſt extent, in any direction, does not exceed 30 miles. The N. part, called the Moors, is naked and mountainous. Great numbers of ſheep and black cattle are raiſed here; and they have a ſmall breed of horſes peculiar to this country: they are called galloways, and are very ſtrong and gentle.

WIHITSCH, a frontier town of Turkey in Europe, in Coſnia, ſeated on a lake formed by the river Unna, 40 miles S.E. of Carlſtadt. Long. 16. 10. E. Lat. 45. 34. N.

WILDBAD, a town of Suabia, in the duchy of Wirtemburg, celebrated for its warm baths, 24 miles W. of Stutgard, and 30 N.E. of Straſburg. Long. 8. 35. E. Lat. 48. 43. N.

WILDBERG, a town of Suabia, in the duchy of Wirtemburg, ſituate on the Nagold, 19 miles S.W. of Stutgard. Long. 8. 38. E. Lat. 48. 33. N.

WILDEHAUSEN, a town of Weſtphalia, capital of a ſmall bailiwic, united to the duchy of Bremen. It is ſeated on the Hunde, 18 miles S.W. of Bremen. Long. 8. 27. E. Lat. 52. 55. N.

WILKESBOROUGH, a town of Pennſylvania, capital of the county of Luzerne. It is ſituate on the N. branch of

the Suſquehannah, 118 miles N.W. of Philadelphia. Long. 75. 59. W. Lat. 41. 13. N.

WILKOMIER, a town of Lithuania, in the palatinate of Wilna, ſeated on the Sweita, 45 miles N.W. of Wilna. Long. 24. 54. E. Lat. 55. 19. N.

WILLIS' ISLAND, a rocky iſland at the N. end of the iſland of Southern Georgia. It was diſcovered in 1775, and contained the neſts of many thouſand ſhags. Long. 38. 29. W. Lat. 54. 0. S.

WILLISAW, a town of Switzerland, in the canton of Lucern, ſeated among high mountains, on the river Wiger, 25 miles N.W. of Lucern.

WILMANSTRAND, a town of Ruſſia, in the government of Wiburg. In 1741, an obſtinate battle was fought about a mile from this town, between 3,000 Swedes and 16,000 Ruſſians; but, at laſt, the former were obliged to yield to ſuperiority of number. It is ſeated on the S. ſide of the lake Saima, 40 miles N.N.W. of Wiburg, and 100 N.N.W. of Peterſburg. Long. 27. 54. E. Lat. 61. 20. N.

WILMINGTON, the largeſt town of the ſtate of Delaware, ſituate on Chriſtiana Creek, near two miles W. of the river Delaware, and 28 of Philadelphia.

WILMINGTON, a town of N. Carolina, ſituate on the E. ſide of the E. branch of Cape Fear River, 34 miles N. of Cape Fear, and 85 S.W. of Newburn.

WILNA, a commercial city of Lithuania, in a palatinate of the ſame name, with a biſhop's ſee, an univerſity, an ancient caſtle, and a palace. The houſes are all built of wood. It was taken by the Ruſſians in 1794; and is ſeated at the confluence of the Villa and Wilna, 15 miles E. of Troki, and 215 N.E. of Warſaw. Long. 25. 39. E. Lat. 54. 38. N.

WILSDRUF, or WILSDORF, a town of Upper Saxony, in the margravate of Meiſſen, nine miles W. of Dreſden, and 9 S. of Meiſſen. Long. 13. 28. E. Lat. 51. 5. N.

WILSHOVEN, a town of Germany, in Bavaria, ſeated at the confluence of the Wils and Danube, 30 miles N.W. of Paſſau.

WILSNACH, a town of Germany, in the margravate of Brandenburg, ſeated on a rivulet that falls not far from it into the Elbe.

WIMMIS, a town of Switzerland, in the canton of Bern, ſeated on the Sibnen, 18 miles S. of Bern. Long. 7. 8. E. Lat. 46. 34. N.

WIMPFEN, a free imperial town of Suabia, ſeated on the Neckar, eight miles N. of Hailbron, and 22 E. of Heidelberg. Long. 9. 25. E. Lat. 49. 20. N.

WINBORN, or WINBORN MINSTER, a town in Dorſetſhire, with a market on Friday. It had a monaſtery, in which were interred the Weſt Saxon kings Etheldred and Sigeforth, and Queen Ethelburga. Its noble church, called the Minſter, was formerly collegiate. It is ſeated between the Stour and Allen, ſix miles N. of Poole, and 102 S.W. of London. Long. 2. 1 W. Lat. 50. 47. N.

WINCAUNTON, a town in Somerſetſhire, with a market on Wedneſday, ſeated on the ſide of a hill, 24 miles S. of Bath, and 100 W. by S. of London. Long. 2. 18. W. Lat. 51. 1. N.

WINCHCOMB, a town in Glouceſterſhire, with a market on Saturday. It was formerly noted for its abbey, whoſe mitred abbot ſat in parliament. It is ſeated in a deep bottom, 16 miles N.E. of Glouceſter, and 93 W.N.W. of London. Long. 2. 0. W. Lat. 51. 55. N.

WINCHENDON, a town of the United States, in Maſſachuſets. In October 1795 it ſuffered conſiderable damage by a dreadful tornado. It is ſituate on Miller's River, 60 miles N.W. of Boſton.

WINDAW, a town of the duchy of Courland, with a caſtle, and a harbour at the mouth of the Wetaw, in the Baltic, 70 miles N.W. of Mittaw, and 100 N. of Memel. Long. 22. 5. E. Lat. 57. 20. N.

WINDERMERE-WATER, or WINANDER-MERE, the moſt extenſive lake in England, lying between Weſtmoreland and Lancaſhire. It extends 10 miles from N. to S. but in no part broader than a mile; and exhibits a greater variety of fine landſcapes than any lake in England. It is famous for its fine char, and abounds alſo with trout, perch, pike, and eel. It has a communication on the W. with Eſtwaite-water; and its principal feeders are the rivers Rothay and Brathay. This lake is frequently interſected by promontories, and ſpotted with iſlands. Among theſe, the Holme, or Great Iſland, an oblong tract of 30 acres, croſſes the lake in an oblique line ſurrounded by a number of inferior iſles, finely wooded. Not one bulruſh, or ſwampy reed, defiles the margin of this lake.

WINDHAM, a town of the ſtate of Connecticut, capital of a county of the ſame name. It is ſeated on the Shetucket, 31 miles E. of Hartford.

WINDISMERK, a territory of Germany, forming the E. part of Carniola. Metling is the capital.

WINDLINGEN, a town of Suabia in the duchy of Wirtemburg, ſeated on the Neckar, 12 miles from Stutgard.

WIND-MILL *(Encycl.)*. As wind-mills eſſentially contribute to agricultural and domeſtic convenience, we preſent our readers with a delineation of a ſpecimen of thoſe employed in the vicinity of Lisbon; becauſe the conſtruction of their ſails is in ſome reſpects different from, and, in the opinion of Lord Somerville, ſuperior to, thoſe uſed in Britain (ſee Pl. 56).

The advantages of mills on this conſtruction are ſtated by his lordſhip to be the following: 1. That the broad part of the ſail is at the end of the lever, or branch, and thus an equal reſiſtance may be overcome with leſs length of branches, or arms. Theſe being conſequently ſhortened a conſiderable weight of timber will be rendered unneceſſary, and a material ſaving of expence be obtained, in the height, prime coſt, and ſubſequent repairs of the mill. 2. The ſails, conſtructed on the plan above repreſented, may be *ſet* to draw in a manner ſimilar to the *ſtay-ſails* of a ſhip; and, as they are ſwelled more than thoſe of common mills, Lord S. remarks, that they will render it unneceſſary to bring the mill ſo frequently to the wind; a practice which, in machines of the uſual conſtruction, is always attended with conſiderable trouble.

Pariſh WIND-MILL, a mill of the common kind, thus called becauſe it is employed, under the inſpection of benevolent individuals, ſolely for the advantage of the poor in the *pariſh*, in times of ſcarcity. The following excellent examples are taken from the Reports of the Society for bettering the Condition of the Poor.

The ſcarcity of wheat in the ſummer of 1795, led many of the inhabitants of Chiſlehurſt into a wiſh, that they might have a mill on their common, under ſuch regulations that each perſon might be certain of having his own corn fairly ground, and returned to him in due meaſure, and of its being dreſſed to ſuch a degree of fineneſs as he ſhould chooſe; or that he might be able to purchaſe, at a fair price, ſuch kind of flour, mixed or unmixed, as he wiſhed.

The building of one at the expence of the pariſh was there firſt thought. But they were diſſuaded from that, by its being pointed out to them, that ſuch an expence would fall very heavy upon many perſons, who could already barely ſupport the weight of the preſent rates. For, whether the principal were to be raiſed upon the pariſh in the firſt inſtance, or the money to be obtained by granting life annuities

out of the rates, which last requires a special authority, in either case it would be felt as a very great burthen. It was therefore proposed to the parishioners, that if they would give their consent to the granting of a part of the common for that purpose, a set of ladies and gentlemen (the number of them being at last settled to be ten) would undertake the whole at their own expence, and build a parish mill. Two particular days in each week should be allotted to the working for the poor; or for such persons as should bring but small quantities of corn to be ground: the person who brought it should be allowed, if he chose, to stay and see it ground; and, after having it dressed just as he might choose, should take it away with him, upon paying in ready money 4*d.* per bushel for the grinding, and 2*d.* for the dressing, where it should be dressed: but that on other days, or when there was no grist-work sent in, the mill might be worked for the benefit of the proprietors; or it might be let by them to a tenant, under the same restrictions.—On these conditions the ground was granted: and on the failure of the conditions, it was agreed that it should be forfeited, and revert to the parish.

The original idea of the proprietors was to erect a mill, such as had been built a few years before on Dartford Brent. The basement of brick, the mill itself of timber, with the head alone turning to the wind. The cost of that at Dartford was said to have been 800*l.* The sum of 200*l.* more was intended to be added for a house for the miller; the shares being estimated at 100*l.* to each proprietor. Mr. John Hall of Dartford, who had been employed in the mill at that place, was consulted: and at last it was agreed that he should build that at Chislehurst. No precise terms were drawn up in writing concerning it. He offered to undertake it for 1000*l.*; or to build it as should be directed, and to be paid by measure and value when it was completed. The last proposal was preferred.

Orders were given to him accordingly; and he promised to lay the foundation early in the spring of 1796: and in the mean time to prepare every thing in forwardness, so as for the mill to work by the Michaelmas following.

The foundation was laid as had been proposed, and the outer frame was erected early in the summer of 1796: but the mill cannot be said to have worked till the end of April 1797; nor was it completed till September in that year.

In the mean time a neat miller's house was finished; and about 2 acres of land inclosed for his use. The work certainly appears to be well executed. The mill carries 3 pair of stones. Two pair of French ones for wheat; and one bed-stone, French, with a runner of Peak-stone, for barley, or hogs' meat. There is also a machine for dressing the meal; in which the revolution of the brushes is easily reversed, for their preservation; as also a boulting machine for cloths of any kind. The mill itself draws up the sacks, and sets them down on any of the floors. The wind-shaft, and the cross, are of cast-iron. The head turns itself into the wind, by a fan-tail and rack work. The cap is a hemisphere very curiously formed, both for beauty, and for keeping out the weather, by means of bent planks. The weather boarding of the mill itself is also unusually good; every part being covered doubly. The joints at each angle (for the body of the mill is octagonal) are covered with sheet lead: which helps to form part of a metallic communication from the top to the earth, as a security against lightning.

The mill carries 3 pair of stones. But the wind seldom serves for working them all together; especially when the dressing machines are at work too. Yet it is reported that the proprietors of the Barham mill, which has but 2 pair of stones, wish their mill had been upon a larger scale. If that be really the case, it may deserve consideration, whenever a parish mill is undertaken, whether a mill of an intermediate size may not upon the whole be more advisable.

The design of the proprietors in erecting the mill, never was to undersell the fair dealer in any respect; or to let even the poor have their meal at a price below the market: but to put it in the power of each person, in every station of life, to obtain such flour of any sort of grain as he might choose; and to obtain it of a good quality.

This it is imagined that they have now done. Those who choose to send their own corn, may do it; and may see to its being fairly returned to them. On Mondays and Tuesdays, in every week, the smallest quantities are not to be refused to be ground for the poor: and each person may have his meal dressed in any manner he may desire. Those of any condition in life who choose to buy, may buy at the mill, of a good quality and at a fair price. All the effect intended to be produced on other millers, or on the retail dealers of the shops, was to make it their interest to deal fairly by their customers.

The mill at Chislehurst, certainly, is a convenience to the neighbourhood. It is not apprehended that it has, in any degree, hurt the millers around the place; though it has already almost as much work as it can perform. This seems to shew that a mill was really wanted: and it has put other millers, the shopkeepers, and bakers, on their guard, at the same time that it has injured nobody.

One effect intended by it has answered: the certainty of obtaining meal of what quality, of what degree of mixture with other kinds of grain, or of what fineness you choose; and the having the produce of your own corn returned fairly to you. This last may sometimes be doubtful at other mills; and probably sometimes is doubted where the return is fairly made. Here any one may assure himself that it is so, if he pleases.

It is proper to caution the reader against an error, into which the proprietors have fallen, and from which those of the mill at Barham Downs * have been exempt;—the want of sufficient care as to the *expence* of the undertaking.

The mill at Chislehurst has certainly been not only more expensive than was intended, but more so than was necessary. The builder offered to undertake it for 1000*l.*; or to build it as should be directed, and to be paid by measure and value, when it was completed; which last proposal was preferred.—The proprietors did not attend to the progress of the work, in the same manner as those would have done, who had *their own profit* in view; so that when the bills were sent in, they contained a charge of above 470*l.* for day work; all of it for articles, which the proprietors understood were to be charged by measure. In the whole, the mill-wright's bill has amounted to 1765*l.*; besides 214*l.* the cost of the house, and 44*l.* for the fencing.

During the five months, from April to September, 1797, while the miller was interrupted by the workmen completing the mill, he paid the proprietors at the rate of 4 per cent. on 1000*l.* the money then advanced. From Michaelmas, 1797, he undertook it at the rate of 3½ per cent. on 1700*l.* and from Ladyday last at 73*l.* 10*s.* a-year, being 3½ per cent.

* The mill at Barham Downs cost only 336*l.*; the scales and utensils of different kinds 17*l.*; in all 353*l.*; only 33*l.* beyond the sum originally proposed.

on 1200*l.* the whole money expended. He seems to have no doubt but that he will be able by and by to pay a larger interest; but the fact is, that they cannot now let it to produce above four per cent.

It seems necessary to state these circumstances; in order that those who are desirous of benefiting their neighbourhood by a parish mill, may be cautioned against unguarded and extraordinary expence.—Parish mills are at present much wanted: the erection of them will be very useful in most parts of England; and, with a proper degree of attention, they will pay a sufficient interest upon the money to be expended in the erection of them.

WINDOW (*Encycl.*). In 1802, soon after the termination of the war with France, a considerable addition was made to the duties formerly imposed on windows. These will be best shewn by the following

TABLE OF THE DUTY ON WINDOWS.

Number of Windows.	Duties payable by 38 Geo. III. cap. 40.						Additional Duties payable by 42 Geo. III. c. 34.			Total Duties to be charged in one Sum for every Dwelling-house.					
	In England.			In Scotland.						In England.			In Scotland.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
Not more than 6 (except such inhabited dwelling-houses which shall be worth the rent of 5l. by the year, and shall be charged to the rate or duty, according to the rent thereof), - -	0	4	6	0	2	6	0	1	6	0	6	0	0	4	0
Not more than 6 if charged as of the value of 5l. a-year,	0	6	0	0	4	0	0	2	0	0	8	0	0	6	0
7 Windows -	0	14	6	0	12	6	0	4	0	0	18	6	0	16	6
8 - -	1	1	0	0	19	0	0	9	0	1	10	0	1	8	0
9 - -	1	7	0	1	5	0	0	11	0	1	18	0	1	16	0
10 - -	1	14	0	1	12	0	0	16	0	2	10	0	2	8	0
11 - -	2	4	0	2	2	0	1	1	0	3	5	0	3	3	0
12 - -	2	16	0	2	14	0	1	4	0	4	0	0	3	18	0
13 - -	3	8	0	3	6	0	1	7	0	4	15	0	4	13	0
14 - -	4	0	0	3	18	0	1	10	0	5	10	0	5	8	0
15 - -	4	12	0	4	10	0	1	13	0	6	5	0	6	3	0
16 - -	5	4	0	5	2	0	1	16	0	7	0	0	6	18	0
17 - -	5	16	0	5	14	0	1	19	0	7	15	0	7	13	0
18 - -	6	8	0	6	6	0	2	2	0	8	10	0	8	8	0
19 - -	7	0	0	6	18	0	2	5	0	9	5	0	9	3	0
20 - -	7	12	0	7	10	0	2	8	0	10	0	0	9	18	0
21 - -	8	4	0	8	2	0	2	11	0	10	15	0	10	13	0
22 - -	8	16	0	8	14	0	2	14	0	11	10	0	11	8	0
23 - -	9	8	0	9	6	0	2	17	0	12	5	0	12	3	0
24 - -	10	0	0	9	18	0	3	0	0	13	0	0	12	18	0
25 - -	10	12	0	10	10	0	3	3	0	13	15	0	13	13	0
26 - -	11	2	0	11	0	0	3	8	0	14	10	0	14	8	0
27 - -	11	12	0	11	10	0	3	13	0	15	5	0	15	3	0
28 - -	12	2	0	12	0	0	3	18	0	16	0	0	15	18	0
29 - -	12	12	0	12	10	0	4	3	0	16	15	0	16	13	0
30 - -	13	2	0	13	0	0	4	8	0	17	10	0	17	8	0
31 - -	13	12	0	13	10	0	4	13	0	18	5	0	18	3	0
32 - -	14	2	0	14	0	0	4	18	0	19	0	0	18	18	0
33 - -	14	12	0	14	10	0	5	3	0	19	15	0	19	13	0
34 - -	15	2	0	15	0	0	5	8	0	20	10	0	20	8	0
35 - -	15	12	0	15	10	0	5	13	0	21	5	0	21	3	0
36 - -	16	0	0	15	18	0	6	0	0	22	0	0	21	18	0
37 - -	16	8	0	16	6	0	6	7	0	22	15	0	22	13	0
38 - -	16	16	0	16	14	0	6	14	0	23	10	0	23	8	0
39 - -	17	4	0	17	2	0	7	1	0	24	5	0	24	3	0
40 not more than 44	17	10	0	17	8	0	8	5	0	25	15	0	25	13	0
45 - - 49	19	0	0	18	18	0	9	5	0	28	5	0	28	3	0
50 - - 54	20	10	0	20	8	0	10	5	0	30	15	0	30	13	0
55 - - 59	22	0	0	21	18	0	11	5	0	33	5	0	33	3	0
60 - - 64	23	10	0	23	8	0	11	19	0	35	9	0	35	7	0
65 - - 69	25	0	0	24	18	0	12	9	0	37	9	0	37	7	0
70 - - 74	26	10	0	26	8	0	12	19	0	39	9	0	39	7	0
75 not more than 79	28	0	0	27	18	0	13	9	0	41	9	0	41	7	0
80 - 84	29	10	0	29	8	0	13	19	0	43	9	0	43	7	0
85 - 89	31	0	0	30	18	0	14	9	0	45	9	0	45	7	0
90 - 94	32	10	0	32	8	0	14	19	0	47	9	0	47	7	0
95 - 99	34	0	0	33	18	0	15	9	0	49	9	0	49	7	0
100 - 109	37	0	0	36	18	0	15	9	0	52	9	0	52	7	0
110 - 119	40	0	0	39	18	0	16	9	0	56	9	0	56	7	0
120 - 129	43	0	0	42	18	0	17	9	0	60	9	0	60	7	0
130 - 139	46	0	0	45	18	0	18	9	0	64	9	0	64	7	0
140 - 149	49	0	0	48	18	0	19	9	0	68	9	0	68	7	0
150 - 159	52	0	0	51	18	0	20	9	0	72	9	0	72	7	0
160 - 169	55	0	0	54	18	0	21	9	0	76	9	0	76	7	0
170 - 179	58	0	0	57	18	0	22	9	0	80	9	0	80	7	0
180 and upwards -	61	0	0	60	18	0	22	0	0	83	0	0	82	18	0

And for every such dwelling house which shall contain more than 180 windows or lights, for every window or light exceeding the number of 180, 2*s.* 6*d.* each.

The said duties to be charged in respect of every inhabited dwelling-house, with the household and other offices, without any other exemptions being allowed than such as are contained in this act, notwithstanding any former statute. 42 Geo. III. c. 34.

The following *clauses* are included *in the act* 38 Geo. III. c. 40.

Every assessment shall be in force for one year, and charged upon the occupiers of houses, cottages, or tenements; and shall be paid without any new assessment, notwithstanding any change in the occupation.

No duty shall be levied for any cottage or tenement containing not more than six windows, the occupier whereof, by reason of poverty only, not for any other cause, is exempted from church and poor rates.

Every chamber in any inns of court or chancery, or in any college or hall in the universities, or in any hall or office belonging to any person or persons, body or bodies politic or corporate, or any public hospital, being severally in the tenure of any person chargeable to the said duties, containing eight windows or under, shall be charged thereto at the rate of [42 Geo. III. c. 40.] three shillings for every window; and every such chamber, which shall contain more than eight windows, shall be subject to the duties as if the same was an entire house.

Nothing herein shall charge any licensed chapel; nor any windows in dairies.

That is to say, by the stat. 36 Geo. III. c. 117. no duty shall be charged on any windows or lights in any dairies, or in any room or places kept and used for the sole purpose of drying and keeping cheese, or of making cheese or butter, and for no other purpose, whether the same shall be attached to, or detached from, the dwelling-house or not, and which shall be occupied by any person who shall sell, or be in any manner concerned in selling, the produce of dairies, or any kind of cheese.

But such windows or lights must be made with splines or wooden laths, or iron bars, and wholly without glass; also the dairies or rooms aforesaid must not be used to dwell or to sleep in, and on the doors thereto there must be painted, in large Roman black letters, of two inches in height, the words "Dairy and Cheese Room," or some of them, as the case shall require, otherwise such dairies and rooms shall be charged with the duties.

No window shall be deemed to be stopped up, unless stopped with stone or brick, or with the same materials as

the outſide walls; but this is not to extend to any ſtopped up window in roofs, if ſtopped with like materials as the outſide. And no window ſhall be newly made in any dwelling-houſe, or office belonging thereto; or if ſtopped up, be reſtored; nor ſhall any window be ſtopped up, without giving ſix days' previous notice thereof in writing, to the ſurveyor, on pain of ten pounds for every window newly made, reſtored, or ſtopped up.

If any ſurveyor ſhall receive any ſuch notice, or diſcover that any window hath been newly made or reſtored, he ſhall certify the ſame by way of charge to the commiſſioners, who are to cauſe the aſſeſſment to be rectified according to ſuch certificate; but ſuch amended aſſeſſments may be appealed againſt.

No aſſeſſment to be ſubject to appeal or abatement unleſs it ſhall be proved that the windows were ſtopped up previous to the making of the aſſeſſment.

The following are *clauſes in the act 42 Geo. III. c. 34.*

Every dwelling-houſe, cottage, or tenement, occupied at the time of making the aſſeſſment, ſhall be brought into charge by the aſſeſſors, according to the number of windows therein; and if any aſſeſſor ſhall omit to charge the occupier according to the number of windows, whether the occupier ſhall be entitled to be diſcharged from the ſame, in manner herein-after mentioned, or not, ſuch aſſeſſor ſhall forfeit five pounds.

Where any houſe, cottage, or tenement, in England, containing not more than ſix windows, ſhall be brought into charge, and the occupier ſhall receive parochial relief, or ſhall, by reaſon of poverty only, and not for any other cauſe, be exempted from payment of the uſual taxes towards church and poor, the aſſeſſors ſhall, on the certificate of aſſeſſments, ſet oppoſite the ſum charged on the occupier, the fact of his receiving parochial relief, or from being exempted from payment of taxes, and ſhall return ſuch facts, together with the aſſeſſments, to the commiſſioners; and the commiſſioners, before the allowance of any aſſeſſment, ſhall examine the aſſeſſor touching the return; and if the commiſſioners ſhall from ſuch examination be ſatisfied that any occupier receives parochial relief, or is *bona fide*, by reaſon of poverty only, and not from any other cauſe, exempted from the payment of the uſual taxes, it ſhall be lawful for the commiſſioners to ſtrike out the charge againſt ſuch occupier; and where any houſe, cottage, or tenement, in Scotland, containing not more than ſix windows, ſhall be brought into charge, and the occupier ſhall be poor, and ſhall receive relief from the kirk ſeſſion, and ſhall keep no ſervant, carriage, horſe, mule, or dog, the aſſeſſor ſhall, on the certificate of aſſeſſment, ſet oppoſite the ſum charged the fact of his being poor, and of not having any ſervant, carriage, horſe, mule, or dog, and ſhall return ſuch facts, together with the aſſeſſments, to the commiſſioners; and in caſe the ſurveyor of the diſtrict ſhall be ſatisfied with the facts, and ſhall certify the ſame to the commiſſioners, the commiſſioners ſhall ſtrike out the charge againſt the occupier; and in caſe the ſurveyor ſhall be diſſatisfied, then the commiſſioners ſhall examine into the truth of ſuch facts in like manner as the commiſſioners in England.

Every houſe unoccupied ſhall be inſerted as ſuch in the aſſeſſment, with the number of windows therein; and the aſſeſſors, and in their default the ſurveyors and inſpectors, ſhall cauſe the ſame to be certified to the commiſſioners, from the time of ſuch houſe coming into the occupation of any perſon, and ſuch perſon ſhall cauſe notice thereof to be given to ſuch ſurveyor or inſpector within twenty days after his coming into the occupation of ſuch houſe; and every perſon neglecting ſo to do ſhall forfeit five pounds, and ſhall be liable moreover for ſuch neglect to be charged to the ſaid duties for the whole year in which ſuch houſe became occupied, but on giving ſuch notice ſhall be chargeable only from the time of his coming into the occupation.

Nothing herein ſhall ſubject any hoſpital, charity ſchool, or poor-houſe, to the payment of the duties, except ſuch apartments therein as are occupied by the officers or ſervants thereof, which ſhall be ſubject to the d[illegible] (according to the number of windows in each), provided that every ſuch hoſpital, charity-ſchool, or poor-houſe, ſhall be brought into charge by the aſſeſſors, and ſhall be ſtated on the certificate of aſſeſſments as ſuch; and on proof of the fact the commiſſioners are to diſcharge ſuch hoſpital, charity ſchool, and poor-houſe, except as aforeſaid, from the ſaid duties.

No window ſhall be deemed to be ſtopped up, unleſs ſtopped up effectually with ſtone or brick, or with the ſame kind of materials whereof the outſide walls doth conſiſt.

Nothing herein ſhall charge any window in the roof of any dwelling-houſe, which ſhall be ſtopped up effectually with materials of the like nature of which the outſide of the roof ſhall conſiſt, nor any window which ſhall have been ſtopped up before, with other materials than herein deſcribed, and which ſhall not at any time ſince have been reſtored.

No window ſhall be newly made in any houſe, nor ſhall any window ſtopped up, be reſtored, or ſtopped up, without ſix days' previous notice in writing given by the occupier to the ſurveyor or inſpector, on pain that the occupier ſhall forfeit ten pounds for every window.

If any ſurveyor or inſpector ſhall receive notice, or otherwiſe diſcover, that any window hath been newly made or reſtored, which hath not been charged in the aſſeſſment, ſuch ſurveyor or inſpector ſhall certify the ſame, by way of charge, to two commiſſioners, and ſhall ſtate to what amount the perſon liable to the duties hath been under-rated, and thereupon the commiſſioners ſhall cauſe ſuch aſſeſſment to be amended, and the duties to be charged ſhall be levied from the commencement of the year. But if the commiſſioners ſhall be of opinion that any window reſtored ſhall have been ſtopped up when the aſſeſſment was made, with intent to evade the duties, they ſhall charge the occupier double the ſum by which the aſſeſſment ſhall be increaſed by reaſon of ſuch certificate; and every ſuch aſſeſſment, when amended, ſhall be liable to be appealed againſt.

No aſſeſſment ſhall be ſubject to appeal, nor any abatement of the duties allowed in any year, by reaſon of any windows being ſtopped up, unleſs it ſhall be proved that the ſame windows were ſtopped up, according to the directions of this act, previous to the 5th of April next, before the making the aſſeſſment, in England, or in Scotland, previous to the term of Whitſunday; and that the ſame windows, if reſtored, were reſtored after ſix days' notice thereof, as before directed.

The pariſh in which any aſſeſſment ſhall be made, ſhall be anſwerable for the amount of the duties, and for the duties being duly demanded of the perſons charged, within ten days after the ſame are payable, by the collectors, and alſo for ſuch collectors' duly paying the ſums received to the receiver-general; and if any collector ſhall neglect or refuſe to demand payment of the duties of the perſons charged, or leave a demand in writing at their laſt place of abode within the time limited, or, in caſe of default of payment thereof, upon ſuch demand, ſhall neglect or refuſe to execute the warrant of the commiſſioners for recovering the ſame, within two calendar months after the duties are payable, it ſhall not be lawful for ſuch collector to inſert in the ſchedule, to be by the receiver-general returned into the exchequer, the name of ſuch perſon having made default, but the pariſh ſhall be

anſwerable; and no collector ſhall be allowed to inſert in any ſchedule the name of any perſon as not having paid the duties, unleſs ſuch collector ſhall make oath that the ſum is wholly unpaid, either to ſuch collector, or to any other perſon, to the beſt of his knowledge and belief; and that ſuch perſon became inſolvent or a bankrupt before the day on which the duties became payable, and had not goods ſufficient whereon to levy within the pariſh, or that ſuch perſon removed from the pariſh before the day on which the duties became payable; and that there was not nor are any goods of any perſon liable to the duties in arrear, whereby the ſame could be levied.

Any arrear of the ſaid duties, ariſing by default aforeſaid, or by the failure of any collector, ſhall be re-aſſeſſed upon the pariſh or place.

If any wilful delay or failure ſhall happen in demanding, receiving, or recovering, or paying over any of the duties, through the default or neglect of any collector, it ſhall be lawful for the commiſſioners to revoke the appointment of the collectors in default or neglecting, and by indorſement of the ſame precept of appointment, to appoint other collectors in their ſtead, for the remainder of the year.

Collectors in default, to deliver up certificates of their aſſeſſments, &c. on penalty of 20l. And if any two or more of the inhabitants, or the churchwardens or overſeers, or guardians of the poor of any deſcription, or two or more of them, or the ſelect veſtry, or any ſeven or more of them, where a ſelect veſtry ſhall be authoriſed to act for any pariſh, ſhall require ſecurity to be taken of the collectors, and ſhall name proper perſons to be collectors, who ſhall reſpectively give ſecurity, it ſhall not be lawful for the commiſſioners to appoint collectors, until ſuch ſecurity be given; and if the perſons returned to the commiſſioners, ſhall not give ſecurity, then the ſaid commiſſioners are to appoint ſuch perſons, and no other, who ſhall have been named to them. And the collectors, when required by the churchwardens, &c. ſhall deliver an account of the ſums received, &c. on penalty of 20l.

If any perſon ſhall remove out of the limits of the collector without paying the duties, or without leaving ſufficient goods, he ſhall forfeit 20l.

No goods to be taken by virtue of any execution, or other proceſs, except at the ſuit of the landlord for rent, or of the king, unleſs the party ſhall pay the arrear of duty, not exceeding a year's, but in caſe of refuſal, the collector may diſtrain and ſell the goods.

One moiety of all penalties hereby impoſed ſhall, if ſued for within 12 calendar months, be to his majeſty, and the other moiety thereof, with full coſts, to the perſon who ſhall ſue, and all ſuch penalties exceeding twenty pounds ſhall be ſued for in the ſuperior courts. But his majeſty's attorney-general in England, and advocate in Scotland, may ſtay proceedings, as well as to the ſhare of the informer as to the ſhare of his majeſty. And in default of proſecution within the time before limited, no ſuch penalty ſhall be afterwards recoverable, except in the name of his majeſty's attorney-general, or advocate in Scotland.

Penalties not exceeding twenty pounds ſhall be recoverable before two commiſſioners, who may mitigate the ſame, not being in any caſe leſs than one moiety, and they are to aſſeſs the ſame upon the party, and charge the ſame in the aſſeſſment, in addition to the duty.

WINDSHEIM, an imperial town of Franconia, 28 miles S.W. of Wurtzburg, and 36 S.S.W. of Bamberg. Long. 10. 25. E. Lat. 49 25. N.

WINDSOR, a town of Vermont, in the county of Windſor, where the aſſembly commonly holds its ſeſſion, although Bennington is the principal town. It is ſeated on the river Connecticut, 98 miles N.E. of Bennington.

WINDSOR, a town of the ſtate of Connecticut, ſituate on the river Connecticut, three miles N. of Hartford.

WINDSOR, a town of North Carolina, ſituate on the Cuſhai, 23 miles W. of Edenton.

WINDWARD ISLANDS, ſuch of the Caribbean Iſlands, in the Weſt Indies, as commence at Martinico, and extend to Tobago.

WINDWARD PASSAGE, the ſtrait between Pont Maizi, at the E. end of the iſland of Cuba, and Cape St. Nicholas, at the N.W. extremity of St. Domingo.

WINNENDEN, a town of Suabia, in the duchy of Wirtemburg, 12 miles E.N.E. of Stutgard. Long. 9. 16. E. Lat. 48. 49. N.

WINNICZA, a ſtrong town of Poland, in Podolia, capital of a territory of the ſame name, with a caſtle. It was taken by the Coſſacs in 1658, but retaken ſoon after. It is ſeated on the river Bog, 35 miles N. of Bracklaw. Long. 28. 12. E. Lat. 49. 23. N.

WINSCHOTEN, a town of the United Provinces, in Groningen. Here, in 1568, was fought the firſt battle between the revolted Dutch and the Spaniards, who were defeated by Prince Lewis, brother to William I. prince of Orange. It is ſix miles S.W. of Dollart Bay, and 16 S.E. of Groningen. Long. 6. 58. E. Lat. 53. 3. N.

WINSEN, a town of Lower Saxony, in the duchy of Lunenburg, ſeated at the confluence of the Elbe and Ilmenau, 13 miles N.W. of Lunenburg. Long. 10. 11. E. Lat. 53. 24. N.

WINSHEIM, an imperial town of Franconia, in the margravate of Anſpach. It is ſurrounded by a good rampart, a double ditch, and thick walls flanked with 20 towers. The inhabitants are Proteſtants. In 1730, a fire reduced almoſt the whole town to aſhes. It is ſeated on the Aiſch, 30 miles N.W. of Nuremburg. Long. 10. 31. E. Lat. 49. 32. N.

WINSLOW, a town in Buckinghamſhire, with a market on Tueſday, ſeven miles N.W. of Aileſbury, and 50 W.N.W. of London. Long. 0. 45. W. Lat. 51. 57. N.

WINSTER, a town in Derbyſhire, which has a meeting for the ſale of proviſions on Saturday. It is five miles N.W. of Derby, and 152 N.N.W. of London.

WINTERBERG, a town of Weſtphalia, 37 miles S. of Paderborn, and 60 E. of Cologne. Long. 8. 15. E. Lat. 51. 5. N.

WINTERBURG, a town of Germany, in the circle of Lower Rhine and county of Sponheim, 10 miles W.N.W. of Creutznach.

WINTERINGHAM, a corporate town in Lincolnſhire, governed by a mayor, who is choſen only out of one ſtreet. It has no market; and is ſeated near the Humber, 33 miles N. of Lincoln.

WINTERTHUR, a town of Switzerland, in the canton of Zuric, where there is a rich library and a mineral ſpring. It is ſeated in a fertile plain, on the river Ulach, 15 miles N.E. of Zuric. Long. 8. 45. E. Lat. 47. 31. N.

WIPPERFURT, a town of Weſtphalia, in the duchy of Berg, ſeated near the ſource of the Wipper, whoſe water is of a peculiar quality for bleaching, 36 miles E.S.E. of Dreſſeldorf.

WIPRA, a town of Upper Saxony, in the county of Mansfeldt, ſituate on the Wipper, 10 miles W.N.W. of Eiſleben, and 20 E. of Nordhauſen. Long. 11. 20. E. Lat. 51. 30 N.

WIRKSWORTH, a populous town in Derbyſhire, with a market on Tueſday. It is ſeated in a valley, near the ſource of the Ecclesborn, and remarkable for having the greateſt lead

market in England. It is 13 miles N. by W. of Derby, and 139 N.N.W. of London. Long. 1. 30. W. Lat. 53. 6. N.

WISBADEN, a town of Germany, in the principality of Naſſau, capital of a lordſhip of the ſame name, ſubject to the Prince of Naſſau-Saarbruck. It is famous for its warm baths, which were known to the ancient Romans, and is five miles N. of Mentz. Long. 8. 20. E. Lat. 49. 56. N.

WISBEACH, a town in Cambridgeſhire, with a market on Saturday. It is ſeated in the iſle of Ely, between two rivers, and poſſeſſes a conſiderable trade in the export of corn, and of oil preſſed from ſeeds at mills in its neighbourhood. Barges only can come up its river, large veſſels ſtopping ſix miles below. It is 18 miles N. of Ely, and 89 N. by E. of London. Long. 0. 6. E. Lat. 52. 38. N.

WISBY, a ſea-port of Sweden, in the iſle of Gothland, with a caſtle. It is ſeated on the ſide of a rock, on the Baltic, 88 miles S.E. of Stockholm. Long. 18. 41. E. Lat. 57. 36. N.

WISCASSET, a town of the United States, in the diſtrict of Maine, which carries on a conſiderable trade. It is 56 miles N.W. of Portland. Long. 70. 5. W. Lat. 44. 47. N.

WISET, a fortified town of the Netherlands, in the duchy of Limburg, ſeated on the Maeſe, ſeven miles N. of Liege, and 20 N.W. of Limburg. Long. 5. 40. E. Lat. 50. 41. N.

WISCHGROD, a town of Poland, in the palatinate of Plockſko, ſeated on the Viſtula, 18 miles E. by S. of Plockſko, and 58 N.W. of Warſaw. Long. 19. 50. E. Lat. 52. 44. N.

WISLOCHE, a town of Germany, in the palatinate of the Rhine, ſeated on the Elſatz, eight miles S. of Heidelberg. Long. 8. 48. E. Lat. 49. 18. N.

WISMAR, a ſtrong ſea-port of Germany, in the duchy of Mecklenburg, ſeated at the bottom of a bay of the Baltic, 36 miles E. of Lubec, and 66 W. by S. of Stralſund. Long. 11. 44. E. Lat. 53. 54. N.

WISTON, a corporate town in Pembrokeſhire, with a market on Wedneſday. It is governed by a mayor, and was formerly ſtrengthened with a caſtle, which is now a gentleman's ſeat. It is 10 miles N. of Pembroke, and 235 W.N.W. of London. Long. 4. 52. W. Lat. 51. 53. N.

WITCHWOOD, a foreſt in Oxfordſhire, between Burford and Charlbury; the only conſiderable one now remaining in that county.

WITEPSKI, a town of Lithuania, capital of a palatinate of the ſame name, with a caſtle. The fortifications are ſo good, that the Ruſſians beſieged it ſeveral times in vain. It is ſeated in a moraſs, at the confluence of the Dwina and Widſba, 65 miles E. of Polotſk, and 80 W.N.W. of Smolenſko. Long. 29. 40. E. Lat. 55. 43. N.

WITHAM, a town in Eſſex, with a market on Tueſday. Its church, an ancient Gothic ſtructure, ſtands one mile from the town, at a place called Chipping Hill. It is eight miles N.E. of Chelmsford, and 37 E.N.E. of London. Long. 0. 41. E. Lat. 51. 51. N.

WITHAM, a river in Lincolnſhire, which waters Lincoln, and enters the German Ocean, below Boſton. From Lincoln it has a communication with the Trent, by a navigable canal, called the Foſsdike, cut by King Henry I.

WITLISTH, a town of Germany, in the archbiſhopric of Treves, with a caſtle, ſeated on the river Leſer.

WITNEY, a town in Oxfordſhire, with a market on Thurſday. Here are manufactures of the fineſt blankets, and other thick woollens, called bearſkins and kerſeys. It is eight miles N.W. of Oxford, and 64 W.N.W. of London. Long. 1. 18. W. Lat. 51. 52. N.

WITSHAUSEN, a town of Germany, capital of a territory of the ſame name, in the landgravate of Heſſe Caſſel. It is ſeated on the Weſer, eight miles E.N.E. of Caſſel. Long. 9. 46. E. Lat. 51. 24. N.

WITTENBERGEN, a town of Upper Saxony, in the mark of Prignitz, 60 miles N.W. of Berlin. Long. 11. 48. E. Lat. 53 2. N.

WITTENSTEIN, a town of Ruſſia, in the government of Livonia, 40 miles S.E. of Revel. Long. 24. 39. E. Lat. 58. 47 N.

WITTIMUND, a town of Weſtphalia, in Eaſt Frieſland, ſeated near the German Ocean, 15 miles N.E. of Embden. Long. 7. 4. E. Lat. 53. 41. N.

WITTLESEA-MERE, a lake in the N.E. part of Huntingdonſhire, ſix miles long and three broad. It is four miles S. of Peterborough.

WITTLICH, a town of Germany, in the electorate of Treves, 16 miles N.E. of Treves, and 38 S.W. of Coblentz. Long. 6. 27. E. Lat. 50. 7. N.

WITTSTOCK, a town of Upper Saxony, in the mark of Prignitz, 43 miles N. of Brandenburg, and 47 N.N.W. of Berlin. Long. 12. 30. E. Lat. 53. 10. N.

WIVLESCOMB, a town in Somerſetſhire, with a market on Tueſday, 20 miles N.N.E. of Exeter, and 155 W. by S. of London. Long. 3. 28. W. Lat 51. 4. N

WLOSIMEITZ, a town of Little Poland, capital of a duchy of the ſame name, in Volhinia, with a caſtle. It is ſeated on the Luy, which falls into the Bug, 36 miles W. of Lucko, and 56 N. of Lemburg. Long. 24. 30. E. Lat. 51. 3. N.

WOBURN, a town in Bedfordſhire, with a market on Friday. It is ſeated on a riſing ground, and was formerly famous for its abbey, which now belongs to the Duke of Bedford, and is his country ſeat. Woburn was burnt down in 1724, but has been neatly rebuilt, and has a free-ſchool, and a charity-ſchool, founded by a duke of Bedford. Near it is found great plenty of fullers'-earth. It is 12 miles S. of Bedford, and 42 N.N.W. of London. Long. 0. 32. W. Lat. 52. 2. N.

WODNAY, a town of Bohemia, in the circle of Prach, ſeated on the Bianitz, 12 miles N.W. of Budweis, and 56 S. of Prague. Long. 14. 50. E. Lat. 42. 9. N.

WOERDEN, a town of the United Provinces, in Holland, ſeated on the Rhine, 18 miles S. of Amſterdam. It was taken by the French in 1672 and 1794. Long. 4. 51. E. Lat. 52. 6. N.

WOKEY, or OKEY, a village in Somerſetſhire, on the S. ſide of the Mendip Hills, two miles W. of Wells. Here is a famous cavern, called Wokey Hole, the mouth of which is only ſix feet high; but it ſoon expands into a ſpacious vault, 80 feet in height, reſembling the inſide of a cathedral; the roof compoſed of pendant rocks, whence a clear water, of a petrifying quality, continually drops. From this grotto a narrow paſſage deſcends to another of leſs height; and beyond a ſecond narrow paſſage is a third grotto. The extremity is above 200 yards from the entrance.

WOLBECK, or WOLDECK, a town of Weſtphalia, in the biſhopric of Munſter, ſeven miles S.S.E. of Munſter.

WOLFERSDIKE, an iſland of the United Provinces, in Zealand, between North Beveland and South Beveland.

WOLKOSKOI, a town of Ruſſia, in the government of Novogorod, 100 miles S.E. of Novogorod. Long. 34. 20. E. Lat. 57. 30. N.

WOLKOWSKA, a town of Lithuania, in the palatinate of Novogrodeck, ſeated on the Ros, 23 miles S.E. of Grodno. Long. 24. 46. E. Lat. 53. 4. N.

WOOLER, a town in Northumberland, with a market on Thurſday. In a plain near this town the Scots, under the command of Earl Douglas, were defeated by Lord Percy and

Earl March, on Holyrood-day, 1402. The battle was ſo bloody, that it gave the name of Redriggs to the place where it was fought. Wooler is ſeated on the Till, near the Cheviot hills, 14 miles S. of Berwick, and 318 N. by W. of London. Long. 1. 46. W Lat. 55. 34. N.

WOLLIN, a ſea-port of Germany, in Pruſſian Pomerania, capital of an iſland of the ſame name, in the mouth of the Oder. It is 10 miles W. of Cammin. Long. 14. 39. E. Lat. 54. 4 N.

WOLMAR, a town of Ruſſia, in the government of Livonia, ſeated on the Aa, 38 miles N. of Riga. Long. 24. 25. E. Lat. 57. 32. N.

WOLSINGHAM, a town in the county of Durham, 16 miles S.W. of Durham, and 259 N N.W. of London.

WOLVERHAMPTON, a town in Staffordſhire, with a market on Wedneſday. It has an ancient collegiate church, annexed to the deanery of Windſor, and a handſome chapel. Here is a great iron manufacture, conſiſting of locks, hinges, buckles, corkſcrews, and japanned ware. It is ſeated on a hill, 13 miles S. of Stafford, and 124 N.W. of London. Long. 2. 0. W. Lat. 52. 47. N.

WOODBRIDGE, a town in Suffolk, with a market on Wedneſday, ſeated on the E. ſide of a ſandy hill, on the river Deben, eight miles from the ſea. It has docks for building ſhips, has a great corn trade, and is famous for refining ſalt. It had an abbey, of which there are no remarkable ruins. It is ſeven miles E.N.E. of Ipſwich, and 76 N.E. of London. Long. 1. 25. E. Lat. 52. 11. N.

WOODBUBY, a town of New Jerſey, on the E. ſide of the river Delaware, nine miles S. of Philadelphia.

WOODS, Lake of the, a lake of North America, which makes part of the N boundary of the Weſtern Territory of the United States. It is 150 miles long, and 60 where broadeſt, but is very irregular in its ſhape.

WOOLLEN-CLOTH, a kind of manufacture of which an account is given under the article Cloth. The following is the ſpecification of a patent granted to Mr Harmar, of Sheffield, for a machine for raiſing a ſhag on all ſorts of woollen cloths, and cropping or ſhearing them, which, together, come under the deſcription of *dreſſing woollen cloths*, and alſo for cropping or ſhearing of fuſtians. It is dated March 29, 1794. See Pl. 56.

Fig. 1. exhibits a ſide and end view of ſhearing cloth from liſt to liſt. A, is the frame, with its pillars, legs, and rails. B, is the cuſhion or ſhear-board over which the cloth is extended. C, the cropper's ſhears in their ſituation for working, with their bobs or levers. D, the harneſs or breeches fitted to each end of the riding blade of C; at the near end is hollowed the bow of C, and at both ends faſtened with ſcrews paſſing through the blade, or elſe is grooved to admit the blade, and is faſtened with wedges. It is compoſed of two ſtrong pieces of plank, with holes to admit ſcrews through to nut-ſcrews faſtened to their upper ſurface, and ſquare holes through which paſs ſmall pillars; other two pieces of plank are frames for wheels turning on pins (as in drawing) ſituated under the pieces faſtened to the riding blade; here the lower ends of ſcrews are rivetted to plates, but ſo as to turn, which plates are ſcrewed to the wheel-frames; alſo, in theſe lower pieces, ſmall pillars are fixed, which, paſſing through the upper pieces, ſteady the harneſs; thoſe ſcrews turned to right or left bring the edges of C to the angle of B, for the work of ſhearing. E, the inclined planes down which the wheels of D roll when the machine is working. F, is the working axle, with its rods or rails; the gudgeons of this axle reſt on the croſs rails of A; the axle has the inclination of B and E, as in drawing. Its rods, fixed to the ſides of it by projecting pieces, are about four inches from its centre, and the thimbles of G ride down them to keep pace with C in its progreſs. G, is the line communicating at the lower end by a thimble with the rods of F, and at the upper end with the bob or lever of C, as in drawing. H, is an axletree, with its handle, cog-wheel, and ſtop, fixed by ſtops, on which it turns, to the pillars of A. I, the lines communicating with the extremities of K at one end, and the other with H. K, levers, turning on their pins, and, by the action of K and I, work againſt E, to raiſe C from B, for all neceſſary purpoſes. L, pulleys in their frames, to give a proper direction to I, that the turning of H may have the effect before named. M, is a crank attached to the lower gudgeon of F; the crank handle has an eye in it, through which a ſquare leg paſſes, againſt which works the lower end of a ſcrew, the nut of which is one ſide of the ſaid eye. This ſcrew, turned to right or left, looſens or faſtens the leg in the eye at pleaſure. The ſaid leg at the other extremity has a handle where the near end of the catch N is fitted on. Now, as the leg is ſhifted by means of its eye and ſcrew in that end where the handle is further from the centre of F, N works O with more ſpeed. N, is the catch that works O O, is the cog-wheel of N, with its ſcrew pinion on its axle. P, is an iron axle, with pulleys near both ends, with a cog-wheel. R, is a ſmall ſword, fitted into the mortiſe of the projection on the lower extremity of F, and pinned, and the other end is fitted to the crank handle of S. S, is the crank axle and pulley that carries the band which goes to the power that works the machine. The ſituation for R, as to that end that fits on the crank of S, is directly behind the lower end of F, and under the further extremity of B, where the crank end of S rides on a ſtop fixed to the further rail of A; the pulley end where the ſtop is rides on X. Now the crank S being put in motion, gives R the neceſſary vibration, and R works F, which alternately raiſing or falling its rods or rails by G, C works, and, to effect the progreſſion of C, F being in a working ſtate, M works N, and O works P, and C is carried forwards by T, and to carry C forwards faſter or ſlower, as neceſſary. For the due performance of ſhearing cloth, the handle of the leg of M, where N is fitted on, muſt be brought nearer to the centre of F for ſlacking, and more diſtant from the ſaid centre to increaſe the ſpeed, as then N will take more or leſs teeth in O. Or the progreſſion in this frame may be effected by the method deſcribed in the progreſſion of fig. 3, under the letters M, N, O, P. T, the lines for carrying forwards C by P. U, is a projection faſtened to D, and works againſt U when C is about to ſtop. V, is a rail and ſmall ſword paſſing through a mortiſe fixed to one of the legs of A, at nearly one end, and, by a working joint, goes up to near the extremity of W. W, is a lever, paſſing through its fulcrum, and pinned to the upper end of X; and near the other end reſts on a ſmall notch, ſunk in the inſide of the upper end of one of the pillars of A, and weighted in the extremity with lead or iron. X, is the ſtep of the pulley end of S, and, by a ſmall ſword, goes up to W, on the near ſide of one of the pillars of A, through which X goes, and moves on a pin, and is the ſtep of one end of O; and the further ſide of the ſaid pillar, where the letter X ſtands, is the ſtep of the pulley end of S. Now when U or D works againſt U or V, W is thrown from its notch, and W, ſinking, raiſes X, and ſlackens the band on the pulley of S; then the machine ſtops, and X, raiſing the ſtep of S on the further ſide of the pillar of A, on the near ſide of it ſinks the ſtep of O, and the ſcrew-pinion is thrown out of the large cog-wheel of P. Y, is a ſmall axle on ſteps, faſtened to

D, with its handle and bands going to near the extremity of Z. Z, two small rails, with catches at their extremities, which fall into notches in D to fasten both the shears of C together. Now when the machine stops, by the means already described, the pressure of the handle of Y raiseth the catches of Z, from their notches in D, and the shears of C are at liberty, and may be driven by the hand to the necessary situation for shifting the cloth, first turning H to the right, to clear them from B. The cloth being shifted, bring the said shears of C to their proper situation, and the catches of Z will fasten them; then turn H to the left, throwing back its catch, and the shears of C are brought to their work: when lift up to its notch, the extremity of W, and the band on S, is tightened, and the machine works.

Fig. 2, a side and the two end views of shearing the length-way of the cloth. A, the frame, with its pillars, legs, and rails. B, a circular cushion, or shear-board, formed to the angle of the cropper's shears, and at each end resting on steps fixed to the top rail of A, to be moved round, as occasion shall require. C, the cropper's shears in its harness, or working position. D, the harness, attached to both ends of the ledger blade of the shears C, as particularly described in fig. 1, under the letter D; but this mode of shearing requires that the strong pieces, attached by screws to the ends of C, should be framed together near the back of the said laid ledger blade, to take the weight of the ends of the shears. When the whole width of a narrow cloth is shorn, the second shear of C is placed behind that in drawing, and has another, B, for it to work upon, and I, to be worked by. And that part of D attached to the heel of C and letter E, are lengthened as described (fig. 3) under the letter C; so in like manner the shears are situated behind each other in taking the width of a broad cloth. Here it must be noted, as in this mode of shearing the cloth having the progression, the wheels of D are omitted, and pieces of wood, half rounded, supply their place. E, is a small frame in its steps, with its arms and lines. The situation of E is seen under letter D, fig. 3; it is attached to the heel part of the harness, as there seen by the drawing. One of the lines of E goes down to the working-rail of E, in the aforesaid, fig. 3; and the other line communicates with the lever or bob of D. F, the roller, with its handle, on which the cloth to be shorn is wound. G, the small rollers, to guide the cloth to B; the middle one which swells riding on it, lighteneth the lists of the cloth as it rides forwards: the swells are moveable, for the purpose of suiting cloths more or less long-listed. H, the rod, cranked on every side, with the pulley for the progression, and that also which carries a band to the working power situated at the upper end of A, near Q. I, is the thimble fitted on the crank, with the line going up to near the extremity of the bob working C. K, an axle, with its cog-wheel and stop, as particularly described (fig. 1) under the letters H, I, K, L, and produce a like effect, and must be fixed to this figure the same as in that. L, the cheek to F, fastened by a pin at the near end, and passing under F, being hollowed to it, the further extremity (being carried under C and B) having a weight suspended on it. M, the roller, with a cog-wheel, to which the end of the cloth is attached; and being tightened by the handle of F, the weight on L keeps it in that tight state as it is carried through the work. N, an iron axletree, carrying a large pulley with one groove, and a five-groove pulley with its steps, that out of sight lies under A on a cross rail. O, an iron axletree, carrying a five-groove pulley and screw pinion on steps, as in drawing. P, bands going from the small pulley of H to the large pulley of N; and from the five-groove pulley of N to the five-groove pulley of O. Now these five-grooved pulleys gradually descend in their dimensions from fourteen inches to three inches in one, and the other may be the same dimensions, or very considerably smaller; or it may be reduced to a pulley of three inches diameter with one groove. These five-groove pulleys stand, in respect to each other, in contrary directions. Now when the crank by a band on the pulley on its upper extremity is set to work, the band B, from the other pulley, puts O and P in motion, and carries forward M. That M may have different speed, the band of the five-groove pulleys must be shifted for that purpose to the different grooves, which give them more or less speed.

The Stop-Frame.—Q, the step where rides the upper end of H, which step at one end is tenoned into the pillar of A, and pinned. R, is a small sword, at the lower end tenoned into the extremity of Q, and pinned; and at the upper end is mortised, so as to admit the further end of S. S, is the lever, tenoned into the mortise of R, and pinned, and passing through a mortise in the pillar of A. Now to stop the machine, the near extremity of the lever S must be pressed down, and that slackeneth the band communicating from the acting power to the pulley of H. When set a-going the said extremity of S must be lifted up, and pinned there. To work this machine, put the cloth to work as directed under letter M; then throw back the stop of G, and the shears are brought to their work; then raise the extremity of S, and the machine works.

Fig. 3, shews a second mode of shearing cloth the length way: a side and end view. A, is the frame, with its pillars, legs, and side and end rails. B, the inclined planes, as fig. 1, under E. C, the shear boards, over which the cloth is stretched from H to H: every shear has its board, and is placed by the side of each other, so as to take the width of the cloth; and the shears, situated for the like purpose on them, the harness H, and small working frame E, fig. 2, are lengthened accordingly. D, the cropper's shears in its harness, and bob or working lever, with E, fig. 2, in its proper situations, attached by the steps to the harness of D. E, the axle, with the line communicating with the bob at one end, and at the other with one of the axle rods, by a thimble, described under F and G, fig. 1. F, the line and thimble before named. G, a small axle, with its lines, levers, pulleys, &c. particularly described under letters H, I, K, L, fig. 1. H, rollers for the cloth, and their cog-wheels and stops. I, a lever, with its catch and stop to the wheel of H, which is on the other side of the pillar of A, near the middle of it, and falls into the cog-wheel of H, which line communicates with the lower end of the catches on H and L, and passeth through small pulleys, fixed under the catches, on the inside of the frame A, that, by the pressure of the upper extremity of the said lever, the catches are raised out of the cogs of their wheels, to give liberty for winding the cloth when shorn on the roller of H, situated near to I. K, a roller to guide the cloth, when wound forwards, that it may keep its situation on the surface of C: it is placed near the axle G, on steps, in the same direction fixed to the pillars of A. L, an axle, with its handles, cog-wheel, and stop, resting on B, with its near stop. This axle has an aperture through the middle of it lengthwise, to admit the cloth through. Now when the cloth is stretched from one of the rollers of H to the other, by turning L to the right, more regular tightness is given to the cloth, and better fits it for the action of shearing.

For effecting the progression in shearing and working the shears, M is a small sword, fitted on the handle of the projection of E at one end, and at the other on the crank handle of N. N, a crank, with its pulley with one groove, and a small five-groove pulley. Or this may be reduced to a small one-groove pulley, of about three inches diameter. The larger one-groove pulley carries a band to the power that drives the machine. The situation of this crank is nearly the same as S, fig. 1, and produces the like effect. O, is an axle, with a large five-groove pulley and screw pinion. These pulleys of N and O have their bands, and descend in their dimensions, as particularly described under letter P, fig. 2. P, a roller, with its cog-wheel, on which the bands wind that carry forward D, with all the other shears, more or less, fastened together by a rail, at their proper distances from each other (as in drawing), that each may take its proper share of cloth, being situated as described under letter C. Bands from P to D carry forward the shears of D.

For stopping this frame, the stop part of fig. 1, under letters U, V, W, X, must be put to it, fixed to the rails and pillars of A. Q, is a projection attached to D, and will stop this frame when the parts above directed are fixed to it in the manner directed, fig. 1. R, is a line attached to the shears of D, and passing through a small pulley fixed in the back rail of A, runs through another pulley fixed in a convenient situation over the frame of this said fig. 3, and by pulling its extremity draws back the shears of D when they have cut their board of cloth.

For working this machine, the cloth is wound on the upper roller of H, and round a small roller at the upper end of A, and extended down C, and under K, and to the other roller of H, where it is attached; the stop of the upper roller falling into its wheel, the cloth is tightened by the lower roller and the handles of the roller. L, their respective catches falling into the cogs of their wheels, which keep the cloth in a tight state, then throwing back the catch of G, the shears of D are let down to their work, when, by means of R, they are brought to their proper situation on B. Then lift up the lever of the stop-frame into its notch, as directed under letter S, fig. 2, and the machine works. When the machine stops, as before directed, and particularly described, fig. 1, under X, to shift the cloth for cutting another length, press down the near extremity of I of this third figure, and wind the cloth that is cut on H. When lifting up the said extremity of I, the cloth may be tightened as above described, and the shears of D shifted to continue their work.

Fig. 4. For raising a shag on cloth preparatory to shearing A, the side and end rails, legs, and pillars, with its treasle, frames, and cotters. B, the frames, one open and the other shut, which turn on hinges, and, when shut ready for work, are fastened by buttons screwed loosely to C. C, is a frame mortised, to fit four sides of B, when shut; and by small projections, or slides fixed to its four corners, rides in the groove of a third frame, fixed to the rails of F. D, a third frame in the inner grooves, or two sides of it; C rides this frame, is attached to F, its projection slides through the gutters or flutes of L, when working E, the double crank, with its large pulley, which by a band goes to the working power. These cranks stand in contrary directions, on the same axle, that the frame may work alternately. F, working rails, fitted on the crank handles, and fastened on by screws. These rails have a working joint near the side of G, and on the further side of G are attached, by screws, to each end of D; and as E works the frames of D, which carry C and B, works round L, and so raise the shag. G, the pulleys, fixed in their frames, over which F rides. H, the board for raising, in its inclined posture, with the cloth passing over it from one roller of I to the other. I. the rollers, situated before and behind H, and attached to the legs of A, by screws, the gudgeons riding on steps; and at the upper end of H is a small roller, to guide the cloth round the end of H, with swells for both lists of the cloth, after the manner of fig. 2, under the letter G. K, the check to the fore roller I, which at one end is attached to one of the legs of A, and near that end lies over the same roller, and hollowed to fit it, and at the other end carries a weight, as in drawing. L, two pieces of plank, situated on both sides H, at the upper termination of M. The inside of the said planks are fluted or guttered to the angles of L, which stands at the foot of A. The small projection at the top of L is a pattern of the slides fixed to the sides of D, which pass through the aforesaid angle when the frames are working, which raise them to and from the cloth. To effect the revolution of the slides that carry C, the top piece of L is fastened to the side of its plank, at or near the upper end, by a screw, on which it moves, and at or near the bottom end it is fastened to its plank, but with the liberty to play. Now when D, by its slides, has passed through the gutter, the lower end of the top piece of L falls, and forms a bridge, to carry the slides of L to the top of the gutter, for the making of another revolution. M, are small swords, terminating in L, and fastened with pins, and passing through sockets fixed to the rail of A, and mortised at the lower extremity into N, where they move on pins. N, a strong rail, extending along the side of A, having a joint in it, and turning on pins in a mortise fixed to the pillars of A. O, an axle, with small projections at its ends, in steps, lying on the lower rail of A, extending from one side of the machine to the other. P, small swords, one tenoned into the projection of O, and the other admitting the near extremity of N, through a mortise where it moves upon a pin. Q, an upright leg, fastened at the lower end to the axle of O, near the lower rail of A. Now by turning this leg to right or left, it moves O, and O, by its projection, raises and lowers the near extremity of N, and N raises and sinks L, which has a like effect on B, C, D; so that, by these mediums, B is brought into contact with H in all necessary degrees. R, is a cog-wheel, its situation is on the further extremity of the back roller of I. S, two catches, for carrying forwards R, attached to I at one end in mortises, and moving on pins, and the other working the cogs of R. T, the working leg, fixed to the further pillar of A by a screw, as in drawing. The upper extremity of the said leg goes through a socket, fixed to the further rail of F, near the upper part of it. Now, by the vibration of this said extremity of T, in its socket, by E working F, S carries round R, and by varying the pins of S nearer to, or more distant from, the centre of its motion, the said R is carried forwards either faster or slower.

For shifting B and C to right and left of H, for the purpose of raising more regularly, U, a cog-wheel and stop of the under-side, with a handle near the periphery of the said cog-wheel, to act as a crank on the top-side. V, three rails. The rail that crosses the top of H is tenoned into the extremities of those that form or lie to the right and left of it. W, the steps on which V rides, with pins to keep the rails of V in their place. X, bands fastened at one end to C, and the other extremity passing through nuts fixed to V, where they are fastened by the end screws working through the side of their nuts against them. Y, two legs, fastened together at the lower end by a working joint at the upper ends. The further is attached to the near rail of F,

and that nearer works upon a pin, a little short of its extremity, with a catch falling into the teeth of W; and as it works U round, there is another catch on the same side, which prevents the said U from working back. Now F works Y, and Y works U, and U works by its crank V, and X shifts C from right to left by turns in the degree necessary by tightening and slackening the band X. Z, is the near step of E, screwed to a short rail at one end, tenoned into the near pillar of A, near which the step of A is situated. The other extremity of the said rail is fixed under a pin, on a short upright leg, which at the lower is screwed to the inside of the near rail of A, near which the step of A is situated.

Now to set this machine to work, or stop it when working; for the latter, move the said rail from under its pin, and by raising it the band on E slackens, and the machine stops; and having extended the cloth from the near roller I, on which it is wound, to that behind H, and fixed the handles in B, with its cutters, and buttoned them down, you must then bring the extremity of Z under its said pin, and the machine works.

WOOLPIT, a town in Suffolk, supposed to be the ancient Sitomagus, and noted for making the best white bricks. It is eight miles E. by S. of Bury St. Edmund's, and 75 N.E. of London.

WORCESTER, the county town of Worcester, in the state of Massachusets, and the largest inland town in New England. It is 47 miles W. of Boston.

WORCUM, a town of Dutch Brabant, seated on the S. side of the Maese, just below its junction with the Wahal, eight miles N.N.W. of Heusden, and 22 E. of Rotterdam. Long. 4. 52. E. Lat. 51. 52. N.

WORCUM, a sea-port of the United Provinces, in Friesland, situated on the Zuider Zee, 18 miles S.W. of Lewarden. Long. 5. 15. E. Lat. 53. 0. N.

WORDEN, a town of Lower Saxony, in the duchy of Holstein, situated on the Elbe, ten miles N.W. of Gluckstadt.

WORDEN, GROSSEN, a town of Lower Saxony, in the duchy of Bremen, ten miles N.N.W. of Stade.

WORDINGBERG, a sea-port of Denmark, on the S. coast of the island of Zealand, 43 miles S.W. of Copenhagen. Long. 11. 58. E. Lat. 55. 3. N.

WORINGEN, a town of Germany, in the electorate of Cologne, seated on the Rhine, eight miles from Cologne.

WORKHOUSE *(Encycl.)*. We have in that article, as well as under the article HOUSE *of Industry (Supp.)*, pointed out some of the defects which render these receptacles of little benefit either to the poor themselves, or to the community at large. The following extract, however, from the Rev. Mr. Gilpin's account of the new poor-house at Boldre, in Hampshire, will shew how these defects are to be remedied.

The old poor-house of Boldre being a wretched place, and having been managed at a great expence, it was determined at a vestry, held in the year 1792, to build a new one on a better site: to put in a respectable master and mistress; and to give the overlooking of it to a monthly committee of the gentlemen and farmers of the parish.

Accordingly they borrowed the sum of 800l. and bought a piece of ground, about two acres and a half; elevated, dry, and airy; here they erected the house, at a little distance from the road; and yet near enough to be under the constant eye of observation. It is built substantially of brick; single, that the air may have free passage through it, and extending about eighty-two feet in front, and twenty in breadth. These dimensions give an excellent work-room on the right, as you enter; and, on the left, a kitchen and back-kitchen: the master's room, which is also the committee-room, about eighteen feet by fourteen, occupies the centre, and has a window on one side, inspecting the work-room; and another, on the opposite side, inspecting the kitchen. Above stairs, the sleeping chambers are separated nearly as those are below; only, as there are commonly more women and children in a poor-house than men, a room at the end of the men's apartment is taken off for a sick room, with a separate staircase. Over the chambers are excellent garrets; behind the kitchen part of the house, are the pantries and other conveniences, among which is a store-room thirty feet long.

The ground between the house and the road, which is a falling space of about sixty yards, is divided, first, into a dry convenient play-yard for the children; and the remainder, about half an acre, running down to the road, is a garden; the larger garden, which is an acre, lies behind the house.

The house being finished, and sufficiently dry, the inhabitants of the old house, consisting of nine or ten men and women, and between twenty and thirty children, were brought into it, on the 19th of May, 1793; and the whole put under the care of Mr. and Mrs. Salter, who are both of them well acquainted with the whole business of spinning and weaving. He has set up a couple of looms, and a number of spinning wheels, and generally presides over this part of the business himself; Mrs. Salter attending to the economy and management of the house The inhabitants are all employed according to their capacities; some of the old women in cooking, mending, and washing; the old men in the garden; the children, and some of the women, in spinning and weaving; children even of four or five years of age are employed, and earn about a penny a-day. In summer they come into the work-room at six; in winter as soon as it is light. At breakfast they have an hour's respite, and the same at dinner. They have all tasks; but so easy, that, if they work hard, they can finish them by two in the afternoon; and, without any exertion, by six.

Their table of diet is as follows:—on Sunday, meat, with plenty of vegetables and bread; the allowance of which is four ounces for grown persons, and three for children; on Monday, the remains of Sunday's dinner warmed with vegetables and bread; on Tuesday, each grown person has a pound of pudding, and the children three quarters of a pound; on Wednesday, the same as on Sunday; on Thursday, the same as on Monday; on Friday, ox-head stew with vegetables and bread; on Saturday, a clearance is made of all the remains in the house; and, if they fall short, the deficiency is made up with bread and cheese. For breakfast, beef broth, or milk porridge and bread, are provided; except for a few old women, who, having been in the habit of drinking tea all their life-time, are allowed that indulgence, on account of their good behaviour. At supper, the regular meal is six ounces of bread, and an ounce of cheese, for every grown person; and for children, four ounces of bread, and three quarters of an ounce of cheese; this is sometimes varied with potatoes, which the children like better. The children, including all under the age of fifteen years, sit at one table, and the grown persons at another. Every thing is good in its kind: the children seldom eat up all that is provided, and the remainder is fried up again the next day among the remains. During the late scarcity of bread-corn, Mrs. Salter used a less proportion of wheat, and a larger of potatoes, particularly for supper; and during the winter of the year 1795, she boiled potatoes and onions, and mixing them well together, fried them up with

a little lard; the people were in general fonder of this dish than of their usual meal.

Four bushels and a half of malt are allowed each month for beer. We must add, that the master and mistress generally fare as the family does, though it is not required by the committee.

The clothing of the poor is equally good; every one has a new suit for Sunday, generally spun and woven in the house. It is carefully hung up at night, and the old clothes produced for the week.

Thus the poor are well lodged, well fed, and well clothed; and yet (on deducting their earnings) at *less than half the expence* that they cost the parish before, being about nine pence a-head weekly; whereas in the old house, with continual complaint, the allowance was double that; though provisions, at that time, were much cheaper than they are now.

In the article of clothing, much more is saved. Though the poor are now so decently clad, yet, by care and management, the whole expence of the clothing in the year 1795, including shoes, amounted only to 17l. 6s. 8d.; whereas the expence of clothing the poor in the old house, did not amount to less, one year with another, than 70l. annually. In one year it reached 90l.; for as no care was taken to keep the clothes in repair, nor any distinction made between old and new, they were always in rags, and yet always craving for new clothes.

Another article of saving is in the health of the poor; arising from the airiness and cleanliness of the present house, the good clothing, the wholesomeness and plenty of provisions, and from the care that is taken to keep the family clean. No epidemical, nor indeed any disorder, has appeared among them, since the new house has been opened.

By this alteration in the management of the house, a saving in the poor's-rates of the parish was made in the year 1795, of 157l 1s. 6d. notwithstanding the then advanced price of provisions, and the variety of expences incident to a new establishment; and the average diminution in the rates, from Easter 1793 to the present time, has been 164l. a-year. The gardens belonging to the house are in high cultivation, and bear such quantities of potatoes and cabbages, the chief vegetables used in the family, that in general they are abundantly supplied. During the scarcity of the year 1795, they were obliged, indeed, to purchase potatoes.

But nothing is so delightful in the institution as the cheerfulness with which every thing is conducted. The old women, who behave well, have their little indulgences of tea and snuff; and the men, of tobacco. The children's tasks are made pleasing to them, by little gratuities out of their earnings. The master has the art of turning even their play-hours to use, and yet making them more happy than if they were left to themselves.

Punishment in Boldre work-house is rare and gentle; and consists chiefly in confining the delinquent in a room by himself, and abridging him of a meal: if, however, the master is under the necessity of correcting a boy corporally, the punishment is always inflicted in the presence of some respectable person.—For devotion and religious instruction, the family assembles in the kitchen, every morning when the bell rings for breakfast. The master reads, and generally explains, some easy and practical part of the New Testament; after which they all join in prayer. On Sunday morning and evening, these exercises are enlarged, and accompanied with singing hymns, in which all the children join. They regularly attend church on Sundays: and it is a pleasing sight to see so many well-clothed figures, happy faces, and healthy countenances, issuing from a parish work-house. In the afternoon, on Sunday, the children attend the school, where they are catechised with the other children of the neighbourhood: the old people also attend with them.

The advantages of a *well-regulated poor-house* consist in superior comfort of the aged, the education of the young, the reform of the dissolute, and the diminution of poor's-rates. All these benefits have attended the new regulation of the poor-house at Boldre; so that a happy and useful society has been thereby formed out of the very dregs of the parish. The old people having all their wants supplied, and their wishes attended to, feel themselves more comfortable than they ever did before; and are glad to render cheerfully, in return, what little services they can: the children*, bred to industry and Christian virtue, promise to become useful members of society; and the penitence and good conduct of some persons in the house, who, for want of education and early good habits, had been involved in idleness and profligacy, do infinite credit to the institution. Mr. Gilpin adds, that the poor's-rate has been reduced from 654l. 12s. to 490l. a-year, at the same time that the comfort and happiness, the industry, and the moral and religious habits of the poor, and in its consequences to the whole parish, have been increased, with a reasonable confidence of still greater improvement and saving to the parish, by its effects and example on the rising generation.

WORKINGTON, a sea-port in Cumberland, seated on the Derwent, over which is a stone-bridge. From this port a large quantity of coal is exported. This was the landing-place of Mary queen of Scots, when she was driven to take refuge in England. In the neighbourhood is a large iron foundry. Workington is seven miles W. of Cockermouth, and 307 N. of London. Long. 3. 35. W. Lat. 53. 42. N.

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* It should be observed that, in Boldre work-house, the children are kept separate and distinct from the adults; and that Mr. Gilpin has founded a school of industry and education, that provides for a great many of the children of the poor in that parish. Nothing less than such circumstances, with very good management, could render a poor-house, as at Boldre, a fit residence for children. The common occurrences of a parish will make it necessary to receive into a poor-house those whom idleness and vice have made very improper examples for youth; and children in work-houses are generally the subject of uneasiness and unpleasantness to the aged poor, who are too frequently the butt and sport of the thoughtless and uneducated little creatures which are to be found in most poor-houses. If all of them, above seven years of age, were to be removed from the work-house to some cottage, and there boarded, as in a parish-school, at a certain sum (the mistress having the benefit of their work), they would be more cheaply kept, and better educated; a parochial school might thereby be provided, and a deserving family supported; they would also get out at an earlier age, and into better services, than they do now; the objection to taking children into any family, out of a poor-house, being general, and almost insurmountable. A work-house, if well conducted, might be made as comfortable a retreat to the aged poor, who have no domestic connections, as any charitable foundation whatever; and that at less than the present expence.

WORKSOP, a town in Notinghamſhire, with a market on Wedneſday. It is noted for a magnificent ſeat of the Duke of Norfolk. Here was once an abbey, the gate of which remains, and the room over it is converted into a ſchool. On the weſt ſide of the town is a circular hill, which was the ſite of a catile. Quantities of licorice are grown in its vicinity, which is alſo peculiarly remarkable for the number of noblemen's ſeats. The canal from the Trent to Cheſterfield paſſes near this place. It is 24 miles N. of Nottingham, and 146 N. by W. of London. Long. 1. 0. W. Lat. 53. 20 N.

WORSTED, a town in Norfolk, with a market on Saturday. It is noted for being the place where worſteds were firſt made. It is 12 miles N. of Norwich, and 120 N.E. of London. Long. 1. 26. E. Lat. 52. 52. N.

WOTTON-BASSET, a borough in Wiltſhire, with a market on Friday. It ſends two members to parliament, and is 30 miles N. of Saliſbury, and 89 W. of London. Long. 1. 54. W. Lat. 51. 31. N.

WOTTON-UNDER-EDGE, a corporate town in Glouceſterſhire, with a market on Friday. The inhabitants are principally clothiers, and it is governed by a mayor. It is ſeated under the hills, 20 miles N.E. of Briſtol, and 108 W.N.W. of London. Long. 2. 11. W. Lat. 51. 40. N.

WRAGBY, a town in Lincolnſhire, with a market on Thurſday, 11 miles E.N.E. of Lincoln, and 144 N. of London. Long. 0. 10. W. Lat. 53. 18. N.

WRATH, CAPE, a vaſt promontory in Southerlandſhire, which form the N.W. point of Great Britain. Againſt its rugged and lofty cliffs the rapid tide burſts with incredible fury.

WREKIN, a noted mountain in Shropſhire, eight miles E.S.E. of Shrewſbury.

WREXHAM, a town in Denbighſhire, with a market on Monday and Thurſday. It is the moſt populous town in all North Wales, and a place of conſiderable traffic. It retains the language and appearance of an Engliſh town, and has a Gothic church, the lofty ſteeple of which is the boaſt of this part of the country. Near Wrexham is a large foundry for cannon and other articles. It is ſeated on a river, which falls into the Dee, in a country affording plenty of lead, 13 miles S. by W. of Cheſter, and 188 N.W. of London. Long. 3. 10. W. Lat. 53. 2. N.

WRINTON, a town in Somerſetſhire, with a market on Tueſday. The moſt noted mines for calamine are in its neighbourhood. It is the birth-place of Mr. Locke, and ſeated among the Mendip-hills, 11 miles N.N.W. of Wells, and 125 W. of London. Long. 2. 38. W. Lat. 51. 21. N.

WROTHAM, a town in Kent, with a market on Tueſday. It has a large church in which are 16 ſtalls, ſuppoſed to have been made for the clergy attending the Archbiſhop of Canterbury, who had a palace here, till Archbiſhop Ipſley, in the 14th century, demoliſhed it, and built another at Maidſtone. It is 11 miles W.N.W. of Maidſtone, and 24 S.E. of London. Long. 0. 24. E. Lat. 51. 18. N.

WROXETER, a town in Shropſhire, five miles S.E. of Shrewſbury. It is ſaid to have been built by the Britons, on the banks of the Severn, over which are the traces of a bridge, diſcernible at low water. The circumference was three miles, environed by a wall three yards broad, with a deep trench on the outſide, which may be traced in ſeveral places. Roman coins are frequently found here, but none of the Saxon, which is looked upon as a proof that it was deſtroyed before their arrival.

WUNNENBERG, a town of Weſtphalia, in the biſhopric of Paderborn, which received its name from a victory gained by Charlemagne over the Saxons in 974. It is 14 miles S. of Paderborn. Long. 8. 15. E. Lat. 51. 26. N.

WUNSIEDEL, a town of Franconia in the principality of Bayreuth. Near it are mines of copper and iron, and quarries of marble. It is 16 miles W. of Egra, and 34 E. of Bayreuth. Long. 12. 24. E. Lat. 50. 10. N.

WUNSTORF, a town of Lower Saxony, in the principality of Calenberg, 10 miles W.N.W. of Hanover.

WURZACH, a town of Suabia, in the county of Waldburg, ſituate on the Aitrach, 17 miles N. of Wangen, and 26 N.W. of Kempten. Long. 10. 5. E. Lat. 48. 6. N.

WURZEN, or WURTZEN, a town of Upper Saxony, in the territory of Leipſic, with a citadel. It was formerly a biſhop's ſee. The principal trade is in beer, of which great quantities are exported. It is ſituate on the Muldaw 14 miles E. of Leipſic, and 44 N.W. of Dreſden. Long. 12. 40. E. Lat. 51. 19. N.

WUSTERHAUSEN, a town of Upper Saxony, in the middle marche of Brandenburg, ſeated on the Doſſe, 27 miles N. of Brandenburg, and 36 N.W. of Berlin. Long. 12. 30. E. Lat. 52. 53. N.

WUSTERHAUSEN, a town of Upper Saxony, in the middle marche of Brandenburg, 11 miles S.S.E. of Berlin.

WYCOMB, CHIPPING, or HIGH WYCOMB, a borough in Buckinghamſhire, with a market on Friday. In 1744, a Roman teſſellated pavement was diſcovered in an adjacent meadow; and in its neighbourhood are many corn and paper mills. This town is governed by a mayor, and ſends two members to parliament. It is ſeated on the Wyck, 12 miles S.S.E. of Aileſbury, and 31 W.N.W. of London. Long. 0. 39. W. Lat. 51. 37. N.

WYE, a town in Kent, with a market on Thurſday, ſeated on the Stour, 10 miles S. of Canterbury, and 56 S.E. of London. Long. 1. 4. E. Lat. 51. 10. N.

WYE, a river of South Wales, which iſſuing out of Plynlimmon Hill, very near the ſource of the Severn, croſſes the N.E. corner of Radnorſhire, giving name to the town of Rhyadergowy [Fall of the Wye], where it is precipitated in a cataract. Then flowing between this county and Brecknockſhire, it croſſes Herefordſhire, and dividing the counties of Glouceſter and Monmouth, falls into the mouth of the Severn, below Chepſtow. The romantic beauties of the Wye, which flows in a deep bed, between lofty rocks clothed with hanging woods, and here and there crowned by ruined caſtles, have employed the deſcriptive powers of the pen and pencil.

WYE, a river in Derbyſhire, which riſes in the N.W. part, above Buxton, and flowing S.E. falls into the Derwent, below Bakewell.

WYE, a town of Switzerland, in a territory of the abbey of St. Gallen, with a palace. It is built on an eminence, 16 miles S.S.W. of Conſtance. Long. 9. 4. E. Lat. 47. 34. N.

WYMONDHAM, or WINDHAM, a town in Norfolk, with a market on Friday. The ſteeple of the church is very high, on it was hung Ket, the rebel, in the reign of Edward VI. It is nine miles S.S.W. of Norwich, and 100 N.N.E. of London. Long. 1. 6. E. Lat. 52. 36. N.

WYNENDALE, a town of Auſtrian Flanders, where General Webb, in 1708, with 6000 men only, defeated 24,000 French. It is eight miles E.N.E. of Dixmude.

WYRE, a river in Lancaſhire, which riſes near Wyreſdale, ſix miles S.E. of Lancaſter, and paſſing by Garſtang, enters the Iriſh Sea below Poulton.

X.

XABEA, a sea-port of Spain, in Valencia, 38 miles N.E. of Alicant, and 54 S.S.W. of Valencia. Long. 0. 25. E. Lat. 38. 40. N.

XACCA, or Sacca, a sea-port of Sicily, with an old castle. It is seated on the S. coast of the island, at the foot of a mountain, 20 miles S.E. of Mazara, and 41 S.S.W. of Palermo. Long. 13. 2. E. Lat. 37. 41. N.

XAGUA, a sea-port on the S. coast of the island of Cuba, one of the finest in America, 84 miles S.E. of Havanna. Long. 80. 45. W. Lat. 22. 10. N.

XALAPA, a town of New Spain, in the province of Tlascala, with a bishop's see. It contains about 2000 inhabitants. This town is said to give name to the purgative root called jalap, or xalap. It is 60 miles E. of Angelos. Long. 98. 20. W. Lat. 19. 32. N.

XALISCO, a town of New Spain, in the province of Guadalajara Proper, seated on the Pacific Ocean, 400 miles W. of Mexico. Long. 110. 5. W. Lat. 22. 30. N.

XATIVA, a town of Spain, in Valencia. Having taken the part of Charles III. in 1707, Philip V. ordered it to be demolished, and a new town to be built, called St. Philip. It is seated on the side of a hill, at the foot of which runs the Xucar, 32 miles S.W. of Valencia, and 50 N.W. of Alicant. Long. 0. 14. W. Lat. 39. 4. N.

XAVIER, or Sabi, the capital of the kingdom of Whidah, on the Slave Coast of Guinea. It is noted for its great market, which is held at the distance of a mile from the walls. The market-place is surrounded by sutlers' booths, which are only permitted to sell certain sorts of meat, as beef, pork, and the flesh of goats and dogs. Here slaves of both sexes are bought and sold, as well as oxen, sheep, dogs, hogs, fish, and birds. Here are to be found various commodities of Whidah manufacture, and every thing of European, Asiatic, or African production. Xavier is seated one mile from the river Euphrates.

Xavier, a town of Spain, in Navarre, noted as the birth-place of the celebrated Romish saint and missionary of that name. It is 35 miles S.E. of Pampeluna.

XAVIEQ, St. a town of Paraquay, in the province of La Plata, 200 miles W. of Rio Janeiro. Long. 50. 6. W. Lat. 24. 0. S.

XENIL, a river of Spain, which rises in Grenada, and falls into the Guadalquiver, three miles below Ecya.

XERES-DE-BADAJOZ, a town of Spain, in Estremadura, and in the territory of Tra-la-Guadiana, seated on the rivulet Ardilla, 27 miles S.E. of Badajoz. Long. 6. 32. W. Lat. 38. 9. N.

XERES-DE-GUADIANA, a town of Spain, in Andalusia, seated on the Guadiana, 18 miles N. of Ayamonte. Long. 7. 15. W. Lat. 37. 30. N.

XERES-DE-LA-FRONTERA, a town of Spain, in Andalusia. It is famous for excellent wine; and hence, it is thought, is derived the name of that we call Sherry. It is called *de la Frontera*, because, when the Moors possessed Cadiz, it was the frontier of the Christians. It is seated on the Guadaleta, five miles N. of Port St. Mary, and 110 S. by W. of Madrid. Long. 5. 59. W. Lat. 36. 42. N.

Xeres-de-la-frontera, a town of New Spain, in the audience of Guadalajara. Long. 104. 25. W. Lat. 22. 35. N.

XERES-DE-LOS-CABALLEROS, a town of Spain, in Estremadura, 51 miles S.W. of Merida, and 72 N.N.W. of Seville. Long. 6. 25. W. Lat. 38. 17. N.

XERUMENHA, a town of Portugal, in Alentejo, 18 miles S.W. of Badajoz, and 36 E. of Evora. Long. 6. 9. W. Lat. 38. 35. N.

XICOCO, an island of Japan, between Niphon, and Saikoka.

XIMO, an island of Japan, the second in size, an eminence, situate to the S.W. of Niphon, from which it is divided by a narrow channel. It is 300 miles in circumference.

XIXONA, a town of Spain, in Valencia, and in the territory of Segura, with a strong castle. It is seated among mountains, in a country that produces excellent wine, 15 miles S.W. of Alicant. Long. 0. 10. W. Lat. 38. 6. N.

XUCAR, a river of Spain, which rises in New Castile, in the Sierra-de-Cuenza. It passes by Cuenza, and entering the province of Valencia, runs into the gulf of Valencia, at the town of Cullera.

XUDNOGROD, a town of Turkish Croatia, 17 miles N. of Sebenico, and 37 E. of Kzara. Long. 16. 51. E. Lat. 40. 34. N.

Y.

Y an arm of the Zuider Zee, which enters that sea, five miles E. of Amsterdam. It forms the boundary between N. and S. Holland, and is pronounced *Ey*.

YAKUTSK, one of the four provinces of the Russian government of Irkutzk, in the eastern part of Siberia.

YAKUTSK, a town of Siberia, capital of a Russian province of the same name, seated on the river Lena. Long. 129. 53. E. Lat. 62. 1. N.

YALE, the capital of a province of the same name, in the island of Ceylon.

YAMBO, a sea-port of Arabia, with a castle, on the coast of the Red Sea, 60 miles S.W. of Medina. Long. 40. 10. E. Lat. 23. 40. N.

YAMBURG, a town of Russia, in the government of Petersburg, situate on the Luga, 20 miles E. of Narva. Long. 28. 16. E. Lat. 59. 15. N.

YANG-TCHEOU, a populous city of China, in the province of Kiang-nan. Being intersected by a number of canals, it has 24 stone bridges, each consisting of several arches. It is 45 miles N.E. of Nanking.

YANG-TESE-KIANG, a great river of China, which rises in the province of Yun-man, and having crossed Houquang and Kiang-nan, enters the Eastern Ocean, opposite the isle of Tsong-ming, which is formed by the sand accumulated at its mouth.

YARN-MILL. The following is extracted from the specification of a patent granted in 1787 to Mr. Kendrew, and Mr. Porthouse, of Darlington, for a mill or machine, upon new principles, for spinning yarn from hemp, tow, flax, or wool. It may be worked by water, or as a horse-mill, or in any other way, and is made and used in the following way: There is a cylinder, marked A in the drawing, fig. 1 (Plate 56.), three feet diameter, and ten inches broad, made of dry wood or metal, turned true, and covered on its circumference with a smooth leather, upon which are placed the rollers marked D, covered with leather, and supported in their situations by the slits in the covered piece of wood marked K, in which the iron axes of the rollers turn, but suffers them to press on the wheel marked A. There must be another piece similar to the above to support the other end of the rollers. These rollers are of different weights. The upper roller marked D 1 is two stone, the rest decreasing to the last, which is only two pounds weight and one half. There is an iron fluted roller, marked F, furnished with a toothed wheel at each end, and a wood one, marked G, covered with cloth, and over it a smooth leather. There is an assisting roller, marked H, of fluted iron. These rollers are supported by their axes, turning in the slit, marked 2, of the piece of wood marked M (fig. 3), which is here separated from the end of the frame marked 8, to shew the rollers and wheelwork. The rollers marked G and F are squeezed together by means of the lever marked *p*, and its weight marked *w* (fig. 3). The roller marked H is pressed to the mark G by its axis, acting upon the inclined plane marked *x* (fig. 3). There is a rubbing roller covered with woollen cloth, and on its axis is a small wheel, marked I, driven by the wheel marked S. This roller rests upon the roller marked G, and by it motion prevents any dirt or fibres from adhering to it. There is a cloth, marked N, revolving over two rollers marked O, O, which has motion given to it from the wheel marked C, by means of another wheel marked P. This cloth moves at the same pace as the surface of the wheel marked A. There is a supporter, marked Y, of the axis of the wheels marked O, P, but is removed, in order to shew them; it is fixed by its tenons in the mortises marked Z, Z. The roller marked B is kept in action by its endeavour to slip down the inclined plane at the top of the piece marked Y, thereby pressing against the revolving cylinder; and another piece, similar to this, must be understood to support the other end of the roller's axis. By the side of this revolving cloth is a table placed, of the same length and breadth as the cloth is, to which belong two smooth cloths or leathers, of the same size as the table. The machine being thus prepared, the attendant or workman must take a quantity of hemp, tow, flax, or wool, more or less, according to the fineness of the thread to be made, and lay or spread it evenly upon one of the smooth cloths on the table, then place it on the revolving cloth marked N, motion being communicated to the roller marked F, by wheel-work, as usual, from a water, horse, or other kind of mill, which wheel-work is communicated to the wheel marked Q, on whose axis is a nut, which turns the wheel marked C; and thereby the cylinder marked A moves, and with it all the rollers, by which motion the hemp, tow, flax, or wool, is drawn forward. The cloth turns down, but the hemp, tow, flax, or wool, go upon the cylinder marked A, under the roller marked B, and so forward under all the rollers marked D, then falls in between the rollers marked G, F, turns under the roller marked G, and over the roller marked H, which, as it gives the rollers hold of the hemp, tow, flax, or wool, in two places, enables them to draw forward the long fibres thereof, though many of them are to draw from under the marks 4 or 5 of the pressing rollers, marked D; it then falls into a cannister, marked R, and as by the wheel-work the rollers marked F, G, H, move three times faster than the cloth and cylinder, the sliver must be three times longer than when presented. By the time this is drawing, the other cloth is filled with hemp, tow, flax, or wool, as before, and laid upon the revolving roller, laying the hemp, tow, flax, or wool, over the end of the other, which goes forward as before, and thus a continued sliver is produced as long as the machine continues its motion. But in order that this sliver may come out of the cannister marked R, without entanglement, it must pass through an instrument marked 5 (fig. 3), placed over the rollers marked F, G, its open side marked T, to the cylinder at mark 4, supported by its ends marked V, V, in the slits marked W, of the before-described pieces marked K. The aperture X is so small as to press the fibres close to each other in their passage through it previous to their passing the rollers, by which means they remain pressed side by side in the sliver, and will not entangle. These thick slivers are drawn smaller by a similar process, and in the same manner as used for cotton, but the machines for drawing are all of the same structure as the above, except that they have no revolving cloth. The sliver is applied to the

cylinder under the roller marked B, which draws it forward under all the rollers, as before described, drawing it out, or lengthening it, every fresh machine through which it presses, till it be small enough for the spinning machine. It must be remarked, that the cylinders are made less in diameter, according to the different smallness of the sliver intended to be drawn upon them at the first; whilst the sliver is at its greatest thickness, the cylinder is required to be three feet diameter, as above described, the next rather less, and so on to the last, which is only two feet. The aperture of the bottom of the contractor belonging to each machine is also made one third part smaller than another in succession, from the greatest to the smallest cylinder; as also the drawing rollers marked F, G, H are furthest from the pressing roller marked D in the longest cylinder, and nearest at the smallest cylinder. At the largest cylinder the distance is about nine inches, and the smallest about four inches; but their distance cannot in all cases be fixed, as it depends on the different length of the fibres of the hemp, tow, flax, or wool; long ones requiring the distances mentioned, and short ones requiring the distances much shorter than is here specified.

The following several letters or marks are in the machine figured 2. The spinning machine, as to its drawing principle, is the same as the drawing machine. The slivers are presented to it in cannisters marked A, and drawn over a cylinder marked B, covered with rollers marked D. The fibres which are to form the thread are drawn from the cylinder by the rollers marked C, the under roller of which is made of fluted iron, the other of wood, covered with leather; they move six or eight times faster than the cylinder marked B; are enabled to draw the hemp, tow, flax, or wool, forward from under the pressing rollers marked D, by being squeezed together with the weights and crooks marked *a*, *a*, locked to the small part of the rollers marked C. There is a belt of smooth cloth, marked E, moving on two rollers, which are turned by the wheel marked F, on the axis of the fluted roller; at the opposite end of which, as at the mark G, is a nut, which turns the wheel marked H, on whose axis is another nut, turning the wheel marked I, and thereby the cylinder marked B, with all its rollers. These rollers move in curved pieces of wooden metal, marked K, which, to prevent confusion, are not represented in their places: they have slits in them, in which the rollers' axes are guided, but so deep as at all times to suffer the rollers to press upon the cylinder. These rollers are covered with cloth and leather. The top roller is about ten pounds weight, decreasing to the sixth roller, which is only about one pound weight: the yarn is turned by the spindles marked L, and rubbed over the wet cloth belt if spinning linen yarn, but if spinning worsted yarn the belt must be removed, that it may not touch it as it passes to the spool, which it coils round as fast as the rollers let it out. The spindles marked L, are turned by a belt from the wheel marked M, which derives its motion from the mill, and by a wheel on its axis communicates it to the roller under the mark C by the wheel marked F, and so to the rest, as above described. The hemp, tow, flax, or wool, is twined in the same manner as cotton is by mills.

YAROSLAF, a government of Russia, formerly a province of the government of Moscow.

YAROSLAF, a town of Russia, capital of a government of the same name. It is seated at the confluence of the Volga with the Kotorosl, 140 miles N.E. of Moscow. Long. 38. 59. E. Lat. 57. 35. N.

YARUM, a town in the N. riding of Yorkshire, with a market on Thursday. It is seated on the Tees, over which is a stone bridge, 40 miles N.N.W. of York, and 238. N. by W. of London. Long. 1. 12. W. Lat. 54. 31. N.

YAXLEY, a town in Huntingdonshire, 14 miles N. of Huntingdon, 78 N. by W. of London.

YELLOW RIVER, or HOANG-HO, a large river of Asia, which, after a course of nearly 600 leagues across Tartary and China, enters the Eastern Sea, to the N. of the mouth of the Yan-tse-kiang. It is very broad and rapid, but so shallow, that it is scarcely navigable. It is called the Yellow River, because the clay and sand which it washes down, especially in time of rain, make its water appear of a yellow colour.

YELLOW SEA, a gulf of China, between the provinces of Pe-tcheli and Chang-tong on the W. and the peninsula of Corea on the E.

YENISEI, or JENISA, a river of Siberia, which running from S. to N. enters the Frozen Ocean, to the E. of the bay of Oby.

YENISEISK, or JENISKOI, a large and populous town of Siberia, in the province of Tomsk, seated on the river Yenisei. Long. 92. 35. E. Lat. 57. 46. N.

YEN-PING-FOU, a city of China, in the province of Fokien. It has in its district seven cities of the third class, and is seated on the brow of a mountain, at the foot of which is the river Minho. It is 275 miles S. of Nan-king.

YEN-TCHEOU-FOU, a city of China, in the province of Chang-tong. Its district contains four cities of the second, and 23 of the third class; and it is seated between two rivers, 275 miles S.E. of Pekin.

YEN-TCHING, a city of China, in the province of Chang-tong, and jurisdiction of Tsi-nan-fou. Here a kind of glass is made, so delicate and brittle, that it cracks when exposed to the smallest injuries of the air.

YEOVIL, or IVEL, a corporate town in Somersetshire, with a market on Friday. Here is a manufacture of cloth, but the principal one is of gloves. It is seated on the Ivel, 20 miles S. of Wells, and 123 W. by S. of London. Long. 2. 37. W. Lat. 50. 55. N.

YESD, a town of Persia, in Irac Agemi, on the road from Kerman to Ispahan. It has a silk manufacture; and here are made the finest carpets in the world. It is 200 miles E S.E. of Ispahan. Long. 56. 50. E. Lat. 32. 0. N.

YONNE, a department of France, containing part of the late province of Burgundy. It is so called from a river that rises in the department of Nievre, and passing by Chateau Chinon, Clameci, Auxerre, Joigny, and Sens, falls into the Seine. Auxerre is the capital.

YORIMAN, a province of Guiana, about 150 miles in length, on the river Amazon. The native inhabitants are strong, robust, and active, and both sexes go naked.

YO-TCHEOU-FOU, a commercial city of China, in the province of Hou-quang. Its district contains one city of the second, and seven of the third class; and it is seated on the Yang-tse-kiang, 275 miles S.W. of Nan-king.

YOUGHALL, a town of Ireland, in the county of Cork. It is surrounded by walls, has a very commodious harbour, with a well-defended quay, and sends two members to parliament. It has a manufacture of earthen ware, and is seated on the side of a hill, at the mouth of the river Blackwater, 28 miles E. by N. of Cork. Long. 7. 45. W. Lat. 51. 59. N.

YPRES, a large city of Flanders, with a bishop's see. It has a considerable manufacture of cloth and serges; and every year in lent there is a well-frequented fair. It was one of the barrier towns belonging to the Dutch, till 1781, when Emperor Joseph II. obliged them to withdraw their

garrison. It has been often taken and retaken; the last time by the French in 1794. It is seated on the Yperlee, 12 miles W. of Courtray, 15 N.W. of Lisle, and 130 N. of Paris. Long. 2. 48. E. Lat. 50. 51. N.

YRIEX, St. a town of France, in the department of Upper Vienne. It derives its name from a saint who built a monastery here, and is seated on the river Isle, 20 miles S. of Limoges.

YSENDYCK, a strong town of Dutch Flanders, in the isle of Calsand, seated on a branch of the river Scheld, called Blie, eight miles E. of Sluys, and 18 N.W. of Ghent. Long. 3. 38. E. Lat. 51. 20. N.

YSSELBURG, a town of Dutch Guelderland, 12 miles E. of Cleves, and 22 N.E. of Gueldres. Long. 6. 15. E. Lat. 51. 42. N.

YSSELMOND, an island of Holland, situate between the Merwe on the N. and another branch of the Maese on the S. It has a town of the same name, near three miles W. of Rotterdam.

YSSELSTEIN, a town of the United Provinces, in Holland, with a castle, seated on the river Yssel, five miles S.W. of Utrecht. Long. 5. 5. E. Lat. 52. 7. N.

YSSENGEAUX, a town of France, in the department of Upper Loire, 10 miles N.E. of Puy.

YSTAD, or Ystad, a sea-port of Sweden, in the province of Schonen, 26 miles S.E. of Lund. Long. 13. 44. E. Lat. 55. 22. N.

YUEN-YANG-FOU, a city of China, in the province of Hou-quang. Its district contains one city of the second, and six of the third class. It is 300 miles W. of Nan-king.

YVERDUN, a strong town of Switzerland, in the Pays de Vaud, capital of a bailiwic of the same name, with a castle. It is seated at the head of a lake of the same name, on the rivers Orbe and Thiele, 30 miles S.W. of Bern. Long. 6. 50. E. Lat. 46. 50. N.

YVETOT, a town of France, in the department of Lower Seine, five miles N.E. of Caudebec.

YU-HING-FOU, a city of China, in the province of Ho-nan. Its district contains two cities of the second, and 12 of the third class. It is 175 miles N.W. of Nan-king.

YUMA, one of the Bahama Islands, in the West Indies, lying to the N. of Cuba, 55 miles in length, and 17 in breadth.

YUMETO, one of the Bahama Islands, in the West Indies, to the N. of the isle of Yuma, lying under the tropic of Cancer. It is 37 miles in length.

YUN, the largest canal in China, called also The Imperial Canal. This celebrated canal, which extends from Canton to Pekin, forms a communication between the N. and S. provinces. The traffic upon it is exceedingly great, and it is, in various other respects, an object of wonder and admiration to Europeans.

YUN-PING-FOU, a city of China, in the province of Pe-tcheli. Its district contains one city of the second, and five of the third class; and it is 87 miles E. of Pekin.

YUNG-NAN, one of the most fertile and opulent provinces in China; bounded on the N. by Se-tcheuen and Thibet, on the E. by Quang-si and Koei-tcheou, on the S. by the kingdoms of Laos and Tonquin, and on the W. by those of Burmah and Pegu. Its gold, copper, and tin mines; its amber, rubies, sapphires, agates, pearls, marble, musk, silk, elephants, horses, gums, medicinal plants, and linen; have procured it the highest reputation. Its commerce and riches are immense.

YUN-NAN-FOU, the capital of the province of Yun-nan, in China, once remarkable for its extent and the beauty of its public buildings, all which have been destroyed by the Tartars, in their different invasions. Its district contains four cities of the second and third class. It is 430 miles N.W. of Canton.

YURCUP, a town of Turkey in Asia, in Caramania, 125 miles N.E. of Cogni, and 270 E. of Constantinople. Long. 34. 30. E. Lat. 39. 40. N.

YVOY, a town of France, in the department of the Ardennes, seated on the Cher, 10 miles S. of Sedan. Long. 5. 4. E. Lat. 49. 32. N.

Z.

ZABERN, a town of Germany, in the palatinate of the Rhine, 15 miles W. of Philipſburg. Long. 8. 10. E. Lat. 49. 11. N.

ZABOLA, a town of Tranſylvania, on the confines of Moldavia, five miles S.W. of Neumark.

ZABURN, a town of France in the department of Lower Rhine, 15 miles N. of Straſburg. Long. 7. 50. E. Lat. 48. 50. N.

ZACATECAS, a city of New Spain, in the audience of Guadalajara. It is ſurrounded by very rich ſilver mines, and 312 miles N.E. of Mexico.

ZACHAN, or SOCHAN, a town of Upper Saxony, in Hinder Pomerania, 14 miles E. of Stargard, and 52 S. of Colberg. Long. 15. 16. E. Lat. 53. 18. N.

ZAFRA, a town of Spain, in Eſtremadura, with a caſtle. It is ſeated at the foot of a mountain, near the river Guadaxiera, 20 miles S.W. of Medina. Long. 6. 12. W. Lat. 38. 19. N.

ZAGATULLA, a town of New Spain, in the audience of Mexico, 200 miles S.W. of that city, at the mouth of a river of the ſame name. Long. 104. 35. W. Lat. 17. 50. N.

ZAGARA, a famous mountain of Turkey in Europe, in Livadia, on the Gulf of Corinth, near mount Parnaſſus, and almoſt always covered with ſnow. It was the ancient Helicon, from which iſſued the fountain Hippocrene, and was ſacred to the Muſes, who had here a temple.

ZAGRAD, a ſtrong town of Sclavonia, capital of a county of the ſame name, with a biſhop's ſee. It is ſeated on the Save, 25 miles N.E. of Carlſtadt, and 137 S.W. of Buda. Long. 15. 41. E. Lat. 46. 20. N.

ZAHARA, a ſtrong town of Spain, in Andaluſia, ſeated on a craggy rock, and defended by a citadel. It is 47 miles S.E. of Seville. Long. 4. 55. W. Lat. 36. 52. N.

ZAHARA, or THE DESERT, a vaſt country of Africa, bounded on the N. by Barbary, on the E. by Fezzan and Caſhna, on the S. by Tombuctoo, and on the W. by the Atlantic Ocean. The air is very hot, but wholeſome to the natives. The ſoil is generally ſandy and barren, inſomuch that the caravans croſſing it to and from Negroland are often reduced to great extremities. The inhabitants are wild and ignorant. They have a number of petty princes; and the Mahometan religion is profeſſed throughout the country.

ZAHNA, a town of Upper Saxony, 34 miles S.S.W. of Potzdam. Long. 12. 40. E. Lat. 51. 53. N.

ZAIRE, a large river of Africa, which, riſing in the kingdom of Macoco, divides the kingdoms of Loango and Congo, and falls into the Atlantic Ocean, below Sogno.

ZALAMEA, a town of Spain, in Seville, 12 miles N. of Niebla, and 38 W.N.W. of Seville. Long. 5. 55. W. Lat. 37. 38. N.

ZAMORA, a ſtrong town of Spain, in Leon, with a biſhop's ſee. In its environs fine turcois ſtones are found. It is ſeated on a hill, on the river Douero, over which is a bridge of 17 arches, 35 miles N. of Salamanca, and 150 N.W. of Madrid. Long. 5. 18. W. Lat. 41. 41. N.

ZAMORA, a town of Peru, in the audience of Quito. In its neighbourhood are rich mines of gold, and it is ſeated near the Andes, 230 miles S. of Quito. Long. 75. 55. W. Lat. 5. 6.

ZAMORA, a town of Spain, in the province of Guadalajara, 30 miles S.E. of Guadalajara. Long. 104. 30. W. Lat. 20. 30. N.

ZAMORA, a town of Algiers, in the province of Conſtantine, 250 miles W. of Hamamet. Long. 6. 25. E. Lat. 36. 20. N.

ZAMOSKI, a ſtrong town of Poland, in Red Ruſſia, now the Auſtrian kingdom of Lodomeria. It has a citadel, and is 37 miles N.W. of Lemburg. Long. 23. 26. E. Lat. 50. 52. N.

ZAMPANGO, a town of New Spain, in the province of Mexico Proper, 25 miles N. of Acapulco.

ZANFARA, a kingdom of Negroland, to the W. of the kingdom of Zegzeg. The inhabitants are tall in ſtature, of a very black complexion, with broad faces, and ſavage diſpoſitions. It is very little known to Europeans.

ZANZIBAR, an iſland of Africa, on the coaſt of Zanguebar, between the iſlands of Pemba and Monfia, with the title of a kingdom tributary to Portugal. It abounds in ſugar-canes and citrons. The inhabitants are Mahometans. Long. 38. 25. E. Lat. 6. 0. S.

ZARA, a ſtrong city of Venetian Dalmatia, capital of a county of the ſame name, with an archbiſhop's ſee, a citadel, and a harbour. It was formerly much more conſiderable, the circumference of the walls being now but two miles, and the inhabitants not above 6000. Near the church, which the Greeks call St. Helia, are two fluted columns of the Corinthian order, ſuppoſed to have been part of the temple of Juno. There are fine paintings in the churches, done by the beſt maſters; and they pretend to have the body of St. Simeon, brought from Judea, and kept in a ſhrine, with a cryſtal before it. Zara is ſeated on a ſmall peninſula, in the gulf of Venice, 80 miles S.W. of Jaicza, and 150 S.E. of Venice. Long. 16. 6. E. Lat. 44. 30. N.

ZARENG, or SEGESTAN, a town of Perſia, the capital of the province of Segeſtan, celebrated for its beautiful pottery. It is 220 miles W. of Candahar.

ZARIK, a town of Turkey in Europe, in the Morea, 22 miles E. of Miſitra. Long. 22. 8. E. Lat. 37. 5. N.

ZARNATE, a ſtrong town of Turkey in Europe, in the Morea, ſeated on an eminence, 20 miles W. of Miſitra.

ZARNAW, a town of Little Poland, in the palatinate of Sandomir, 63 miles N. of Cracow. Long. 19. 56. E. Lat. 51. 13. N.

ZASLAW, a town of Poland, in Volhinia, ſeated on the Horin, 15 miles S.E. of Oſtrog. Long. 27. 11. E. Lat. 50. 20. N.

ZATMAR, a ſtrong town of Upper Hungary, capital of a county of the ſame name. It is ſeated on a ſmall lake formed by the river Samos, 50 miles E. by S. of Tockay, and 130 E. of Buda. Long. 22. 34. E. Lat. 47. 50. N.

ZATOR, a town of Poland, capital of a ſtarosty of

the same name, in the palatinate of Cracow, with a castle. It is seated on an eminence, near the river Vistula, 20 miles S.W. of Cracow, and 50 S.E. of Ratibor. Long. 19. 42. E. Lat. 49. 54. N.

ZAWEH, a town of Persia, in the province of Khorasm, situate on the Tedjen, about 20 miles from the Caspian Sea, 80 miles N. of Mesched, and 135 N.N.E. of Astrabad.

ZBARAZ, a town of Poland, in Podolia, 70 miles N. by W. of Kaminieck.

ZBOROW, a town of Austrian Poland, in the palatinate of Lemburg. Here, in 1649, John Casimir, king of Poland, with 20,000 men, was attacked in his camp by 110,000 Cossacs and Tartars, for three days successively, but defended himself so bravely, that the latter were glad to consent to terms of accommodation. Zborow is 25 miles W. of Zbaraz, and 52 E. by S. of Lemburg. Long. 25. 46. E. Lat. 49. 46. N.

ZEBID, a city of Arabia, in the province of Yemen, 52 miles N. of Mocha. Long. 43. 15. E. Lat. 14. 13. N.

ZEBU, or Cebu, one of the Philippine islands in the Indian Ocean, between those of Leyte and Negroes. It is 140 miles long and 30 broad.

ZEDIC, a town of Barbary, principal place of a district, in the country of Tripoli. It is seated on a bay of the Mediterranean, to which it gives name, 180 miles E.S.E. of Tripoli.

ZEGEDIN, or Szeged, a strong town of Hungary, situate near the confluence of the Maros and Theisse, 60 miles N.W of Temeswar, and 68 N. of Belgrade. Long. 21. 5. E. Lat. 46. 8. N.

ZEGZEG, a kingdom of Negroland, lying on the river Niger, by which it is separated, on the north, from the empire of Cashna. On the east it is bounded by Zanfara, on the south by Benin, and on the west by unknown deserts. It consists partly of plains and partly of mountains. The latter are extremely cold, while the former are intolerably hot; but abound with water, and are exceedingly fruitful.

ZEIGHENHEIM, a town of Germany, in the landgravate of Hesse Cassel, 30 miles S. of Cassel. Long. 9. 19. E. Lat. 50. 52. N.

ZEIL, a town of Suabia, capital of a county of the same name, in the Algau, with a castle. It is seated on the little river Aitrach, 70 miles S. of Ulm.

ZEITON, a town of Turkey in Europe in Janna, with a castle and an archbishop's see. It is a small place, and seated on a hill, by a gulf of the same name, near the river Eaylada, 50 miles S.E. of Larissa.

ZEITZ, a town of Upper Saxony, in the duchy of Naumburg, with a castle and a well-frequented college. It is seated on the Ester, 25 miles S.W. of Leipsic, and 45 E. of Erfurt. Long. 12. 8. E. Lat. 50. 59. N.

ZELL, a town of Lower Saxony, capital of a duchy of the same name, which devolved to the house of Hanover by marriage. It is surrounded by ditches and ramparts, on which are planted chesnut and lime trees. It is a small town, without trade or manufactures; but the high courts of appeal for all the territories of the electoral house of Brunswick-Lunenburg are held here, and the inhabitants derive their principal means of subsistence from this circumstance. The castle, a stately building, surrounded by a moat, was formerly the residence of the dukes of Zell; and was repaired by George III. king of Great Britain, for the residence of his unfortunate sister, the queen of Denmark, who died here. In 1757 the French reduced the suburbs of Zell to ashes, and even set fire to the orphan hospital, in which a great number of helpless children are said to have perished. Zell is seated on the Aller, 31 miles N.W. of Brunswick, and 47 S. by W. of Lunenburg. Long. 10. 12. E. Lat. 52. 49. N.

Zell, an imperial town of Suabia, seated on the Kintzig, 28 miles S. of Baden, and 52 W.S.W. of Stutgard. Long. 8. 8. E. Lat. 48. 22. N.

Zell, an imperial town of Suabia, seated on a lake of the same name, otherwise called the Zeller See, or lower lake of Constance, 14 miles N.W. of Constance.

Zell, a town of Germany, in the electorate of Treves, seated on the Moselle, 33 miles N.E. of Treves.

ZELL-IN-THE-PINZGAU, a town of Germany in the archbishopric of Saltzburg, seated on a lake 37 miles S.W. of Saltzburg.

ZELLERFELD, a town of Lower Saxony, in the Hartz forest. Silver to the value of 20,000 imperial crowns is annually coined here. It is six miles S.S.W. of Goslar.

ZEMLIN, or Zemplin, a town of Upper Hungary, capital of a county of the same name. It is seated on the Bodrog, 25 miles S.E. of Cassovia, and 27 N.E. of Tockay. Long. 21. 35. E. Lat. 48. 36. N.

ZENGAN, a town of Persia, in the province of Irac, 80 miles N.N.E. of Amadan.

ZENGUIA, a town of Turkey in Asia, in the pachalic of Aleppo, situate on the Euphrates, 55 miles N.N.E. of Aleppo, and 90 E. of Alexandretta. Long. 37. 50. E. Lat. 36. 25. N.

ZENTA, a town of Hungary, memorable for a signal victory gained in 1697 by Prince Eugene over the Turks, commanded by Emperor Mustapha II. It is 52 miles N. of Belgrade, and 52 W. of Temeswar. Long. 21. 30. E. Lat. 46. 5. N.

ZERBST, a town of Upper Saxony, capital of a district of that name, in the principality of Anhalt, with a castle, where the princes commonly reside. The inhabitants are partly Lutherans and partly Calvinists, and are famous for brewing good beer. It is 27 miles N.W. of Wittemberg. Long. 12. 13. E. Lat. 52. 0. N.

ZEREA, a town and fortress of Persia, in the province of Farsistan, 18 miles N.N.E. of Schira. Long. 54. 30. E. Lat. 29. 52. N.

ZERIGA, a town of Persia, in Irac-Arabia, seated in a narrow plain, between mountains. It has produced several very famous Arabian horses.

ZIA, an island of the Archipelago, one of the Cyclades, to the south-west of Negropont, 15 miles long and eight broad. It abounds in barley, wine, and silk; also a fine sort of oak, whose fruit, called Villam, is the best trading commodity of the island, it being used by dyers and tanners. The principal town, of the same name, is seated on an eminence, 30 miles from the harbour, at the further end of a valley. It resembles an amphitheatre, and contains 2500 houses, all flat at the top. It belongs to the Turks, but most of the inhabitants are Greeks, and have a bishop.

ZIBIT, a territory in Arabia Felix, extending from the principality of Mecca to that of Mocha, being bounded on the east by the principality of Tehama, and on the west by the Red Sea. The Turks were formerly masters of this country, but it now belongs to an Arabian prince.

Zibit, a trading town of Arabia Felix, capital of a territory of the same name. It is seated on the Zibit, 150 miles N.W. of Aden.

ZIEGENHAYN, a town of Germany, in the circle of the Upper Rhine and principality of Hesse, 26 miles S. of Cassel. Long. 9. 5. E. Lat. 50. 42. N.

ZIGET, a strong town of Hungary, which has been several times besieged and taken by the Turks and Imperialists. It is 44 miles S.E. of Canischa, and 130 S.S.E. of Vienna. Long. 17. 42. E. Lat. 46. 21. N.

ZINC *(Encyd.)*. The following is extracted from the specification of the patent granted to Mr. Browne, of Derby, for the method of making extract of zinc. He says, "the extract of zinc is made or composed of the vegetable or animal acid, saturated with the oxyd of zinc, in whatever state it may be found, whether in the state of ore, as calaminaris of every description, blend, or black-jack, or by whatever other name it may be called, or in the state of flowers, or soot from furnaces where brass or spelter is made, called tutty-pompholix, or oven-bruck, or the flowers or oxyd made directly from the ore, or in its metallic state, by heat, or any kind of acid. The acid necessary for this purpose may be made by acetous fermentation, as common vinegar, either in its natural or distilled state, or any acid produced from any vegetable, by chemical acid, or any vegetable or animal oil, whether disengaged by any process, or used in the state of oil; all or any of the above being saturated with the oxyd of zinc, produce extract of zinc."

ZIRICZEE, a strong town of the United Provinces in Zealand, and the principal of the isle of Schowen. It was the ancient residence of the counts of Zealand, and was then a place of much more consequence, the port having been since filled with sand. It was taken by the Spaniards in 1676. It is 12 miles N.E. of Middleburg, and 18 S.W. of Briel. Long. 4. 10. E. Lat. 51. 36. N.

ZITTAW, a fortified town of Germany, in Lusatia, subject to the elector of Saxony. Besides the suburbs and handsome gardens that surround it on all sides, there are a number of fine villages that depend on it. The principal business of the inhabitants is brewing beer; but there are above 100 clothiers, and in the neighbouring villages above 1000 weavers. Its merchants trade with those of Prague and Leipsic, and extend their commerce as far as Holland. The cathedral of Rittaw has three organs and two high steeples. Near it is a college, where the languages, drawing, and other arts, are taught gratis. Joining to the cloisters is a library, the finest in all Lusatia; and at a small distance from it, is the orphan-house. Zittaw being occupied by the Prussians in 1757, was taken by the Austrians, who pillaged the town, and almost entirely destroyed it, notwithstanding the inhabitants were the subjects of their ally, the Elector of Saxony. It is seated on the Neisse, 17 miles S.W. of Gorlitz, and 25 S.E. of Dresden. Long. 15. 5. E. Lat. 50. 59. N.

ZNAIM, a strong town of Germany, in Moravia, with a castle, in which are a great many Pagan antiquities. It is seated on the river Teya, 24 miles S.W. of Brinn, and 32 N. of Vienna. Long. 16. 40. E. Lat. 48. 38. N.

ZOARA, a fortified town on the coast of Barbary, with a good harbour, 60 miles W. of Tripoli. Long 11. 55. E. Lat. 32. 45. N.

ZOBLITZ, a town of Upper Saxony, in the territory of Erzgeburg. The inhabitants subsist principally by working the serpent stone, which is found in the neighbourhood, into pitchers, bowls, tea and coffee cups, &c. A red species of this stone is also found here, which is considered as the finest, and therefore claimed by the sovereign as his property. It is 17 miles S. of Freyburg.

ZOBTEN, a town of Silesia, in the principality of Schweidnitz, nine miles E.N.E. of Schweidnitz.

ZOFFINGEN, a town of Switzerland, in the canton of Bern, with an elegant church and a public library, containing several curious manuscripts. The inhabitants, about 2000, have their own magistrates, and what is peculiar, their own courts of justice, both civil and criminal, which decide in the last resort, without an appeal to Bern. It is seated near a large forest, which contains the best pine-trees in all Switzerland, three miles from Arburg. Long. 7. 6. E. Lat. 47. 3. N.

ZOLNOCK, a town in Upper Hungary, capital of a county of the same name. It was taken by the Turks in 1554, and retaken in 1685. It is seated on the Teysse, where the Sagelia falls into it, 62 miles N.E. of Colocza, and 62 E. of Buda. Long. 20. 50. E. Lat. 47. 10. N.

ZONS, a town of Germany, in the archbishopric of Cologne, with a castle, 13 miles N.N.W. of Cologne. Long. 6. 55. E. Lat. 51. 8. N.

ZORNDORF, a village in Germany, in the new marche of Brandenburg, one mile north of Custrin. Here in 1758 the King of Prussia, after a dreadful conflict, totally defeated the Russians.

ZOUT PAN, a curious salt lake in the country of the Hottentots, a few miles north of Point Padron. It is in a plain, much above the level of the sea, and three miles in circumference. At some seasons it is formed into an entire mass of fine white salt.

ZUCKMANDEL, a town of Silesia, in the principality of Neisse, with a bishop's see, 10 miles S. of Neisse.

ZUEELA, a town of the kingdom of Fezzan, situate in a district of remarkable fertility, in which the remnants of ancient buildings, the number and size of the cisterns, and the construction of the vaulted caves, intended perhaps as repositories of corn, exhibit wonderful vestiges of ancient splendour. It is 140 miles E. of Moorzook. Long. 16. 34. E. Lat. 27. 59. N.

ZVENIGOROD, a town of Russia, in the government of Moscow, situate on the Moskva, 28 miles W. of Moscow. Long. 37. 2. E. Lat. 55. 40. N.

ZUG, a town of Switzerland, capital of a canton of the same name, seated on a beautiful lake, in a fertile valley, abounding with corn, pasture, and wood. In 1435, a street which was on the side of the lake was swallowed up. There are several handsome churches, and a good town-house. It is remarkable that Oswald, a saxon king of Northumberland, in the seventh century, is the tutelar saint of this place. Zug is 12 miles N.E. of Lucern, and 42 S.E. of Basil. Long. 8. 16. E. Lat. 47. 10. N.

ZUIDER-ZEE, a great bay of the German Ocean, which extends from south to north in the United Provinces, between Friesland, Overyssel, Guelderland, and Holland.

ZUILLICHAU, a town of Silesia, in the province of Crossen, 16 miles N.E. of Crossen. Long. 16. 12. E. Lat. 52. 12. N.

ZULPHA, a town of Persia, almost close to Ispahan, to which it is a sort of suburb, and separated from it by the river Sanderon. It is peopled by a colony of Armenians, who were brought into Persia by Shah Abbas. It is an archbishop's see, and contains several churches and monasteries.

ZULPICH, or ZULCH, a town of Germany, in the duchy of Juliers, belonging to the archbishop of Cologne. It is seated on the Nassel, 10 miles S. of Juliers, and 10 W. of Bonn. Long. 6. 10. E. Lat. 50. 46. N.

ZURITA, a town of Spain, in Old Castile, with a castle, seated on the Tajo, very near Toledo. Long. 3. 17. W. Lat. 39. 50. N.

ZURZACH, a town of Switzerland, in the county of Baden, remarkable for two fairs much frequented by the merchants of Germany and France. It is seated on

the Rhine, just above the junction of the Aar with that river.

ZUTZ, a town of Switzerland, in the country of the Grisons. Though not the largest, it is the principal of the district of Upper Engadina, because it contains the criminal court of justice.

ZUYST, a village of the United Provinces, five miles from Utrecht. It abounds in plantations and shady walks, and is greatly ornamented by the spacious buildings which Count Zinzendorf appropriated to the fraternity of Hurrenhuters or Moravians. The brethren are employed in various kinds of manufacture; and as many of them have been either educated in England, or have worked there, their workmanship far exceeds that of any other part of Holland; but the articles are proportionably dearer. Zuyst is much frequented, in the summer months, by a substantial class of Dutch merchants (particularly from Amsterdam) who have no country seats of their own.

ZWETL, a town of the archduchy of Austria, at the confluence of the Zwetl and Kamp, 26 miles W.N.W. of Krems, and 56 W.N.W. of Vienna. Long. 15. 2. E. Lat. 48. 30. N.

ZWICKAU, a town of Upper Saxony, in Misnia, formerly imperial, but now subject to the Elector of Saxony. The place where the inhabitants are buried is in Voigtland; and therefore it is commonly said, that they are Misnians while alive, but Voigtlanders after they are dead. Zwickau is seated on the Muldaw, 15 miles S. of Altenburg, and 20 N.E. of Plawen. Long. 12. 26. E. Lat. 50. 45. N.

ZWINENGBERG, a town of Germany, in the landgravate of Hesse Darmstadt, eight miles S. of Darmstadt, and 12 N. of Worms.

ZWITTAU, a town of Moravia, in the circle of Olmutz, 30 miles N.W. of Olmutz, and 84 E. of Prague.

ZWOLL, a town of the United Provinces, in Overyssel, and in the district of Zailant. It is defended by some fortifications, and the canal, which begins near this place, and extends to the river Yssel, is defended by several forts. Near it is the mountain of St. Agnes, where there was formerly an Augustin convent, in which Thomas Kempis lived 71 years, and died in 1471. It was formerly an imperial and hanseatic town, and is seated on an eminence on the rivers Aa and Yssel, five miles S. of Hasselt, and eight S.E. of Campen. Long. 6. 10. E. Lat. 52. 33. N.

ZWONIGRAD, a town of Imperial Dalmatia, capital of a district. It is 36 miles S. of Bihacs, and 60 S.E. of Segna. Long. 14. 40. N. Lat. 44. 42. N.

ZWORNICK, a town of Bosnia, 60 miles N. of Seraio, and 68 S.W. of Belgrade. Long. 18. 45. N. Lat. 44. 24. N.

ZYGETH, a strong town of Lower Hungary, capital of a county of the same name, with a citadel. It was besieged in 1566, by Solyman II. emperor of the Turks, and taken three days after his death; but was afterwards retaken by the Austrians. It is seated in a morass, made by the river Alma, 50 miles N.W. of Esseck. Long. 18. 58. F. Lat. 46. 17. N.

ZYTOMIERZ, a town of Poland, in Volhinia, seated on the Ciecirief, 70 miles W. of Kiof, and 120 E. of Lucko. Long. 29. 22. E. Lat. 50. 35. N.

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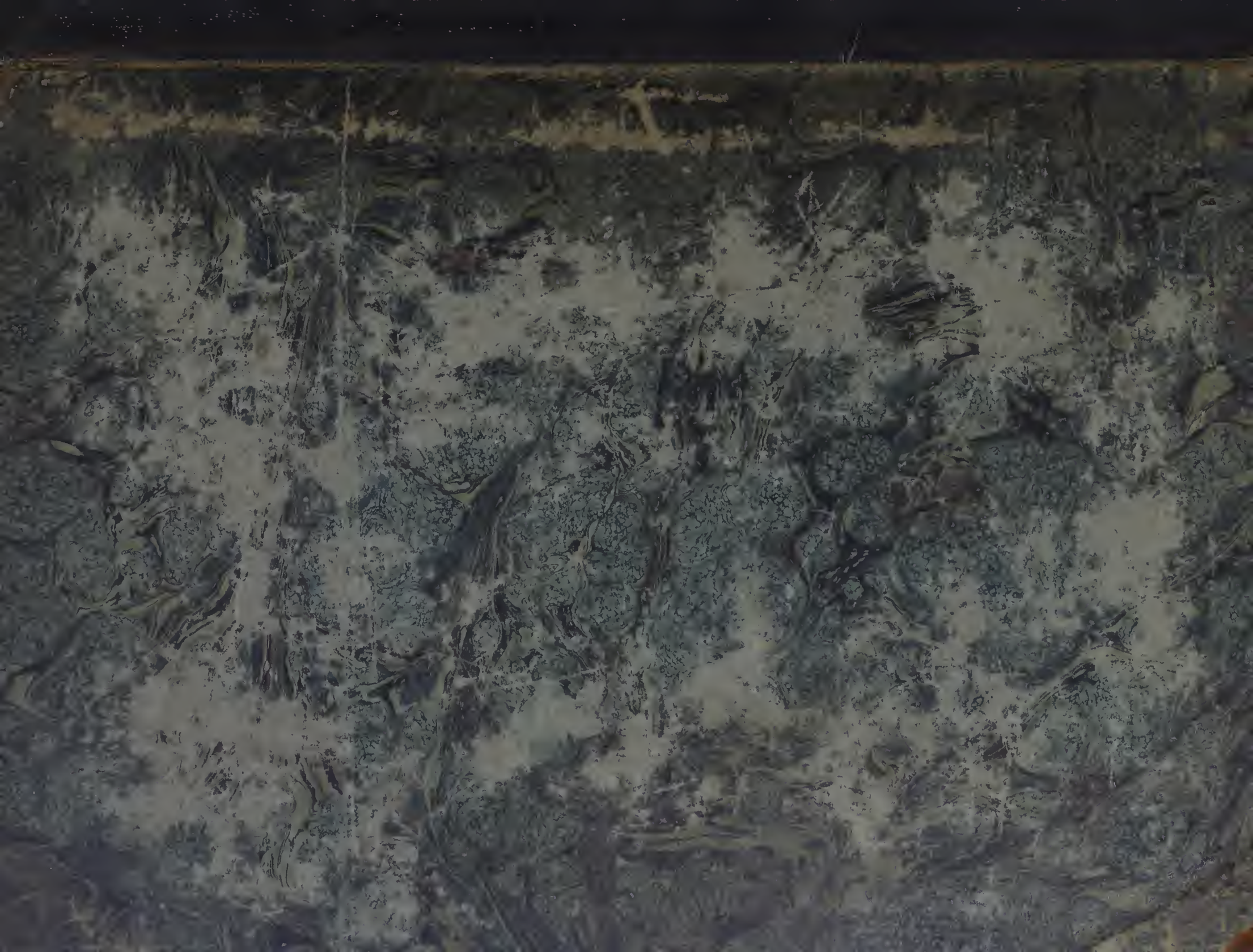
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